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DISINFECTION OF VESSELS.

BY A. N. BELL, M. D.,

LATE P. A. SURGEON U. S. NAVY.

INFECTION is a poisonous emanation of organic matter in a state of putrefaction. The chief sources of putrefying organic matter consist in *still* air, moisture, darkness, and warmth; and these are the conditions of all the most fatal epidemic diseases.

The existence of organic matter in the atmosphere is universal. It is every where the product of combustion and decay, and is given off by all animals in respiration The smoldering alluvium of a tropical delta, bedarkened by a thick-leaved vegetation and immersed in an almost perpetual fog, is, of all places, most prolific of infection. The putrefying mass is also a hot-bed for the production of innumerable species of short-lived *fungi*, and the myriad spores of these commingle with the putrid emanations. The varying conditions of climate and season render these emanations insignificant at one time, but deadly at another; and in this latter case persons are not only liable to immediate danger from respiration, but their clothing, the material of commerce, the bulkheads of vessels—furniture and cargo—are all subject to the pervading infection. The material of commerce thus infected become *fomites* or retainers of infection, liable not only to communicate disease to persons in their proximity, but to become the *leaven*, as it were, of new places possessed of the fitting conditions of climate and domicil. The processes of life, death, and decomposition are accommodated to the whole of Nature's domain. Latitude, elevation, nature of the soil, degree of cultivation, relative position in regard to mountains, forests, rivers, etc., and general aspect of the neighborhood, all modify the conditions of the atmosphere and man's liability to pervading influences. It is just as natural that stagnation, dampness, darkness, and high tempe-

rature should cause disease and death, as that a free circulation of pure air, light, dryness, and moderate warmth should promote health and long life. And it is, also, just as natural that there should exist conditions favorable to death and putrefaction, as that there should exist conditions favorable to vitality and health. The qualities of all natural phenomena have certain operations, each peculiar to itself, yet all in harmony with every other. We cannot prevent the dews of heaven, nor the heat of the sun, nor the processes of decomposition; but we can understand the course and order of natural phenomena, we can trace out the laws that govern them and ascertain our relations to them. And if we apply our knowledge of the laws of organization in tracing the causes of ill health, it will enable us to escape all such diseases as spring from ignorance and misconduct.

Pure air is nature's first great disinfectant, which, were it fully and constantly accessible, would altogether prevent noxious emanations, partly by its dispersion of matter and partly by its chemical properties; tending constantly to dilute, disperse, and decompose all pernicious emanations from whatever source. But it was surely never intended by the Creator that an important natural phenomenon—the transition of matter—should either cease or be materially modified for the special benefit of one particular race of his creatures. On the contrary, it is manifest that there are many places both natural and artificial to which a sufficient supply of pure air for disinfection is inaccessible. The winds from the direction and in the immediate vicinity of such places are in some degree like the Simoon of Africa and the Sorocco of Italy—they are loaded with dangerous emanations from the localities over which they have passed. As a general rule, it is unsafe to be within two miles to the leeward of vessels or places known to be infected.

It is a common impression that because of the natural tendency of gases to rapidly permeate each other and become equally diffused, that, therefore, simple exposure to the atmosphere necessarily overcomes infection. This is only true to a limited extent. If infection were a *gas* it would doubtless be wholly true; but the putrefying particles of organic matter, though light, are nevertheless heavier than atmospheric air, and their tendency is, in consequence, to occupy the lower strata. Hence the holds of vessels, from the very nature of their structure, cannot be so freely exposed to the atmosphere as to disinfect them, except at very long periods of time. The effect may be speedily manifest, or an indefinite length of time may elapse, according to the conditions of the atmosphere and the state of the vessel favorable or otherwise to putrefaction, and the danger still exist. Under these circumstances and climatic condition favorable to the spread of infection, it is manifestly absurd to undertake to limit the period of time by days when an infected ship or cargo may be admitted to pratique Yet this is the common practice of quarantine. The following examples fell under my observation last summer. The steamship *Khersonese* arrived at New York, August 17th, four days from Bermuda, a healthy port. She had been in quarantine at Bermuda twenty-four days and had lost in all since leaving Nassau, an infected port—her last port of departure—some six weeks before her arrival here, ten persons with yellow fever. On arrival she had no sickness on board, but, having had it, she was "fumigated" and allowed anchorage at upper quarantine. Three days afterwards she had a case of yellow fever. Fifteen days afterwards, and after she had discharged ballast and taken in cargo, she had two other cases. She shortly afterwards de-

parted. The steamer *Dispatch* arrived August 29th, four days from Nassau. She had lost five men by yellow fever, and on arrival had four cases. She was repeatedly "fumigated," the hatches kept off and part of her cargo taken out at lower quarantine. No new case having occurred, after two weeks detention she was permitted to go to upper quarantine, discharge balance of cargo, and reload. September 29th, just one month from the time of her arrival, she had a new and very malignant case, that died with black vomit on the third day.

Water, next to air, is an important disinfecting agent. Although moisture, associated with other conditions, is rapidly promotive of putrefaction and the propagation of *fungi*, tending to perpetuate the mischief, yet total submersion involves a different train of circumstances of a far less noxious character. Organic matter by maceration in water is oxydized, and among other products nitric acid is generated, which is antiseptic. Everybody knows that if a marsh is continually submerged it is far less dangerous than when subject to ebb and flow; especially is this the case if the water is cold. If the water is warm, organic matters in a state of decay are liable to be borne off with the vapors and so become injurious. Hot water is appropriately considered under *heat*. *Soil*, too, is a certain but slow disinfectant. The interment of *fomites*, like maceration in water, can be practiced only to a limited degree.

Cold, when of sufficient intensity, is a powerful disinfectant and antiseptic. The iced-up animals of the frigid zone are an example. And the recurrent seasons of winter, it is well known, effectually arrests epidemic diseases in temperate latitudes. Infection subjected to a freezing temperature, even for a short period of time, is effectually destroyed; but the difficulty consists in the application of the necessary degree at the proper time. Infection pervades the closest textures—every seam and crevice. How is it possible in the midst of a warm external atmosphere and the waters of the gulf stream to apply a freezing temperature to the *whole* interior of a ship and cargo? Of many examples known to the writer, of the futility of artificial cold to infected vessels, the following one will suffice: April 15th, 1858, the U. S. steamer *Susquehanna* arrived at New York infected with yellow fever. After about sixty days detention, and after the weather had become very hot, she was ordered by the health officer to be broken-out for the purpose of freezing, by means of ice put on board. The experiment cost the government over $20,000 and many valuable lives. She continued to have cases of yellow fever on board, and was not admitted to pratique until after frost in November.

It has been the common practice of the Navy Department in peaceful times to order vessels that have had yellow fever on board to lie in some northern port during the next succeeding winter. It is scarcely necessary to add that this is impracticable in time of war, and at all times to the merchant. Besides, it is of the first importance for the safety of life, that the means of disinfection should be expeditious and practicable at all seasons and places. *Infection, whenever and wherever it is found to exist, should be destroyed or avoided as speedily as possible.*

Heat is the most speedy, certain, powerful, and practicable disinfectant known to science. In Egypt the plague is destroyed by the heat of midsummer. Putrefaction is arrested; mummies are preserved in the burning sands for an indefinite period. And in climates where epidemic diseases are most likely to prevail, they rarely do so at an average temperature above

85° Fahrenheit. Dryness doubtless has something to do with this. In tropical marshes, "a fire in the camp" is proverbial for its disinfecting properties. Nevertheless, heat appears to be equally efficacious in the form of steam and hot water. The writer of this paper has a lively recollection of an intermittent fever which he shared with two of his messmates in the ward-room of a small naval steamer, more than a dozen years ago, while far out at sea and without having had any communication with the shore to account for it. On searching for the cause, putrefying vegetables were found in the mess-lockers under the bunks of the parties affected. The removal of these and a thorough cleansing with *hot salt-water* put an effectual stop to the disease. Sausage poison, which has killed many persons in Germany, is effectually destroyed by boiling water.

Impressed with facts similar to these, Dr. WILLIAM HENRY, F. R. S., of Manchester, as long ago as the year 1824, instituted a series of experiments to test the effects of heat upon the "*contagious element*" of small pox.—Contagion is sometimes used synonymously with infection. It has, however, a different signification. The meaning of contagion is the transmission of disease from one person to another by contact: direct, as by the touch of the diseased person, or indirect, by contact with things that have been used by such person, or by breathing the air in close proximity with him. Syphilis, small pox, and typhus are examples of contagious disease; and these diseases are in a great measure independent of some of the most important conditions of infection. They are more liable to prevail in a low than in a high temperature, and in their origin chiefly depend upon filth and bad food. Persons sick with contagious disease are liable to infect surrounding things, clothing, furniture, the air of the room, etc; but as the character of the disease continues the same, it is still denominated contagious—*communicable by persons.* Infectious disease is *not* communicable by persons, but by *things*, and a person sick with it, when divested of *fomites*, clothing, etc., can neither communicate his disease to other persons nor to other things. In this, however, they are fortunately alike: their *fomites* are equally capable of being destroyed by heat. —Dr. HENRY's first series of experiments satisfactorily established the fact "that the infectious matter of cow-pox is rendered inert by a temperature of 140° Fahrenheit," from whence he "inferred that more active contagions are probably destructible at temperatures not exceeding 212° Fahrenheit." His next series of experiments were upon the personal *fomites* of typhus and scarlet fever. Three flannel shirts, taken on three successive days from a strongly marked case of typhus fever, were subjected to 204° Fahrenheit for an hour and three-quarter. These personal *fomites* being, before the application of heat, as thoroughly charged with the contagious principle as any garment could be, were tested as follows: One was placed directly under and within twelve inches of the nostrils of a person engaged in writing, and who was excessively fatigued from previous exercise and had observed an unbroken fast for eight hours. This test of exposure was continued for two hours. The second shirt was put on and worn next to the body of a person for two hours. And the third, with the view of giving activity to any contagious matter "which might possibly have escaped decomposition," was put into an air-tight canister for twenty-six days. It was then taken out and placed within twelve inches of the face of a person for four hours, "a gentle current being contrived to blow upon him from the flannel during the whole time." *In none of these instances was the fever communicated,*

and no injurious effects were experienced. Dr. HENRY next performed a precisely similar series of experiments with the *fomites* of scarlet fever, which proved to his satisfaction "*that by exposure to a temperature not below 200° Fahrenheit, during at least one hour, the contagious matter of scarlatina is either dissipated or destroyed.*" And he remarks, "the circumstances under which the experiments were conducted render it, I think, demonstrable that the disinfecting agency belongs to heat alone; for the receptacle in which the infected waistcoats were placed having in every instance been closed, change of air could have had no share in the effect. The phenomena, then, are reduced to their simplest form, and the results put us in possession of a disinfecting agent the most searching that nature affords—*one that penetrates into the inmost recesses of matter in all its various states.*" Having satisfied himself in this direction, Dr. HENRY next undertook to ascertain what elevation of temperature "cotton and other substances likely to harbor contagion of the plague or typhus would sustain without injury, the heat being applied to both the raw staples and to their various fabrics. A quantity of raw cotton, subjected to a dry temperature of 190° Fahrenheit, which was steadily kept up in the inner compartment of a double vessel heated by steam during two hours, become 'fuzzy' on account of the loss of its natural moisture, and for the same cause the strength of the yarn was for the time impaired; but after being left for two or three days in a room without fire a great change had taken place in its appearance, and it was found on trial that the cotton was as capable of being spun into perfect yarn as that originally employed. On accurate trial of the twist which had been spun from it, a hank supported an equal weight with a hank of the same fineness that had been spun from cotton fresh from the bag. This fact, established by repeated experiments, proves that, with the recovery of its hygrometrical moisture, cotton which had been heated regains its tenacity and becomes as fit as ever for being applied to manufacturing purposes." A quantity of cotton yarn was tested in like manner with like result. "Articles of cotton, silk, and wool, after being manufactured, both separately and in a mixed state, into piece-goods for clothing, were submitted to the same treatment. And some of these were of the most fugitive colors and delicate textures, yet after being exposed three hours to a dry heat of 180° Fahrenheit, and then left a few hours in a cool room, they were pronounced perfectly uninjured in every respect. Furs and feathers, similarly heated, were also uninjured. In subsequent experiments the temperatures were raised forty or fifty degrees higher without injury to the fabrics."*

Dr. VON BUSCH, of Berlin, having the benefit of Dr. HENRY'S experiments, in February and March, 1851, after having ineffectually made all the usual appliances—thorough cleansing, aeration, fumigation, etc.—for the purpose of disinfecting the Berlin Lying-in Hospital of puerperal fever, determined to try the effect of dry heat. All the beds, wardrobes, and hospital utensils being retained in the wards, common wood stoves were introduced, and a steady temperature of about 150° Fahrenheit was kept up for two days. The wards were immediately reoccupied by the same class of patients, with the same individual liabilities as before, and the result was found to be triumphant! The infection was destroyed and the inmates

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* Philosophical Magazine, 1831-32.

were safe. A subsequent return of the disease on the following year was destroyed in the same manner.*

A striking instance of the disinfecting power of heat to a badly infected ship is referred to in Vol. VIII. of the Royal Medico-Chirurgical Transactions, as being contained in the official report of Dr. Wm. Ferguson, Inspector General and Chief Medical Director for many years in the Windward and Leeward Islands. The reference states that "the transport ship *Regalia*, being badly infected with yellow fever, while at English Harbor, underwent fumigations without the least effect in arresting future attacks or their fatality; and that it was not until after her arrival in Carlisle Bay, where she was completely cleared, and with her hatches closed, and *her whole hold exposed to the concentrated heat of many stoves, that fever ceased.*"

Dr. Elisha Harris, now of the U. S. Sanitary Commission, in a paper on *The Utility and Application of Heat as a Disinfectant*, read before the Fourth National Quarantine and Sanitary Convention, Boston, 1860, states, that "During a protracted and instructive experience in the superintendence of the New York Quarantine Hopitals the following significant facts were noted.

"During a period of nearly fifty years, the washing and drying of the contaminated clothing from hospital patients and infected vessels had been performed in the ordinary way without the use of steam. The diffusion of fatal fevers from those *fomites* of infection was notorious during that protracted period. Immediately after the introduction of steam-tubs for boiling, and a steam-heated chamber for drying the clothing, and obviously as a result of those improvements, the occurence of infectious or quarantine diseases among the washerwomen of that establishment ceased—or at least they occurred but very rarely, aud then from sources to which the steam heat had not been applied.

"Early in the summer of 1856, when large quantities of dunnage were ordered to the washhouse from vessels infected with yellow fever, I ascertained that the two washerwomen who were attacked with that malady had been handling and washing various articles of clothing previous to steaming or boiling them. Though those unfortunate washers might have contracted the fever elsewhere than in the wash-room, it was deemed expedient to use greater precautions against infection, and accordingly directions were given that all clothing, both from ships and hospitals, should be steamed in the closed tubs previous to being distributed to the washers. Infected dunnage and clothing continued to be received in large quantities for several months subsequent to that order, but no more cases of yellow fever occurred among the washers.

"Again, in the summer of 1859, a floating hospital was placed under my superintendence for the reception and care of all cases of yellow fever and other pestilential diseases arriving at the port of New York. The practice of burning all dunnage, bedding, and other clothing from infected vessels having obtained favor with the authorities who witnessed the same expensive and unsatisfactory process applied to the entire quarantine establishment, it had been advised that a like summary method of purification be continued in connection with the hospital ship—the famous iron scow for the burning of infected ships' clothing, bedding, and dunnage, being still in ex-

* Neue Zeitschrift Fur Geburtskunde, Berlin, 1852. Bull. de Therapeut. 1853.

istence. Accordingly, no apparatus or provision of any kind had been placed on board for the cleansing or for the reception and proper care of infected ships' clothing, nor even for the washing and preservation of the clothing of the patients and their bedding. The hospital ship had already been placed at the yellow fever anchorage—twenty miles from the city—and was awaiting the arrival of the sick with fever. Under these circumstances a wash-room was, under my direction, hastily extemporized—furnished with a copper steam-generator and capacious steam-vats, steam wash-tubs, etc. This apparatus was placed in one of the galleries that had previously been constructed upon the outside of the vessel amidship, and to the after end of each of which, entrance was made by the gangway outside, both from boats and the wards.

"Into the steam-vats was thrown every infected thing received from vessels, as well as all hospital and patients' clothing, etc., that required cleansing. All articles from infected vessels were received directly into the steam-chamber, from boats, without entering the ship itself, or in any manner exposing it or its inmates to the danger of infectious contamination; while in the wards of the hospital, a like safe regulation was adopted, requiring every article, as soon as soiled, to be removed to the steam-vats; and there all substances capable of being febrile *fomites* were instantaneously heated to the boiling point, or even a higher temperature. It will be observed that these arrangements contemplated the preservation of both the clothing and the wards from becoming *fomites* or *foci* of infection.

"The prediction having been reiterated by many persons that the hospital ship would certainly become infected, and be in itself a focus of pestilence, we are happy now to record the fact that with twelve cases of yellow fever, and with twelve cases of other maladies far more liable to personal or fometic communication, there was not an hour of sickness among all the employes of the Floating Hospital during the six months it continued in service, though the washerwomen and ten of the other employes had never suffered from yellow fever, and had no specific protection from any disease except smallpox."

The experiences of the Floating Hospital since Dr. HARRIS' superintendence have been equally favorable.

Of all *fomites* a foul ship is the most persistent and the most to be dreaded. During the summer of 1847 almost every vessel of the United States naval squadron in the vicinity of Vera Cruz became infected with yellow fever. Among the rest the steamer *Vixen* had had a good deal of river service, was very filthy, filled with vermin, and so badly infected with fever toward the latter part of the season, that all hands were constrained to sleep on deck. Though yellow fever ceased to *prevail* during the season of the northers, (the winter months,) nevertheless the crew of the *Vixen* continued to be in a sickly condition, with an occasional case of fever, sufficiently typical to remind us that "yellow jack" had not departed. Before the return of hot weather, about the first of the following May, (1848,) there being no immediate prospect of our going North, it became expedient to "break-out" as far as practicable while on sea-service, and paint ship. Previous to undertaking this, the commander, the late JAMES H. WARD, Esq., resolved on a final effort for the extermination of the vermin by *steam*. Everything susceptible of injury was taken on deck, the hatches closed, and by means of a common leather hose-connection steam was turned in below decks. This was kept up for two or three hours, so that every crev-

ice was completely permeated. After this there was a thorough scraping, whitewashing, and painting. There was an immediate improvement in the health of the crew, *and not another case of fever to the end of the cruise in midsummer.*

A few weeks subsequent to the steaming of the *Vixen*, the gunboat *Mahones*, Commander W. D. PORTER, Esq., having been on a surveying expedition up the Tuxpan River, returned to the anchorage at the mouth of that river, and telegraphed for the medical officer of the *Vixen* to visit the sick. *There I found three cases of yellow fever, and within a few days four others occurred.* The *Mahones* was a captured vessel from the Mexicans, had never been off the coast, and was filthy in the extreme. The salutary effects of the steaming on board the *Vixen*, both for vermin and *fomites*—no unusual associates, by the way—were so palpable that the same process was forthwith advised and applied, by means of the *Vixen's* engine and hose, to the *Mahones*, and, as in the first case, fever and vermin both ceased to exist—*there was not another case.* These vessels both continued on service in the vicinity of Vera Cruz until the following August, when they were sent to Norfolk and were at once admitted to pratique. The *Mahones* was there laid up until sold. The *Vixen*, after remaining three weeks without "breaking-out," was transferred to the coast survey in the Chesapeake Bay for the remainder of the summer. In neither of these vessels was there any return of the fever.

About the same time that the *Vixen* and *Mahones* arrived at Norfolk, the frigate *Cumberland* and the steamer *Scorpion* arrived at New York. The *Scorpion* was at once quarantined on account of recent cases of yellow fever on board; and the *Cumberland*, not having had any cases since the previous season, was, after "fumigation" and a few days' detention, permitted to go up to the navy yard to "break-out." But scarcely had the work commenced before the yellow fever also broke out on board, and the vessel was, in consequence, sent down to quarantine and there kept until frost.

The *Cumberland* and *Scorpion* were of the same squadron as the *Vixen* and *Mahones*, were more commodious, better ventilated, and in every respect in better condition for health, *excepting that they had not been steamed.*

Deeply impressed with the benefit of heat, as applied in the cases of the *Vixen* and *Mahones*, I have frequently commended it; but until during my superintendency of the Floating Hospital last summer, I am not aware of its having been put in practice. Of all the infected vessels that arrived at this port last year, the steamer *Delaware* was probably the worst; at any rate, the malignancy of the fever from that vessel was greater than that from any other. The *Delaware* had proceeded from the Tortugas in the early part of August with invalid soldiers on board, stopped at Keywest, Fernandina, St. Augustine, and Port Royal, where, in consequence of having yellow fever on board, she was put in quarantine twelve days, and then sent to New York. She arrived here September 21st, having lost one man with the fever on the passage from Port Royal. On arrival her commander, Captain JAMES S. CANNON, and two of the crew were sent to the Floating Hospital, and within five days afterwards seven of the invalid soldiers —all well marked cases of yellow fever, and some of them so malignant as to have black vomit supervene within a few hours from the time of attack, and to die within forty-eight hours. One died on board the *Delaware* within twenty-four hours, his case being so malignant that the boarding-officer deemed it useless to transfer him. In this state of affairs, at my ur-

gent request, the remainder of the invalid soldiers (18) were transferred to the (yellow fever) Floating Hospital for safety. They all escaped the disease. And I have not the least doubt that, if all the soldiers had been removed on arrival, several lives might have been saved, instead of lost by depending upon the effects of "fumigation." During the convalescence of Capt. CANNON I recommended to him the use of steam for the purpose of effectually disinfecting his vessel. I subsequently received the following letter:

"U. S. TRANSPORT 'DELAWARE,'
"NEW YORK, *November 30th*, 1862.

"Dr. BELL:

"*Dear Sir*—During my confinement in Quarantine Hospital with yellow fever last summer, you suggested the idea of disinfecting my vessel by steam. In accordance with the suggestion, before my recovery the engineer steamed the lower cabin, where nearly all the sick had been confined. After my recovery I more effectually steamed the vessel by closing her up below and driving the steam through her lower hold and bilges. This I did by attaching a hose to the boiler and leading it below through an aperture left for that purpose. Although we remained in quarantine three weeks after the first steaming, we had no sickness among a crew of twenty persons; and since that time the steamer *Delaware* has been in a perfectly healthy state. After refitting, the *Delaware* was sent to Port Royal with soldiers, and encountered a heavy gale; of course everything was damp, but no sickness occurred on board, and the troops remained perfectly healthy after landing. On my return, over a hundred invalid soldiers came North with me, but there was no sickness among them except that which they brought from the hospitals. The only injury resulting from the use of the steam was to the paint, which it stained; and the first time, charring the leather, and the second time, melting the rubber hose. In using steam, hose which cannot be effected by heat easily ought to be provided especially for the purpose, by a copper coupling about ten feet long attached to the cock where the steam comes directly from the boiler and the heat is most intense. Much injury might otherwise result, from the cracking of the hose, if leather, or melting it, if rubber, by the escape of steam.

"I am so well satisfied of the beneficial effects of steam on shipboard, that I would be sure of cleaning my vessel of that dread disease—the yellow fever—by its use, in a very short time.

"I am, very respectfully,
"Your ob't serv't,
"JAMES S. CANNON,
"*Master U. S. Transport Steamer Delaware.*"

Such are the experiences of heat as a disinfectant. The important deductions to be made are, that a temperature of about 150° Fahrenheit effectually destroys infection. Indeed, it is safe to infer that a temperature of about 145°, which coagulates albumen, if kept up for forty-eight hours, is amply sufficient to disinfect the worst *fomites*. It has been shown, too, that heat of the necessary degree for disinfection may be made applicable in some form to almost every article of commerce without injury. Even

crude sugar will stand a temperature of 200° of dry heat for an indefinite length of time without danger of melting or other injury; while 150° is amply sufficient for disinfection. Careful discrimination in the application of heat, as of all other means to the same end, is of course requisite. The examples given are belived to be an amply sufficient guide for the application of heat as a disinfectant under the most variable circumstances.

Of the use of *chiorides*, *manganates*, and kindred chemical disinfectants (?), the writer has had abundant opportunity for observation and experiment. In November, 1847, the United States Government employed a somewhat celebrated doctor of New York to proceed and disinfect the naval squadron near Vera Cruz. He professed to use some new process; but his means was evidently a *chloride*. His first (and last) experiment was the frigate *Mississippi*, which vessel, though she had recently been broken-out, saturated with chlorine by chloride of lime, aerated and thoroughly cleansed, nevertheless continued to have cases of yellow fever until she was submitted to a northern winter. The "doctor of infection" was himself taken with yellow fever about the second week of his attendance on his first patient—the *Mississippi;* he fortunately recovered and returned home. The *Khersonese* and *Dispatch* are similar examples, but under more favorable circumstances. By the use of such means only, individuals are often beguiled into a feeling of security by trusting to *deodorants* merely, until they fall victims to a still active infection.

Brooklyn, N. Y., *August 18th*, 1863.

THE VALUATION OF BOSTON.

The aggregate amount of all the real and personal estate and polls, estimated by the Assessors of the city of Boston, in the several wards, for the years 1862 and 1863, is as follows:

	1862.			1863.		
Ward.	Real Estate.	Personal Estate.	No. Polls.	Real Estate.	Personal Estate.	No. Polls.
1.	$6,859,700	$2,831,200	3,045	$6,575,900	$2'974,700	2,535
2.	4,838,600	947,490	3.526	5,403,000	727,000	3,961
3.	7,254,600	2,843,800	2,283	6,863,500	2.913,900	3,381
4.	37,261,600	33,531,500	2,755	39,324,300	40,240,300	2,760
6.	5,321,600	2,182,700	2,240	5,084,200	2'441,400	2,325
6.	26,342,000	26,617,800	2,328	28,616,200	28,948,200	2,359
7.	15,347,000	24,905,700	2,241	15,255,200	29,057,000	2,138
8.	11,193,600	4,546,100	2,149	11,232,000	5,119,700	2,243
9.	12,348,800	4,384,000	1,921	12,685,200	5,108,000	1,857
10.	7,355,500	3,038,800	2,208	7,593,900	3,213 700	2,031
11.	20,700,400	7,184,800	4,309	22,209,100	9,919,710	4,392
12.	8,709,000	2,421,100	5,032	8,817,600	2,002,200	4,508
	$163,512,400	$112,444,900	34,038	$169,659,300	$132,867,700	33,490

Total amount of real and personal estate in 1862, $275,957,300; total amount of real and personal estate in 1863, $302,527,000.

