

MANUFACTURES.

The capital invested in manufactures in 1890 was \$6,139,000,000. Diagram 331 shows the amount of capital invested in this branch of industry at the time of each census since 1850, when the statistics concerning it were first obtained. From this it seems that the development of manufactures, as measured by the amount of capital invested, has been far greater, both absolutely and relatively, during the past decade than in any previous one. Indeed, the capital is more than double that in 1880, its absolute increase in 10 years having been about \$3,500,000,000.

The gross value of the product of the manufactures in 1890 was in excess of \$9,000,000,000. In this is included the value of all raw material and partly manufactured material, which goes into the factory as "materials used." These had a value of little over \$5,000,000,000. Subtracting this from the gross value of the product, it leaves as the net product of manufactures in 1890 about \$4,000,000,000. The net product at each census is shown by Diagram 332. The increase from census to census was quite uniform, except between 1880 and 1890, when, as in the case of the capital, the net product more than doubled during the decade.

The number of manufacturing establishments has increased continuously, but not by any means as rapidly as the capital has increased. Consequently, the average capital per establishment has become greater. Diagram 333 shows this increase. In 1850 the average capital was but \$4,000. It increased in 1860, diminished slightly in 1870, and has increased since, reaching, in 1890, \$15,000. This increase is in accord with the increase in the use of machinery.

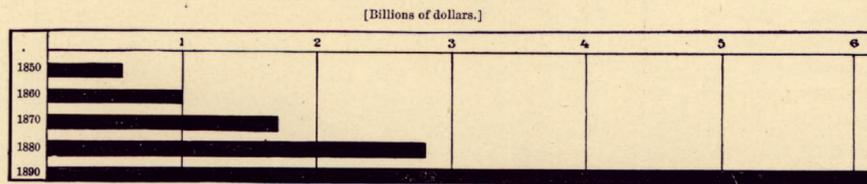
The number of hands employed in manufactures has increased continuously since 1850, as shown in Diagram 334, but the increase has not been as rapid as that in capital or in product. In other words, owing to the increased use of machinery, each hand employed makes a greater output. In 1850 the net product per hand was about \$500. In 1890 it had increased to nearly double this amount.

In the meantime a portion of this increased productivity of the laborer has gone to his benefit. As is shown by Diagram 335, wages per hand have increased from about \$250 to \$440. Thus, while his efficiency is doubled, his pay has been increased 75 per cent; the remaining 25 per cent of his increased efficiency going to capital, which has created this increased efficiency through the introduction of machinery.

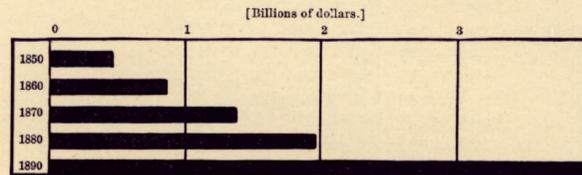
The principal manufactures of the country are shown by the value of their products. They are represented by Diagram 336, lumber being the leading product, with a value of nearly \$600,000,000, followed by flouring and grist mill products and clothing, each with a product exceeding half a billion. Iron and steel were fourth, which, with foundry and machine shop products, had a value of over \$400,000,000. The cotton industry had a product valued at \$270,000,000; the woolen industry at \$220,000,000. These are gross, not net, values of products.

Map 337, plate 55, shows the center of manufactures, corresponding to the center of population, at each census since 1850. Like the center of population, the movement of this center has been generally westward. In 1850 it was found in latitude 40° 42' and longitude 77° 25'. In 1890, 40 years later, it was found in practically the same latitude and in longitude 81° 33'. It had moved westward 4° 8', and was then situated in northeastern Ohio. Its position was a degree and a half north of the center of population and 4 degrees east of it. This difference in position between the center of population and the center of manufactures indicates the portion of the country in which manufactures are of the greatest importance.

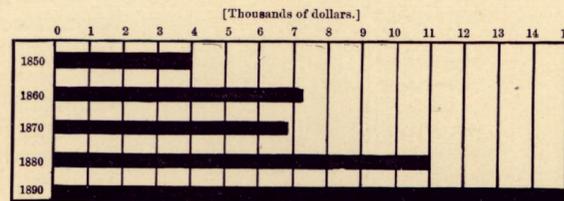
331. CAPITAL INVESTED IN MANUFACTURES: 1850 TO 1890.



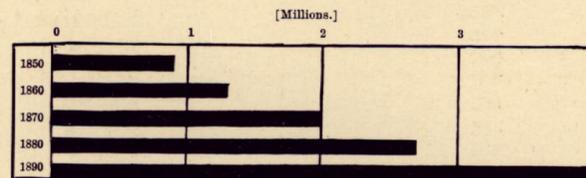
332. VALUE OF NET PRODUCT OF MANUFACTURES: 1850 TO 1890.



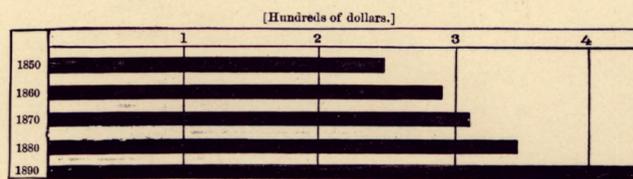
333. AVERAGE CAPITAL PER ESTABLISHMENT: 1850 TO 1890.



