⑆0612⑈1488⑆

No, the Federal Reserve Bank of Atlanta is not proudly proclaiming an archeological treasure found in dusty dunes along the Nile. The queer symbols at the top of this page are not Ptolemy II's hieroglyphics. They do not refer to a dim past; rather they herald a bright future. These symbols, rare now, in years to come are destined to be as common as mustard-coated hot dogs. Look closely: You can make out the numbers 0612-1488; they are the routing and transit numbers of the Pine Cone National Bank of Short Story, Georgia. Besides identifying the drawee bank, these numbers tell us that this bank is located in the Sixth Federal Reserve District in territory served by the head office and that checks drawn on this bank are receivable for deferred credit. Furthermore, these odd-shaped characters are the check language of progress.

What banker has not groaned on eyeing the swelling stream of checks written by Americans everywhere? Only a modest Hollywoodian adjective like supercolossal can adequately describe the growth in check usage in recent years. Checks processed by the five offices of the Federal Reserve Bank of Atlanta, for example, jumped 140 percent in a dozen years, hitting 277,948,000 last year, or well over a million each business day. Compared with the national volume, this is but a trickle. Americans wrote 3,500,000,000 checks in 1939. The volume this year will be four times as large, 14,000,000,000. And that's not all! The number, experts guess, will increase another 50 percent in the next ten years. Topping all this, each check must be handled several times before being returned to

its maker. To the burgeoning pile of adjectives descriptive of the present decade, check processors woefully add the "swamping sixties."

Present equipment and procedures cannot cope satisfactorily with tomorrow's deluge of checks. To avoid burial under a paper avalanche, the American Bankers Association, the Federal Reserve System, office equipment manufacturers, check printers, and others since the early 1950's have labored for a solution. Their answer: Automation. Substitute high-speed electronic equipment for slow-moving human eyes and hands.

How the Electronic System Works

The system of check processing of tomorrow is known as MICR, Magnetic Ink Character Recognition. Its two basic components are machines that can "read" and process checks and checks that can be read mechanically. The first task was to invent a language that would be universally acceptable; then manufacturers could proceed to develop "reading" machines. The strange-looking type used in the title of this report illustrates the common machine language agreed upon after much research. Numbers and characters in that style are printed on checks in iron oxide, or magnetic ink. In reading, the eye picks out dark spots (words) on this page. These sensory impulses are swiftly signaled to the brain where they are instantly matched with patterns that we have stored in our memory. The reading done by electronic equipment is based on the same general principle.

Without standardization, automation is impossible. This is as true of check handling as it is of ice cream cone manufacturing. Uniformity in the physical size and general design of checks is essential. Too, machines cannot operate successfully unless the magic magnetic characters are placed in a strictly controlled location; this area extends across the bottom of the check within a horizontal band five-eighths of an inch high. A one-fourth inch wide magnetic ink strip is located in this area. The commercial bank's transit number and routing symbol, the customer account number, and the amount of the check are recorded on this strip. Details on check specifications are contained in the American Bankers Association Bank Management Publication 147, entitled *The Common Machine Language for Mechanized Check Handling.*

In brief the new check mechanization system involves three steps: (1) The transit number-routing symbol and customer account number are placed on each check in the magnetic ink strip at the time of printing (technically called preprinting). (2) The first bank receiving the check for deposit, if it has the necessary equipment, is to encode on the magnetic ink strip the dollar amount of the check as made out by the drawer. (3) Once the amount is encoded, machines can perform all the usual transit operations of proving, sorting, and listing checks. Equipment already developed can handle in one minute about as many checks as a highly skilled operator, using

**Number of Checks Processed by
Federal Reserve Bank of Atlanta and Branches
1947-59**
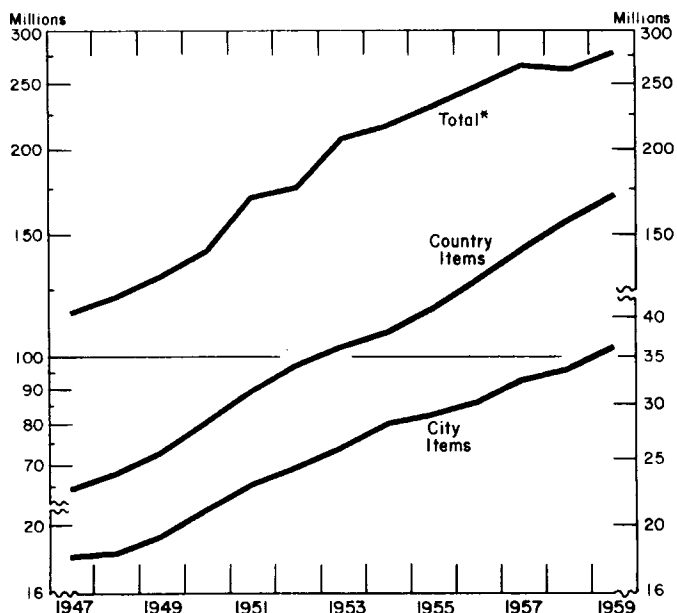
*Besides country items, checks drawn on banks outside reserve cities, and city items, checks drawn on banks in reserve cities, also includes Treasury checks and post office money orders.