The rate of tax per $1,000, for the year 1862, was as follows: City and county tax, $8 41, State tax, $2 09—$10 50 per $1,000. The rate of tax for the year 1863 is $11 50 per $1,000.

By the above it will be seen that there is a gain on real estate this year of $6,146,900; gain on personal estate, $20,422,800. Total gain, $26,569,700. Less Polls this year, 548.

FLAX;

ITS HISTORY, CULTURE, IMPORTATION, EXPORTATION, AND CONSUMPTION.

BY HON. JOHN TITUS, JUSTICE SUPREME COURT OF U. S.

(Continued from page 115.)

THE idea of reducing the fiber of flax and hemp to the consistency of cotton, is by no means new. In 1747 it was proposed to convert flax into cotton by boiling it in a solution of caustic potash, and subsequently washing it with soap. In 1775 considerable quantities of refuse flax and hemp were converted into flax-cotton at the instance of Lady MOIRA, by Mr. T. B. BAILEY, of Hope near Manchester, in England. It was done by boiling the material of the fiber in an alkaline ley, or a solution of kelp, containing carbonate of soda, and subsequently scouring it. The fiber of flax or hemp, thus freed and softened, could afterwards be carded on cotton cards. It appears that, at this time, flax-cotton was made and sold at three pence per pound. Some of it was spun into cloth for gowns and waistcoats. The spinners seem to have been hostile to it, and the poor in the North of Ireland, to whom it was supposed the invention would have been beneficial, are stated to have been indifferent to its merits. Specimens of this flax-cotton, and of the fabrics woven from it, are still preserved in the Museum of the Society of Arts.

Attempts were subsequently made in Germany, by the action of alkaline solutions, to reduce flax fiber to the consistency of cotton, which could be used, either alone or together with cotton, in the manufacture of cotton goods. There, however, as in Ireland, the manufacturers opposed its introduction, and the work-people determined not to use the material. This subject was afterwards investigated by BERTHOLLET, by GAY-LUSSAC, and by GIOBERT, who employed alternate steepings in hot solutions of soap, alkali, and sulphuric or muriatic acid; and BERTHOLLET observes that equally fine cotton is obtained from the commonest refuse tow as from the best flax.—*Jury Report* V., p. 98.

In 1842, M. ROUCHON, of l'Ecole Polytechnique at Paris, devised a method for preparing flax, by means of immersion in a weak acid solution, for a short period, and then placing it in a mass kept moist by occasional waterings. These were repeated daily until the desired effect was produced. The flax was tied up in small bundles, and a man and a boy could manage two tons per day.—*Wilson.*

One of the most complete of all chemical methods of freeing and whitening the fiber of flax, as well as other vegetable fibers, is that of PETER CLAUSSEN, for which letters-patent were issued by the United States, June 3, 1851. The process is, as stated, applicable to all or nearly all fibrous plants, though flax and hemp are more particularly specified by the patentee himself.

The specification is cited at considerable length, because of its valuable instructions.

It commences with a preparation, made an inseparable part of it, for bleaching all vegetable productions, and fabrics composed of them, as follows: "Usually the fabrics to be bleached are first immersed in a bleaching liquor, commonly called chloride of lime, and then steeped in

a bath of water acidulated with sulphuric acid. Thus the chloride is set free, either in its simple forms or in combination with oxygen, or in chemical reunion with hydrogen of the water, and is wasted by its escape, or is rendered injurious to the fabric by remaining too long in contact with it. My process, which is as follows, keeps the whole of the chlorine, or chloric compound, in a combined state, and recovers it for future use under the name of chloro-compound—I mean an acid with a chloric base, such as chlorous or hyperchlorus acid.

"After the goods have been passed through the bleaching liquor—chloride of lime—I steep them in a strong solution of some salt, whose acid has a more powerful affinity for lime than hyperchlorous, as a strong solution of sulphate of magnesia. This new compound may be in the next instance used as a primary bleaching agent, and may again be subjected to the process of double decomposition, as in the foregoing example.

"The goods may then be steeped in a liquid solution of some carbonate or other acid, for whose base the hyperchlorous acid has a greater affinity than for the magnesia.

"Second. Another method of bleaching, applicable to fabrics made of both animal and vegetable fiber, of mine, is to take the goods steeped in any ordinary bleaching liquor, such as the chloride of lime, and while still wet with this, I expose them to the fumes of sulphur, slowly burning in a close chamber, till the bleaching agent is neutralized and the bleaching completed."

The specification then proceeds to describe the method of cleansing and freeing the fiber of flax or hemp, as follows: "I take the plant in the state of straw, divested of seeds, and steep the straw in a solution of a caustic alkali, of about one degree of Twaddel's hydrometer, and for such a length of time as may be most convenient. If dispatch is required, I use the solution in a boiling state, in which case an immersion of about six hours is sufficient.

"The solution at 150° Fahrenheit will produce the effect in about twelve hours, and so in proportion to the degree of temperature.

"The solution may be used at a lower temperature, the time being correspondingly increased; but in no case need the immersion exceed two days.

"The effect of this process is two-fold: *first*, to decompose, dissolve, or remove (more or less, as required,) the glutinous, gummy, or other matters which cement the fiber with the woody portions of the plant; and, *second*, to discharge any oleaginous, coloring, or extraneous matter contained in the straw, without allowing the matters so discharged to stain the fiber, and these results are attained by the action of the alkaline solution.

"In the process, as above described, I use a solution of caustic soda; but other alkaline liquors will answer the purpose, such as a solution of caustic potash or lime, or any substance having the power to discharge or decompose the gummy, resinous, oleaginous, glutinous, albuminous or other matters having the power to stain the fiber.

"If the fiber is required to be long, I subject the straw to a second process, for the purpose of expelling or neutralizing any of the alkali adhering to the fiber, and removing any glutinous or other matter which might stain it.

"For this purpose, I take the straw from the alkali and steep it for about two hours in a solution consisting of one part of sulphuric acid to

about from two to five hundred parts of water. Some other acid will also answer the purpose, as muriatic acid, etc., but sulphuric acid is to be preferred.

"Or, I expose the straw still wet with the alkaline solution to sulphurous acid, or the fumes produced by the slow combustion of sulphur, in a proper stove or chamber.

"In both cases the acid combines with the free alkali remaining in the straw, while an excess of the acid completes the destruction or discharge of the glutinous or other coloring matter.

"The straw is then treated or washed with water, till all soluble matters are removed.

"If the straw fiber is required to be decolorized it may be exposed to the bleaching process, which I have described, or to any other bleaching process.

"It may then be dried for breaking and scutching in any approved way.

"Passing the straw between rollers or roughly breaking it, before subjecting to the chemical agents, will facilitate their action upon it.

"If the fiber is required to be shortened, in order to be spun with cotton, wool, silk, hair, fur, shoddy, or any similar material, I divide it into proper lengths by any suitable machinery.

"I then transfer the straw or fiber to a bath containing a strong solution of bicarbonate, sesquicarbonate, or even carbonate of soda, or any other suitable material—the two first of these described classes are preferable. In this I allow it to remain for about three or four hours.

"I then immerse the materials, impregnated with the carbonaceous solution before described, for about a couple of hours in water acidulated by sulphuric acid to the extent of one part of acid to about five hundred parts of water. Or instead thereof, I expose the saturated material to the action of burning sulphur in a suitable chamber.

"In this operation it appears that a certain amount of gas, being developed in the fibrous tubes, splits them by its expansion into filaments similar in consistency to cotton and wool, in which condition they may be dyed and manufactured, *like* cotton and wool.

"The same process, only requiring longer time, will flocculate or cottonize long fiber.

"The decomposition of the bicarbonate of soda, or other suitable compound, may be effected by electrity, when a like evolution of gas and splitting of the fiber takes place.

"After splitting, the fiber should be well washed. The splitting process may be applied to the flax in the straw, the wood of which may afterwards be removed as usual, or in the state of long fiber.

"Thirdly. I manufacture a yarn which I call flax-cotton yarn, composed partly of flax fiber, prepared and cut into short lengths as aforesaid, and partly of cotton yarn, and capable of being spun on common cotton machinery.

"Also yarns composed of hemp fiber, or of jute, or of phormum tenax (New Zealand flax)—China grass excepted—prepared and cut, and cotton. Also yarns which I coll flax-yarns, composed of flax cut short and prepared as stated, or any like vegetable (except China grass), and also of shoddy, and fur or hair, or partly of any two or more of the said materials stronger than yarn, composed of wood alone.

"Wools, too short to be spun alone, may be mixed with cottonized flax and thus utilized.

"Waste silk may be mixed with flax thus prepared, and utilized.

"Lastly," says the patentee, "felts of flax, as soft and fine as the best felts made wholly of wool, and more durable, may be produced by a mixture of flax fiber thus prepared and cut short and mixed with wool, fur, hair, or any other feltable material."

Such is the method of M. CLAUSSEN for preparing flax and other vegetable fibers, as stated by himself. His process, so far as it was novel and original, as claimed by himself, may be given in order to show the condition of manufacturing science and art, at the date of the letters-patent, June, 1851. The patentee claims as his own invention, or discovery—

"First, Bleaching by double decomposition, as described;

"Second, Bleaching by the combined action of chlorides, carbonates, or any other bleaching agent, with the fumes of sulphur, as before described;

Third, Preparation of flax, hemp, and other vegetable fiber, spinable or feltable, from whatever plant obtained, by steeping the plant in a state of straw, stem, leaf, or fiber, *first*, in a solution of caustic soda or other similar solution, and *then* in a bath of dilute sulphuric or other acid, as described.

"Fourth, Preparing vegetable fiber for spinning on cotton and silk machinery, and for combining, as stated, by, *first*, steeping in a solution of caustic soda; *secondly*, steeping them in dilute sulphuric or other acid, or exposing them to the fumes of sulphur; *thirdly*, saturating them with a solution of bicarbonate of soda or any other like agent, and decomposing such salt, however such decomposition may be effected; *fourthly*, cutting the fibers into short lengths, as described.

"Fifth, Preparation of flax, hemp, and other fibers, by the described mode of splitting by gaseous expansion;

"Sixth, Preparations of yarns and felts, from a combination of flax or other vegetable fiber (except China grass), mixed with cotton, wool, hair, fur, silk, shoddy, or any of them, as described."

Both the governments of the United States and Great Britain assented to these claims of novelty and originality, for both of them granted letters-patent to the claimant.

This invention of M. CLAUSSEN contributed largely to the existing knowledge of the susceptibilities and uses of flax and hemp, as well as other vegetable fibers. It has furnished one of the most valuable of all chemical methods of preparing vegetable fiber for the purposes stated by the inventor.

The method of M. CLAUSSEN is but an improvement of that employed in the East, in Germany, in Holland, and in England in the last century. It is simply treating the fiber, first, with an alkali, and then with an acid or their equivalents, till the cohesive matter of the filaments is destroyed or expelled. All the more complex chemical methods since employed have this common feature, which results from the cohesive substance to be treated, as ascertained by crude experiments before science had at all applied its unerring tests.

Another claim of M. CLAUSSEN, which deserves particular notice, is that of splitting flax, hemp, and other vegetable fibers till they attain the consistency of cotton. In this process the fiber, or fibrous materials, is cut or broken into short sections of any desirable length, however, for

spinning on cotton or other similar machinery. It is then immersed in an alkaline solution till fully saturated. On being immersed, while so saturated in an acid, the two substances, thus meeting in the body of the fiber, suddenly split it by the expansion, which is known to take place, in the alkaline and acidulous materials at the moment of their combination.

The method of M. CLAUSSEN is thus fully presented, not only for its own valuable instruction, but also as the best illustration of all the pure chemical methods of preparing vegetable fiber.

Letters-patent were issued by our government, Dec. 8, 1857, to I. W. BENTON and GEORGE PYE, for a process of cleansing flax, and other vegetable fibers, either separated from the boon or in the rough state. This method consists in subjecting the fibrous materials to water, impregnated with fuller's earth, and to steam, and then boiling the fibrous matters. During the boiling the material is to be closely pressed together, and then allowed to expand from time to time. The fibers thus treated are passed between pressing, and then between crimping, and again between pressing rollers. In this way the gluten and other matters which combine and harden the fiber are expelled.

In March, 1840, letters-patent were granted to SANDS OLCOTT, of Pennsylvania, for his method and mechanical arrangements for cleansing and softening flax and other fibers.

By this method the fibrous matter, in the condition of straw, is twisted into an endless rove, forty yards long and of the weight of two pounds to the yard, for example, and the ends being joined, the rove is passed between a series of rollers, with the necessary pressure as they revolve, until the boon is completely broken. The crushed fibrous material is then steeped in water until the vinous fermentation takes place. It is then well washed in clean water and subjected to a solution of chloride of lime, or any other bleaching material. During the bleaching, the fibrous material is subjected to the pressure of the revolving rollers as often as may be necessary. In order to make the fiber very fine, this method directs the endless rove, when first broken and before steeping, to be passed through a coarse hackle. For fiber of ordinary fineness this is not needed.

Finally, the fibrous material, in the same form of an endless rove, is passed between fluted rollers, revolving with the necessary pressure, till the fiber is cleaned, softened, and rendered fit for hackling and spinning. This method of Mr. OLCOTT is both chemical and mechanical.

Another method of preparing flax fiber, consists in subjecting the material, in the state of straw—the seed having been separated—to pure water at high temperatures, or to steam, with or without pressure. Such is the method employed by Mr. SCHENCK, at Newport River, County of Mayo, in Ireland, in which the steep water is maintained at a temperature of 80° or 90°, or at any temperature more favorable to the process. The temperature ought not, however, to be much above 90°, as the excess, if considerable, damages the fiber. Fine flax can thus be retted in about sixty hours, and flax of coarse qualities in about ninety-six hours, with average variations for intermediate qualities.

The buildings containing Mr. SCHENCK's vats and drying shelves are simple cheap wooden sheds. In one of these are four oblong vats, parallel to each other, the whole length of the house, each fifty feet long, six feet wide, and four feet deep. These vats have false bottoms filled with holes. Underneath and crossing them are steam pipes provided with stop-cocks,

through which steam is introduced from the main tube as required.

The flax is first packed in the empty vats, on the ends and in a half-sloping position, as in the common steep pool, only one layer deep. Any convenient pressure may be used to keep the flax immersed during fermentation. The water being let into the vats containing the flax, is heated in eighteen or twenty hours to the proper temperature of 85° or 90°. The fermentation then commences, and in fine qualities of flax will be completed in about forty hours more—being about sixty hours in all from the introduction of the water. At the end of the sixty hours the flax is withdrawn, the water allowed to escape, and the vat to cool. The same process may be repeated with fresh water and flax. Each vat of the capacity above described will contain two tons of the straw at once.

The small boiler, which generates the steam, also turns two round iron vessels with great velocity. These vessels may be of any convenient size, and they are called hydro-extractors. If the flax be put in them when withdrawn from the vats much of the water will be expelled by the centrifugal force generated by the rapid rotation of these vessels. The contents of a vat may thus be partially relieved of water in a few hours. The flax may then be thoroughly dried on the ground, or on frames in the open air, or by steam in buildings of proper construction.

Several objections have been made to this process, such as the evolution of a noxious gas by fermentation, and the diminution, weakening, and discoloration of the fiber by the high temperature of the water. Adequate investigation has, however, ascertained that the gas is neither noxious nor offensive, and that the uniformity of temperature secured by SCHENCK'S process, though high, increases as well as strengthens the fiber, and that the linen made from flax prepared by SCHENCK'S process bleaches as easily as any other.

Mr. MCADAM, after having examined every known process for retting flax, prefers SCHENCK'S to every other, as declared at the meeting of the Royal Flax Improvement Society of Ireland, November, 1854.

Another process of flax retting by Mr. WATTS, consists in exposing the straw, divested of seed, to steam, and afterwards subjecting it to the pressure of heavy rollers.

The steam chamber, of this process, is about twelve feet in length and of a width and depth about six feet, and is capable of containing about fifteen hundred weight of the flax straw during steaming. On the top of this chamber is a tank containing water, about eighteen inches deep, the bottom of which forms the roof of the chamber, and has a tube passing through it provided with a valve. Both the chamber and tank are of cast iron. There are two doors in the ends of the chamber through which passes a tube furnished with a valve, and also two other doors in its ends, through which the flax is introduced and secured by screws during fermentation. A false bottom, made of perforated iron plates similar to those of malt kilns, is raised about six inches from the bottom of the chamber, and resting on this is an upright throw-pipe, used as described below.

The chamber being filled with the flax, the doors secured, and the steam admitted, and when the straw has been thoroughly saturated with moisture and softened a weight is placed upon the upper valve so as to confine the steam, which, as it strikes against the cold bottom of the water tank forming the roof of the chamber, is condensed and made to descend in streams of distilled water, which dissolves the soluble matters of the soft-

ened straw, and brings them into the lower part of the chamber. The liquid, as it accumulates, is conducted into a reservoir and used as food for cattle.

Towards the conclusion of this process, when nearly all the soluble matters of the flax have been removed, the liquid is allowed to accumulate until it rises above the false bottom, and by placing a weight upon the safety valve in the roof, the pressure of the confined steam causes it to ascend in the throw pipes, by which it is discharged in showers over the straw. Instead of the throw pipes, a square iron reservoir is placed on the top of the chamber, communicating with it by a pipe with a stop-cock, into which the liquid accumulated in the chamber is pumped, and discharged occasionally over the straw.

In twelve or eighteen hours the steaming process is completed, and the straw when withdrawn from the chamber is immediately subjected, in small parcels, to the successive action of two pairs of heavy iron rollers as they revolve together, by which it is pressed into flat, tape-like bands, and deprived of nearly all the water contained in it. The longitudinal pressure also removes a considerable portion of the cuticle or outer covering of the straw, and facilitates the removal of the woody matter in future operations upon the flax. A pressure of ten hundred weight is sufficient for the rollers. The drying and other subsequent treatment of the flax presents nothing remarkable. The straw may be secured on rods and dried by the waste steam of the engine.

Buchanan, perceiving that the solvent power of Watts' process is not due to the steam, but to the hot water formed by its condensation, obtained a patent for the application of this principle. In Buchanan's method the steeping is effected by repeated immersions in a tank of heated water, so constructed that the temperature cannot rise above a certain degree—a point of great importance, for beyond 180° the action of the water impairs the fiber; and at that temperature the albumen of the flax coagulates and becomes insoluble. By Buchanan's process, therefore, the temperature is kept between 150° and 180°, and the operation, both as regards time and results, is said to be entirely satisfactory. The process of Buchanan is quite automatic, and the mechanical arrangements by which it is effected are simple and cheap.—Prof. Wilson, Jour. of the Ag. Soc. of Ireland, vol. 14, p. 204.

Mr. Sands Olcott (above named with another invention), in March or April, 1840, obtained letters-patent from our government for a method of separating and cleansing the fiber of flax, by passing the straw through clean cold water, and at the same time between a series of rollers revolving together in pairs with a given adequate pressure. The machinery employed by Mr. Olcott for this purpose consisted of a number of pairs of similar rollers revolving together with a pressure adequate to the effect to be produced. By the side of the first pair of rollers was a reservoir with a pulley. The flax straw was made into an endless rove, as in the other process of his above described, placed on the pulley in the reservoir filled with water, and between these rollers. The rollers were then set in motion, and by their feeding power the flax was drawn through the water and between them, until the boon or shives and cuticle were entirely demolished, and the gluten and other foreign matters destroyed or expelled from the fiber. The process is reputed to have been effective.

In 1854, a gentleman in England of the name of Pownall discovered

that if the flax, when taken from the water in which it has been steeped and fermented, were instantly, and before dying, subjected to a severe pressure and a stream of cold water, the pressure would force out and the water would wash away the gluten remaining in the plant after the fermentation. The advantages of Mr. POWNALL'S process, are its practicability at all seasons, the moderate fermentation requisite, the complete destruction of the cohesive matter, the soft and pliable character of the fiber, and the facility of bleaching which results from the destruction of the gluten. The use of this process is rapidly extending in England and Ireland. Its expense is moderate, and, according to Mr. FANE, it adds from £10 to £30 to the ton of flax, according to the natural quality. Comparison, however, shows that the process of Mr. OLCOTT is more simple than that of Mr. POWNALL.

In 1853, Mr. CHARLES JAMES POWNALL received letters-patent from our government for his mode of cleansing flax fiber and separating it into its filaments.

By this mode, the flax is first submitted to the operation of the tuck or fulling-mill, and then to the operation of a combing or carding machine, which separates the fibers into their filaments. The former operation removes the gummy or resinous matter; the latter reduces the filaments into their *ultimate elements*. The patentee claims—*First*, The mode of subjecting flax, hemp, or other fiber to repeated mechanical pressure and a stream of pure water, for the purpose of depriving them of resinous or gummy matter, and also in resolving them into finer fibers, in the manner stated in the claimant's specification. *Second*, The method of breaking and dressing flax or other fibrous substances by a bearer, as described, vibrating on a conical axis, between the faces of which the flax passes, combined with rests placed in close proximity to the edges of the beaters, between which the flax passes. Also, in combination with the beater and rest, the employment of a pair of rollers, each of which is grooved in the direction of the periphery, and one of which vibrates in the direction of the axis, for the purpose of opening and softening the fiber.

This invention of Mr. POWNALL combines with a method similar to that of Mr. OLCOTT, as above described, for cleansing, complex and ingenious processes, for separating and reducing the fibers of flax, hemp, etc.

The method of Mr. CHARLES BEACH, of Pen Yan, in the State of New York, for dividing, cleansing, and reducing flax and other fibers to the consistency of cotton, is one which differs radically from all the foregoing. It is merely mechanical. Letters-patent were thereupon granted to Mr. BEACH by our government, September 23, 1862.

The fiber upon the straw or stems, in the raw state, is cut into sections of the desired length, and then cleaned and reduced by rubbing to the consistency of cotton. The machinery is different for each of these processes. That used for dividing the fibers into sections consists of one or more pairs of parallel cylinders, the two of each pair revolving towards each other with different velocities, one cylinder of each pair carrying a series of pairs of circular saws, and the corresponding cylinder of the same pair carrying a series of single smaller circular saws, one of which smaller saws revolves between each two of the larger ones. The edges of the teeth upon these saws are not sharp excepting at the ends. The teeth of the larger saws reach nearly to the axle of the smaller ones. The straw or stems in the rough state are presented to the saws, while in mo-

tion, by an endless apron or some equivalent device, and thus being drawn into the saws crosswise while revolving towards each other with different velocities, the fiber is torn into sections equal in length to the distance apart of the larger saws. The ends of these divisions are fretted and oblique, which makes the fiber join smoothly and strongly in spinning, neither of which conditions being possible, as experience has shown, with fiber divided by a straight, smooth cut.

These divisions of the fibrous material, as they are thus made by the saws, are thrown into a revolving horizontal trough below, made circular of perforated iron, in which trough also revolves, but in the opposite direction, a horizontal circular iron wheel, nearly as large in diameter as the trough, whose flanges cover the edge of the wheel. On opposite sides of the edge of the wheel revolve two small, smooth, wooden rollers, and intermediate between them revolve two other rollers similar to the former, excepting that they are provided with teeth. All round the iron trough is a cylinder made of perforated metal or wire firmly fastened by screws or other proper devices to the frame-work which supports the wheel and trough. In the side of this outer cylinder is a door which can be opened or shut at pleasure.

As the wheel and trough revolve in opposite directions the fragments of the fibrous material are rubbed and pressed alternately by the plain rollers and loosened by the toothed rollers or *pickers* in their revolutions, which thus give the best effect to this rubbing pressure, until the wood or boon of the straw is reduced to dust and expelled through the perforations of the trough and the interstices of the wire cylinder. This process is continued until the fibrous material is cleaned, softened, and reduced to the consistency of cotton, when it is removed through the door in the outer cylinder, which can be done by a careful hand, without danger, while the machinery is in motion.

This process is most rapidly and easily performed upon the fibrous material in a dry state. As the rubbing, pressure, and atmospheric movement generated by the machinery are drying processes they soon expel the water from any green or wet fibrous material on which they operate, and cleanse and reduce its filaments to the consistency of cotton. Green or wet fibrous material may therefore be reduced by this method of Beach. It is always, however, more easily and rapidly done with the fibrous material in a dry state.

This method is certainly most ingenious and beautiful.

Another process of separating and cleansing the filaments of fibrous material in the raw state, is that of Geiston Sanford and S. E. Mattoxy, of New York, as described in their letters-patent, dated October, 1862.

The processes of this method consist in pressing, bending, and rubbing the fibrous material until the boon or shives are broken and expelled, and the fiber cleaned, softened, and reduced to its separate filaments. The machinery employed for the purpose consists of a large horizontal cylinder grooved in the direction of its circumference, another small cylinder near and parallel to the former, having an equal number of grooves in the same direction, and a number of small similar wheels equal to the number of grooves in each of the cylinders, each with a single groove also in in the direction of its circumference, and placed on an axle parallel and near to the larger cylinder. The length of the cylinders, and the axle which carries the small wheels is equal, regulated by the length of the

fibrous material to be wrought. The grooves are placed exactly opposite to each other, and an endless chain passes over a groove in each of the cylinders and a wheel, which are made to revolve together by proper propellers. During the revolution of the cylinders and wheels the fibrous material to be reduced is presented crosswise to them on the endless chains, and thus carried through between the cylinders and wheels, which bend and rub them in all directions, with the adequate pressure, until the boon or woody matter is entirely broken and expelled and the fiber reduced to its filaments and cleaned and softened.

The ingenious method of LEWIS S. CHICHESTER, for breaking and scutching flax, was patented on the 11th of April, 1854.

The mechanical arrangements of this method, as described in the specification of the patentee, are a series of spiral and conical-shaped blades on the rotating stocks, substantially as specified, which, by reason of their twisted and conical shape, perform a beating action on the fiber at one end, and gradually change until they perform a scutching action at the other.

Also, in combination with the rotating, twisted, and conical-shaped blades, as described, the cast-iron tube surrounding them, with its aperture or door for receiving the flax at one end, to confine and direct the current of air induced by the rotation of the twisted blades towards the discharge spout at the other end, substantially as described.