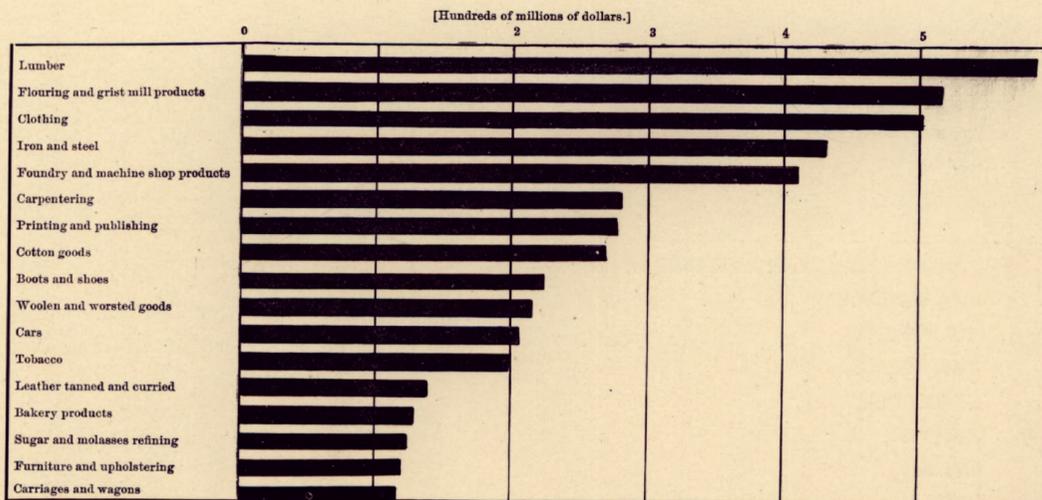
334. NUMBER OF PERSONS EMPLOYED IN MANUFACTURES: 1850 TO 1890.