JOHN H. DEPOSITOR
ADDRESS
CITY, STATE

No. 1

64-1488
612

May 10 19 60

PAY TO THE ORDER OF *Herbert David Erickson* $1959 00

Nineteen Hundred Fifty Nine and no/100 DOLLARS

NAME OF YOUR BANK
CITY, STATE

Raymond Edward Zipf

⑆0612⑈1488⑆ 1238⑈4657⑈ 346 ⑈00001959 00⑆

| Routing symbol & transit number | Bank customer's account number | Amount of check |

the best conventional equipment, can process in one hour. These versatile machines then go on to post checks to the deposit accounts of bank customers and prepare bank records and customer statements.

The machine language system was designed for use by all banks. It accommodates nonpar banks just as easily as it does par-remitting banks. As far as the format of checks is concerned, the chief difference in a nonpar bank check, a minor one at that, crops up in the treatment of the transit numbers appearing on the magnetic ink strip: Since nonpar banks have no routing symbol, they will show only their transit number; also, the figure 90 precedes the transit number on nonpar bank checks. For example, 64-1754 would be set out in magnetic ink as 9064-1754. On the check pictured are numbers for a par bank.

Wanted: Help from Commercial Banks

This is not a romantic dream. Nor is the paper avalanche a scary nightmare. Both are as real as life. Great progress has been made in check mechanization, and pilot operations will get under way in the next few months at five Federal Reserve Banks—Boston, New York, Philadelphia, Chicago, and San Francisco. These installations will test equipment for performance capability and economic feasibility under varied check-handling conditions. For successful testing, a large volume of checks preprinted with magnetic ink will be needed. The success of these pilot operations and the speed with which check automation occurs depend now mainly on commercial banks themselves. Without checks with encoded characters imprinted in magnetic ink, this high-speed, large-volume electronic system of processing checks is about as useful as an electric stove is in the uncivilized tropics.

The American Bankers Association and the Federal Reserve System are urging all banks, par and nonpar, to cooperate in this long-awaited venture that is opening a new era in banking and service to the community. The immediate task is simple enough: Mr. Banker, as your present check inventory runs out, ask your printer to redesign your checks with electronic processing in mind and to preprint on the checks in magnetic ink your bank's transit number and routing symbol. This is the first step, and many banks in the Sixth Federal Reserve District have already taken it. You can also further the cause by urging customers who have their own checks printed to do the same. Check printers are familiar with the common machine language program and can be of great help in the switch-over.

What's in it for Bankers?

Why should a bank redesign its checks and preprint data in magnetic ink? There will be an initial increase in printing costs, although printers say that this increase will be slight and may disappear completely as experience and volume increase. Furthermore, smaller banks with comparatively low check volumes probably could not afford, nor would they have much need for, expensive check processing equipment. Unquestionably, these are legitimate points. Arrayed against them, however, are the benefits, direct or indirect, to be gained by the banking system as a whole.

The check avalanche represents a huge amount of money continually in process of collection. With a fast and efficient check collection system, balances will be transferred more rapidly. High volume banks will benefit directly through lower processing costs, increased productivity, and, very likely, greater accuracy. Some of the gains accruing to the larger city and country banks in time undoubtedly will filter on to smaller correspondents. Finally, each bank is a part of a greater whole, the American banking system. That system can progress and better serve the nation only with the active cooperation and support of each of its members.

As business leaders, bankers have a great responsibility to serve their communities to the best of their ability.

This means keeping up with the growing needs for progress in all areas, including check handling. Now is the time, to paraphrase the typewriter repairman's crutch, for all bankers to come to the aid of their check-writing countrymen.