These processes of BEACH, SANFORD, and CHICHESTER are merely mechanical; at least they are not accompanied by any of the separations, combinations, and resulting changes among the elements of the material wrought, which are the evidences of chemical activity.

Finally, another method of retting the boon or woody material and destroying the cohesive matter of the fibers of flax and hemp, entirely different from all these, is that of JEAN BLANC, patented by our government, October 9th, 1855.

It consists in placing the flax or hemp butts downward in a pit—dry for the purpose—and surrounding them with dry leaves or straw, with earth all round and upward to the top, which is left open in order to permit the escape of any gas generated in the inside as stated.

It has already been stated that some marked *sensible changes* to which the fiber of flax is subject, depend upon the presence of albumen, always found in the fiber of flax and its fabrics which have not been bleached or cleansed. Ropes and cordage for example made of raw flax fiber, when exposed to a high atmospheric temperature, with moisture, soon emit an offensive odor, not unlike that of rotten eggs, and become entirely worthless. This odor in both cases is due to the decomposition of the albumen. In *white flax fabrics* the albumen is destroyed by bleaching. In some cases the albumen is partially fixed or neutralized by tar, as in ropes or cables. Some more perfect method would however seem to be necessary to preserve flax fabrics against the decaying effects of the albumen, which they always contain in the entire raw state.

Methods more or less perfect for this purpose have been devised by RYAN and BETHEL in England, and BREANT in France.

RYAN'S process consists in saturating the fiber or fabric of the flax, whether linen, cordage, ropes, or cables, with a solution of corrosive sublimate, one pound to five gallons of water, until the whole substance is penetrated by the mixture. This process is equally valuable for the preservation of wood. It was patented in England, March 31, 1832.

Breant's method directs the wood or other material to be soaked in saline solutions, and in oily and resinous matters, until its substance is filled with them. This process requires but two or three days for large blocks of wood.

Bethel's method directs the wood or flaxen fiber or fabrics to be impregnated with oil of tar or other bituminous substances containing creosote, or with pyrolignite of iron. In order to effect this the wood or other material is put into a close iron tank filled with this menstruum, more of which, the air being removed, is forced into the tank by a hydrostatic pump, until the pressure of 100 or 150 pounds to the square inch is attained. This pressure continued for six or seven hours thoroughly saturates the wood or other material with the liquid preparation. The effect is produced on flax fiber or its fabrics in much less time. For the latter, indeed, steeping without the pressure is entirely effective. The results of this process are found to be highly preservative of wood as well as of vegetable fiber of any kind. It was patented in England, July, 1839.

The foregoing processes for the treatment of flax fiber have been selected from three or four hundred, which have been developed in the United States, in England, and on the continent of Europe, for the same purpose within the last three-quarters of a century. They are stated some of them at considerable length, because they contain and largely apply every known principle of which we have any record for the treatment of flax.

The *common flax* is a native of the region where it is believed the human race was originally planted; and the first methods for the treatment of the fiber were doubtless mechanical. Mechanical are more simple than chemical methods for almost any purpose. These would probably be later in occuring to the human mind. Even dew retting, which is the oldest recorded process for the treatment of flax fiber, was probably adopted after the failure of primitive mechanical methods of which we have no trace.

The common flax-break consists of similar bars of hard wood, each one dressed moderately thin on one of its edges, and between which, fixed parallel in a strong frame, similar bars are made to descend, the edges towards each other, on the flax straw laid crosswise, and thus struck and bent in the descent until the boon is all broken into shives; the upright scutching or swingling board, over whose edge, across the end a little finer than that of the break bars, the flax is laid, after having been broken with the scutching or swingling knife, having an edge still a little finer than that of the upright board, by which the flax fiber is struck when laid thereon until the shives are expelled and the fiber itself softened and separated into its filaments, is the immediate successor of the break. These are the mechanical accompaniments of the retting process, and they are all superseded by the trough, with its wheel and rubbers all revolving by the endless chain working between rotating rollers and wheels, by the grooved and fluted cylinders revolving on and vibrating in the direction of their axes, and the obliquely revolving arms which are made to break and scutch the flax in their eccentric movements, whose far more effective operations are detailed in the processes above described.

The fiber of cotton is shown by the microscope to be flat, like a very narrow ribin, and a little twisted. It is probably to this form in a great degree that it owes its woolly consistency. The filaments of flax are round and hollow. Were these reduced to the flat twisted form of the

cotton fiber they would probably easily assume its woolly consistency. This may be accomplished by pressing the flax filaments in their parcels between metallic rollers revolving closely together at different temperatures. The particles of the filaments toward the heated roller would be expanded, and the filaments made to twist as they issued from the pressure. The difference in the temperatures of the rollers could be maintained by making one of the pair revolving together hollow, of a metal which powerfully conducts heat, and warming it from the inside, and making the other roller of a metal possessed of a moderate heat-conducting power.

Finally, a preliminary step in the further examination or treatment of flax fiber, would seem to be the ascertainment of the exact form and size of the elementary divisions of its filaments. This can be done by digesting them in an alkali, and then in acid, until all foreign matters are destroyed and excluded. The fiber would thus be resolved into its ultimate elements, whose form and size would be shown by a microscope of sufficient power.

The production, importation, exportation, and consumption of flax by the people of the United States present the following state of facts:

The quantity of flax returned as grown by the census of 1860 was.....lbs	3,782,079
The quantity of flaxseed by the same census was....bush.	611,927
The quantity of flax returned by the census of 1850 was.lbs.	7,709,676
The quantity of seed returned by the same census was.bush.	562,312

The flax returned both in 1850 and in 1860, is understood to have been in the state of clean fiber.

Comparison of these reports shows that the flax returned in 1860 was less than that of 1850, though the quantity of seed was greater.

Assuming that in 1850, all the flax fiber produced was cleaned and reported in the census, and that the practice since adopted in some parts of the country, of saving the seed only and rejecting the fiber, had then no existence, and adopting for 1860 the same proportion of seed and fiber as that reported for 1850, there results from calculation at least 8,388,156 pounds of clean fiber as the flax crop of 1860.

Even this is a much less favorable result than that of some of the principal flax producing countries of Europe, where the clean fiber is about 28 pounds for each bushel of seed as the average.

Granting it to be true, however, of our own flax crop for the period referred to by the census of 1860, it would seem that there were grown during that period 4,605,077 pounds of fiber, which were not returned for the census. The conclusion is that this fiber was thrown away according to the practice above referred to, the seed alone having been saved.

The following statement of our imports and exports of flax and flaxen fabrics from July 1, 1859, to June 30, 1860, was kindly furnished by the Register of the Treasury of the U. S. for the purposes of this article:

IMPORTS.

Flax unmanufactured.....	$213,687
Manufactured—Hosiery and articles made on frames....	35,526
Linens, bleached and unbleached.....	9,245,816
Not specified.....	1,454,993
Total of imports.....	$10,950,022

EXPORTS OF FOREIGN MERCHANDISE.

Flax manufactures—Hosiery and articles made on frames	$35
Linens, bleached and unbleached..	119,381
Not specified.....	61,195
Total exports.....	$180,611

A summary of the foregoing statements presents these facts:

Flax grown as above stated.....pounds	8,388,156
Returned in the census as usefully consumed.....	3,783,079
Value of the last stated quantity at 12 cents per lb...	$453,969 48
Total imports as stated.....	10,950,022 00
Total domestic and foreign.....	$11,403,991 48
Deduct exports.....	180,611 00
Leaving the flax and flaxen fabrics consumed in the United States for the period.....	$11,223,380 48

It is probable, however, that the flax produced in the United States for the current census year of 1860, was much greater than the 8,388,156 pounds. Flax grown in some of the principal flax producing countries of Europe, for both seed and fiber, yields of clean fiber on an average about 28 pounds to 1 bushel of seed. In the United States, owing to the greater dryness probably of our climate, the average is somewhat less, being an average of not more than 26 pounds of clean fiber to 1 bushel of seed.

In a thinly sown flax crop, grown for the seed alone, the relative quantity of fiber falls below either of these products. Put the fiber at 20 pounds for 1 bushel of seed, as a fair average of the flax crop of the United States for the census year of 1860, and the whole quantity will be found to have been 12,228,540 pounds.

Of all this fiber it appears that only 3,783,079 pounds were used. The other 8,445,461 pounds were thrown away for want of an available market. The fiber thus wasted at the value of 12 cents per pound, which was about the price it then bore in the markets of the country, was worth $1,013,455 32 in its raw state. Manufactured, however, in the same state as nearly all the flax fabrics are imported into the United States, and allowing the yard of linen to require two-sevenths of one pound of fiber for its manufacture, which is about the average, the fiber thus wholly lost for want of a practicable market in the current census year of 1860, would have been worth $8,867,733 90, a sum nearly equal to the whole value of flax and flaxen fabrics imported into the United States for the census year of 1860, and with the value of the fiber used much greater. All which would have been retained in the country could the fiber thrown away as above stated have been utilized.

The loss of so much valuable material is due to the fact that the bulk of the commodity, in its raw state, prevents its transportation to the markets of the country at its current prices there. Cheap machinery placed within practicable reach of the flax producer for cleaning the fiber would save all this. Clean flax fiber is available for every commercial purpose.

THE HISTORY AND PRINCIPLES OF MONEY.

BY RICHARD SULLEY, OF INDIANA.

THE science of political economy is one of the most important subjects that can possibly engage the attention of society. Without a thorough knowledge and understanding of its principles, mankind can never attain to that state of happiness and morality of which poets have dreamed, and philosophers have written for so many ages. Before society can achieve that enviable condition, it will be necessary, no doubt, that science, religion, and morality shall go hand in hand.

Believing fully in this proposition, I have no apology to make for what may possibly prove but a feeble effort to contribute to so desirable a consummation.

In treating upon a given point of any particular science, it is generally found necessary to enter more or less into the discussion of general principles; or we may, on the one hand, fail to make ourselves understood, or on the other, possibly, form incorrect conclusions.

Science, of course, is nothing more than a correct knowledge of *natural law.* We are bound, therefore, to deduce our principles from the inherent laws of the universe, and endeavor to show their operation by the most extensive experience.

In taking a review of these laws, the most casual observer will find a few prominent features sufficiently marked to arrest attention. Among them will be noted, inequality of climates, variety of soils and productions, diversity of tastes, and an universal desire on the part of man to improve his condition. To the proper development and moral application of these principles we must look for the progressive improvement and final happiness of the race.

In this we have apparently no option, as these prominent principles could not have been created for any but a good purpose. We are bound, therefore, as reasonable beings, to give them full scope, and should we, in the course of our inquiries, find moral or political institutions at variance with these laws, we are consequently also bound to advocate their removal at any sacrifice of *private* interest.

The physical and moral phenomena we have just noted, would necessarily lead in time to *industry, division of labor,* and finally, as we see, to the most extended enterprise and universal commerce.

When mankind had once agreed to the foundation principle of society —*security of property*—the next important step toward the achievement of *wealth* and civilization would be division of labor. It is obvious, however, that commerce must be coeval with *that* division, although it could not be carried beyond the simplest barter previous to the introduction of *money*—that is, of some commodity possessing the elements of value which could be used as a medium of exchange for all other commodities. And these elements of value can never be dispensed with without producing to society the greatest possible evils.

We assume then, that any commodity, to be a perfect medium of exchange, must possess or be controlled by two peculiar elements or prin-

ciples. It must be in itself desirable, and at the same time be difficult of attainment. In other words, it must possess an universal utility, *real* or adventitious, and must be limited in quantity, or be obtained *only* by the application of labor.

Keeping these principles in view, we only adopt a truism when we state, that gold and silver are the only commodities which could possibly have been used with advantage as an universal commercial medium, and notwithstanding opposite opinions expressed, they appear to have been the only medium used by all nations from the remotest ages of antiquity. It is not probable, however, that exchanges were at first made upon any fixed principle of *value*, though such principle must necessarily grow out of the continuance of commerce.

Many writers have assumed, but apparently without due consideration, that oxen and sheep were once used as *money*, and yet horses and asses would have been superior in the quality of locomotion. The truth is, most likely, that as oxen and sheep were always articles of necessary consumption, they appear to have been the original *criterions of value.*

In the *first* or pastoral state of society the exchanges would necessarily be *few and simple*, and a general medium must soon be acquired or nothing worthy of the name of commerce could exist—it must have ended where it began, in the simple bartering of one consumable commodity for another equally necessary equivalent.

In such a condition of society hired labor could hardly exist; each individual of a *tribe* or *family* would have nearly an equal right to a necessary share of food and raiment, consequently, the simple exchanges that might be necessary would be regulated rather by a certain amount of consumption, than upon any supposed or ascertained expense of production; utility then, would be the *chief*, if not the only element of value.

In accordance with these assumptions we find, by reference to the Bible, that the words *pieces of money* are in the margin translated lambs, and a writer in one of the monthly magazines lately assured us, that the same Hebrew word occurs in the 42d chapter of Job, where it is translated, in the singular, "*a piece of money.*" It has also been discovered among the illustrations of the manners and customs of the ancient Egyptians at Thebes, that it was their custom to weigh gold and silver, apparently calculating by a weight *in the shape of a lamb;* half weights were also present in the same illustrations, represented by the *hind* quarters of the same animal, and specimens of the weights were also found by Mr. LAYARD in the ruins of Ninevah. The impressions on ancient coins, as well as history and language, go to show that cattle and sheep were the first standards of value; but certainly, as it seems to me, there is no evidence that they ever were the medium of exchange.

THESEUS, the founder of the Athenean Republic, stamped upon his coins the figure of an ox, and according to PLUTARCH, the Romans stamped and valued theirs in like manner. They also levied and regulated their *fines* by reference to the value of sheep and oxen, when commuted by the payment of metal. "And to this day," says PLUTARCH, "they call their substance *peculia*, from *pecus*, cattle." It appears also, that coins and weights had a common origin, as they were used for weighing all kinds of commodities. The Hebrew *shekel*, the Greek *drachm*, and the Roman *pondo* were all weights in common use, and while they were the criterion of quantity they also became the *standard* of value. And according to

ADAM SMITH, we have unmistakeable evidence of this being the case. He states that in the reign of HENRY III., of England, the following enactment took place:

"When *wheat* is at twelve shillings the quarter, then *wastel* bread of a farthing shall weigh eleven shillings and four pence."

There seems, then, to be no great mystery about the origin of money, nor the relations which it has hitherto borne to other commodities. These relations no doubt were in the begining unsystematic, and to some extent they remain so at present. But as soon as the divisions of labor became more marked, and the commodities to be exchanged more numerous, the coins would naturally lose their peculiar reference to the original objects of barter from which they had derived their distinctive appellations, and gradually become the measure of *price* instead of *quantity*. No sooner, however, would this be the case, than it would become profitable for all persons having money to pay, to lessen the weight of their coins while the denominations were kept unaltered.

In consequence of this circumstance and the general ignorance of the people upon the subject, the coins of all nations have been constantly diminished in weight up to a late period of history. The coins of France and England have both been diminished from the Troyes pound, which was once the standard weight of both. They are now only about one-third of the original. This mode of proceeding, however, has always been considered most objectionable and dishonest, as it must always have caused more injury to the public than advantage to the parties adopting the expedient.

The Hebrews appear to have been the first nation which adopted a settled polity in which everything was regulated by law. Among other things, Moses ordained that every *fine* and valuation made by the priesthood should be *weighed* and *estimated* by the *shekel*, and great stress was laid upon the weight being according to the *shekel* of the *sanctuary*.

From this we find that a certain weight of silver had already become the well understood standard of value among the Hebrews; and from other allusions in the Bible, such as the observation made by one of the bretheren of Joseph, upon their second appearance in Egypt to obtain corn, viz.: "our money is of full weight," that silver was also the medium of exchange in other countries besides Judea, hundreds of years before the Mosaic institutions. And it seems quite possible, that the malpractices of *currency debasers* were known to Moses at that early period. But, be that as it may, the Hebrew nation appear to have been no strangers to them as early as the time of David, as we meet in one instance with the following expression: "two hundred shekels *after the king's weight*," which seems to imply that the shekel of money had been reduced below that of the sanctuary.

In view of all these circumstances, we assume that, from the remotest ages, all countries have used a certain weight of metal as the standard of value for other commodities; and all governments appear to have been alike guilty of reducing that standard for gain.

The Roman *as* once contained five pounds of copper, but finally became reduced to half an ounce. The most surprising part of the matter appears to be, that such a general system of robbery should have been submitted to so long without evolving some system of currency more in

accordance with the principles of justice and the general interests of society. The most casual observer will at once perceive that our present monetary system is substantially the same as formerly. The coins, of course, are smaller, but the principle is the same; we still value all other commodities by a fixed weight of metal, as the shekel, the as, or the pound. The use of the bank note is only another mode of depreciation by the substitution of *credit for coin.* The unlimited increase of money, whether of the metals or paper, must always increase the price of commodities, until it finally deranges all commercial transactions. The present banking system is the necessary offspring or outgrowth of the *fixed standard* of value, and has been substantially in existence for about seven hundred years.

The banks of Venice, Genoa, and Amsterdam have been termed banks of deposit, but in reality they were all banks of issue.

These institutions originated in the acknowledged vices of the fixed standard of value. The coins being continually clipped and debased, both by governments and people, it was no wonder that banks of deposit became popular, and as the *fixed standard* enforced a constant superior increase of money, it was no wonder that the banks were at length tempted to reissue a portion of their deposits. Their riches and power for the time being, of course, made them famous in all commercial countries; but perhaps it would be now impossible to estimate how far they were responsible for the present decayed state of some of those once flourishing cities in which they were formerly located. It would have been much better if the governments of those cities, while acting more honestly themselves, had established a more effective police to have detected and punished the clippers and debasers of the coins, instead of instituting such baleful monopolies to absorb the capital of the various communities in which they were situated, to spread vice and poverty among the people. Banking, at best, is only a choice of evils, and, like many other mere expedients, it augments instead of destroying the evil it was intended to cure. No doubt the evils of a clipped, mixed, and worn currency were extremely great, and would have justified any expedient, innocent in itself, and if the banking system had ended where it began, in merely depositing the coin, and transferring it on the books of the bank from merchant to merchant, it would have prevented much of the evil which has since grown out of the system. But from a good begining, these institutions gradually became oppressive monopolies, and consequently injurious to the public weal. And no doubt, could we go minutely into the private history of their operations we should find sufficient reason, in connection with other causes, to conclude that the first germs of that poverty and wretchedness which still hangs like a funeral pall over those once flourishing cities, is traceable to the blighting influence of these monopolies.

To begin, however, at the begining, we find that in the twelfth century the government of Venice took a forced loan from a certain number of the more wealthy merchants, but by a scheme, simple enough in itself, though quite worthy of the ingenuity of the founders of banking, they managed to keep the use of their money, while the people were taxed to pay the interest upon the loan. This profitable experience, however, was not lost upon either parties concerned, they both found a mine of wealth by continuing to rob the people of all the gold and silver imported into Venice. The bank and the government in future became one grand monopoly.

The government, as well as the bank, had found out that a certain amount of deposits were never withdrawn from the bank. They therefore finally concluded that credit could be wholly substituted for cash. By legal regulations the government forced all the money into the bank, allowing none to be withdrawn, but seizing the whole as a loan, without interest, to be wholly absorbed in its own expenditure. And whatever may be said by the admirers of banking about the wonderful efficiency and prosperity of this bank, whose creditors for many years had no power under any circumstances to demand payment in coin, there can be no doubt that great inconvenience and ruin to many often occurred from these dishonest regulations.

In process of time, however, it was found absolutely necessary to change the system. A cash department was established, from which the deposits could be withdrawn at the pleasure or convenience of the owner. But the funds of this branch of the establishment were twice seized upon by the government, and specie payments were suspended for years together. This circumstance no doubt, would have been sufficient to have destroyed the credit of any bank situated in a community less wedded to the delusion of paper money than that of Venice, and whose interests had been less combined in one particular focus by the strong hand of arbitrary power. In the end, however, at the first approach of the invader, the illusion vanished, leaving only a confused remembrance of its former grandeur. And the only consolation left for the admirers of this stupendous system of fraud, appears to be found in the fact that NAPOLEON found *not a cent* in its vaults—*debt* was its only capital, which the iron hand of a despotic oligarchy could alone sustain. The once proud city of Venice is now only the melancholy wreck of what was once the greatest commercial city of the world. It stands as an example to all future generations, of the folly, wickedness, and delusion of a false system of finance. Nothing else, in my opinion, would be sufficient to account for its present decayed and sinking condition. Other nations rapidly recovered from the shock of war; Venice alone sunk into commercial oblivion, and is inhabited now only by a few fishermen and those who live upon the casual support of strangers, attracted by curiosity to view the remains of her former greatness. We come now to the history of the banks of Genoa and Amsterdam.

According to history, these banks were both forced into existence by the clipping, debasement, and the circulation of foreign coin, and for a time they were both, no doubt, *honestly* and successfully conducted. In the course of time, however, under the temptation of a vast accumulation of funds, the Bank of Amsterdam betrayed her trust by loaning the deposits, contrary to stipulation and practice, and without the consent and knowledge of the owners. The circumstances of the times disturbed commerce and the credit of the State, and the fraud being discovered, its credit sunk, never again to be revived.

The Bank of Genoa was founded in 1407, and seemingly bore about the same relation to the government of the State as the Bank of England bears to that of Great Britain. Its capital was invested in the debts of the State, and was secured by the appropriation of taxes, but the government had no power to interfere with its arrangements, nor to seize its specie without its consent, as in the case of Venice.

This Bank had a large paper circulation of various kinds and denomi-

nations, and appears to have been at different times in very straightened circumstances, as, upon more than one occasion, it was forced to issue bills upon deferred dividends. It did not, however, like the Bank of Venice, trade wholly upon *moonshine*—it held securities upon the lands, as well as upon the revenues of the State. But in this case, there is no more room for that extravagant laudation of the system, in which some writers have indulged, than there was in the case of the Bank of Venice. It was an overbearing monopoly, which, while it dictated to the government, sacrificed the interests of the people without scruple to its own private interests.

No doubt banks in the early ages of commerce were a great convenience to the world, and ought to have been moderately well paid; but notwithstanding the received opinion, they added *nothing* to its capital beyond the convenience and facility of exchange. Their issues of paper, like the issues of paper everywhere, were a tax upon the people—a mere device to accumulate wealth for themselves. The people of course admired their success, and, in their ignorance and simplicity, presumed that the banks had created it, instead merely of collecting it from their own pockets; credit cannot increase nor create capital, it admits only of its use by parties *other* than the owners.

The Bank of Hamburg has been established for nearly two hundred and fifty years. It is a bank of deposit only, and probably would have been conducted with uniform success but for one unsound principle of action: it lends its credit upon the pledge of jewels and plate. In 1857, when the monetary system of the whole world was deranged, this Bank suspended payment for a short interval, and was saved from the fate which overtook so many other institutions of the same kind, partly by a loan of silver from the Bank of Austria and partly by the interference of the government in its behalf, which interdicted or suspended the presentation of its notes in the bank for the period of three months. The Bank, of course, recovered from this slight shock to its credit, and is still a flourishing institution. This incident, however, is sufficient to show how dangerous it is, even with the best intentions, to infringe, ever so slightly, the *true* commercial principle of requiring a *present* equivalent in exchange for every commodity. The *credit system* must always, at longer or shorter periods, entail a general loss upon the community. The banks of England and Scotland next claim our attention. They were both instituted about the close of the 17th century.

The Bank of England loaned the whole of its capital to the government, and was allowed to issue paper in its stead. This was the beginning of the present system.

The issues of paper were shortly carried to excess, as the Bank was very early in difficulties. The people looked upon its privileges with extreme jealousy, and the government to some extent appeared to share in the distrust—the first charter being granted only for twelve years. But the difficulties of the government continued to increase, and having once chartered the Bank, it seems never to have had the power, even if it had the wish, to withdraw its privileges; though it has no doubt, as far as possible, taken care to compensate itself for allowing the Bank to tax the people.

The Bank suspended specie payments in the third year of its existence, and its notes fell to twenty per cent discount, while government obliga-

tions went to forty or fifty. The Bank continued to lend to the government at every renewal of its charter, and of course to make the best possible bargain for itself. Its profits, however, soon became apparent, and its stock began to rise in the market. At the first renewal of the charter, notwithstanding its previous difficulties and the shortness of the period of its existence, its stock rose to fifteen per cent *premium*, and stands now, generally, at about 120; but this was the age of monopolies, of joint stock and bubble companies.

The South Sea Company was instituted by act of Parliament about this time, for the purpose of relieving the government of a portion of its debts. The debts were taken into the stock of the company at six per cent interest, and the company were to have the exclusive privilege of trading to the South Sea—that is, along the coasts of South America, both east and west—which privilege had been secured by treaty with the Spanish Government. The company were to be the sole owners of the islands, towns, forts, etc., within the prescribed limits, and were to have the power to seize all persons, ships, etc., trading or attempting to trade within their jurisdiction. They had also the power to borrow money to any extent under their corporate seal, and at any rate of interest. This company was the great competitor of the Bank of England for the purchase and consolidation of the national debts.

The Bank offered at this time to the government a bonus of five millions of pounds for the privilege of purchasing all the debts previously contracted, for the purpose of adding them to the stock of the Bank, and also offered to the public an enormous price for that part of the debt called the *long annuities*, which had been previously purchased. But the South Sea Company prevailed, both with the government and the public; and while the act of Parliament was in progress to legalize these transactions, the stock of the company rose to 319 per cent. And in the next year (1720), when another subscription was opened for the purpose of giving a loan of two millions to the government,stock rose to 340.

At this time the enthusiasm was so intense in favor of this company and, in consequence, it was so besieged for shares that it was agreed between *them* and the government, that the company should purchase the irredeemable debt; and the public were so anxious to obtain stock in the company that they deposited their securities before it was known at what price they would be taken. Stock rose immediately four or five hundred per cent, and in a fortnight it was nearly nine hundred. But to make short of the matter, stock finally rose, with premium attached for privilege of subscription, to nearly 1,400 per cent. In a few months, however, it began to decline, and by the end of September, in the same year, the bonds were at twenty-five per cent discount, and this, notwithstanding that the directors had declared a dividend for the next half year of thirty-six per cent.