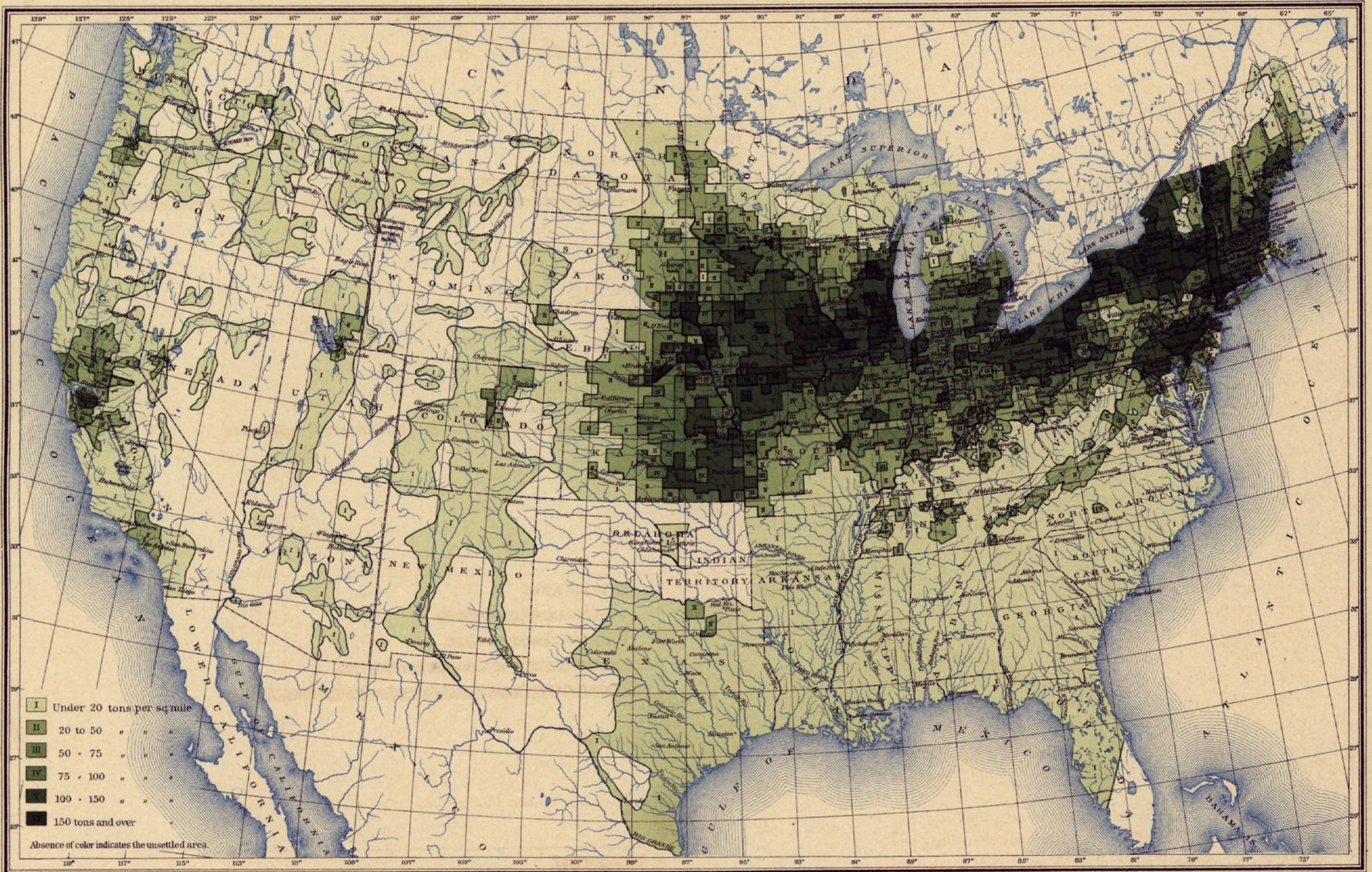


335. AVERAGE WAGES PER EMPLOYÉ: 1850 TO 1890.

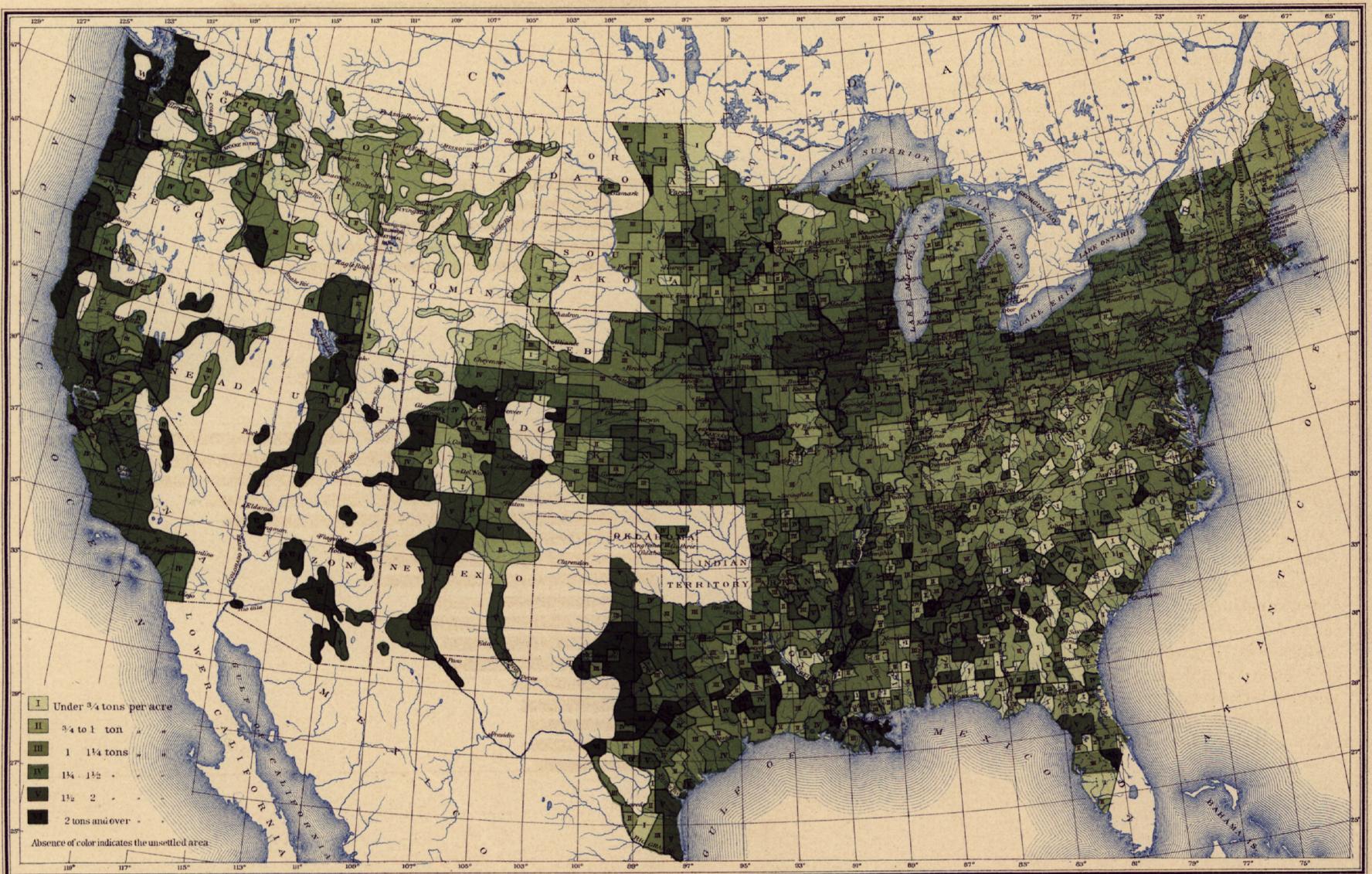


336. VALUE OF PRINCIPAL MANUFACTURES: 1890.





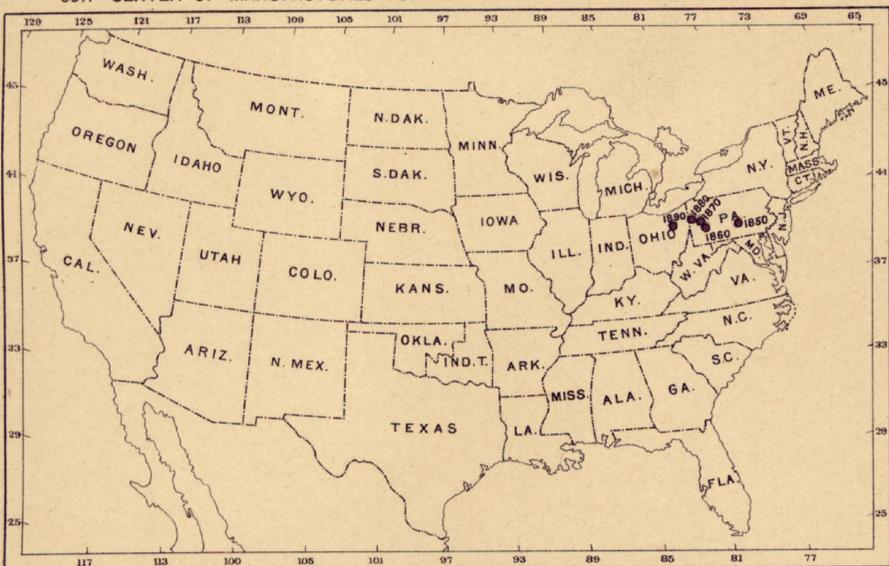
325. YIELD OF HAY PER ACRE: 1890.





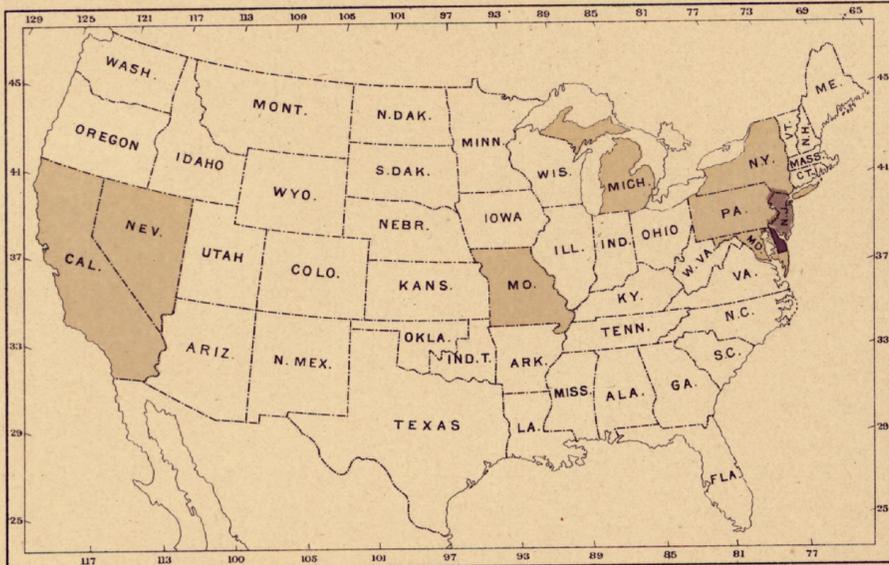
MANUFACTURES: 1890.  
VALUE OF PRODUCT IN DOLLARS PER HEAD OF POPULATION.