BASIL A. WAPENSKY

Debits to Individual Demand Deposit Accounts

(In Thousands of Dollars)

	March 1960	Feb. 1960	March 1959	Percent Change March 1960 from Feb. 1960	March 1960 from March 1959	Year-to-date 3 Months 1960 from 1959
ALABAMA						
Anniston	39,682	39,746	38,056	—0	+4	+8
Birmingham . . .	851,324	789,185	799,236	+8	+7	+4
Dothan	35,649	31,038	31,625	+15	+13	+7
Gadsden	37,823	35,728	36,110	+6	+5	+1
Huntsville* . . .	60,679	57,156	59,219	+6	+2	—1
Mobile	286,250	271,185	267,026	+6	+7	+7
Montgomery . .	163,992	160,970	167,592	+2	—2	+0
Selma*	24,081	22,338	21,572	+8	+12	+8
Tuscaloosa* . . .	53,787	50,623	49,255	+6	+9	+8
Total Reporting Cities	1,553,267	1,457,969	1,469,691	+7	+6	+4
Other Cities† . . .	715,549	672,990r	681,387r	+6	+5	+3
FLORIDA						
Daytona Beach* .	61,641	58,800	62,028	+5	—1	+2
Fort Lauderdale* .	240,774	224,985	217,111	+7	+11	+9
Gainesville* . . .	48,725	39,486	37,992	+23	+28	+15
Jacksonville . . .	890,762	863,841	831,893	+3	+7	+8
Key West* . . .	17,442	17,065	17,609	+2	—1	+2
Lakeland* . . .	87,411	84,830	77,606	+3	+13	+11
Miami	965,340	942,730	940,809	+2	+3	+7
Greater Miami* .	1,445,774	1,407,120	1,427,814	+3	+1	+5
Orlando	282,376	270,675	251,411	+4	+12	+12
Pensacola . . .	90,698	88,139	86,822	+3	+4	+6
St. Petersburg . .	256,500	232,810	239,683	+10	+7	+7
Tampa	458,784	429,757	440,021	+7	+4	+5
West Palm Beach*	153,642	148,367	152,846	+4	+1	+1
Total Reporting Cities	4,034,529	3,865,875	3,842,836	+4	+5	+6
Other Cities† . . .	1,854,603	1,737,430r	1,643,537r	+7	+13	+14
GEORGIA						
Albany	53,241	50,302	46,056	+6	+16	+14
Athens*	38,051	38,263	37,392	—1	+2	+7
Atlanta	2,068,713	1,982,771	1,983,532	+4	+4	+9
Augusta	110,901	105,406	104,838	+5	+6	+11
Brunswick . . .	23,672	22,643	26,806	+5	—12	—2
Columbus . . .	105,606	99,791	101,727	+6	+4	+7
Elberton	8,832	8,831	8,853	+0	—0	+5
Gainesville* . . .	44,819	40,993	47,752	+9	—6	—3
Griffin*	18,398	18,269	18,164	+1	+1	+5
LaGrange* . . .	21,146	19,180	20,587	+10	+3	—13
Macon	121,532	120,406	123,348	+1	—1	+3
Marietta* . . .	30,634	29,440	28,780	+4	+6	+5
Newnan	21,205	19,253	17,553	+10	+21	+16
Rome*	49,290	44,319	44,074	+11	+12	+14
Savannah . . .	206,385	184,009	207,190	+12	—0	+1
Valdosta	33,732	31,563	32,735	+7	+3	+7
Total Reporting Cities	2,956,157	2,815,439	2,849,387	+5	+4	+7
Other Cities† . . .	969,768	916,176r	886,668r	+6	+9	+11
LOUISIANA						
Alexandria* . .	71,732	66,089	69,096	+9	+4	+2
Baton Rouge . .	278,290	258,487	264,914	+8	+5	+2
Lafayette* . . .	60,714	60,445	62,657	+0	—3	—2
Lake Charles . .	83,249	79,077	88,149	+5	—6	—6
New Orleans . .	1,470,397	1,315,620	1,346,552	+12	+9	+4
Total Reporting Cities	1,964,382	1,779,718	1,831,368	+10	+7	+3
Other Cities† . . .	626,059	605,296r	599,146r	+3	+4	+1
MISSISSIPPI						
Biloxi-Gulfport . .	51,066	48,669	46,092	+5	+11	+8
Hattiesburg . . .	36,663	36,208	34,609	+1	+6	+9
Jackson	292,291	291,876	273,421	+0	+7	+8
Laurel*	31,804	28,023	25,489	+13	+25	+13
Meridian	44,235	41,425	46,223	+7	—4	+2
Natchez*	23,248	22,660	21,663	+3	+7	+4
Vicksburg . . .	20,719	18,313	18,037	+13	+15	+3
Total Reporting Cities	500,026	487,174	465,534	+3	+7	+7
Other Cities† . . .	294,851	280,410r	263,896r	+5	+12	+15
TENNESSEE						
Bristol*	43,563	42,128	42,059	+3	+4	+6
Chattanooga . .	345,892	314,957	335,408	+10	+3	+7
Johnson City* . .	40,568	39,149	39,823	+4	+2	+4
Kingsport* . . .	92,647	78,122	88,125	+19	+5	+9
Knoxville	236,068	229,478	228,865	+3	+3	+4
Nashville	743,486	692,633r	711,906	+7	+4	—3
Total Reporting Cities	1,502,224	1,396,467r	1,446,186	+8	+4	+2
Other Cities† . . .	596,526	593,087r	550,808r	+1	+8	+10
SIXTH DISTRICT .	17,567,941	16,608,031r	16,546,204r	+6	+6	+6
Reporting Cities	12,510,585	11,802,642r	11,905,002	+6	+5	+5
Other Cities† . .	5,057,356	4,805,389r	4,625,442r	+5	+9	+10
Total, 32 Cities . .	10,664,289	10,058,853r	10,131,006	+6	+5	+6
UNITED STATES						
344 Cities . . .	245,695,000	221,965,000	223,374,000	+11	+10	+9