In this speculating mania the stock of the East India Company also rose to 440, and Bank stock to 260 per cent; and, as might have been expected under such a plethora of paper money, bubble companies sprung up on every hand. ANDERSON, in his "History of Commerce," collected the names of about eighty, and says he had no doubt many had been omitted. The following he gives as specimens of "the madness of the hour:"

"A company for the employment of poor artisans, and for furnishing

merchants with watches. Another for the insurance of masters against losses sustained through the carelessness of servants." It was no wonder that some wag should put the following satirical advertisement into one of the newspapers: "At a certain place (giving the name) on Tuesday next, books will be opened for the subscription of a two million stock for the purpose of operating an invention to melt down sawdust and chips, and to cast them into clean deal-boards, without knots or cracks."

Whether the advertiser obtained subscriptions the deponent saith not. Such was the rage for speculation within little more than twenty years after the institution of banking in England.

Several of the directors of the South Sea Company were created baronets, and addresses were presented to them from all ranks of people for services rendered to the State, etc. But all this time the precious metals were leaving England in large quantities, and in the midst of all this apparent prosperity the bubble burst, attended by all its ruinous consequences. A few month after an act of Parliament was passed to wind up the affairs of the company; the directors were accused of corruption and all other malpractices common in such cases. The public were much in favor of hanging a few of them, as an example to future swindlers in the same line of business, and the feelings of the people were so strong against them both in and out of Parliament, that they were not allowed to be heard in self-defense. Thus ended the first great financial crisis in England.

In France, the celebrated JOHN LAW, who shares the credit of being the inventor of the present system of banking, was operating at the same time, but under a government whose power was less limited by the principles of law or equity. He brought about a similar crisis, but as his power was less trammelled the ruin he caused was more extensive.

LAW's schemes were founded upon the same delusive idea, of creating wealth by the unlimited issues of paper money, and he operated with the same intentions of relieving the government of debt; but he had one advantage over his English cotemporaries: he had, at the same time, the undivided management of the Royal Bank and the Mississippi Company, and had, therefore, nothing to obstruct him in carrying out his theory to the fullest extent, but the principles of natural law.

It is hardly necessary to follow the various operations and schemes of LAW, in the management of his company, nor the fluctuations, nor the fabulous prices to which the stock at one time attained; suffice it say, that in these matters it was fully equal to its British cotemporary, and lasted about the same length of time, (twelve or thirteen months). The whole nation, from the prince to the peasant, became stock-jobbers; the *public* creditors, as well as *all other* creditors, were robbed of their all, and LAW left France and died in poverty and obscurity—a fitting retribution for the ruin and misery he had brought upon others.

These, then, are the legitimate results of an unlimited creation of money; and all these results had transpired, and many more of like kind, in the experience of the English and Scotch banks, previous to the writing of the "Nature and Causes of the Wealth of Nations." Verily, the assumption of Dr. SMITH, that *the capital of a country could be increased by the issuing of paper money*, is almost unpardonable. We pass now to the operation and experience of the Bank of England.

As before stated, it suspended payment about three years after its first

charter, and at another time it descended to the expedient of paying sixpences to gain time and to weary out its creditors. Again, in 1793, the Bank had suddenly to contract its accustomed accommodation to the public, to save itself from discredit, and the consequence was, the failure of seventy *country* banks and thirteen hundred bankruptcies; and in 1797 it suspended payment by act of Parliament.

By this time England had become involved in war, and it was necessary that the government should borrow nearly sixty millions sterling to carry it on. This continued to absorb the means by which the Bank should have resumed its payments, and the suspension was continued from time to time, by parliamentary authority, for more than twenty years, and for the greater part of that period the currency was considerably below par. The depreciation varied according to the necessities of the government, as well as in relation to each of the metals, being sometimes greater upon gold than silver, and sometimes greater on silver than gold. The variations between gold and silver was of course only the necessary oscillations in value incident to all commodities, the production of which is dependent chiefly upon the varying facilities of nature.

During this depreciation of Bank paper a singular discussion arose between the believers in inconvertible paper money and the advocates of a metalic currency. One party believing, or pretending to believe, that the cause of the difference between the value of Bank paper and of gold and silver arose from the appreciation of the metals, and not from the depreciation of the paper.

It is sufficiently singular that such a discussion should have arisen, but still more singular that it should have continued for any length of time without coming to a satisfactory conclusion, as seems to be assumed by some of the admirers of unlimited issues of inconvertible paper. No doubt evidence enough might have been found that it was the paper which had depreciated, and not the gold and silver that had increased in exchangable value.

If the prices of those countries which were not immediately affected by the war had been examined, it would have been found that they bore no relation to the *paper* prices of England. And with respect to the prices of exports, it would have been seen that they were much lower when paid in gold in foreign countries than they had cost at home in paper, showing an apparent loss, instead of profit, which would have been sufficiently astounding, no doubt, to the uninitiated, and yet the merchants and manufacturers in the mean time grew rich.

If the war caused a demand for gold it could not affect the expense of its production, nor could it alter its relative proportion to other commodites, except to depreciate its exchangable value, by causing an extra consumption of commodities other than gold. When we say that gold is dearer in one country than another we mean that other things are cheaper, as a commodity cannot vary in exchangable value with itself. It would be strange to say that an ounce of gold in one country would purchase an ounce and a-quarter in another. But the present condition of United States currency settles the question beyond dispute, if there are still any persons visionary enough to advocate the *appreciation* theory. No extra demand for gold can be said to have taken place through the operations of this war, as they have been entirely of a domestic character, and yet both our bank and government paper are at a discount of about thirty per cent. But to return to the British currency.

During the suspension of the Bank gold went entirely out of circulation and silver was materially increased in nominal value. Crown pieces, which had previously passed for five shillings, were first raised to five and six-pence, and afterwards to five and nine-pence, and finally disappeared altogether, with every shilling and six-pence at all approaching to full weight, leaving nothing in circulation but light, clipped, and worn coins. In 1811, and again in 1813, to supply the deficiency of silver change, the Bank issued coins called Bank tokens, and every large manufacturing firm in the United Kingdom issued copper tokens or tallys to pay their work-people.

This state of the currency continued until 1816, when the depreciation had been partially corrected by the withdrawal of some of the Bank of England paper, and the winding up, in consequence, of nearly one hundred country banks. The new silver coinage was somewhat reduced in weight, and was issued in exchange for the light, worn coins then in circulation, and the loss, if any, was borne by the government. Cash payments were not resumed by the Bank, however, for nearly seven years after.

In 1823 the Bank resumed specie payments, and the country banks still retained the privilege of issuing small notes, which the Bank of England was required to surrender. The country banks were not slow to fill up the gap made in the small-note currency, by the withdrawal of the one and two-pound notes of the Bank, and accordingly we find that in 1824–5 another panic or crisis occurred which caused the failure of a great number of banks and great distress in the manufacturing districts. It was then suddenly found out that the *Scotch* or joint-stock bank system was the only system that could render possible an *excessive* circulation of paper without the evils of a forced contraction. In the end it proved, however, that this conceit was due only to the prudent management and long experience of the Scotch banks, and not to the system itself.

The English joint-stock banks began to make their appearance in 1826, and they very shortly made their influence felt in the currency; but up to 1833 no apparent disturbance took place on account of the withdrawal from circulation of the one-pound notes. In that year the country banks increased their issues from five to ten millions, and the joint-stock banks, in the two following years, from two millions one hundred thousand to four millions three hundred thousand, while they knew all the time that the Bank of England was restricting its own accomodation to the public to prevent, as much as possible, the export of gold. The struggle finally ended in the crisis of 1837, which all the experience, prudence, and power of the Bank of England was unable to prevent.

As usual under such circumstances, many of the private as well as the joint-stock banks failed, and several of the largest of the latter were wound up with the loss of the whole of their capital, and in many instances that did not clear their liabilities.

This crisis also extended to the United States banks; they had increased very rapidly just previous to the expiration of the charter of the National Bank in 1836. In a few years their number had increased three-fold, and their *loans* and discounts in a larger ratio. Flour rose to eleven or twelve dollars a barrel and pork to twenty six, and all other necessary articles in proportion. All the banks in the city of New York suspended payment

in one day, and nearly all the banks in the United States in less than a week; foreign exchange rose to twenty per cent premium, and the suspension continued for a year, and in the mean time the prices of all necessary commodities were extremely reduced.

Again in the year 1839, the second United States bank, chartered by the State of Pennsylvania, failed, and three hundred and fifty more suspended payment, of which very few ever resumed. Years of low prices and despondency followed, the energies of the people being paralyzed by an overwhelming load of debt. But in the fall of 1842 and spring of 1843 the demand for grain and breadstuffs in England was so great that we imported a balance of twenty-one millions in specie, which again gradually restored confidence and prosperity.

In 1844 the Bank of England charter was again renewed for twenty years, and of course expires in 1864. The late Sir ROBERT PEEL, one of the wisest and most upright of British statesmen, was then prime minister, and believing in a sound unfluctuating currency, he did his best to prevent in future those oscillations so detrimental to the prosperity and happiness of the British people. To attain this desideratum he limited the issues of the Bank of England, as well as all the other banks of the United Kingdom. This measure, however, failed to prevent the recurrence of the evils in question, and was consequently denounced both by ignorant and interested parties. The great mistake of the act appears to have been, that the principle of *limitation* was not efficiently carried out. The joint-stock banks should also have been prevented from *attracting* deposits and *discounting* commercial bills. This business can only be legitimately carried on upon the *paid up* capital of a company, such capital being the limit of the accommodation. Banking upon deposits, as at present practiced, is only another mode of increasing the currency, producing precisely the same effect as the issuing of bank notes. In the year 1857 three of the most successful of the metropolitan banks wielded a power of thirty-five millions of deposits upon a paid up capital of about two millions; and they held these deposits and weathered the storm in spite of the Bank of England, and paid a dividend in the same year which averaged, for the three banks, twenty-two and-a-half per cent, and since that period two of these banks have continued to make dividends nearly if not quite equal to those just stated. The value of their stock in the market ranges, at present, from three hundred and sixty to four hundred per cent. We need hardly say that these profits are not the legitimate profits of commerce: they are obtained by the monopolizing or concentrating power of the joint-stock principle. At the adoption of the next Bank charter some remedy must be found to neutralize or destroy this neutralizing power of the joint-stock banks, or the currency of Great Britain will be just as liable to expansion and fluctuation as heretofore. No bank must be allowed to pay interest on deposits, and if necessary the joint-stock banks must be suppressed in London altogether.

It will be inferred from this that the act of 1844 was ineffective to prevent an undue increase of the British currency. In 1847 another monetary crisis occurred, partly from the failure of the crops in Ireland, but chiefly from the undue increase of the currency.

In the seven years ending in 1848, two hundred and fifty millions sterling had been pledged to the construction of railways, and the shares of the leading lines had been run up to two hundred and fifty per cent. By

the middle of October, however, the highest had come down to its original value, and many to sixty per cent below par. The average fall of twelve of the leading lines was 64½ per cent, and the rest could not have been disposed of gratis.

At this time the banks of the United States escaped any material derangement, as the foreign exchanges were in favor of the country, owing to the failure of crops and high price of food in Europe. We commence now a new financial era.

(To be continued)

RAILWAY TRAVEL IN ENGLAND—ITS INCONVENIENCES AND DANGERS.

The following taken from a late English paper possesses a little too much of the tragic to be agreeable. Why our beloved cousins should persist in locking people up in a small box, without the possibility of communicating with any one outside of it, when traveling on a railway is more than we can comprehend. We trust that this bit of experience will lead them to adopt some of our Yankee modern improvements:

"A Mr. McLean and a Mr. Worland, took seats in a second-class carriage, by the Friday night express, from Liverpool to London. In the same compartment were a moody-looking Irishman and an elderly woman. He now and again talked to himself somewhat fiercely, and seemed to be threatening an invisible foe. Mr. McLean and Mr. Worland glanced at him, and then continued in friendly chat. Now, it happened that the man had been insane, and was rapidly growing insane again. A wild notion was fast acquiring the strength of a fixed idea. The two men, in familiar chat, were thieves planning how they could rob him, and he was resolving to be first in the field. As soon as the train had left Bletchley, the maniac drew a knife, and stabbed Mr. Worland in the head. He drew back his arm to repeat the stroke, when Mr. McLean, who seems to have had his wits about him, knocked him back into his seat. Springing up, the maniac made another dash at the now insensible Worland; but here he was foiled again by McLean, who gripped his throat and his armed hand, and a close combat began. All the time the train flew rapidly through the country. The woman sitting near the other window had done all she could to alarm the driver, by wasting her screams on the morning air, and now lay insensible from the effect of terror. The madman drew the blade of his knife through the fingers of McLean, and thrust with it wildly. Worland had now regained his senses, and he at once entered into the combat, getting behind the madman, and throwing him down. The maniac's yells were louder than those of the woman; they were continuous, but neither guard nor driver heard them. For 40 long miles this scene lasted, seen by none except those engaged in the strife; until a ticket-collector, hastily opening the door, saw the two gashed and haggard men bending over the exhausted madman on the blood-stained floor."

COMMERCIAL LAW. No. 6.

THE STATUTE OF FRAUDS.

OF ITS PURPOSE AND GENERAL PROVISIONS.

The Statute of Frauds, so called, was passed in the 29th year of Charles II. (1677) for the purpose of preventing frauds and perjuries, by requiring in many cases written evidence of a contract. It is very generally in force in this country; but none of the various statutes of the different States copy the English statute exactly, and no two of them agree exactly in all their provisions. They do, however, agree substantially; and we shall give in this article the prevailing and nearly universal rules for the construction and application of this statute. It is often of very great importance in commercial transactions. Those provisions which especially relate to commercial law are contained in the fourth and seventeenth sections.

By the fourth section, it is enacted that "no action shall be brought whereby to charge any executor or administrator, upon any special promise, to answer damages out of his own estate; or whereby to charge the defendant, upon any special promise, to answer for the debt, default, or miscarriages of another person; or to charge any person upon any agreement made upon consideration of marriage; or any contract for sale of lands, tenements, or hereditaments, or any interest in or concerning them; or upon any agreement that is not to be performed within the space of one year from the making thereof; unless the agreement, upon which such action shall be brought, or some memorandum or note thereof, shall be in writing, and signed by the party to be charged therewith, or some other person thereunto by him lawfully authorized."

By the seventeenth section, it is enacted that "no contract for the sale of any goods, wares, and merchandises, for the price of £10 sterling, or upwards, shall be allowed to be good, except the buyer shall accept part of the goods so sold, and actually receive the same, or give something in earnest to bind the bargain, or in part of payment, or that some note or memorandum in writing of the said bargain be made and signed by the parties to be charged by such contract, or their agents thereunto lawfully authorized."

The second and fifth clauses of the fourth section, and the whole of the seventeenth, relate to our present subject. The second clause prevents an *oral* guaranty from being enforced at law; but if money be paid on one, it cannot be recovered back.

OF A PROMISE TO PAY THE DEBT OF ANOTHER.

Such a promise, although in writing, is not valid without a consideration; as we have already stated and illustrated in the article on Guaranty. And this necessity, and difficulty of distinguishing in many cases between

an *original* promise, which need not be in writing, and a *collateral* promise, which must be in writing, has caused much litigation. By an *original* promise is meant a man's promise to pay his own debt; a *collateral* promise is a promise to pay the debt of another man. If it be an *original* promise, it is not within the statute, and need not be in writing; but if it be a *collateral* promise, or a promise for another, it is within the statute. By the phrase *within the statute*, is meant that the promise is such as the statute applies to; and such a promise must be in writing, and signed by the party whom it is sought to charge upon the promise.

The best rules to determine whether there be a sufficient consideration, and also whether the promise be *collateral* and within the statute, or *original*, and so out of the statute, are these: 1. Where the guaranty is made at the same time with the original promise, and is an essential cause of the credit given to the original promisor, that credit is a consideration for the collateral promise. 2. Where the guaranty is given *after* the original promise is completed and credit given, there must be a new consideration for the guaranty. 3. If, after the new promise is given, the original promisor remains liable, and there is no liability on the part of the guarantor other than what arises from his guaranty, this is a collateral promise, and is generally within the provisions of the statute, and must be in writing.

It is indeed very often difficult to say whether the promise of one to pay for goods delivered to another is an *original* promise, as to pay for one's own goods, or a promise to pay the debt or guaranty the promise of him to whom the goods are delivered. The question may always be said to be: *To whom did the seller give, and was authorized to give, credit?* This question the jury will decide, upon consideration of all the facts, under the direction of the court. If a seller sues one to whom he did not deliver the goods, on the ground that this other promised to pay for them, then the question is, Did this other promise to pay for them as for his own goods? for then the promise need not be in writing. Or did he promise to pay for them as for the goods of the party receiving them? and then it is a promise to pay the debt of another, and must be in writing. If, on examination of the books of the seller, it appears that he charged the goods to the party who received them, it will be difficult, if not impossible, for him to maintain that he sold them to the other party. But if he charged them to this other, such an entry would be good evidence, and, if confirmed by circumstances, strong evidence that this party was the purchaser. But it cannot be conclusive; for the party not receiving the goods may always prove, if he can, that he was not the buyer, and that he promised only as surety for the party who was the buyer; and, consequently, that his promise cannot be enforced if not in writing. And, in general, in determining this question, the court will always look to the actual character of the transaction, and the intention of the parties.

The courts, both in England and in America, have often endeavored to illustrate this question. Thus, in an early English case, the court said: "If two come to a shop, and one buys, and the other, to gain him credit, promises the seller, 'If he does not pay you, I will,' this is a collateral undertaking, and void, without writing, by the Statute of Frauds. But if he says, 'Let him have the goods, I will be your paymaster,' this is an undertaking as for himself, and he shall be intended to be the very buyer, and the other to act but as his servant." So, in a case in Maryland, the

court said: "If B gives credit to C for goods sold and delivered to him, on the promise of A to 'see him paid,' or 'to pay for them if C should not,' in that case it is the immediate debt of C, for which an action will lie against him, and the promise of A is a collateral undertaking to pay that debt, he being only liable as a surety. But where the party undertaken for is under no original liability, the promise is an original undertaking of the party promising, and binding upon him without being in writing. Thus, if B furnishes goods to C, on the express promise of A to pay for them, as if A says to him, 'Let C have goods to such an amount, and I will pay you,' and the credit is given to A, in that case C being under no liability, there is nothing to which the promise of A can be collateral; but A being the immediate debtor, it is his original undertaking, and not a promise to answer for the debt of another;" and therefore need not be in writing.

If a promise or undertaking be once shown to be *original*, and not collateral, as we have endeavored to explain and illustrate those terms, it can never be brought within the operation of the statute; that is, it never needs to be in writing. This is a rule to which there is no exception that we are aware of. But the converse does not hold universally. For, though it is generally true, as we have said, that *collateral* promises are within the statute, and therefore must be in writing, there are in the books several cases of collateral promises to which it has been held that the statute did not apply. Many attempts have been made to discover a principle which would explain all these cases, and serve as a test in the future for distinguishing those collateral promises which are, from those which are not, within the statute. Chief Justice KENT stated the principle thus: "When the promise to pay the debt of another arises out of some new and original consideration of benefit or harm, moving between the newly contracting parties, it is not within the statute." But this will scarcely explain all the cases, though it may most of them. We should prefer to state the distinction thus. Whenever the main purpose and object of the promisor is not to answer for another, but to subserve some purpose of his own, his promise is not within the statute, although it may be in form a promise to pay the debt of another, and although the performance of it may incidentally have the effect of extinguishing the liability of another.

If there be an oral promise to pay the debt of another, and also to do some other thing, this last can be enforced at law, if this other thing, and so much of the promise as relates to it, can be severed from the debt of the other and the promise relating to that debt; for although *that* promise must be in writing, the other may be oral.

OF AN AGREEMENT NOT TO BE PERFORMED WITHIN A YEAR.

Under the fifth clause in the fourth section, it is held that an agreement which *may* be performed within the year is not affected by the statute, as the words, "that is not to be performed within one year," do not apply to an agreement which, when made, was, and by the parties was understood to be, fairly capable of complete execution within a year, without the intervention of extraordinary circumstances—although in point of fact its execution was extended much beyond the year. So where one agreed orally, for one guinea, to give another a number of guineas on the

day of his marriage, it was held that this promise was not within the statute, that is, not one which the statute required to be in writing, because he might be married within a year, and the promisor was therefore bound by it. So where one agreed orally never to go into the staging business in a certain place, as this contract could last only while the promisor lived, and he might die within a year, he was held to be bound by it.

OF THE ACCEPTANCE OF A THING SOLD.

Under the exceptional clause in the seventeenth section, "*unless* the buyer shall accept and actually receive the same," it is clear that a mere delivery is not enough, without a distinct acceptance by the buyer.

But anything would amount to a delivery and acceptance, which was intended to be so, and was received as such, and which actually put the goods within the reach and power of the buyer. The symbolical deliveries before mentioned, as the delivery of the key of a warehouse, or an entry in the books of the warehouse-keeper, or indorsement and delivery of a bill of lading, or even of a receipt, in many cases, or a delivery of a part of one whole, without the intention of separating it from the rest, are sufficient. But some of many distinct and severable things may be delivered without this operating as a delivery of the rest; nor is the delivery of a sample sufficient, unless it be delivered as a part of the thing sold. The subject of delivery has been considered in the article on Sales.

If the buyer receives the goods, but reserves the right of returning them and rescinding the sale if they are not satisfactory, or as represented, this we should hold to be a *conditional* acceptance, which does not suffice to take the case out of the requirement of the statute, until this right is extinguished by lapse of time or otherwise, or given up; for until then there is no definite and certain acceptance.

"Earnest" must be given and received as such to make the sale valid under that clause of the statute. "Earnest" is a payment of a part as a symbol for the whole, and the part-payment must be actual payment, and not a mere agreement that something else, as a discharge of an existing debt, shall be taken as part-payment.

OF THE FORM AND SUBJECT-MATTER OF THE AGREEMENT.

The "agreement" must be in writing; but generally, in this country the writing need not contain or express the consideration, which may be proved otherwise. Nor need it be all on one piece of paper. For it is sufficient if on several pieces, as in several letters, which, however, relate to one and the same business, and may fairly be read together as the statement of one transaction.

The "signature" may be in any part of the paper—the beginning, middle, or end, except in those of our States in which the statute has the word "subscribed" instead of "signed;" in which case it should be in the usual place at the bottom. If the name and the agreement be *printed*, it is sufficient; hence, a printed shop-bill, with the name of the seller, as usual, at the beginning, if delivered to the buyer, is generally sufficient to charge the seller in an action for refusing to deliver the goods.

Shares in railroad companies, in manufacturing companies, and, we think, in all corporations and joint-stock companies, are "goods, wares, or mer-

chandises," within the statute, in this country, and an agreement for their purchase and sale must here be in writing, although it is held otherwise in England.

We think that a contract for an article not now the seller's, or not existing, and which must therefore be bought or manufactured before it can be delivered, will also be within the statute, and must be in writing, if the article may be procured by the seller by purchase from any one, or manufactured by himself at his choice, the bargain being, in substance as well as form, only that the seller shall, on a certain day, deliver certain articles to the buyer for a certain price. But if the bargain be rather that the one party shall make a certain article, and deliver it to the other party, who shall thereupon pay him for his materials, skill, and labor, this is not a contract of or for sale, but an agreement to hire and pay for work and labor, or to *employ* that party in a certain way; and it is not within the Statute of Frauds, as a contract for the sale of goods, wares, or merchandises.

The operation of the statute in the clauses we have considered, is not to avoid the contract, but only to inhibit and prevent actions from being brought upon it. In all other respects, it is valid. Thus, if A says, "In consideration of a promise from B to C to work for him two years, I will do so and so," and, when called up to do what he promised, says his promise was void, because B's promise to C was within the Statute of Frauds, and was not in writing, and was therefore void—the answer is, that B's promise is not void, but is perfectly good as a consideration for A's promise, although no action can be maintained on B's promise.

It may be further remarked, that the operation of the statute has been always limited to such contracts as have not been executed in any substantial part, and therefore remain wholly executory. For if they have been executed substantially in good part, they are binding, although only oral.

In Massachusetts, the Statute of Frauds also provides (3d section) that no action shall be brought to charge any person upon, or by reason of, any representation or assurance made concerning the character, conduct, credit, ability, trade, or dealings of any other person, unless it be made in writing, and signed by the party to be charged. And there are provisions substantially similar to this in the statutes of Maine and Vermont.

The "£10" mentioned in the first section, is from thirty to fifty dollars in different States.

DISCOVERY OF NEW AND VERY RICH GOLD MINES.

By telegraph under date of August 15th, accounts come *via* Los Angelos, of the discovery of a very rich and extensive gold mining region in the San Francisco Mountains, lying east of the Colorado river. The La Paz and other recently formed mining companies on the Colorado have been deserted for new mines. The latter are described as a new California.

CHINA TRADE FOR 1862.

We take the following excellent review of the China Trade for 1862, from advance sheets of the New York Chamber of Commerce Report. It was prepared by the leading East India house in this city:

At the end of 1861 the stock of tea in importers hands in this market was as follows:

	Green.	Black.	Japan.	Total.
Stock on hand in 1861.....pounds	1,023,790	1,483,548	36,920	2,544,258
Receipts from January 1st to December 31st, 1862.....	14,002,252	17,234,467	756,945	31,993,664
Total pounds.....	15,026,042	18,718,015	793,865	34,537,922
Stock in hands of importers December 21st, 1862.....	3,535,270	5,126,270	426,120	9,087,660
Apparent consumption in 1862.....	11,490,772	13,591,745	367,745	25,449,262
" " 1861.....	10,394,476	19,142,128	473,418	30,010,022
" " 1860.....	16,298,440	13,548,559	315,306	30,162,335

These figures show a decrease in consumption from the previous year of 4,560,760 lbs., and about the same difference as compared with 1860. The range of prices for 1862, with those of December, 1860 and 1861, are given in the table below:

	Hyson.	Young Hyson.	Hyson Skin and Twankay.	Gunpowder and Imperial.	Japan.	Oolong.	Souchong and Congou.	Ankoi.
Jan...	70 a 100	75 a 105	58 a 85	72 a 105	50 a 80	57 a 85	38 a 65	35 a 50
Feb	75 a 100	80 a 105	65 a 85	80 a 105	55 a 80	60 a 85	40 a 65	40 a 50
March	80 a 103	80 a 110	65 a 85	82 a 112	55 a 80	57 a 80	38 a 65	40 a 48
April	70 a 100	70 a 108	55 a 80	80 a 112	65 a 80	50 a 95	37 a 65	37 a 45
May	70 a 105	70 a 108	55 a 80	80 a 115	65 a 80	50 a 95	36 a 65	35 a 45
June	65 a 100	65 a 108	50 a 80	75 a 115	65 a 80	50 a 100	35 a 55	32 a 45
July	65 a 105	65 a 110	50 a 80	75 a 115	65 a 80	50 a 100	35 a 55	32 a 48
Aug.	65 a 105	65 a 110	50 a 80	75 a 115	65 a 80	50 a 100	35 a 55	32 a 48
Sept.	70 a 100	65 a 105	53 a 75	75 a 110	60 a 80	55 a 90	38 a 65	35 a 48
Oct.	70 a 110	60 a 110	55 a 80	75 a 115	60 a 85	58 a 90	38 a 65	35 a 55
Nov.	75 a 110	65 a 110	58 a 80	80 a 120	65 a 85	62 a 95	45 a 75	37 a 55
Dec.	75 a 110	65 a 110	58 a 80	82 a 120	65 a 85	62 a 95	45 a 75	37 a 55
"'61	75 a 93	73 a 95	58 a 70	70 a 95	48 a 72	55 a 80	38 a 65	35 a 45
"'60	35 a 60	35 a 53	33 a 40	36 a 65	.....	30 a 60	25 a 43	15 a 23

We add thereto the following statement, showing the average advance on the various descriptions of tea during the year 1862 over the average prices of 1861; also, the average prices for the month of December, 1861 and 1862. A comparison of these figures proves how large the fluctuations have been during the periods named:

AVERAGE MARKET PRICE FOR TEAS DURING THE YEARS 1861 AND 1862.