337. CENTER OF MANUFACTURES FOR THE 7TH, 8TH, 9TH, 10TH, AND 11TH CENSUSES.

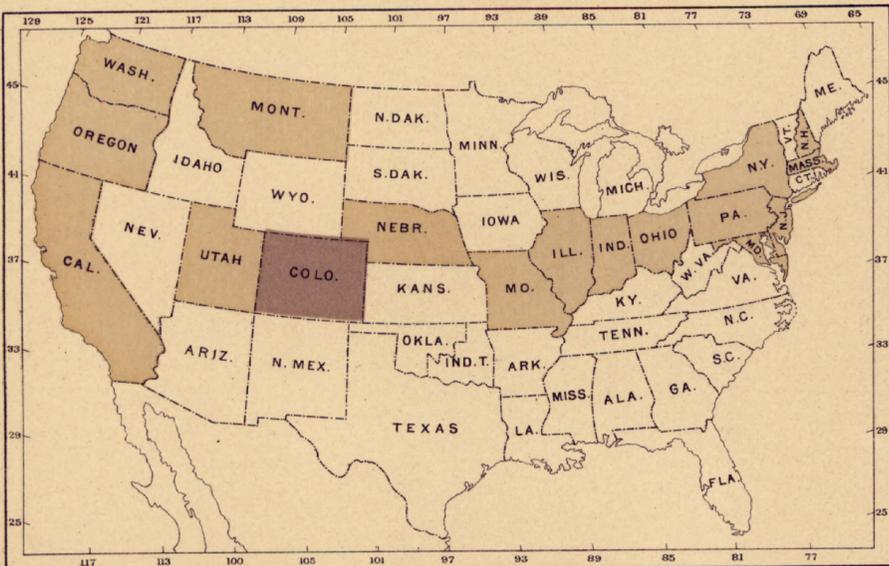


1850 WEST 77°-25'-09" NORTH 40°-41'-42" ½ m. east, 6 m. north of Mifflintown, Pa.	1860 WEST 79°-18'-50" NORTH 40°-33'-01" 5½ m. west, 6½ m. so. of Indiana, Pa.	1870 WEST 79°-25'-56" NORTH 40°-47'-13" 6 m. east, 31 m. so. of Kittanning, Pa.	1880 WEST 79°-53' NORTH 40°-50'-09" 2 m. east, 2 m. south of Butler, Pa.	1890 WEST 81°-33'-37" NORTH 40°-42'-22" 81 m. west, 7 m. so. of Canton, Ohio.
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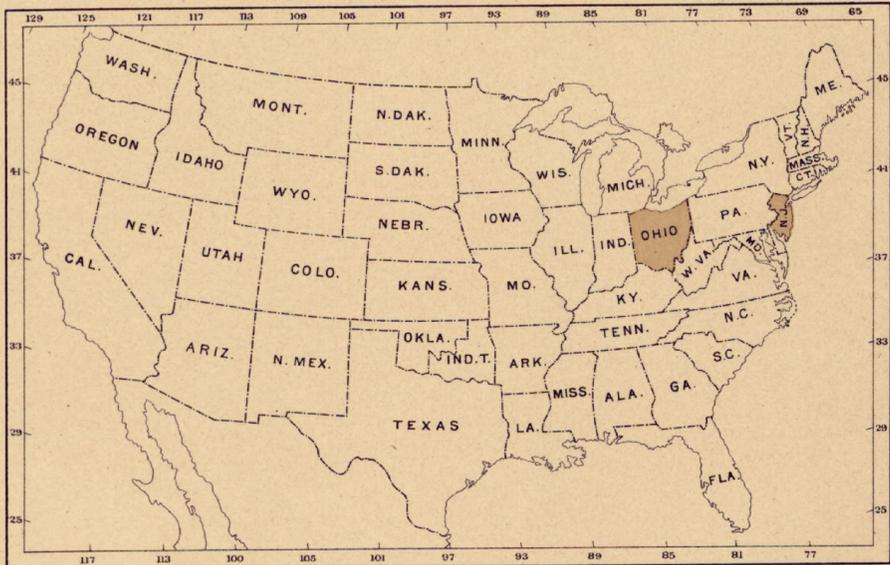
340. CHEMICALS PRODUCTS.



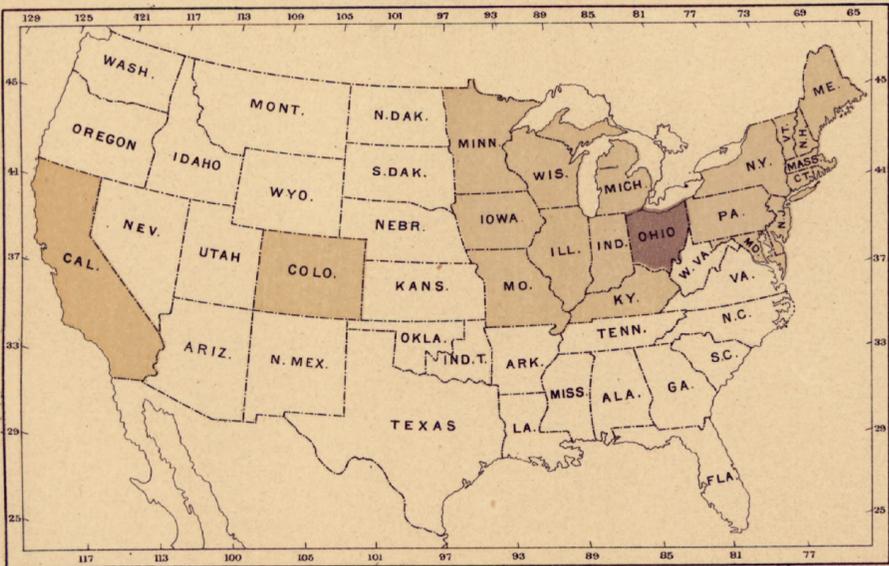
338. BRICK AND TILE.