* Not included in total for 32 cities that are part of the National Bank Debit Series.
† Estimated.   r Revised.

Bank Announcements

The Federal Reserve Bank of Atlanta is pleased to welcome four banks to membership in the Federal Reserve System. Three are newly organized national banks and one is a former state, par-remitting bank.

The Peoples Bank & Trust Co., Montgomery, Alabama, joined the System on April 1. Officers are Milton L. Campbell, President; Henry G. Studstill, Jr., Executive Vice President; A. D. Smith, Vice President; and J. Gaston Edmonson, Cashier. Capital totals $450,000 and surplus and other capital resources $738,000.

The First National Bank at Pine Hills, Orlando, Florida, opened for business on April 1. Officers of this bank are William H. Dial, Chairman of the Board; Robert R. Lowe, President; H. R. Cloud, Vice President; Calvin Steele, Cashier; and Donald L. Estes, Comptroller. Capital stock totals $250,000 and surplus and other capital resources $350,000.

The Florida National Bank at Opa-Locka, Opa-Locka, Florida, opened on April 14. Its officers are Ernest J. C. Doll, President; Dean S. Campbell and W. C. James, Vice Presidents; and S. W. Mitchell, Cashier. Capital stock amounts to $300,000 and surplus and other capital resources $200,000.

The National Bank of St. Petersburg, St. Petersburg, Florida, began operations on April 25. Starley M. White is Chairman of the Board; Fred H. Green is President; J. Wesley Little is Vice President; and Harry H. Finlay is Cashier. The bank has capital stock of $500,000 and surplus and other capital funds of $250,000.

Department Store Sales and Inventories*

	Sales Mar. 1960 from Feb. 1960	Sales Mar. 1960 from Mar. 1959	3 Months 1960 from 1959	Inventories Mar. 31, 1960 from Feb. 29 1960	Inventories Mar. 31, 1960 from Mar. 31 1959
Place					
ALABAMA	+20	—7	—4	+3	+24
Birmingham	+16	—8	—6	+2	+25
Mobile	+28	—6	—4	. .	. .
Montgomery	+15	—11	—6	. .	. .
FLORIDA	+14	—1	+3	+3	+11
Daytona Beach	+8	—7	—2	. .	. .
Jacksonville	+27	+8	+14	+8	+21
Miami Area	+10	+1	+3	. .	. .
Miami	+9	—1	+2	. .	. .
Orlando	+18	+3	—3	. .	. .
St. Petersburg-Tampa Area .	+13	—8	+3	+3	+10
GEORGIA	+14	—12	—3	—1	+14
Atlanta**	+13	—11	—1	—2	+17
Augusta	+15	—11	—3	. .	. .
Columbus	+16	—10	—6	+9	+0
Macon	+20	—16	—8	+4	+8
Rome**	+17	—18	—5	. .	. .
Savannah	+16	—16	—9	. .	. .
LOUISIANA	+16	—11	—6	+7	+12
Baton Rouge	+37	—7	—6	+6	+5
New Orleans	+12	—11	—5	+9	+15
MISSISSIPPI	+25	—12	—9	+7	+10
Jackson	+27	—13	—10	+6	+10
Meridian**	+28	—14	—8	. .	. .
TENNESSEE	+21	—17	—10	+7	+6
Bristol-Kingsport-Johnson City** . . .	+15	—28	—18	+9	+2
Bristol (Tenn. & Va.)** .	+18	—31	—23	+11	—9
Chattanooga	+20	—16	—10	. .	. .
Knoxville	+17	—16	—6	+8	+22
DISTRICT	+16	—7	—2	+3	+13

*Reporting stores account for over 90 percent of total District department store sales.
**In order to permit publication of figures for this city, a special sample has been constructed that is not confined exclusively to department stores. Figures for non-department stores, however, are not used in computing the District percent changes.