	1861.	1862.	Advance.
Hyson	59c.	90c.	31c.
Young Hyson	59	88	29
Hyson Skin and Twankay	48	68	20
Gunpowder and Imperial	62	96	34
Oolong	51	75	24
Souchong and Congou	36	52	16
Ankoi	22	43	21
Japan, uncolored	54	72	18

AVERAGE MARKET PRICE FOR TEAS IN THE MONTH OF DEC., 1861, AND DEC., 1862.

	1861.	1862.	Advance.
Hyson	84c.	92c.	8c.
Young Hyson	84	87	3
Hyson Skin and Twankay	64	69	5
Gunpowder and Imperial	82	101	19
Oolong	67	78	11
Souchong and Congou	51	60	9
Ankoi	40	46	6
Japans, uncolored	60	75	15

In the above tables we give the range of prices for all qualities of each kind of tea, instead of confining ourselves to the cargo grade, as was the case in our last report.

The great and rapid increase in the value of tea during the first of these periods has already in our previous issue, been traced to its principal cause, that of the duty of 15 cents per pound imposed by Congress on all descriptions of tea, and which was raised to 20 cents per pound by the act approved 24th December, 1861. Subsequently the apprehension that this rate of duty might be further augmented, produced a speculative feeling in the market, and the season of 1862 opened with an active business. There appeared, however, as time went on, no disposition on the part of Congress to add to the duty already fixed by law, yet such influence as the prospect of a permanent tariff may have exercised over the minds of buyers was lost sight of in the more important circumstance of a change in the value of our currency, which at this period began to manifest itself.

Early in January gold was at a premium of four per cent, and the rate of sterling exchange 114 to 115 per cent; simultaneously the value of merchandise generally was enhanced, and as a rule it has followed the course of gold, only maintaining comparative steadiness during the more violent fluctuations of this metal. With respect to Green tea it may, however, be noted, that the question of supply has had its bearing on the market. Certain causes were assigned in our last report for the deficiency that then prevailed, and these causes have continued to operate in checking, to a considerable degree, the export of Green teas from China. The difficulties of transit, and the destruction of produce consequent upon the rebellion, together with the generally reported short crop, all have combined to put our markets, from time to time, in an excited condition, and to cause extreme prices to be paid for certain qualities, such as have not, we believe, been known before since tea became free of duty. Hyson and Young Hyson brought $1 10; Hyson Skin and Twankay, 85 cents; and Gunpowder and Imperial, $1 20.

The Black tea trade presents no new or remarkable feature. The closing

prices of the year exceed those of December, 1861, only by the difference in exchange, and the stock is largely in excess of that period.

Japan sorts have been dealt in to a considerable extent. The taste for them is on the increase, but from their high cost they have not taken the place of the China Greens so largely as had been anticipated. The characteristics of this tea are a close resemblance to the finest Green tea of China, styled Moyune, from which, however, it differs in one essential particular, that it is free from coloring matter, and although not deficient in strength, it possesses great delicacy and softness of flavor.

The "Benefactor" brought the first Japan teas that came direct to this port. She sailed from Yokohama in October, 1862, but the time of her arrival excludes her cargo from our annual estimates.

The offerings at auction of sound teas, in 1862, were very small, compared with previous years, reaching in all but four sales; and from these portions of the catalogues were withdrawn, notwithstanding that the prices bid were fully up to those obtained at private sale. This diminution of public sales is owing in a considerable degree to high rates, accompanied by a strong speculative feeling, together with a growing indisposition on the part of jobbers to carry heavy stocks. The sales of damaged or stained teas were unusually large and at good prices. In many instances sound value was realized. As near an estimate as we can procure would show the following aggregate:

Black	packages	23,395
Green		14,841
Japan		301
Total packages		38,537

Raw Silk has only slightly fallen off in quantity from the year just preceding, but compared with previous years the decrease is large.

The importation was in	1858	5,675	cases and bales.
" "	1859	6,777	" "
" "	1860	3,181	" "
" "	1861	3,403	" "
" "	1862	2,370	" "

The latter consisted of—

Taysaam, from China direct	374 bales,	39,270 lbs.
Canton, re-reeled "	624 cases,	31,200 "
Japan, direct from China	88 bales,	8,000 "
Tsatlees and Taysaams, from London, entered as 769 packages, containing	1,284 bales,	136,540 "
Total	2,370 packages	215,010 lbs.

Valued here, including cost, charges and exchange, at $1,032,000.

From this it will be seen that more than half of the receipts came *viz* England, in spite of the duty of ten per cent. This is attributable to the small supply received direct, and to the moderate prices in the London market, enabling shipments to be made with good chance of profit even at increased cost. Importation through the same channel is likely to continue, inasmuch as the discriminating duty of ten per cent has been removed for two years, from the 3d March, 1863, so that now raw silk, the product of countries beyond the Cape of Good Hope, is exempt from duty when im-

ported from places this side of the Cape. Under this change of the tariff continuous supplies of silk may be expected from England whenever our market shall offer inducement.

The following table shows the prices for the year:

China.	Jan. 1, 1862.	June 30, 1862.	Sept. 30, 1860.	Dec. 31, 1862.
Tsatlees.....	$5 50 a $6 00	$5 50 a $6 00	.....	$7 25 a $8 00
Taysaams.....	4 00 a 5 50	4 50 a 5 50	$5 00 a $7 00	6 25 a 7 50
Canton, re-reeled	4 75 a 5 00	5 00 a 5 50	5 50 a 6 00	6 50 a 6 75
Japan.....	4 25 a 5 50	4 75 a 6 25	.....	8 00 a 9 00

These prices have risen still higher as we write; but it must be borne in mind that the advance is only sympathetic with the rate of exchange on England.

The expectations formed of Japan silk have been fully realized, its quality answering the purpose of manufactures, on the average, equally as well as the Chinese, and, for some objects surpassing it. It has more body and evenness of thread than the Chinese article, and approaches very nearly the European raw silks. Indeed, those descriptions of Japan silk, styled Maybash and Eda, are held to be superior to some of the Italian, and bring, accordingly, higher prices in the London market. In short, the general quality of the Japan product is available for all the purposes at present known to this branch of industry in the United States.

Manufacturers have done a good business during the past year, and have participated in the general rise of merchandise consequent upon the condition of our currency. Their product has been, chiefly, sewings and twist; but considerable attention has been given to weaving ribbons and piece goods—the former, on quite an increased scale; the latter, more restricted, owing to the high cost of the raw material. Nevertheless, weavers are now turning out Foulard silks in great perfection, and preparations are being made for a more extensive production of Pongees and dress goods, when raw silk shall have fallen sufficiently below its present value to promise larger remuneration to the manufacturer than that which could fairly be expected under prevailing conditions. In addition to these uses, silk is being largely mixed with worsted for clothing purposes.

Silk Piece Goods.—The extensive trade in this description of goods, that was carried on in former years, has dwindled to insignificant proportions, as will be seen by consulting the following table. The decline is attributable, in the first instance, to the large stock that had accumulated in the market, inflicting severe loss on the importer, and naturally forbidding further importation—subsequently to the competition of French and English Foulards, which grew formidable, and finally to the home manufacture of this article proving successful beyond the expectations of dealers. Through these various causes may be traced the striking contrast exhibited below:

Importation of Silk Goods, from—	Pongees. Pieces.	Nankin Pongees. Pieces.	Hdks. Pieces.	Sarsnets. Pieces.	Levantines. Pieces.	Damask. Pieces.	Seuchans. Pieces.
Jan. 1858, to June, 1859,	32,710	29,650	4,384	6,220	....	....	....
" 1859, to " 1860,	50,012	28,005	15,642	14,160	450	75	100
" 1860, to " 1861,	40,502	....	1,526	3,292	600	120	100
" 1861, to " 1862,	2,728	....	....	100	100	....	....
1 June to 31 Dec., 1862,	7,650	....	600	775	....	....	....

Crape Shawls and Scarfs—Which in 1852–'3 reached the heavy aggregate of 322,594, were reduced, in 1861–'2, to 17,304. The bulk of those was composed of low-priced colored goods, intended chiefly for exportation to Spanish markets.

Sewing Silk—From an importation of 300 piculs, about 40,000 lbs., in 1858–'59 fell rapidly off, and the quantity shipped hither since that date is scarcely worthy of note, the home manufacture having driven it out of the market.

Matting.—This article exhibits less discrepancy in point of quantity, and stands as follows, for the series of years adopted for comparison, viz:

June, 1858, to June, 1859,.....	53,411 rolls.
" 1859, " " 1860,.....	46,588 "
" 1860, " " 1861,.....	40,198 "
" 1861, " " 1862,.....	6,732 "
1st June to 31st December, 1862,.....	22,442 "

Doubtless the supply has been in excess of the demand, as a large proportion of the consumption of former years was in the South. At the same time, under the influence of a disturbed currency, prices have ruled high, and while the quotation for 4-4 white in January, 1862, was 20c., in December of the same year it rose to 27c. per yard, and at a later period reached 35c.

Fire Crackers have come forward in irregular supply, but the importation of the last season is comparatively large, and prices have fluctuated between $1 80 and $1 50.

June 1, 1858, to June 1, 1859,.....	147,111 boxes.
" 1, 1859, " " 1, 1860,.....	218,104 "
" 1, 1860, " " 1, 1861,.....	185,589 "
" 1, 1861, " " 1, 1862,.....	87,154 "
June 1, to December 31, 1862,.....	96,175 "

Palm Leaf Fans.—This article, from a large accumulation of stock, became almost unsaleable for many months, nor was there any prospect of improvement until the very low prices at which the goods were held induced speculative buyers to enter the market, and considerable purchases were made at $5 per case; subsequently the gold movement took place, causing a rise in the value of the article to $15 per case, leaving, however, a great surplus stock still on hand.

Cassia has been largely dealt in the past year, at generally advancing prices, caused, in the first instance, by the duty of 15c. per pound, and subsequently by the course of exchange. In January the current value of the article was 28c., and in December 42c. The stock now held is estimated by some dealers to be about 200,000 mats. The importation has been as follows:

June 1, 1858, to June 1, 1859,.....	11,726 piculs,	=	1,563,466 pounds.
" 1, 1859, " " 1, 1860,.....	6,676 "	=	890,133 "
" 1, 1860, " " 1, 1861,.....	5,427 "	=	723,600 "
" 1, 1861, " " 1, 1862,.....	5,881 "	=	784,133 "
June 1 to 31st December, 1862,.....	2,975 "	=	396,666 "

Camphor, which has ceased to be imported from 1858 to 1860, was, in 1860–1861, shipped to the extent of 525 piculs, = 70,000 pounds.
in 1861–1862, " " " 675 " = 90,000 "
June 1 to 31st Dec., 1862, " 243 " = 32,400 "

Prices have fluctuated, being in January 57½c. per lb., and in December 90c. Stock here is moderate.

Straw Hats and Braid, after having been neglected for a long period, and reduced to a merely nominal value in this market, have again become articles of considerable importance. The importation of the past year has been several thousand packages of hats and braids, which have all been sold at highly remunerative prices.

Of the miscellaneous imports from China there is no article worthy of special notice except cotton. This has been sent over in limited quantities, and owing to the dearth of our Southern staple, has commanded ready sales, at prices on the average about 20 per cent below American sorts. It does not appear to have been sufficiently tried to fix its position relatively to American and other kinds, but a prejudice exists against it among our manufacturers on account of its short staple, to which they are unused. This difficulty being better understood in England, the cotton there has been more largely taken, and the supplies are likely to be increased. The loss in the picker is said to be small, as compared with India cotton, but in the further processes of manufacture this gain is offset by the increased loss in flying and breakage. The future of this article will be more readily solved in the English market than with us, as its importation there has been on a scale sufficiently large to allow a fair test, but already it is estimated by some as taking rank with the best India qualities.

In our last notice of the exports from the United States to China we had to record a large decrease in cotton goods, as compared with previous years, and we assigned reasons for expecting a further diminution of this important item. We were not, however, fully prepared for the total cessation of shipments that ensued. During the year 1862, not a piece of domestic cotton goods was exported to China. On the contrary, some considerable parcels of the stock held in that country by American houses were returned to this port and to San Francisco. The reasons for this reversal of the order of trade are obvious, in the scarcity of the raw material, and the consequent high prices for manufactured goods—the advance in some articles being fully 300 per cent above those current before the rebellion. Drills, for which the merchant formerly paid from 8 to 9 cents, reached the unprecedented figure of 32 cents per yard; and similar descriptions of goods rose in the like proportion. This singular condition of our market revealed the fact that the demand in China could only be sustained up to certain moderate limits, and that when these are passed, consumers fall back upon the native product to the neglect of the imported goods. Doubtless the Chinese traders were slow to believe that their supplies would be entirely cut off, and, under this misapprehension, they held aloof for a time, hoping for lower rates; yet, when at length it became manifest that the exportation of cotton goods from this country was virtually at an end, the fact gave but moderate impulse to speculation, and it was only gradually that the native buyer was induced to meet, to some extent, the exigencies of the market. During

the first six months of the past year, the quotations for domestics in Hong Kong and Shanghae remained unchanged, or nearly so.

Drills, at the former place, brought from	$4	10	to	$4	25	per piece, of	40	yards.
Sheetings	"	"	"	2	90 to 3	30	"	" 40 "
Jeans,	"	"	"	2	80 to 3	10	"	" 30 "
At Shanghae, drills were held at	3.1	taels	to	3.25	taels,	=	$3	90 to $4 10.
Sheetings,	"	"	2.65	"	to 2·90	"	=	3 34 to 3 65.
Jeans,	"	"	2.65	"	to 2.75	"	=	3 34 to 3 46.

In August, some symptoms of a speculative feeling became apparent, and holders raised their pretensions accordingly, establishing an average advance of about $1 per piece; yet there was no similarity of value when compared with the home markets, and the attention of holders was directed to the advantages likely to accrue from re-shipment. The idea was speedily acted upon; considerable quantities of drills and sheetings were returned to this port and San Francisco, resulting in profit to the owners of the goods. The reduction of stock in this mode gave fresh impulse to buyers, and prices again rose. Momentarily as much as $7 per piece was asked for drills in Hong Kong; but no transactions followed, and prices ultimately settled at about the following figures:

At Hong Kong....	drills,	$6 00.	Sheetings,	$3 60 to $4 00.	Jeans,	$4 10
At Shanghae,	"	4.45 taels.	"	3.30 to 3.80 taels.	"	4 taels.

The stock in Hong Kong, at the close of 1862, was small. That at Shanghae was estimated as follows:

Drills,.....	80,028 pieces.	Jeans,.....	1,300 pieces.
Sheetings,....	2,917 "		

We present below, in tabular form, the prominent articles of export to China, by which it will be perceived that coal has again assumed an important position, affording, in fact, the only remunerative freight for vessels outward bound, now that the shipment of domestics has ceased. Prices have fluctuated largely, having been, in February, 1862, at Shanghae, the principal market, 16 taels per ton; in March, 20; August, 11; November, 8, and December, 14, forming, for the year, an average of 13½ taels per ton.

As we had anticipated, the consumption of anthracite coal seems to have gained ground among the Chinese for domestic purposes. This, added to the demand for coastwise and river steamers, has sustained its value, which must otherwise have fallen very low after the withdrawal of the foreign war steamers from those waters. It is probable, however, that the quantity now on its way to China is in excess of needs, and we may look for moderate rates to rule for some time to come.

The navigation of the Yang Tsee, added to the increasing business on the coast, has created a call for steamers that had to be supplied from foreign sources. A considerable number has been sent thither from England, and during the year nine steam vessels of varied tonnage have been built in the port of New York for the Chinese waters. Two of these boats were sent in pieces by vessel, the others were navigated by the usual route around the Cape, and arrived in safety, although not without accident and long delay in some instances. The aggregate value of these steamers has been estimated at $1,500,000, affording a desirable medium of exchange to that extent.

The other articles detailed among our exports, being of regular shipment,

scarcely call for any other notice than the record of their quantity and value. It may, however, be mentioned, that the supplies of flour from hence are materially interfered with by those now sent from California across the Pacific, the quality of which has grown into favor with the consumers, and is an acceptable substitute for the Gallego and Haxall brands, which, before the rebellion, enjoyed a monopoly in the China market.

Ginseng, owing to the short gathering of the Southern root, has largely fallen off, and has, consequently, advanced in price. The late quotations from Canton show higher figures than had ruled for a long time; but the increased home cost renders the issue of shipments of doubtful benefit to the owner.

Provisions, on the other hand, are still in superabundance, and prices merely nominal, and must, in all probability, continue so until consumption shall have relieved the markets.

MERCHANDISE SHIPPED FROM THE UNITED STATES TO CHINA, FROM 1ST JANUARY TO 31ST DECEMBER, 1862.

Coal, in 48 vessels, 35,074 tons,		$149,786
Lumber, in 15 vessels, 561,095 feet,	$23,481	
" 11,528 pieces,	20,000	
		43,481
Lead, in 10 vessels, 7,241 pigs,	$65,074	
" 24 sheets,	1,664	
" 12 packages,	665	
		67,403
Ginseng, in 15 vessels, 343,349 lbs.		280,488
Provisions, beef, in 13 vessels, 1,162 bbls., $14,738		
" " 60½ bbls. 513		
	$15,251	
" pork, in 10 vessels, 1,131 bbls.,	13,783	
" hams, 3 " 77 "	1,485	
bread, 5 " 2,303 "	11,385	
flour, 18 " 6,940 "	55,435	
butter, 20 " 1,087 " $33,069		
" 200 boxes 1,500		
	34,569	
		131,908
Miscellaneous, in 37 vessels,		481,828
Total,		$1,154,894

The clearances from American ports for China, in 1862, irrespective of the steam vessels referred to, were as follows: 30 ships, 17 barks, and 1 brig; total, 48 vessels; being eight more than the number reported for the previous year. The arrivals during the same period were: 26 ships, 24 barks, and one brig; total, 51 vessels.

The foregoing particulars of the trade between the United States and China are, for the sake of precision, brought within the limits of the year 1862; but in our further remarks we propose to abandon the restriction necessitated by statistical figures, and report upon events that have since taken place, as well as on occurrences bearing on our subject, that reach us while we write.

At the period of our previous report, no vessel in the China trade had been captured by the rebel cruisers; but this immunity was not of long duration, and we have now to chronicle the destruction of several valuable ships, with their cargoes, viz.:

The "Jacob Bell," Captain CHARLES H. FRISBIE, 1,381 tons; burnt by

the "Florida," 13th February, 1863, lat. 24° 01″, N., long. 65° 58″, W.; ship and cargo valued at $750,000.

The "Oneida," Captain JESSE F. POTTER, 420 tons; burnt by the "Florida," 29th April, 1863, lat. 1° 40″, S., long. 29° 10″, W.; ship and cargo valued at $330,000.

The "Dorcas Prince," Captain FRANK B. MELCHER, 699 tons; burnt by the "Alabama," 26th April, 1863, lat. 7° 35′, S. long. 31° 35′, W.; ship and cargo valued at $250,000.

The bark "Union Jack," Captain CHARLES P. WEAVER, 460 tons; burnt by the "Alabama," 3d May, 1863, lat. 9° 40″, S., long. 32° 30″, W.; ship and cargo valued at $100,000.

Under the influence of these disasters, the insurance premium against war risk, which, at first was but 1 per cent., has gradually been raised by the underwriters to 10 per cent.. at which point, however, it cannot be long expected to remain, in face of the facts that meet us.

The piratical fleet is fast swelling its numbers, not only by the acquisition of steamers abroad, but also by the expedient of converting captured merchantmen into vessels of war. The Japan, alias Georgia, a steamer of considerable power, that left Liverpool in April last, has given the first notice of her whereabouts by the destruction of the ship Dictator, Captain PHILLIPS, bound from Liverpool to Hong Kong, with a cargo of coal. This event took place on the 25th April, in latitude 25° N., longitude 21° 40′ W., after which the Georgia steered for Bahia; from thence it is surmised that her course will be to the China seas, where her piratical trade can be carried on to the detriment of Northern interests.

With our commerce thus threatened, it was natural that much of the carrying trade hitherto done in American bottoms should fall to the share of foreign tonnage. So, in fact, it is. Many China cargoes have been conveyed to this port under neutral flags, the war premium offering sufficient inducement to secure them the preference. At what point this tax may become prohibitive, we shall, perhaps, be enabled to judge ere long as the dangers of capture multiply. Meanwhile the rates of freight have gradually increased in favor of the foreign flag, the latest quotations being as follows:

	Tea.	Silk.
Shanghae, American,.....	$16 a 18	$23, currency.
" Foreign,.....	" "	" specie.

Thus it will be seen that the China trade has not been exempt from the contingencies that have beset our commerce since the rebellion broke out. To the danger of loss of property at sea have been added the uncertainties of a constantly fluctuating currency, baffling all calculation as to the value of merchandise, and at times giving the appearance of greatly enhanced prices, which, upon final settlement, and measured by the exchange of the day, have proved to be wholly fallacious.

The difficulties of arriving at any reliable estimate in respect of the worth of goods, may be better understood when we state that the range of sterling bills has been from 114 per cent. in January, 1862, to 188 per cent., which unprecedented rate it attained on the 3d March last; since then the flunctuations have been large, and the quotation of the day is 160.

Our commerce with Japan has not met the earlier expectations to which it had given rise. There seems to be a persistent opposition to foreign settlement in the country, carried, at times, to the extremest violence by the

people. The conditions of treaties remain unfulfilled in many respects, and ports that ere this should have been thrown open remain closed, without any definite purpose on the part of government to remove the restrictions. Exchange, though somewhat modified, is still maintained at an arbitrary rate, by which the authorities obtain a large revenue, to the detriment of the mercantile community. These and numerous lesser annoyances have proved a heavy clog upon business; nevertheless, there has been, on the whole, a considerable increase of trade with the United States, and a large exportation of raw silk to Great Britain.

The fancy lacquered wares and other Japanese goods that were briefly noticed in our last issue have been imported only to a small extent; yet in some articles our market is overstocked, causing considerable loss to the importer when sold, but for the most part remaining on hand, with but little prospect of sale at remunerative prices.

The present state of affairs in Japan is anything but assuring. News just received from Kanagawa to the 11th May, *via* San Francisco, represents a considerable naval force, British and French, lying off that port, waiting the decision of government to a demand of indemnity made by the English Admiral in consequence of the murder of a British subject by some Japanese. Should the answer be unsatisfactory, it is alleged that hostilities will forthwith commence. How far American property will be jeopardized in these circumstances cannot now be determined, and in the face of rapidly moving events, speculation becomes useless. Meanwhile we learn that the American minister had negotiated a new treaty, by which some advantageous conditions had been secured; but as yet we are without particulars.

On the subject of communication between the United States and China, the only new feature we have to announce is the attempted establishment of a line of steamers between that country and San Francisco. Hitherto the enterprise has not met with much success, the public expectation having been disappointed with regard to the rapidity of passage; and the few and irregular voyages of the steamers would imply that the business has not turned out remunerative. The occasional arrival of a sailing vessel from Hong Kong, Shanghae and Kanagawa, at San Francisco, has put us in possession of late news from those points; but, on the whole, there has been no gain of time over the route *via* England, the average transit of the mails from Hong Kong to New York being, for 1862, just sixty days.

Lately a French company has started a line of steamers between Marseilles and Hong Kong, under the title of Messageries Imperials. The ships are first-class, and their performances hitherto betoken a close competition with the old line.

COMMERCIAL CHRONICLE AND REVIEW.

BUSINESS—HIGHER PRICES—RAW MATERIAL—DIMINISHED STOCKS—WEIGHT OF COTTON—MATERIAL ABROAD—WOOL—ECONOMY OF CONSUMPTION—NATIONAL SAVING—MACHINERY—HARVESTS—FOOD—NO ENTERPRISE—CASH SALES—ACCUMULATION—DEPOSITS—INFLATION—STOCK SPECULATIONS—RAILROADS—STOCKS IN LONDON—IMPORTS—DUTIES—GOLD DUTIES—AMOUNT OF—TREASURY PAYMENTS—EXPORTS—HARVESTS—LOWER PRICES—EXCHANGE—SPECIE MOVEMENTS.