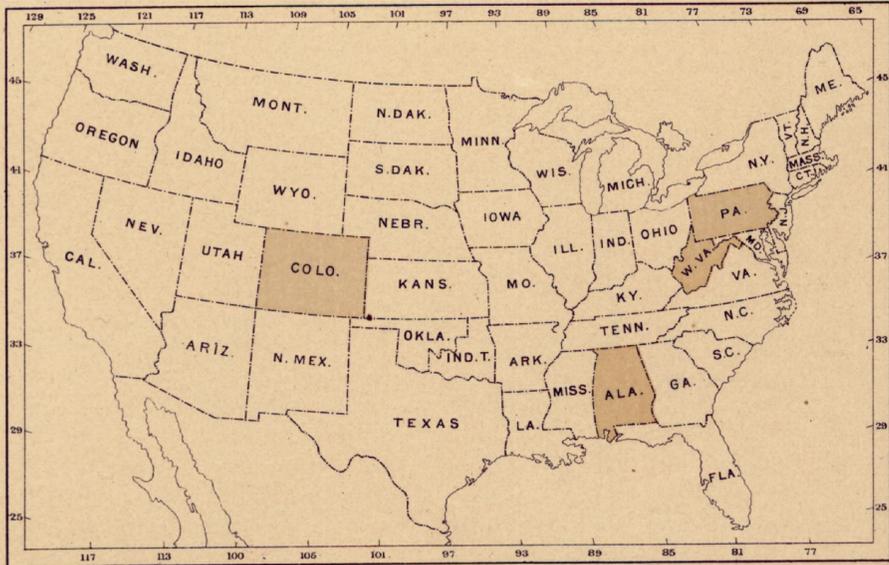
341. CLAY AND POTTERY PRODUCTS.



339. CARRIAGES AND WAGONS.



342. COKE.

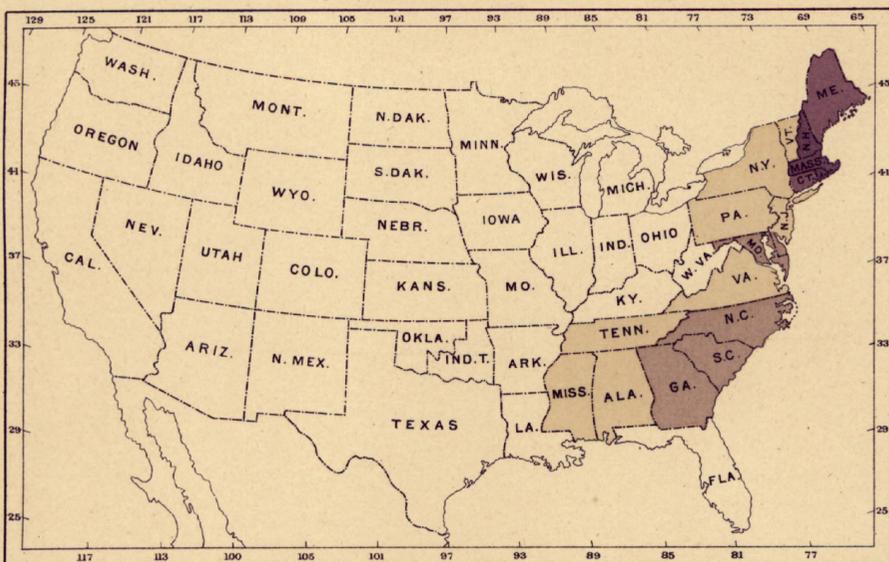


Legend for value of product in dollars per head of population:

Less than \$ 1	\$ 1 to \$ 5	\$ 5 to \$ 10	\$ 10 to \$ 25	over \$ 25
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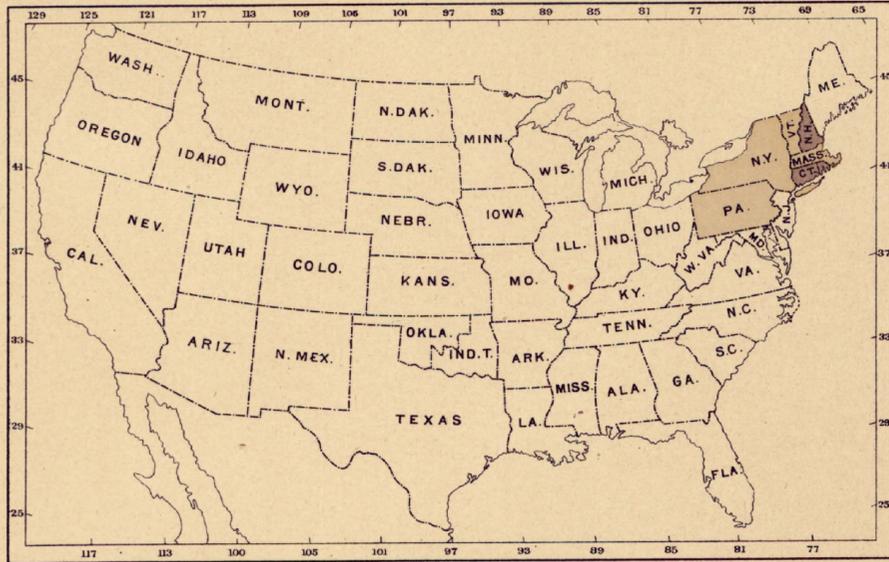
MANUFACTURES: 1890.  
VALUE OF PRODUCT IN DOLLARS PER HEAD OF POPULATION.

343. COTTON.

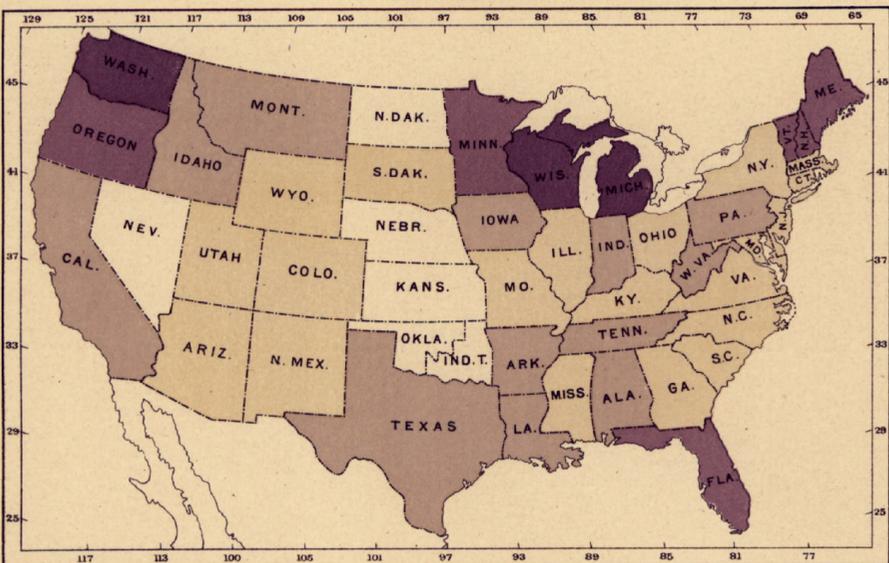


346. HOSIERY AND KNIT GOODS.

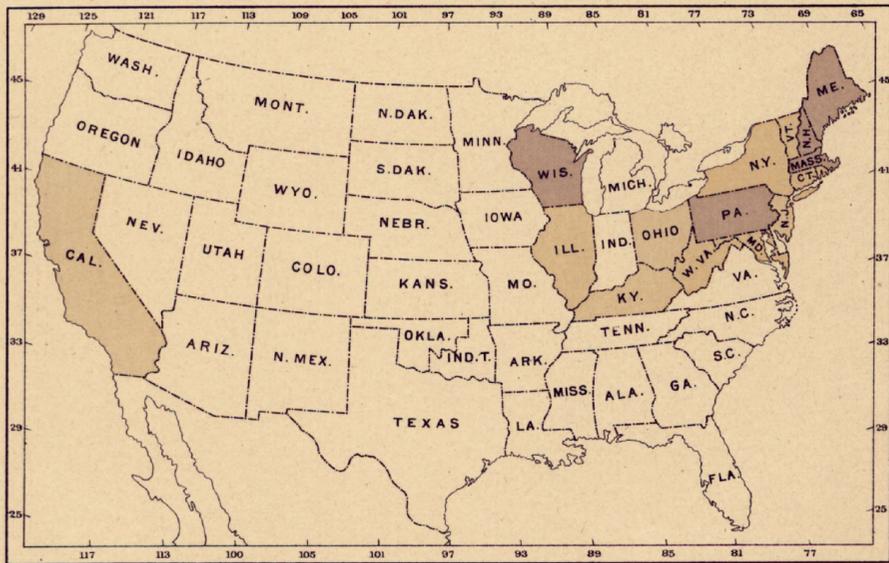
PLATE 56.



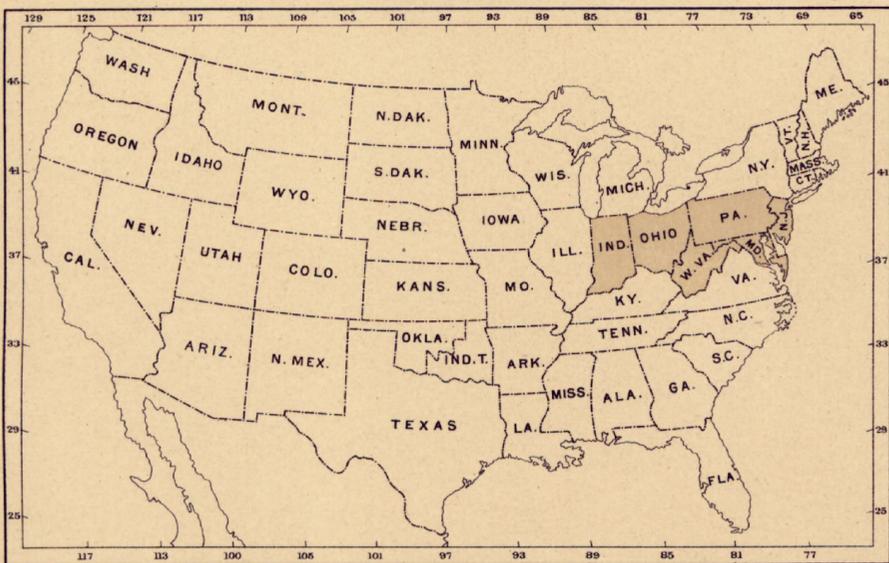
344. LUMBER.