THE business of the past month showed little recovery from the lassitude that has so long prevailed in the markets. The quantity of manufactured and imported goods upon the market has not been large, and the general tendency is to higher prices, by reason of the diminished supply of raw material. The materials which are generally used for textile fabrics are flax, wool, and cotton. The two last mentioned are those which employ the manufacturers of this country, and in the following proportion according to the census:

	No. hands.	Pounds used.	Value of goods.
Cotton.....	118,920	380,036,123	$115,137,926
Wool.....	48,900	80,386,572	68,865,963

These materials, in the proportion of one-sixth wool and five-sixth cotton, have been the basis of the goods made in this country, and for two years the larger material has been withheld, or 760,000,000 pounds of cotton, equal to 3,040,000,000 yards of cloth, or 100 yards for every person, has been withheld from the markets, consequently wool is almost the sole material. It has greatly risen in price, and the goods have, as a matter of course, cost more. The same thing has happened in Europe and England. Flax, silk, and wool have been called upon to perform greater duties, and have all risen relatively in price. As a consequence goods come out dearer, while old stocks are becoming less. The crop of domestic wool never suffices for the home manufacture; it is about three-fourths the required quantity in ordinary years. A large import demand now comes in competition with the wants of other nation upon the wool supplying countries Under these circumstances there is great firmness among holders of goods, while the demand from consumers is becoming more urgent, because of the long season of economy. It is probably the case that through the rise in gold and exchanges, by raising prices and thus discouraging consumption, the nation has saved several hundred millions of dollars. In other words, they have consumed so much less than they would have done had the usual course of prosperity been uninterrupted. This saving has been in some degree an offset to the lessened production and the waste of war; the same quantities of merchandise have been made to last a longer time. Such a state of affairs, however, brings ultimately a state of quasi exhaustion, which manifests itself in what are called war prices. Unfortunately, however, for the farming interests this does not apply to food, of which the abundant surplus seeks the seaboard vainly for an adequate foreign market, and falls daily in prices, which are lower than they have been for many years previously.

The use of machinery in the harvesting of crops now compensates

largely for the absence of men in the service of the army. This is an extraordinary feature of the present war. Early in the century when the male population were taken from useful industry into the armies, the labor of the fields had to be done by the females as an alternative for starvation. At the present time so perfect is machinery that men seem to be of less necessity. Of all the labors of the field, mowing was formerly deemed to be the most arduous, and the strongest men were required for it. We have seen, within the past few weeks, a stout matron, whose sons are in the army, with her team cutting hay at seventy-five cents per acre, and she cut seven acres with ease in a day, riding leisurely upon her cutter. This circumstance is indicative of the great revolution which machinery is making in production. War occupations, even on a most gigantic scale, do not seem to check the supply of food. That food is not produced, however, in much greater ratio per acre, while its value, compared with what the farmer is required to purchase—necessary groceries and clothing—require a far greater number of bushels of grain than formerly, and interchange is not readily effected.

The uncertainty of the duration of the present state of affairs also prevents all business enterprise, and the state of the currency confines transactions mostly to cash. It results, from this state of things, that money becomes more and more abundant up to a certain point, since, as goods are sold for cash during a time of diminishing stocks, the cash for which the wares are sold seeks deposit and temporary employment, and money becomes apparently very abundant. There is a limit to the downward movement, however, and when the time comes for dealers to get in stock and commercial enterprises to be resumed, business may absorb money faster than it now releases it.

The large deposits in the banks, as apparent in the tables elsewhere, show the great accumulation of money. The process of inflation which is going on throughout the country banks also aids the accumulation. The country bank notes are payable in greenbacks, and as payment is not demanded these institutions send the greenbacks they receive in the course of business to New York to draw interest, if they can get it, and pay out their own notes. There is no settlement, but a fabric of credits growing up, one upon another, and balances are sent to the city for employment. This fund has found employment only in conversion to a moderate extent into the government five-twenty six per cent stock, in the five per cent certificates of deposit, and stock speculations.

The prices of the federal stocks have been as follows:

PRICES UNITED STATES PAPER.

	6's, 1881.			7 3-10,	1 year certif.				August demand
	Reg.	Coup.	5's, 1874.	3 years.	Old.	New.	Gold.		notes.
January 3,..	96½	98	88½	102¼	96¼	...	34½ a	34¾	29
" 10,..	97⅜	98	90	103	97	...	37⅜ a	38	35
" 17,..	91⅜	91⅜	88½	101	95	...	49 a	46⅞	43
" 24,.	95	96	90	102	96	...	47 a	48¼	44¾
" 31,..	92¼	94	86	101½	94	...	55 a	60⅜	53
February 7,..	92	93⅜	85½	102	94	...	57⅛ a	57¼	55
" 14,..	94	96	87¼	102¼	96	...	53⅛ a	53¼	51
" 21,..	96½	97⅜	91¼	103¼	95	...	53½ a	64	62
" 28,..	100½	102¼	97	105¼	98⅜	...	71 a	71½	71
March 7,..	99⅜	100⅜	94⅜	105	98½	...	52½ a	53	53
" 14,..	104⅛	104¼	98	106½	100	...	54¼ a	54½	53
" 21,...	103⅞	104½	96	107	100	...	54¼ a	54½	..
" 28,...	104¼	105	96¼	106¼	100	...	41 a	41¼	..

		—6's, 1881.— Reg.	Coup.	5's, 1874.	7 3-10, 3 years.	1 year certif. Old.	New.	Gold.	August demand notes
April	4,...	104½	105	97¼	104⅝	99	...	53 a 53⅛	..
"	11,...	104½	105	97¼	105	100⅛	...	46 a 52⅛	..
"	18,...	104	105	96	105	101	...	53 a 53½	..
"	25,...	105	105	96	106	102	99⅛	151¼ a 151½	..
May	2,...	105½	106½	97½	106½	102	99⅛	150 a 150⅜	..
"	9,...	106	107	97	106	101⅛	99¼	152¼ a 152⅜	..
"	16,...	108	108	97⅜	107	101⅜	99⅜	149 a 149⅜	..
"	23,...	108⅛	108¼	97⅜	107⅛	101½	99⅛	148⅜ a 149	..
"	30,...	108	108	97½	107	101⅜	99⅛	144⅜ a 144⅞	..
June	6,...	104	108¼	99	107	101⅜	97¼	146 a 146⅛	..
"	13,...	104⅜	108⅜	99	106	101½	98	148 a 148¼	..
"	20,...	103⅜	108½	98⅛	106	101	98⅝	142¼ a 143⅜	..
"	27,...	102	107½	98	104	100⅛	97	146¼ a 146⅜	..
July	11,...	104¼	105	97⅛	106	100⅝	98¾	132¼ a 132½	..
"	18,...	104½	106	98	106½	101	99	125 a 125½	..
"	25,..	105¼	106¼	97	106⅜	100⅞	98⅛	126 a 126¼	..
August	1,...	104⅞	105¼	96½	106½	101	99⅛	128⅜ a 127	..
"	8,...	105½	106⅛	96½	106⅝	101	99¼	126½ a 127	..
"	15,...	105½	105½	97	106⅜	101	99⅜	125 a 125½	..
"	22,...	106	107⅛	97	107	101¼	99¼	124½ a 125	..

The inflation in stocks generally has been very great, as manifest in the value of the leading stocks dealt in in the New York market:

	1862.	1863.	Capital.
American Gold	115⅜	126	.....
U. S. Sixes, 1881, Coupon	98¾	106¾	$69,547,800
" Fives, 1874, "	85½	97	27,022,000
" 7 3-10 Treasury notes	102⅝	106½	139,920,500
" Debt Certificates (old)	98⅝	101⅛	157,280,000
" " (new)	....	99¼	25,000,000
" Sixes, 5-20	....	100	225,000,000
Virginia Sixes	53½	61½	30,889,000
Missouri Sixes	46	71	37,000,000
Tennessee Sixes	50¾	66¼	12,193,000
California Sevens	95	117	3,885,000
New York Central R. R	89⅞	130	24,000,000
Erie Railroad	33¾	120	11,000,000
" " preferred	62¾	110	8,535,700
Hudson River R. R	44½	150½	8,758,466
Philadelphia and Reading R. R	56	120	10,859,000
New York and Harlem R. R	14⅝	168	5,717,000
" " preferred	35¼	151	1,500,000
Panama Railroad	134	190	5,000,000
Michigan Central	59¼	120	7,899,489
Michigan S. & N. Ind. R. R	25	107	6,857,707
" " " guaranteed	55⅞	136	2,983,000
Illinois Central R. R. scrip	57¼	125	15,277,500
Cleveland and Pittsburg R. R	21⅞	102	3,832,712
Cleveland and Toledo R. R	47¼	122	3,343,800
Galena and Chicago R. R	67¼	111	6,028,400
Chicago and Rock Island R. R	63	114	5,603,000
Chicago, Burling. and Quincy R. R	78¼	125	4,791,510
Pacific Mail Steamship	111	236	4,000,000
Delaware and Hudson Canal	97	160	3,500,000
Pennsylvania Coal	96½	140	3,000,000

The capital of the railroad stocks named was worth, at the market value of last year, $70,053,398, and has now risen to $181,791,204—a rise of $111,000,000 based entirely upon paper inflation, or loans of money for temporary employment upon those stocks as securities. The rapid advance in these stocks carried most of them to points very much higher than the rates at which they sold in London. Some of them gave large margins to import, and many came to New York. The tendency of money in that direction in July was, as we have said, partly caused by the dullness of business, which at this port was as follows:

IMPORTS, PORT OF NEW YORK.

	Specie.	Free goods.	Entered for— Consumption.	Entered for— Warehouse.	Total.
January	$101,906	$2,413,649	$8,741,227	$4,482,794	$15,739,676
February	213,971	783,561	7,372,539	3,657,775	12,037,846
March	123,616	1,328,806	11,461,572	3,454,530	16,370,524
April	107,061	1,328,216	9,493,830	6,456,208	17,385,315
May	197,217	710,021	7,980,281	5,437,404	14,324,923
June	109,997	780,963	6,328,581	5,377,885	12,597,426
July	182,245	683,880	9,080,210	4,227,265	14,173,600
Total 7 months	$1,036,013	$8,029,186	$60,458,240	$33,822,196	$105,179,581
" 1862	731,556	16,041,959	60,445,034	30,154,241	107,372,790

The quantity of goods put on the market was much less than for the corresponding month last year, and the duties were considerably less, being $4,912,718, an average of thirty per cent, against $7,211,817, or thirty-six per cent, last year. The action of the high tariff is becoming more onerous upon imports in proportion as the prices of produce, which form the means of consumers to buy, decline. The payments of duties are now mostly in gold, and the *Journal of Commerce* has presented the following table of the payments made since the old demand notes were nearly out of the market:

	Interest-bearing Treasury notes.	Old demand U. S. notes.	Coin.	Total duties.
January	$78,992	$4,047,714	$1,200	$4,127,906
February	398,228	2,983,485	209,000	3,590,713
March	287,724	1,149,206	3,117,530	4,554,460
April	141,409	618,627	3,197,161	3,957,197
May	220,645	534,220	3,119,000	3,873,865
June	207,432	444,502	3,087,000	3,738,934
July	222,191	411,527	4,279,000	4,912,718
Cents	3	.....	.....	3
Total	$1,556,624	$10,189,281	$17,009,891	$28,775,796

We have omitted the cents for convenience, and added them at the foot. This shows a total of $1,556,624 interest-bearing Treasury notes, $10,189,281 old demand notes, and $17,009,891 in specie, received for duties at this port since the 1st of January.

These specie receipts enabled the Treasury to pay off some $12,000,000 that it borrowed of the banks in gold last winter, and of which the last installment was returned to them August 25th.

The exports from the port for the month of July were as follows:

EXPORTS, PORT OF NEW YORK.

	Specie.	Foreign. Free.	Foreign. Dutiable.	Domestic.	Total.
January.....	$4,624,574	$73,111	$668,275	$14,829,398	$19,695,351
February..... ...	3,965,664	43,889	610,009	17,780,586	22,400,148
March.....	6,385,442	213,685	758,266	16,137,689	23,695,082
April.....	1,972,834	74,949	375,224	11,581,933	14,004,940
May	2,115,679	101,337	602,254	13,183,510	16,002,780
June	1,367,774	49,380	298,067	14,780,072	16,495,293
July	5,268,881	77,232	448,601	15,298,073	21,092,787
Total 7 months	$25,900,848	$633,583	$3,760,696	$103,091,261	$133,386,388
" 1862....	36,043,688	1,435,529	3,000,151	73,055,810	113,535,178

The values of these exports are, in paper, depreciated an average of 40 per cent, which would give an export value of about $102,000,000, or some $13,000,000 less than last year. The decline in the prices of produce, caused by the supply and the improved harvests abroad, has much affected the value of exports. The harvests abroad now promise to be such as to cut off much of the export business. The demand for exchange was not active, and following the rates of gold, which drooped under the war news, they were lower:

RATES OF EXCHANGE.

	London.	Paris.	Amsterdam.	Frankfort.	Hamburg.	Berlin.
Jan. 3,	146 a 147½	3.85 a 3.80	56 a 56¼	56 a 56⅜	49⅛ a 49½	98 a 98½
" 10,	149 a 152	3.72½ a 3.67½	56 a 58	57⅛ a 58⅜	50½ a 51¼	99 a 100
" 17,	160 a 162	3.52½ a 3.45	60½ a 61½	61 a 62½	54 a 55⅛	108 a 110
" 24,	162½ a 163	3.50 a 3.45	61 a 61½	61½ a 62	54 a 54⅝	107 a 108½
" 31,	171 a 177	3.32 a 3.15	65½ a 66½	65 a 67	57 a 58⅝	114 a 117
Feb. 7,	169 a 173	3.30 a 3.25	65 a 65⅛	65 a 65⅓	57 a 57⅝	114 a 116
" 14,	170 a 171	3.32 a 3.27	65 a 65⅛	65 a 65⅛	56⅝ a 57⅓	113½ a 114½
" 21,	171 a 179⅓	2.20 a 3 12	67 a 68½	68 a 68⅓	59 a 60⅓	118⅓ a 119⅓
" 28,	185 a 188	3.10 a 3.00	67½ a 71	70 a 71	61⅝ a 62¼	123 a 124
Mar. 7,	167 a 169	3.37½ a 3.30	64 a 64	65 a 66	55 a 55⅓	111 a 113
" 14,	168 a 171	3.35 a 3.30	64 a 64	64⅓ a 65½	55⅝ a 56⅝	112 a 114
" 21,	169½ a 171⅓	3.37⅛ a 3.27½	63⅛ a 63½	63⅜ a 64⅓	56 a 57	113 a 114
" 28,	157 a 161	3.57 a 3 47	61 a 62	61 a 62	53 a 54	107 a 108
April 4,	168 a 172	3.40 a 3.25	62⅓ a 63⅓	62⅓ a 64	55⅓ a 57	111 a 111
" 11,	158 a 162	3.55 a 3.45	61 a 62	61 a 62	53½ a 54⅓	106 a 108
" 18,	165 a 167⅓	3.37⅓ a 3.45	62¼ a 62⅝	62⅓ a 63	54⅓ a 55⅓	108 a 110
" 25,	163 a 165	3.47½ a 3.50	61 a 61½	61½ a 62	53⅝ a 54⅝	107 a 108
May 2,	163 a 165	3.47½ a 3.42	61½ a 62⅛	61⅛ a 62½	53⅓ a 54⅓	107 a 108
" 9,	168 a 170	3.42½ a 3.32	62½ a 63	62½ a 63¼	55½ a 56½	110 a 112
" 16,	162½ a 164	3.50 a 3.45	61½ a 62	61⅝ a 62⅛	54 a 55	107 a 109
" 23,	161 a 163	3.52 a 3.45	61 a 61½	61½ a 62	54 a 54½	107 a 108
" 30,	156⅓ a 158	3.62½ a 3 55	59⅝ a 60½	60 a 60⅓	52¼ a 53	104½ a 106
June 6,	158⅓ a 160	3.57½ a 3.52½	59⅝ a 61¼	60 a 60⅓	52⅝ a 53⅓	105 a 106
" 13,	156 a 161	3.55 a 3.47½	59⅛ a 61	60 a 61½	52½ a 54	104 a 107
" 20,	155 a 157	3.62 a 3.57½	58¼ a 59	58½ a 59⅓	51 a 52	103 a 104
" 27,	159 a 160⅓	3.55 a 3.50	59⅝ a 60½	60 a 60⅝	52½ a 52⅝	106½ a 107
July 11,	143 a 146	3.95 a 3.85	54 a 54¼	54 a 55⅓	47¼ a 48⅓	94 a 96
" 18,	138 a 139	4.07 a 4.02	51⅛ a 52	50 a 52⅛	46¼ a 46⅝	92 a 93
" 25,	138 a 139	4.10 a 4.05	51⅝ a 52¼	51⅝ a 52⅓	45⅛ a 46⅓	91 a 92
Aug. 1,	140 a 141⅝	4.06¼ a 4.00	52⅛ a 53	52⅛ a 53⅛	46⅓ a 47¼	92½ a 93¼
" 8,	139⅓ a 140⅓	4.06 a 4.00	52⅛ a 52½	52¼ a 52⅝	46¼ a 47	92 a 92⅝
" 15,	137½ a 138½	4.12½ a 4.08⅝	51⅛ a 52	52 a 52⅛	45¼ a 46	91½ a 92
" 22,	137⅓ a 138¼	4.12½ a 4.08⅝	51⅝ a 52¼	52 a 52¼	45⅛ a 45½	90½ a 91½

The outward flow of specie was somewhat accelerated by the riots in the city during the last two weeks in July. The movement was as follows:

SPECIE AND PRICE OF GOLD.

	1862.		1863.			
	Received.	Exported.	Received.	Exported.	Gold in bank.	Prem. on gold.
January 3.	.....	442,147	.....	681,448	35,954,550	34⅛ a 34¾
" 10.	885,928	1,035,025	1,277,788	726,746	36,770,746	34 a 39
" 17.	.....	547,703	.....	1,380,247	37,581,465	40 a 49
" 24.	627,767	322,918	678,841	780,816	38,549,794	47 a 50⅜
" 31.	.....	310,484	.....	1,331,027	38,894,840	48⅞ a 60¼
February 7.	854,000	976,235	301,860	1,277,000	38,243,839	57⅛ a 57½
" 14.	614,146	1,156,154	359,978	1,152,846	38,426,460	53⅛ a 53¼
" 21.	759,247	934,512	.....	520,017	37,981,310	54 a 64
" 28.	741,109	510,774	285,394	1,377,016	39,512,256	71 a 72
March 7.	679,074	585,236	1,243,551	733,643	39,705,089	52½ a 53
" 14.	677,058	477,335	.....	3,540,550	36,110,085	54¼ a 54½
" 21.	.....	540,968	249,514	1,201,907	33,955,122	53 a 54½
" 28.	490,368	779,564	159,105	1,050,156	34,317,691	41 a 42
April 4.	581,293	673,826	250,778	473,385	34,257,121	53 a 54
" 11.	.....	1,505,728	250,728	607,059	35,406,145	46 a 52½
" 18.	617,279	693,436	217,602	158,437	36,761,696	52 a 53½
" 25.	635,546	1,151,300	256,604	629,855	37,175,067	47 a 51½
May 2.	410,804	712,275	.....	294,998	36,846,528	48 a 50½
" 9.	484,019	1,574,166	205,057	451,827	38,102,633	58½ a 47
" 16.	604,682	1,093,031	.....	661,996	38,556,552	49 a 49¼
" 23.	501,204	938,032	258,570	438,745	38,544,865	48¾ a 49
" 30.	224,911	881,452	.....	279,994	37,632,634	44¾ a 44⅞
June 6.	553,035	1,647,299	318,066	411,483	37,241,670	46 a 46¼
" 13.	352,391	1,990,327	.....	235,364	37,884,128	48 a 48⅝
" 20.	612,461	3,156,988	.....	522,147	38,314,206	42 a 43½
" 27.	393,212	3,094,101	187,082	134,432	38,271,702	46 a 46¾
July 4.	.....	2,647,060	.....	347,807	38,302,826	44 a 44½
" 11.	641,451	2,424,916	254,947	401,936	38,712,397	32¼ a 32½
" 18.	441,179	1,846,023	.....	2,190,781	38,254,427	23 a 23½
" 25.	.....	784,537	.....	1,725,748	35,910,227	26 a 26½
August 1.	G. Gate lost.	748,523	270,182	480,374	33,746,681	28¾ a 29
" 8.	964,422	890,552	.....	530,044	33,156,548	26½ a 27
" 15.	.....	700,431	313,612	1,210,230	32,874,913	25 a 25½
" 22.	1,089,111	919,825	.....	238,398	31,520,499	24½ a 25
Total....	14,415,892	37,492,862	7,837,597	25,946,396	.....	

The quantity of gold received from California diminishes, and more goes direct to Europe. There is, however, a steady drain upon the available amount in the city.

The harvests in Europe are represented better than for seventeen years, and France and England, that last year took 97,000,000 bushels of wheat, will take none this year. American shipping is carrying no freights, and gold seems to be the only dependence with which to meet the payments on the increasing import of goods at higher cost. The apparent balance against the country increases in the double ratio of larger imports and diminished exports. The hope that military success would soon cause a decline in gold and bills, induced remitters for a time to keep out of the market, and, notwithstanding the large importations, there was little increase in the demand for bills. When gold, however, had reached 22½, which was thought low, the demand became larger, and the rate stiffened for both bills and gold.

JOURNAL OF BANKING, CURRENCY, AND FINANCE.

CITY BANK RETURNS.

THE main feature in the bank returns this month is the decrease in deposits. In New York city alone the amount returned is about five million dollars less than a month ago, and if we compare the deposits at present reported with the highest point reached since January, we will find there has been a very great falling off.

New York city banks,	March 7,	$174,689,212	Aug. 22,	$156,588,095
Philadelphia	" May 25,	32,455,953	" 17,	29,959,127
Boston	" Feb. 9,	35,178,600	" 17,	27,898,073
Total.....		$242,323,765		$214,445,295

From the above we see there has been a decrease of about twenty-eight million dollars in the three cities. Much of this is due to the investments being made in government securities, while the present stock speculation has carried off its share.

The decrease in specie in New York city is also remarkable. Only about half a million has been exported, and yet, although the government has been paying its interest in gold, the amount in bank has decreased, since July 25, about four millions. Where this has gone it is difficult to say. We give below our usual returns, brought down to latest dates:

NEW YORK BANKS.

NEW YORK BANKS. (*Capital, Jan.*, 1863, $69,494,577; *Jan.*, 1862, $69,493,577.)

Date.	Loans.	Specie.	Circulation.	Net Deposits.	Clearings.
January 3,.....	$173,810,009	$35,954,550	$9,754,355	$159,163,246	$186,861,762
" 10,.....	175,816,010	36,770,746	9,551,563	162,878,249	249,796,489
" 17,.....	176,606,558	37,581,465	9,241,670	164,666,003	314,471,457
" 24,.....	179,288,266	38,549,794	9,083,419	168,269,228	298,861,366
February 7,.....	179,892,161	38,243,839	8,780,154	166,342,777	302,352,571
" 14,.....	173,103,592	38,426,460	8,756,217	167,720,880	265,139,104
" 21,.....	178,335,880	37,981,310	8,752,536	170,103,758	291,242,929
" 28,.....	179,958,842	39,512,256	8,739,969	173,912,695	340,574,444
March 7,.....	181,098,322	39,705,089	8,693,175	174,689,212	344,484,442
" 14,.....	177,875,949	36,110,085	8,657,016	172,944,034	307,370,817
" 21,.....	173,829,479	33,955,122	8,609,723	167,004,466	277,831,351
" 28,.....	172,448,526	34,317,691	8,560,602	163,363,846	281,326,258
April 4,.....	173,038,019	34,257,121	8,348,094	160,216,418	287,347,704
" 11,.....	170,845,283	35,406,145	8,178,091	159,894,731	264,468,080
" 18,.....	169,132,822	36,761,696	8,039,558	164,122,146	259,417,565
" 25,.....	171,079,322	37,175,067	7,555,549	167,863,999	258,654,781
May 2,.....	177,364,956	36,846,528	7,201,169	167,696,916	355,557,732
" 9,.....	180,114,983	38,002,633	7,080,565	163,656,513	367,560,731
" 16,.....	180,711,072	38,556,642	6,901,700	168,879,130	353,346,664
" 23,.....	181,319,851	38,544,865	6,780,678	167,655,658	380,304,748
" 30,.....	181,825,856	37,692,634	6,494,375	166,261,121	307,680,918
June 6,.....	182,745,080	37,241,670	6,341,091	162,767,154	289,757,539

Date.	Loans.	Specie.	Circulation.	Net Deposits.	Clearings.
" 13,.....	180,808,823	37,884,128	6,210,404	159,551,150	302,377,276
" 20,.....	177,083,295	38,314,206	6,120,252	157,123,301	259,483,221
" 27,.....	175,682,421	38,271,202	6,004,177	158,539,308	264,819,856
July 4,.....	174,337,384	38,302,826	5,998,914	158,642,825	267,785,773
" 11,.....	175,087,485	38,712,397	5,927,071	160,733,496	319,945,652
" 18,.....	173,126,887	38,254,427	5,880,623	163,319,544	251,168,769
" 25,.....	173,036,336	35,910,227	5,775,188	164,133,549	284,684,421
August 1,.....	176,208,597	33,746,681	5,700,452	161,173,146	292,211,821
" 8,.....	176,559,840	32,156,548	5,706,024	155,868,116	297,384,006
" 15,.....	175,305,471	32,874,913	5,613,177	155,950,043	298,936,160
" 22,.....	175,713,139	31,520,499	5,545,970	156,588,095	373,755,630

BOSTON BANKS.

Boston Banks. (*Capital, Jan.*, 1863, $38,231,700; *Jan.*, 1862, $38,231,700.)

Date.	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Jan. 5,..	$77,339,046	$7,672,028	$8,190,496	$33,372,648	.....	.....
" 12,..	77,427,173	7,751,000	8,373,000	33,063,800	17,006,000	13,520,000
" 19,..	76,624,700	7,710,600	8,199,600	33,382,000	16,547,800	13,727,700
" 26,..	76,354,000	7,710,700	8,008,500	33,847,000	16,811,700	13,958,000
Feb. 2,..	76,496,800	7,685,000	8,865,000	34,076,800	16,889,000	14,490,000
" 9,..	78,421,000	7,707,000	8,074,000	35,178,600	16,932,000	14,183,000
" 16,..	78,431,000	7,794,000	8,001,000	34,903,000	17,070,700	14,095,500
" 23,..	78,782,600	7,624,000	8,002,000	34,965,500	17,331,000	14,583,800
Mar. 2,..	79,127,500	7,553,000	8,001,980	35,245,500	17,523,500	15,004,000
" 9,..	79,274,700	7,582,000	8,225,000	35,215,000	17,340,400	14,446,500
" 16,..	79,636,134	7,609,238	7,780,062	32,955,149	17,230,300	13,434,500
" 30,..	77,935,000	7,572,600	7,593,800	31,604,500	17,074,400	11,601,300
April 6,..	76,933,600	7,703,800	7,963,500	32,687,000	15,444,000	12,280,600
" 13,..	74,551,013	7,812,895	7,762,915	32,494,822	14,557,000	12,947,800
" 20,..	73,459,160	7,799,315	7,278,506	33,209,742	14,132,000	12,653,000
" 27,..	73,558,000	7,838,800	7,040,000	32,781,500	13,303,000	11,966,700
May 4,..	73,218,155	7,854,731	7,433,496	31,949,762	13,237,700	11,622,600
" 11,..	73,062,789	7,847,849	7,688,233	31,309,985	13,147,000	11,800,000
" 18,..	73,068,598	7,794,046	7,167,327	32,192,770	12,863,500	11,732,000
" 25,..	72,874,000	7,777,000	7,011,700	33,000,000	12,787,000	11,748,000
June 1,..	73,424,000	7,751,000	6,913,000	32,575,000	12,735,000	10,704,500
" 8,..	73,592,000	7,738,557	7,030,286	31,728,285	12,626,700	10,874,700
" 15,..	73,237,000	7,730,000	7,109,000	31,477,600	12,235,500	10,541,000
" 22,..	73,351,000	7,697,000	7,344,500	31,355,800	12,504,600	10,914,700
" 29,..	73,421,084	7,683,987	7,040,624	31,477,596	12,388,000	10,900,000
July 6,..	73,548,918	7,744,827	7,473,800	31,509,263	12,233,000	10,891,000
" 13,..	73,485,675	7,774,991	7,508,442	30,277,502	12,193,000	10,712,000
" 20,..	73,421,000	7,684,000	7,401,500	29,287,000	13,802,000	10,154,600
" 27,..	72,850,716	7,811,513	7,246,797	28,011,571	12,950,000	9,864,300
Aug. 3,..	72,390,364	7,793,916	7,317,402	28,384,096	12,655,000	9,646,000
" 10,..	71,997,503	7,798,276	7,440,212	28,247,266	12,822,673	10,135,180
" 17,..	71,860,078	7,813,497	7,198,917	27,898,073	12,765,527	9,603,257

PHILADELPHIA BANKS.

Philadelphia Banks. (*Capital, Jan.*, 1863, $11,740,080; 1862, $11,970,130.)

Date.	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Jan. 5,...	$37,679,675	$4,510,750	$4,504,115	$28,429,189	$6,948,785	$1,994,928
" 12,...	37,533,757	4,544,786	4,450,676	28,018,792	6,890,963	1,848,932
" 19,...	37,416,694	4,549,369	4,382,520	27,877,069	7,050,847	2,275,905
" 26,...	37,479,712	4,572,419	4,284,947	28,773,517	6,755,980	2,638,985

Date.	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Feb 2,...	37,268,894	4,562,580	4,181,503	29,231,753	6,698,210	2,909,857
" 9,...	37,336,367	4,319,706	4,039,918	28,062,164	6,953,215	2,518,086
" 16,...	37,710,851	4,272,347	3,888,185	28,759,049	7,452,563	2,432,073
" 23,...	37,720,460	4,276,761	3,772,781	29,342,596	7,413,249	2,703,196
Mar. 2,...	37,901,080	4,267,626	3,696,097	30,178,518	7,185,670	2,758,852
" 9,...	38 603,871	4,249,035	3,608,870	30,679,259	7,100,258	2,499,139
" 16,...	39,260,028	4,247,817	3,534,880	30,549.587	7,476,603	1,939,449
" 23,...	39,458,384	4,247,688	3,295,862	30,106,135	7,418,482	1,935,014
" 30,...	38,937,612	4,311,704	3,369,194	29,171,283	6,504,758	2,158,007
Apr. 6,...	37,516,520	4,339,252	3,374,417	29,531,559	5,768,558	2,770,129
" 13,...	36,250,402	4,343,242	3,296,685	30,117,527	5,953,809	3,014,229
" 20,...	36,295,644	4,343,988	3,185,042	31,059,644	5,306,809	3,018,727
" 27,...	36,482,058	4,346,377	3,078,921	31,021,799	5,448,124	2,559,868
May 4,...	36,587,294	4,355,324	2,989,428	30,859,231	5,328,898	2,891,087
" 11,...	36,593,179	4,359 365	2,901,600	30,949,781	4,975,939	2,542,792
" 18,...	36,887,301	4,357,119	2,866,121	31,892,308	4,640,623	2,536,279
" 25,...	37,116,093	4,357,169	2,808,109	32,455,953	4,623,392	2,480,714
June 1,...	37,143,937	4,357,021	2,706,953	31,888,763	4,707,278	2,363,548
" 8,...	37,157,769	4,357,076	2,649,283	31,549,339	4,645,712	2,313,744
" 15,...	37,228,627	4,357,025	2,621,098	31,648,959	4,914,425	2,892,278
" 22,...	37,219,216	4,356,744	2,596,115	31,293,830	4,868,495	2,065,913
" 29,...	37,250,665	4,359,543	2,556,855	31,466,204	5,116,692	1,820,600
July 6,...	35,936,811	4,360,745	2,564,558	28,504,544	5,060,096	1,961,814
" 13,...	34,866,842	4,360,003	2,507,253	28,701,813	4,784,343	2,530,552
" 20,...	34,662,966	4,361,999	2,482,986	29,931,608	4,580,322	2,981,867
" 27,...	34,517,347	4,227,448	2,418,463	30,448,439	4,805,045	3,034,009
Aug. 3,...	34,390,179	4,187,056	2,417,739	30,799,448	4,963,290	2,772,717
" 10,...	34,645,243	4,112,013	2,380,720	30,513,961	4,740,391	2,538,096
" 17,...	35,390,179	4,112,542	2,353,396	29,959,127	5,161,573	2,158,440

The following is a statement of the amount of United States legal tender notes held by the Philadelphia banks at the dates mentioned :

June 22.....	$6,082,729	July 27.....	$7,903,732
" 29.....	6,952,150	Aug. 3.....	8,430,782
July 6.....	5,953,622	" 10.....	7,780,640
" 13.....	6,916,751	" 17.....	7,530,339
" 20.....	7,066,593		

BANK OF ENGLAND.

The following comparative table will be of interest, affording as it does a view of the bank returns, the bank rate of discount, and the price of wheat in London during a period of three years corresponding with the date of our last returns, August 5th:

At corresponding dates with the week ending August 5, 1863.	1861.	1862.	1863.
Circulation, including bank post bills...	£21,084,700	£23,378,393	£22,540,809
Public deposits.....	3,843,763	6,151,358	5,577,268
Other deposits.....	11,818,980	15.232,959	13,790,855
Government securities	9,900,800	10,986,007	11,038,426
Other securities.....	17,909,650	19,079,200	19,153,801
Reserve of notes and coin	6,663,500	10,020,418	7,818,355
Coin and bullion.	12,360,445	17,956,938	14,843,185
Bank rate of discount.....	5 per cent.	2 p. cent.	4 per cent.
Average price of wheat...	51s. 3d.	57s. 8d.	45s. 11d.

Subjoined is our usual table with the returns brought down to August 5th, 1863:

WEEKLY STATEMENT.

Date.	Circulation.	Public Deposits.	Private Deposits.	Securities.	Coin and Bullion.	Rate of Discount.
Dec. 17...	£19,932,360	£8,507,144	£14,033,994	£30,539,363	£15,031,658	3 pr. ct.
" 24...	20,150,398	8,654,499	14,306,497	31,346,731	14,870,795	3 "
" 31...	20,516,435	8,338,717	15,469,254	32,488,020	14,956,421	3 "
Jan. 7...	20,927,993	8,782,808	14,393,808	32,620,233	14,635,555	3 "
" 14...	21,018,849	4,280,730	16,772,782	31,165,075	14,102,169	4 "
" 21...	20,893,931	4,965,798	14,993,225	30,227,086	13,855,849	4 "
" 28...	20,771,236	5,416,863	14,414,763	30,238,865	13,611,823	5 "
Feb. 4...	20,709,154	6,351,617	13,852,287	29,997,233	13,692,136	5 "
" 11...	20,444,454	6,952,808	13,596,356	30,288,406	14,070,651	5 "
" 18...	19,916,496	7,413,275	13,769,276	29,890,503	14,589,222	4 "
" 25...	19,715,828	7,901,658	13,367,153	29,709,079	14,614,096	4 "
Mar. 4...	20,322,055	8,036,003	13,368,086	30,880,805	14,504,517	4 "
" 11...	19,801,665	8,673,899	13,282,605	31,096,327	14,328,178	4 "
" 17...	20,012,331	9,343,499	13,003,088	31,482,170	14,547,812	4 "
" 24...	20,136,276	10,364,471	12,742,282	31,896,338	15,025,274	4 "
Apr. 1...	20,965,228	10,107,041	13,172,090	32,775,752	15,141,755	4 "
" 8...	21,279,339	6,714,109	14,829,832	30,946,784	14,963,835	4 "
" 15...	21,326,820	5,769,276	15,013,391	29,974,677	15,229,237	4 "
" 22...	21,413,226	6,316,413	14,739,897	30,182,533	15,387,151	3 "
" 29...	21,452,800	7,178,312	13,606,939	29,994,349	15,348,492	3½ "
May 6...	21,376,999	7,241,739	13,122,087	29,718,602	15,141,760	3 "
" 13...	21,252,916	6,735,137	13,727,556	30,201,120	14,653,141	3 "
" 20...	21,268,315	7,610,278	13,983,654	31,484,815	14,529,451	4 "
" 27...	20,909,819	8,002,346	13,842,718	31,412,190	14,500,019	4 "
June 3...	21,009,392	8,779,387	13,896,450	32,389,044	14,425,553	4 "
" 10...	21,080,460	9,782,830	13,783,263	33,240,192	14,556,121	4 "
" 17...	20,655,473	9,882,135	13,904,506	32,750,953	14,850,156	4 "
" 24...	20,525,655	10,279,053	13,809,996	32,756,459	15,026,118	4 "
July 1...	21,738,756	10,356,373	16,274,739	36,490,515	15,080,271	4 "
" 8...	22,038,478	5,593,834	18,595,718	34,647,336	14,824,969	4 "
" 15...	22,194,996	4,918,458	16,381,914	32,052,521	14,749,876	4 "
" 22...	22,230,612	5,386,948	14,675,625	30,975,774	14,620,872	4 "
Aug. 5...	22,340,809	5,577,268	13,790,855	30,289,227	14,843,185	4 "

NEW YORK CLEARING HOUSE ASSOCIATION.

PROCEEDINGS OF A MEETING HELD JUNE 23D, 1863, INCLUDING A REPORT OF THE TAX COMMITTEE, AND THE OPINION OF BENJAMIN D. SILLIMAN, ESQ., ON THE SUBJECT OF STATE TAXATION.

NEW YORK CLEARING-HOUSE,
Tuesday, June 23, 1863.

By request of the special committee, to whom was referred the subject of bank taxation, a meeting of the Clearing-house Association was held at the American Exchange Bank, at twelve o'clock, M.

THOMAS TILESTON, Esq., in the chair.

Thirty-five banks were represented.

On motion, the reading of the minutes of the meeting of June 8th was dispensed with.

GEORGE S. COE, Esq., chairman of the special committee on taxation, presented a report which was read by the manager of the Clearing-house, as follows, viz.:

The undersigned, a committee appointed at a meeting of the Clearing-house Association, held on the 27th of March last, to consider and report upon all matters relating to the taxation of banks both, under National and State laws, beg leave to report:

That their action has been delayed by both the proposed and actual legislation of the State Legislature, which was in session when, and for some time after your committee were appointed, and by the pendency of certain legal proceedings, involving the decision of some of the questions referred to them, and also by the frequent recurrence of new rulings by the United States Commissioner of Internal Revenue, as to the requirements of the act of Congress to provide internal revenue, and the amendments thereto.

The branch of the subject referred to your committee, which, as the most pressing, first received their attention, was the taxation of banks by and under the authority of the State.

As the consideration of this subject involved a question of vital importance to the banks, the decision of which by the Tax Commissioners of this city, had been contested in the highest court of the United States by two members of the Clearing-house Association, your committee found it necessary to employ legal advice thereupon, and therefore retained BENJAMIN D. SILLIMAN, Esq., as their counsel. Acting under the advice of that gentleman, your committee, on the 21st of April last, made a report by circular, a copy of which is herewith submitted; specially, upon the taxation of banks by and under State authority, enclosing two forms of returns, marked A and B, with certain affidavits and exemption claims attached, copies of which are herewith presented, recommending the banks to make their returns to the Tax Commissioners, as of the 12th day of January, 1863, and to use one or the other of the two forms of statement prepared by the committee, instead of the form furnished by the Tax Commissioners. Your committee have reason to believe that their recommendation was very generally adopted by the banks at that time. Entertaining no doubt, after a careful examination of the subject, that under the existing laws of Congress and of the State, so much of the capital of the banks as was invested in the securities of the United States was exempt from all taxation by or under State authority, your committee considered that branch of the subject referred to them as disposed of, so far as they were concerned. But on the 29th of April last, the Legislature of the State enacted "that all banks, banking associations, and other moneyed corporations and associations, shall be liable to taxation, on a valuation equal to the amount of their capital stock, paid in, or secured to be paid in, and their surplus earnings, (less ten per cent of such surplus,) in the manner now provided by law, deducting the value of real estate held by any such corporation or association, and taxable as real estate."

The whole question as to the liability of the banks to taxation by State authority, was thus reopened, and your committee again sought advice from their counsel, submitting to him the following questions for his opinion, viz.:

Does the act relating to the taxation of moneyed corporations and associations, passed at the late session of the Legislature, (chap. 240, laws of 1863,) deprive the banks of all exemption from taxation on United States stocks?

Does the act apply to the tax assessed for the present year?

Your committee herewith submit the written opinion of their counsel upon these questions.

To the Bank Committee on the Subject of Taxes:

GENTLEMEN: In reply to your inquiry whether the act in relation to the "taxation of moneyed corporations and associations," passed at the late session of the Legislature, (chap. 240, laws of 1863,) deprives the banks of all exemption from taxation on United States stocks, and whether it applies to the taxes for the present year, I respectfully submit the following opinion:

That act is in these words:

"SECTION 1. All banks, banking associations, and other moneyed corporations and associations, shall be liable to taxation on a valuation equal to the amount of their capital stock paid in, or secured to be paid in, and their surplus earnings (less ten per cent of such surplus,) in the manner now provided by law, deducting the value of the real estate held by any such corporation or association, and taxable as real estate."

While the case cannot be regarded as free from doubt, I think the act should not be held to deprive moneyed corporations from exemption from taxation on United States stocks.

1. Whether property, consisting of such stocks (held either by corporations or individuals,) can be taxed by State authority, is not an open question.

The Supreme Court of the United States has expressly decided that the capital and property of a bank invested in such stocks cannot be so taxed. (The People ex rel. Bank of Commerce in New York *vs.* the Tax Commissioners, etc.)

If, therefore, the taxation contemplated by the act of the last session of the Legislature, is a taxation of *property*, it cannot, by the mere mode of its imposition, reach the property of moneyed corporations invested in United States securities.

Does this act then contemplate the taxation of *property* of moneyed corporations, as heretofore, or is such property no longer to be subject to taxation, and does the act substitute for such taxation an annual *license fee* to be paid by such corporations? It must intend one or the other.

It does not profess either by its title or its provisions, to exact an annual license fee from such corporations. It does not profess to exact a bonus as the annual charge for the corporate privilege of carrying on business. It does not profess to impose a tariff or duty upon them as corporations, to be measured by the percentage of taxation imposed on the property of others, but the subject is squarely treated as that of *taxation*, and that taxation (like all other taxation under our statutes) is proportioned to the *property* of the corporation, and is to be imposed "in the manner now provided by law." The subject-matter of taxation by our standing general statutory law, is *property*, and taxes have always been imposed *in proportion to the value of such property.* Chap. 13, part 1, of the Revised Statutes, is entitled, "Of the Assessment and Collection of Taxes."

The first title of this chapter treats "*of the property liable to taxation*," and the first section of that chapter provides that "all *lands* and all *personal estate* within this State, whether owned by individuals or by *corporations*, shall be liable to taxation." * * *

The 3d section of the same title declares that the terms "personal estate" and "personal property," whenever they occur in that chapter, (shall among

other things) "be construed to include such portion of the capital of incorporated companies liable to taxation on their capital as shall not be invested in real estate." Thus taxation throughout, is upon *property*, and no other taxation is known to our laws.

Licenses, whenever imposed, have been imposed as licenses, and not as taxes. When "duties" have been imposed (as upon auctioneers) they have been described in the statute as "duties," not as taxes.

The act in question provides for *taxation* of banks, "on a valuation equal to the amount of their capital stocks paid in, * * * * * * and their surplus earnings." * * * * *

Valuation of what? Clearly of *property*, i. e., of the capital and surplus earnings.

2. Not only is this taxation to be on the *valuation* of *property*, but it is to be assessed and imposed "*in the manner now provided by law.*"

What that "manner" is, the general statute clearly defines. It relates wholly to the taxation of property. It specifies the place in which property (of corporations as well as of persons) is to be *assessed* for taxation; and then "of the *manner* in which assessments" are to be made, and the duties of the "assessors."

Under this head the form of assessment rolls is prescribed—the times when they shall be completed—where they shall be left—the notices to be given by the assessors, of the times and places when and where they will review their reports—and the mode of proceeding by the assessors and the assessed in correcting the same—and of the proceedings by the supervisors in relation to the taxes on such assessments—and of the disposition to be made of the taxes when imposed and collected. (The provisions in this respect of the special act of 1857, chapter 677, relating to the city of New York, are substantially the same.) All these provisions are necessary in the taxation of property, but they would be wholly unnecessary in the mere imposition of a license fee or bonus. But the provision in the act of 1863, that the taxation of moneyed corporations shall be made "in the manner now provided by law," requires that the assessment, like that of all other property, is to be entered in the assessment rolls, and that it is to be framed, filed, noticed, and corrected, "in the manner now provided by law" for taxation of *property*.

If the assessors should err in the amount of the "capital stock paid in, or secured to be paid in," and "the amount of surplus earnings," etc., their assessment rolls would, under this act, be subject to correction. In other words, if they over-estimate the amount of the property, (the capital stock and surplus earnings,) their estimate is to be corrected as in the case of property of individuals.

Thus the whole plan and machinery of the law for the imposition of *taxes*, as well since as before the passage of the act of 1863, contemplate and treat of the *taxation* of *property*, and this act places the taxation of moneyed corporations on the same footing with that of other persons, when it declares that such taxation shall be "in the manner now provided by law." Now, whatever may have been the unavowed intent of the Legislature, it is not apparent that they have, by the act in question, done anything more than direct the assessor to assume a fixed *estimate or valuation of the property of moneyed corporations* (so far as the one item of capital is concerned,) and that the tax on their property shall, as to that item, be on such arbi-

trary valuation, instead of being on a valuation to be ascertained by the assessor, in the mode heretofore prescribed. It thus relieves the assessor from inquiring into the actual condition of the capital paid in, but, as to the rest of the property (the surplus) the mode of taxation is the same as before.

Nor is the tax any the less a tax on the *property* of the corporation, because of its being estimated at its nominal instead of its actual value. Prior to 1857, moneyed corporations were assessed for the purpose of taxation, on the nominal instead of the actual value of their capitals. But it was never claimed, or dreamed, that such assessment or such taxation, was upon aught else than property.

3. But, more than all, the general law makes all property, "whether owned by individuals or by corporations, liable to taxation."

Now if the act of 1863, imposes only a *license fee*, does it not follow that banks are to pay the amount to which they are liable for taxation twice over, once in the shape of a tax, and again in the shape of a license fee?

The general provision that their *property* shall be taxed is not repealed. The conclusion seems irresistible, that if the act of 1863 intends taxation on property, then United States securities cannot be reached, or if it intends a license fee, then in addition to its taxes on taxable property, every bank must pay a like amount for such fee.

For the reasons stated, I think the act of 1863 contemplates taxation on property, and not a bonus or license fee, for carrying on corporate business.

I have assumed that it is competent for the Legislature to impose a license fee on banks. It is not necessary to discuss that question for the purpose of this opinion.

It is, however, to be remembered, that this act was passed immediately after, and in consequence of the decision of the United States Supreme Court, on the subject of government securities.

The courts, in construing a statute, will take judicial cognizance of such a fact, but they will not judicially enact a law which the Legislature has omitted to do; still less will they do so where the object sought to be accomplished is an evasion of paramount law.

4. There would perhaps be room for argument that the act could not affect the taxes for the year which had commenced three months before its passage; but as the taxes are not in form imposed until a later period of the year, I think the act would be held to reach those of the current year.

Respectfully yours, BENJ. D. SILLIMAN.

Recently the banks have been notified by the Tax Commissioners that they have corrected the returns made to them, by excluding the claim for exemption from taxation on United States securities, and assessing their capital and real estate as heretofore, and that the assessment rolls, as corrected, would be returned to the Board of Supervisors on the first of July next.

If the members of the Association decide to press their claim for exemption from the State tax on capital invested in United States securities, either jointly or severally, immediate action is necessary.

Your committee ask for instructions on this branch of the subject referred to them, or to be discharged from its further consideration.

NEW YORK, *June* 23, 1863.

Respectfully submitted,

GEORGE S. COE,
A. E. SILLIMAN,
J. M. MORRISON, } *Committee.*
JOS. M. PRICE,
R. H. LOWRY,

GEORGE D. LYMAN, *Secretary.*

On motion, the report of the committee was accepted and ordered to be entered on the minutes.

The committee was then discharged from further consideration of the subject of State taxation.

A resolution was then discussed but not adopted, and a committee of ten bank officers appointed to be present at the Court of Appeals, on the 26th inst., to hear the arguments in the case of the Metropolitan Bank and Shoe and Leather Bank, respondents, against H. H. VAN DYCK, Superintendent of the Banking Department, appellant, involving the question of the constitutionality of the United States legal tender notes.

The meeting then adjourned.

GEORGE D. LYMAN, *Acting Secretary.*

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APPENDIX.

NEW YORK CLEARING-HOUSE, *April* 21, 1863.

SIR: The undersigned, your committe, appointed at a meeting of the Clearing-house Association, held on the 27th of March last, to consider and report upon all matters relating to National and State taxation of banks, beg leave to report at this time specially upon the subject of State taxation. They herewith enclose two blank forms of statement to be made to the Tax Commissioners, which have been adopted under advice of counsel. These forms, with affidavits annexed, are marked A and B: Statement A, for the use of banks whose investment in United States securities and real estate *exceed* the amount of their capital, and Statement B, by such banks as are *not* wholly exempt from taxation on their personal estate.

It will be observed that your committee recommend that the statements be made as of the 12th day of January, 1863, as required by the Tax Commissioners. The reason for this requirement is, that upon that day the books containing the assessments of real and personal estate were opened for examination and correction.

Your committee have under consideration other branches of the important subject referred to them.

Respectfully yours,

GEORGE S. COE,
A. E. SILLIMAN,
JAMES M. MORRISON, } *Committee.*
J. M. PRICE,
R. H. LOWRY,

SCHEDULE A.

NEW YORK, *January 12th*, 1863.

Statement made and delivered to the Commissioners of Taxes and Assessments of the city and county of New York, for and in behalf of the

————————in pursuance of the provisions of Title IV., Chap. XIII., Part I, of the Revised Statutes of the State of New York, and of the acts amendatory thereof, Chap. 654, Laws of 1853, and Chapters 456 and 536, Laws of 1857.

1. Real estate owned by the said
viz.:
situated in
Sum actually paid therefore $

2. Capital stock of the said
actually paid in and secured to be paid in } $

EXCEPTING THEREFROM

Amount paid for Real Estate as above stated, $
Amount of the said Capital Stock held by the State $
Amount of the Capital Stock held by
Being incorporated Institution } $
3. Amount of surplus profits or reserved funds, exceeding ten per cent of the Capital of this bank, $..... }

This bank held and owned at the date above named, stocks, bonds and other securities of the United States, to the amount of $, as per schedule annexed, and claims exemption from taxation on its capital to that amount.

4. The office or the place of transacting the financial business of the said is situated in the Ward of the city of New York, at No. street.

Dated *January 12th*, 1863.

CITY OF NEW YORK, *ss.* I of the being duly affirmed, do hereby certify and declare, that to the best of my knowledge and belief the foregoing statement was in all respects just and true at the date thereof, to and of which date said statement is made, as made, as required by the Tax Commissioners.

Affirmed before me, this
day of 1863. }

CITY AND COUNTY OF NEW YORK, *ss.* I of the being duly sworn, depose and say, that the said held and owned, on the 12th day of January, A. D., 1863, stocks, bonds, and other securities of the United States, to the amount of $ the

same being exempt from taxation "by or under State authority," and that the total value of all other personal estate of the said
at that date, did not exceed the amount of debts due from said
I therefore respectfully claim on behalf of said
and as the representative thereof, that it had no taxable personal estate over and above the amount of debts due from said
(excluding property exempt by law from taxation,) and that no tax can, by law, be laid on said save as to its Real Estate.

Affirmed before me, this
day of A. D., 1863.

SCHEDULE B.

NEW YORK, *January 12th*, 1863.

Statement made and delivered to the Commissioners of Taxes and Assessments of the city and county of New York, for and in behalf of the

---

————————in pursuance of the provisions of Title IV., Chap. XIII., Part I, of the Revised Statutes of the State of New York, and of the acts amendatory thereof, Chap. 654, Laws of 1853, and Chapters 456 and 536, Laws of 1857.

1. Real estate owned by the said
viz.:
situated in
Sum actually paid therefor $

2. Capital stock of the said
actually paid in and secured to be paid in $

EXCEPTING THEREFROM

Amount paid for Real Estate as above stated, $
Amount of the said Capital Stock held by the State, $
Amount of the Capital Stock held by
Being incorporated Institution $
3. Amount of surplus profits or reserved funds, exceeding ten per cent of the Capital of this bank, $.....

This bank held and owned at the date above named, stocks, bonds, and other securities of the United States, to the amount of $, as per schedule annexed, and claims exemption from taxation on its capital to that amount.

4. The office or the place of transacting the financial business of the said is situated in the Ward of the city of New York, at No. street.

Dated *January 12th*, 1863.

CITY OF NEW YORK, *ss.* I of the being duly affirmed, do hereby certify and declare, that to the best of my knowledge and belief the foregoing statement was in all respects just and true at the date thereof, to and of which date said statement is made, as required by the Tax Commissioners.

Affirmed before me, this day of 1863.