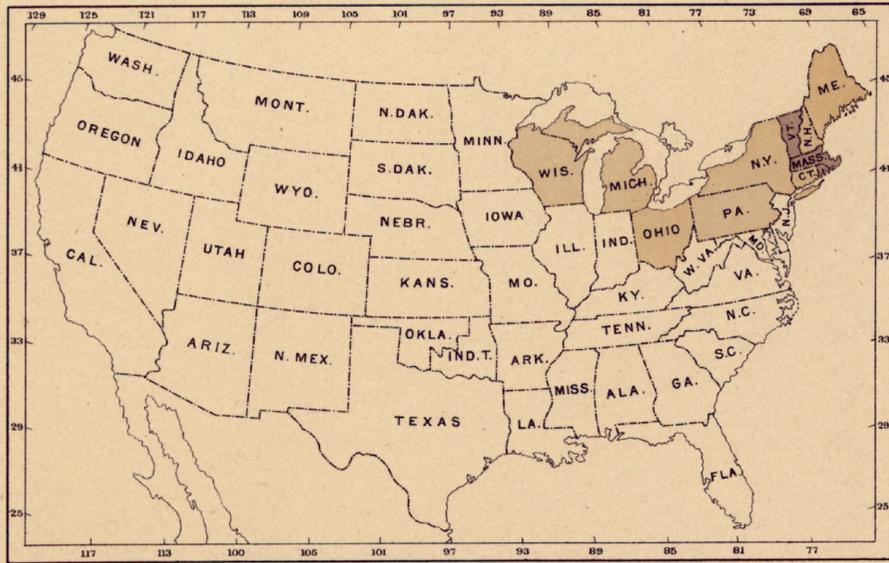
347. LEATHER.



345. GLASS.



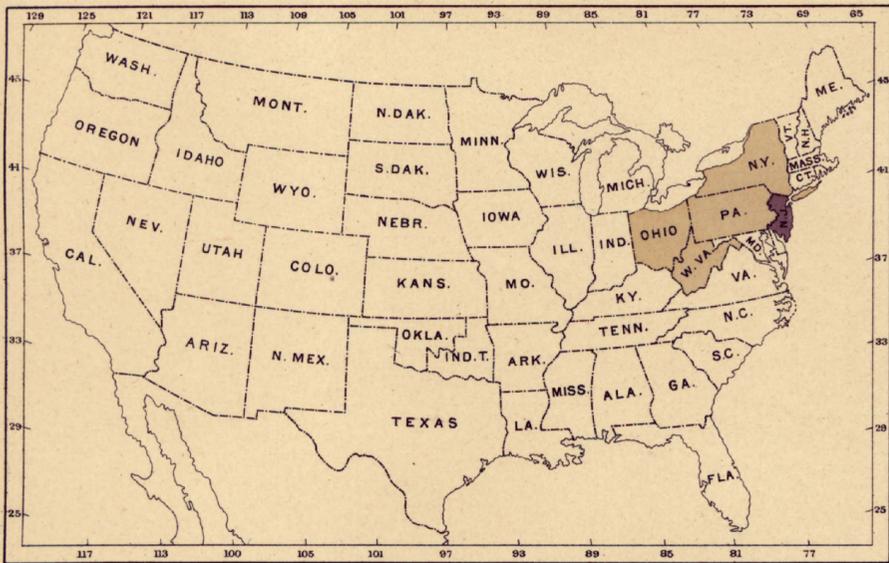
348. PAPER.



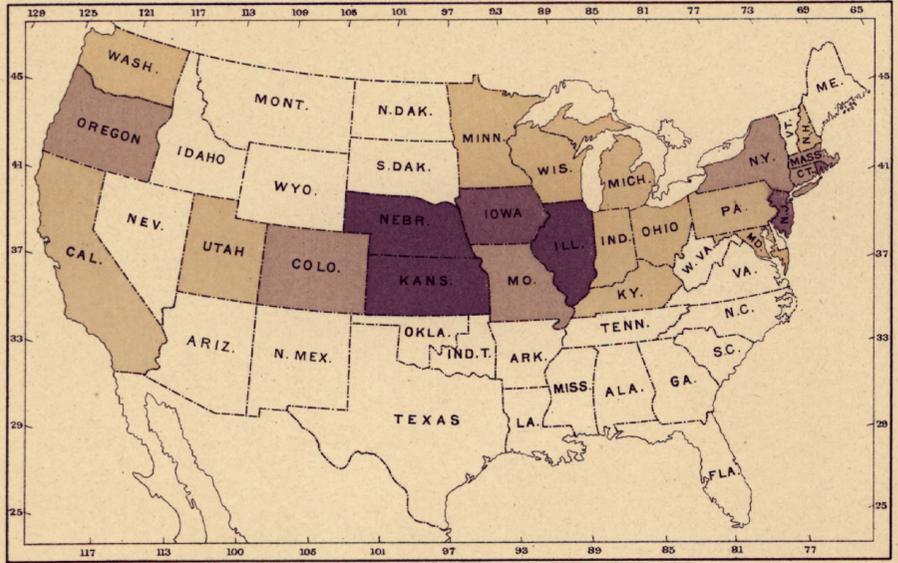
Less than \$ 1   
  \$ 1 to \$ 5   
  \$ 5 to \$ 10   
  \$ 10 to \$ 25   
  over \$ 25

MANUFACTURES : 1890.  
VALUE OF PRODUCT IN DOLLARS PER HEAD OF POPULATION.

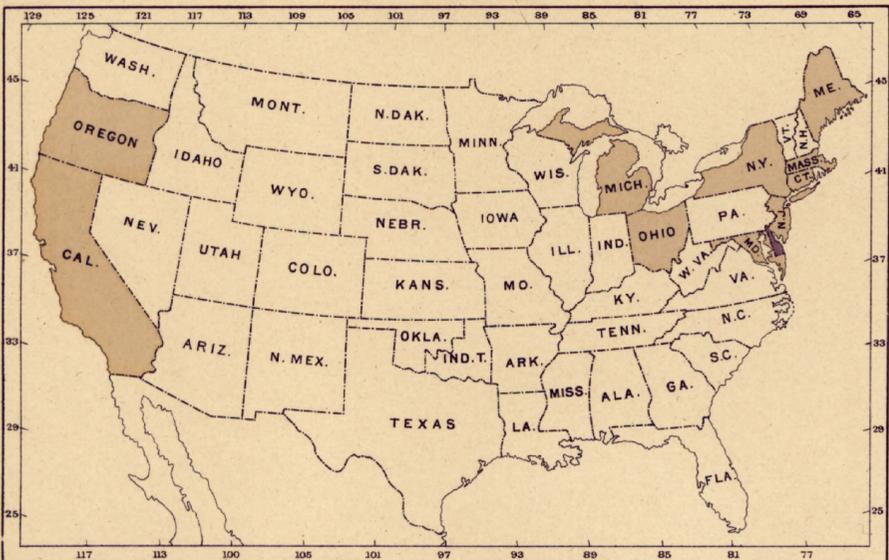
349. REFINING OF PETROLEUM.