CITY AND COUNTY OF NEW YORK, *ss.* I of the being duly sworn, depose and say, that the said held and owned, on the 12th day of January, A. D., 1863, stocks, bonds, and other securities of the United States, to the amount of $ the same being exempt from taxation "by or under State authority," and that the total value of all other personal estate of the said at that date, exceeded the amount of debts due from said in the sum of $ I therefore respectfully claim, on behalf of said and as the representative thereof, that it had no taxable personal estate over and above the amount of debts due from said (excluding property exempt by law from taxation,) excepting the said sum of $ and that no tax can, by law, be laid on said save on said sum of $ and on its Real Estate.

Affirmed before me, this day of A. D., 1863.

WISCONSIN BANKS.

The statement of the Wisconsin banks on the 6th July, was as follows :

Capital	$3,497,000 00
Circulation	2,436,109 00
Deposits	5,278,905 64
Specie	336,938 77
Cash items	160,508 85
Public securities	2,513,221 00

MISSOURI STATE DEBT.

The Auditor's report of Missouri states the debt of Missouri on the 1st of January last :

State bonds proper	$602,000
Revenue bonds	431,000
Railroad bonds issued	23,701,000
Defense warrants	1,246,000
School fund borrowed by State	900,000
Bills payable to sundry banks	1,278,000
Total	$38,158,000

This is not inclusive of the debt incurred to meet the expenses of the war, as payment of that will be provided for by the general government. Nor does it include an issue of $15,000,000 authorized by the secession Legislature, under the direction of the secession Governor JACKSON, a large amount of which was disposed of at a very low price. It has been

proposed by Governor GAMBLE, the present executive, to assume this as a portion of the debt of the State, on the basis of 66⅔ per cent, by an issue of new bonds to the amount of $10,000,000.

CONDITION OF THE NEW YORK STATE BANKS.

The following summary shows the aggregate of the resources and liabilities of the banks of the State of New York, as exhibited by their reports to the Superintendent, of their condition on the morning of June 13, 1863, and March 28, 1863. The returns for December, 1862, will be found in vol. 48, page 486 of the *Merchants' Magazine:*

LIABILITIES.

	June 13, 1863.	March 28, 1863.
Capital	$108,499,653	$108,148,202
Circulation	32,261,462	35,506,606
Profits	19,403,336	15,732,206
Due banks	49,193,323	52,601,332
Due individuals and corporations other than banks and depositors	2,079,981	2,171,144
Due Treasurer of the State of New York	4,707,506	5,855,990
Due depositors on demand	218,717,725	221,544,347
Amount due not included under either the above heads	2,496,394	2,313,789
Add for cents	505	.....
Total	$436,419,085	$444,894,124

RESOURCES.

Loans and discounts		$183,647,438		$183,864,089
Overdrafts		463,785	$3,261 and	519,430
Due from banks		22,404,373		26,764,858
Due from directors	$6,198,572	.....	$6,892,741	.....
Due from brokers	6,311,600	.....	10,231,464	.....
Real estate	11,300 and	8,972,098	11,500 and	9,200,498
Specie		40,250,309		36,802,438
Cash items		48,482,170		50,181,845
Stocks, promissory and U. S. 7 3-10 notes and indebtedness certificates		109,491,478		104,704,400
Bonds and mortgages	$86,000 and	5,731,518		6,106,461
Bills of solvent banks and U. S. demand notes		15,790,539		25,773,361
Bills of suspended banks	$65 and	215	$45 and	429
Loss and expense account		1,191,229		975,350
Add for cents		918		.....
Total		$436,419,685		$444,894,124

To show the remarkable changes in the returns during the war, we give the movement since September, 1861, in the four principal items of the quarterly reports:

Date.	Circulation.	Deposits.	Specie.	Discounts.
September, 1861	$28,015,748	$111,895,016	$38,089,727	$176,055,848
March, 1862	28,330,973	121,988,259	34,301,092	162,017,987
June, 1862	33,727,382	150,438,244	32,882,693	184,501,261
September, 1862	37,557,373	186,390,795	39,283,981	165,584,063
December, 1862	33,182,819	191,537,897	37,803,047	178 922,536
March, 1863	35,506,606	221,544,347	36,802,438	183,864,089
June, 1863	32,261,462	218,717,725	40,250,309	183,617,438

From the above it will be seen that the circulation which, in December, 1862, had increased about $11,000,000, has again decreased $7,000,000.

JOURNAL OF MINING, MANUFACTURES, AND ART.

THE PENNSYLVANIA IRON BUSINESS.

We find the following account in a Philadelphia paper, and copy it entire, as it appears to be a very carefully prepared review of the Pennsylvania iron business during the last year:

The condition of the iron making districts of Pennsylvania was greatly improved during the past year, under the stimulus of a constant demand for iron at remunerative prices. In the Schuylkill district the following anthracite furnaces were in blast:

William Penn	2	Reading	1
Spring Mill	1	Pioneer	1
Merion	1	Leesport	1
Swede	1	Robeonia	2
Phœnix	3	Plymouth	1
Keystone	1		
Henry Clay	2	Total	17

Making 76,000 tons of iron. Those not in blast were one of the Swede furnaces, one at Norristown, Port Kennedy and Hopewell, four only. The production of the Schuylkill district proper was, in all, of anthracite and charcoal iron, about 80,000 tons; that of charcoal iron, from the Longswamp and one or two other furnaces, being about 4,000 tons.

The Lebanon Valley had the following furnaces in blast:

At North Lebanon	3
At Cornwall	2
The Donaghmore	1

In all six, and making about 30,000 tons of pig iron in 1862. The iron ore from the magnificent Cornwall mines is carried to a large number of furnaces on the Schuylkill and Susquehanna, in addition to supplying the furnaces in its vicinity, in consequence of its peculiar value for mixing with the ordinary ores.

In the Lehigh district the production of iron would have been very great during the year 1862, but for injury to several of the furnaces in the June flood. It was larger, in 1861, than in any other district of the United States for that year. The following furnaces were in blast in 1862:

Allentown Iron Company	4	Lehigh Valley	2
Thomas Iron Company	2	Trenton Iron Company	3
Lehigh Crane Iron Company	5	Durham (below Easton)	1
Glendon	2		
Poco	1	Total	20

Producing 175,918 tons of pig iron.

Three furnaces were not in blast. The production of single furnaces in the Lehigh Valley is very large, some going as high as 13,000 tons each, and the average of several being 10,000 tons. The injuries from the flood in June, reduced the aggregate product probably 20,000 tons below what

it otherwise would have been. The precise production of the leading works has been obtained to make up the above aggregate. A small quantity of charcoal iron was made in the Lehigh region in 1862, probably 2,000 tons.

The Susquehanna Valley had a full share of its furnaces in blast during 1862. In the upper portion of that valley there were, at Danville—

The Pennsylvania Iron Works	furnaces	3
Columbia Furnace		1
The Bloom and Irondale, at Bloomsburg		2
The Lackawanna, at Scranton		4
Total		10

Producing 56,000 tons of iron.

In the lower part of the Susquehanna Valley there were the Shamokin, Duncannon, Harrisburg, Middletown, Marietta, Safe Harbor, and two or three other furnaces in blast the greater part of the year. The whole number was about 14, producing 38,000 tons of anthracite, and 3,500 tons of charcoal pig iron.

In the interior the Freedom Iron Company, at Lewisburg, had one furnace in blast, and with others near the Juniata, made about 8,000 tons of anthracite, and 15,000 tons of coke and charcoal iron. The Cambria works had three coke furnaces at Johnstown and one at Frankstown, making over 30,000 tons together.

The several districts sum up as follows:

	Anthracite.	Charcoal and coke.
Schuylkill	76,000	4,000
Lebanon Valley	30,000	....
Lehigh Valley	175,948	2,000
Upper Susquehanna	56,000	6,000
Lower Susquehanna	38,000	3,500
Juniata and Cambria districts	8,500	55,000
Total	384,448	70,500

The production of the coke and other furnaces of the western part of the State has not been obtained. It was larger than for several years previous.

The quantity of anthracite iron made in Pennsylvania east of the mountains for a series of years past, is approximately stated in the table below for the years not fully reported; 1856, 1857, 1859, and 1862 only having been collected with accuracy:

	Schuylkill.	Lehigh Valley.	Upper Susquehanna.	Main Susquehanna.	Total tons.
1856	43,275	121,021	39,484	39,704	243,484
1857	48,310	113,299	40,502	35,259	237,368
1858	35,000	100,000	25,000	25,000	185,000
1859	73,500	137,832	37,500	37,000	286,332
1860	70,000	160,000	35,000	48,000	313,000
1861	60,000	160,000	40,000	50,000	310,000
1862	76,000	175,948	60,500	68,000	381,448

The quantity assigned in the previous table to the Lebanon as a distinct district, is here put with the Susquehanna. The production of charcoal and coke iron in addition has varied from 20,000 to 40,000 tons in Eastern Pennsylvania, exclusive, of course, of the great Cambria works, which have alone produced about 30,0 0 tons of coke iron annually.

ROLLED IRON: BAR, RAILS, PLATES, AND FORGE WORK.

Several extensive rolling mills have been added in 1862 to those previously existing in the State, two of which are on the Lehigh, one at Allentown, and one at Bethlehem. Together these have a capacity to roll 40,000 tons of bar and rails annually. A large new rolling mill for bar and sheet iron was put in operation near the close of the year at Sharon, Beaver County, west of Pittsburg. Two new and extensive steel works have been established at Pittsburg during the year, one by NAYLOR & Co., of Sheffield England, and one by J. PARKER & BROTHERS, of Pittsburg.

The production of rolled iron cannot be obtained with the same precision and facility as in previous years, in consequence of a natural hesitancy of proprietors at giving their business publicity. From the returns of those who have obligingly responded to inquiries as to the quantities rolled, it appears probable that the quantity rolled in Pennsylvania in 1862, was much greater than in 1856; for which year it was stated, by CHARLES E. SMITH, Esq., in the report of the American Iron Association, at 241,484 tons. The census of 1860 gives 259,700 tons as the amount rolled for the year ending June 1, 1860. There is a large increase in miscellaneous rolled, iron merchant bars, ship plates, etc., and less, relatively of railroad iron. Statements from a considerable number of mills have been obtained on the Lehigh, at Pottsville, Reading, Danville, Johnstown, and others nearer the city. These cannot properly be given separately, but they indicate an advance of perhaps twenty per cent on the production of 1856, or about 280,000 tons in all rolled in Pennsylvania.

The value of this production at the prices prevailing during the year, would increase the sum named in the census of 1860, nearly or quite twenty-five per cent, making over $15,000,000 in place of $12,643,500.

AN IMMENSE IRON DEPOSIT.

The Lake Superior *Journal* says that recent explorations show the deposit of iron ore, embracing what is known as the St. Clair Mountain, on the Esconawba River, to be very much more extensive than was supposed. West of the river it not only skirts along on the south side of Sections 1 and 2, but covers the entire north half of Sec. 11, and also that of Sec. 12, being nearly two miles in length and about three-quarters wide, and rising from fifty to three hundred feet above the level of the surrounding country. On the east side of the river it has been found to extend over large portions of Sections 5 and 6, comprising a length of about one and-a-half miles, with an average width of over one-half mile, and rising from fifty to one hundred and fifty feet. What the ultimate value of these huge deposits may prove to be, can only be fully established by more minute examination and practical tests; but from the specimens we have seen, there is hardly a question but that they will prove of the highest value, in location, they being only 30 miles from the lake, and in the quality of ore they contain; while they will be easily opened and cheaply mined, as the railroad within one year will pass up the valley of the Esconawba, directly between them. But while iron is thus being found, and roads constructed to bring it to the lake—many more vessels must also be built, or it will be wholly out of the question to place it in the lower lake markets. Let there be a corresponding amount of work done in this direction.

JOURNAL OF MERCANTILE LAW.

IMPORTANT CUSTOM-HOUSE CASE—HOW TO ASCERTAIN THE ALCOHOLIC STRENGTH OF SWEETENED WINE.

THE San Francisco *Commercial Bulletin* of a recent date gives the following: "On Saturday last a case of considerable importance was taken before Collector Low. The decision of this matter involves the payment or non-payment yearly of thousands of dollars to the customs as well as the collection of revenue under the excise law, as regards domestic distilled spirits.

"Under the tariff of 1861 a duty of $1 per gallon was collected on a liquor imported from China under the name of China wine. The Chinese merchants deeming the tariff oppressive discontinued the importing of it and appealed to Collector RANKIN for a more liberal interpretation of the law. They stated that but a small per centage of alcohol was contained in the wine, in any case not more than in sherry. Mr. RANKIN informally stated in answer to this application, that if the wine did not contain more than 15 to 20 per cent of alcoholic spirits he would class it as unenumerated spirits, on which the duty is 50 per cent ad valorem. In May last, considerable quantities of this wine were imported into the State under a duty of 50 per cent ad valorem, which, as it was invoiced at $1 per jar of 5 gallons, made the actual duty 10 cents per gallon. JAMES DOWS & Co., distillers, having examined samples of this wine, found them to contain large per centages of spirits, and that owing to adulteration by sugar or molasses the usual tests failed to show the actual per centage of spirit, which could only be got at by re-distilling.

"On Collector Low taking office, Dows & Co. protested against China wine being admitted under any other interpretation of the law than as spirits, and paying duties as such. The collector, inquiring, was informed by Appraiser BRIDGE that, owing to the condition of the liquid, the usual tests gave incorrect results. The appraiser was then directed to have samples of the wine tested in different ways by competent parties who were to examine and report to him unknown to each other, which tests were made, and on Saturday a court was held in the collector's office to hear evidence in the matter. Samples of the wine furnished by the appraiser were shown, also the results of such in spirits obtained by distillation. From this process it was found that the different samples of wine contained from 32 to 50 per cent of pure spirits, and from an analysis of the same by the State assayer, that the bases of the wine was in some cases sugar and molases, and in others rice. The testimony of HOP KEE, the importer of the lots tested, was that the liquid was originally of a white color, but was muddied by having a few plums, pears or peaches put in each jar.

"Gauger LAIDLEY testified that the usual weighing apparatus for spirits did not give correct results, owing to sugar being in the wine. He professed his belief that it contained a large percentage of alcohol, and said that he had satisfactorily proved this to his own mind by a test made

when this particular wine was landed. He stated that he then took four bottles of it, and left two of them exposed on a pile of lumber on the wharf, when three bummers or dock loafers (who are always dogging the gauger to get a free drink from open casks) took the two bottles and drank their contents, and that half an hour afterwards he found them all dead drunk at the same place. These bummers always preferred the strongest liquors they could get, and as the wine had such a power as to make them senseless, he concluded that it must be near proof.

"Mr. Dows claimed that at the duty of 50 per cent *ad valorem* it would cause all the distilleries in the country to shut up shop, as this wine could be imported and rectified into whisky, rum or brandy, as desired vastly cheaper than the same could be made from grain, and pay the excise duty of 20 cents per gallon for proof spirits. The base of this wine was distilled spirits, disguised with sugar or syrup, and colored by a few pears, plums or other fruit to give it a fruity taste.

"The Chinese merchants, on their part, contended that it was wine only, and that if it was decided to be spirits and to pay duty on the same, they would be ruined, as very large quantities of it had been ordered by them on the strength of Collector RANKIN's ruling.

"Mr. Dows asked if the exact amount coming was known by the merchants, as he had been informed that 200,000 gallons had been ordered, and if imported under the 50 per cent. *ad valorem* duty, he might as well close his distillery.

"The Collector, after a long and full hearing of all parties, stated that he would give his decision in a few days, as he wished to make some further examination.

"The spirit test allowed by the Treasury Department is the old one of weight, which in case of an infusion of sugar or gum syrup, or any heavy glutinous substance in solution is perfectly useless. The French Government have another test which is used in such cases, viz.: by boiling the liquor, and according to the temperature at which it boils, so ascertain the amount of spirits. Unless some such test is used, spirits can be so disguised as to evade duty, unless in every case it is distilled or analyzed, which are tedious and expensive processes."

THE RIGHT OF TRADESMEN TO TEST MONEY.

An action was lately tried in one of the London courts, to recover damages sustained in consquence of defendant having broken a half-sovereign while testing it.

Plaintiff stated that he went to defendant's shop to buy some plants, and he handed a half-sovereign to defendant, who put it between his teeth, and deliberately broke it in half. He gave the pieces back to plaintiff, remarking that it was bad. Plaintiff, however, was convinced that it was good, and he had it properly tested by a chemist, who said it was perfectly good. The pieces were then again offered to the defendant, who refused to accept them, and told plaintiff he could try the question, if he were so minded.

The judge said the defendant had acted most unjustifiably; a tradesman must apply sure and gentle tests to the coin of the realm. A verdict was given the plaintiff, for 10s. damages and costs.

COMMERCIAL REGULATIONS.

DECISIONS OF TREASURY DEPARTMENT UNDER THE TARIFF ACT OF JULY 14, 1862.

THE following decisions have been made by the Secretary of the Treasury, of questions arising upon appeals by importers from the decisions of collectors, relating to the proper classification, under the tariff act of July 14, 1862, of certain articles of foreign manufacture and production entered at the ports of New York, etc.:

GINGHAMS.

Treasury Department, July 7, 1863.

SIR: Messrs. SHARPLESS Brothers have appealed from your decision assessing duty at the rate of 4½ cents per square yard and 10 per cent ad valorem on certain "ginghams," counting less than 140 threads to the square inch, and costing less than 16 cents per square yard, imported by them per ship "Constitution."

The appellants allege: "By the act of July, 1862, section 10 article 4, there is levied an additional duty on jeans, ginghams, etc., of 2 cents per square yard, making 4 cents per square yard and 10 per cent, which we contend is the proper rate of duty."

This Department decided, under date of October 13, 1862, that "ginghams" not exceeding 140 threads to the square inch were liable to duty at the rate of 2 cents per square yard, and 10 per cent ad valorem, under the act of March 2, 1861.

The act of July 14, 1862, section 10, 4th article, imposes an additional duty of 2 cents per square yard on ginghams, cotton jeans, denimes, drillings, bed-tickings, plaids, cottonades, pantaloon stuffs, and goods of like description, not exceeding in value the sum of 16 cents per square yard; consequently the rates on these descriptions of goods now are as follows:

Not exceeding 100 threads to the square inch—3 cents per square yard, and 10 per cent ad valorem. Not exceeding 140 threads to the square inch—4 cents per square yard, and 10 per cent ad valorem. Exceeding 140 threads to the square inch—5 cents per square yard, and 10 per cent ad valorem. Exceeding 200 threads to the square inch—6 cents per square yard, and 10 per cent ad valorem.

Your decision is hereby overruled.

I am, very respectfully,
S. P. CHASE, *Secretary of the Treasury.*

WM. B. THOMAS, Esq., *Collector, Philadelphia, Penn.*

BALMORAL SKIRTS.

Treasury Department, July 8, 1863.

SIR: Messrs. SHARP, HAINES & Co. have appealed from your decision assessing duty at the rate of 30 per cent ad valorem, and 18 cents per pound, on certain "Balmoral skirts," imported per "Scotia" and "Edin-

burgh," and claim to enter them at 35 per cent ad valorem, as manufactures of worsted and cotton.

The facts in this case appear to be as follows: The goods in question were found by the appraisers, on examination and appraisal, to be "Balmoral skirts made, in part, of wool," and they were so classified under the proviso in the clause of the 9th section of the act of July 14, 1862, commencing with the words, "on clothing, ready-made, &c." Subsequently, the importer's agent brought some samples to the appraisers, (which the appraisers could not identify,) alleging that they were a part of the goods in question, and did not contain wool.

The packages, after examination by the appraisers, passed into the possession of the importers, and were removed from the city, and consequently there was no opportunity for correcting an error, if any was made, which the appraisers allege they have no reason to believe was the case.

Under these circumstances, I have no alternative under the law but to affirm your decision.

I am, very respectfully,

S. P. CHASE, *Secretary of the Treasury.*

HIRAM BARNEY, Esq., *Collector, &c., New York.*

SILK, NOT IN THE GUM.

Treasury Department, July 8, 1863.

SIR: Messrs. ASIEL & ERDENBURG have appealed from your decision assessing duty at the rate of 40 per cent on certain "organzine" imported by them, and claim to enter it under section 2 of the act of August 5, 1861, as "silk in the gum, not more advanced than organzine," at 25 per cent ad valorem.

The experts of the customs have decided that the article in question is "silk *not* in the gum, but cleaned and advanced beyond the point which, under the 2d section of the act of August 5, 1861, would entitle it to entry at 25 per cent ad valorem, as claimed by the appellants."

The question presented is one of fact, to be determined by the appraisers, and the article in question being more advanced than silk in the gum, &c., became subject to duty at 40 per cent ad valorem.

Your decision is hereby affirmed.

I am, very respectfully,

S. P. CHASE, *Secretary of the Treasury.*

HIRAM BARNEY, Esq., *Collector, &c., New York.*

PREPARED CLAY.

Treasury Department, July 9, 1863.

SIR: Messrs. GRANT, WARREN & Co. have appealed from your decision assessing duty at the rate of $5 per ton on certain "prepared clay" imported by them per "Jennie Beals" and "Florence," claiming to enter it at 20 per cent ad valorem.

Section 12 of the tariff act of July 14, 1862, imposes a duty of $5 per ton on unwrought clay, pipe clay, fire clay, and *kaoline.*

The experts of the customs report as follows: "If it is not *kaoline*, it certainly bears a very strong resemblance to it in material, quality, and texture. This clay is imported by paper manufacturers, and is undoubtedly designed for paper glazing. Kaoline is used for the glazing of paper.

As the clay in question bears a similitude in "material, quality, and texture," and "the use to which it may be applied," to kaoline, it is by force of the 20th section of the act of 1842 subject to the same duty, to wit: $5 per ton, as assessed by you.

Your decision is hereby affirmed.

I am, very respectfully,

S. P. CHASE, *Secretary of the Treasury.*

J. Z. GOODRICH, Esq., *Collector, &c., Boston, Mass.*

CHINA TRAM.

Treasury Department, July 9, 1863.

SIR: Mr. BERNHARD ANDREAE has appealed from your decision assessing duty at the rate of 35 per cent on certain "China tram," imported by him per steamers "Glasgow" and "City of Baltimore."

The appellant alleges: "On these imports I was compelled by the Collector of this port (New York) to pay a duty of 35 per cent, upon the ground that they were China goods, whereas they are in reality of English manufacture, and direct from London. They consequently are subject only to the charge of 25 per cent attaching to goods of English, and not to the 35 per cent charge upon goods of Chinese manufacture."

Under the decision of this Department of April 24, 1863, all goods of the growth or produce of countries beyond the Cape of Good Hope, when imported from places this side of the Cape of Good Hope, are subject to the additional duty of 10 per cent, (imposed by section 14 of the tariff act of July 14, 1862,) unless their character, quality, and condition be entirely changed by manufacture or otherwise.

It appears that the article is only partially manufactured; is not ready for use, nor entirely changed in its character, quality, and condition; in fact it is advanced but one stage in its manufacture in England, from "singles" to "tram," whereby its distinctiveness is not lost or merged in its new condition; consequently your imposition of the additional 10 per cent was legal, and your decision is hereby affirmed.

I am, very respectfully,

S. P. CHASE, *Secretary of the Treasury.*

HIRAM BARNEY, Esq., *Collector, &c., New York.*

ESPARTO GRASS OR FIBER.

Treasury Department, July 17, 1863.

SIR: Messrs. LORING & Co. have appealed from your decision assessing duty at the rate of 10 per cent ad valorem, with the addition of $5 per ton, upon certain "esparto grass or fiber," imported by them in the schooner "Annie Grieve," from Almeria.

The appellants allege: "That said grass or fiber is a crude production used for the manufacture of paper; that all other materials previously known as suitable for the production of paper stock, such as linen and cotton rags, oakum, old ropes, or junk, &c., are admitted free of duty, and that had the application of esparto been known at the time the tariff was formed, it also would have been included in the list of free articles, it being evidently the intention of Congress to encourage the importation of all materials of such a nature."

The article in question is a grass, crude or unmanufactured, and not

being enumerated in the act of March, 1861, became liable to a duty of 10 per cent ad valorem, per section 24. The 11th section of the act of July, 1862, prescribed an additional duty of $5 per ton on jute, sisal grass, sun hemp, coir, and others vegetable substances not enumerated, &c., &c.

Your decision assessing 10 per cent, and $5 per ton, on the article in question is affirmed.

I am, very respectfully,

S. P. CHASE, *Secretary of the Treasury.*

J. Z. GOODRICH, Esq., *Collector, &c., Boston.*

ANILINE.

Treasury Department, July 17, 1863.

SIR: Messrs. L. MARTIN & Co. have appealed from your decision assessing duty at the rate of 25 per cent ad valorem on certain "aniline," imported per steamers "City of Washington" and "City of Baltimore."

The appellants allege: "That the act of July, 1862, imposes a duty on extract of rosine or aniline colors of 25 per cent ad valorem, which are manufactured colors, while aniline is a crude product of coal tar, used only for the production of the above colors."

The 25th subdivision of the 5th section of the act of July 14, 1862, imposes a duty of 25 per cent on extract of *resin* (not rosine) or aniline colors.

Aniline is a product of coal tar, and coal tar is the product of a prior process; it cannot therefore be regarded as a *crude* article, as claimed by the appellants. I am of opinion that it should be classified as a chemical preparation not enumerated, and as such subject to duty at the rate of 20 per cent ad valorem.

You will be governed accordingly.

S. P. CHASE, *Sec. of the Treasury.*

HIRAM BARNEY, Esq., *Collector, New York.*

COTTON IN THE DESERT.

Recently in the House of Commons, Mr. COBDEN stated that at the foot of the Rocky Mountains, in the Western Valley of the Mississippi, there were exhaustless fields for the production of cotton, and a soil and climate admirably adapted to the plan, which only required English capital and enterprise for its development.

Some color may be given to this assertion, by the fact that some crops of cotton have been raised in the Salt Lake Valley. But how, where, and under what circumstances those crops were raised; what was the yield and expense of cultivation, and what the chances of disaster to the growing plant from untimely frost, either in spring or fall, are particulars of which we have as yet no satisfactory information. Doubtless, with cotton at seventy-five cents per pound in New York, the article can be produced in localities, where, at the ordinary prices heretofore, nobody would think of planting it. But we are greatly mistaken in the capabilities, looking either to soil or climate, of the foot hills of the Rocky Mountains, if the application of any amount of English or any other capital to the cultivation of cotton there would in ordinary times be anything but a complete waste of that capital.

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