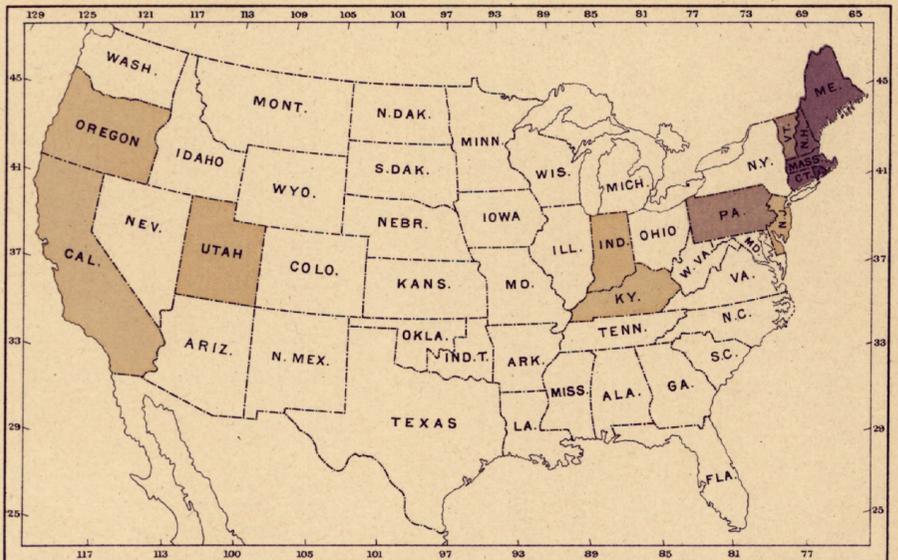
352. SLAUGHTERING AND MEATPACKING. WHOLESALE PLATE 57.



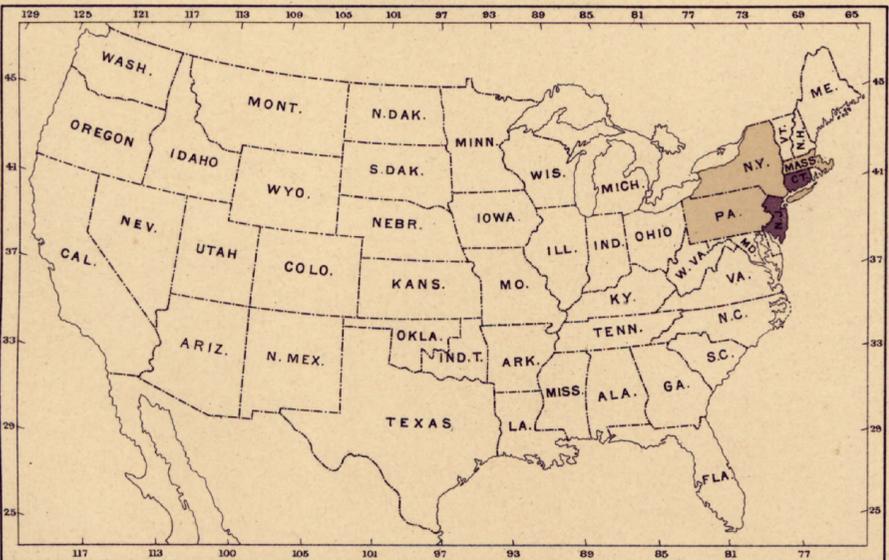
350. SHIPBUILDING.



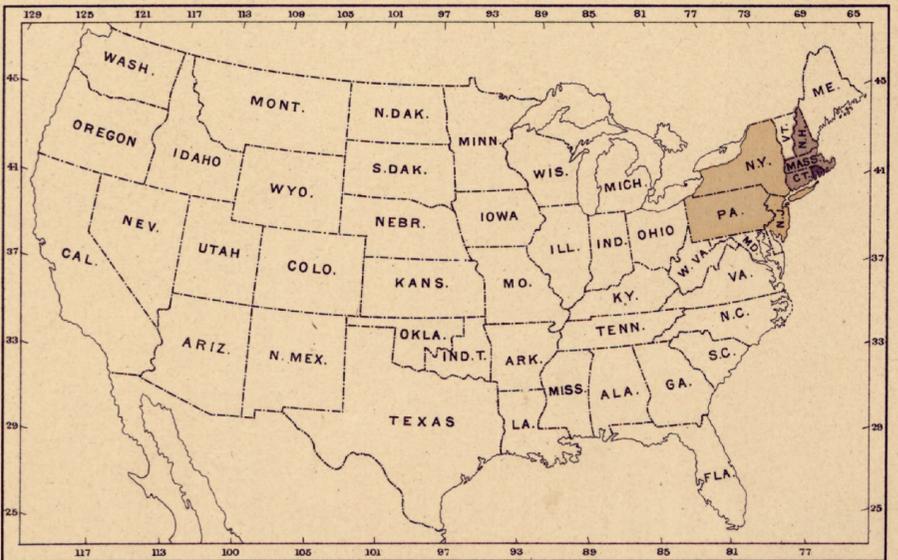
353. WOOLEN GOODS.



351. SILK AND SILK GOODS.



354. WORSTED GOODS.



Less than \$ 1   
  \$ 1 to \$ 5   
  \$ 5 to \$ 10   
  \$ 10 to \$ 25   
  over \$ 25