

## National Cashes In

When it comes to automation, U.S. department stores still slosh around in the Ice Age. This week the biggest of them all, Manhattan's Macy's, announced a deal with National Cash Register Co. for the first major automated system. Due to start whirring in 1961, the \$1,000,000 system will speed Macy's customer-account billing 25-fold. By punching a few buttons on a keyboard, operators can register each of Macy's 40,000 daily charge sales on tape, which is later fed to a computer. It sorts the bills, tots them up, prepares the bills for the customer, registers the return payments. Macy's may even extend N.C.R.'s system to inventory control, get daily reports on everything in stock, be able to increase its return on investment by 10% to 15%. Says N.C.R. Chairman Stanley Charles ("Chick") Allyn, 67: "The stage is set for a revolutionary change in the handling of paperwork."

Millions for Research. The breakthrough at Macy's is the result of a major advance at venerable N.C.R., the world's No. 1 seller of cash registers and No. 2 maker of office equipment (after International Business Machines). N.C.R. is hustling to expand beyond mechanical to electronic machines. In this fiercely competitive field, N.C.R. started long after IBM, Remington Rand or Burroughs; its real push began only in 1952, when N.C.R. bought the small Computer Research Corp. of Hawthorne, Calif. (TIME, Oct. 6, 1952). Since then it has moved fast, boosted its research and development bill from \$2,600,000 (1.1% of sales) to \$14 million (3.6% of sales). This year's heavy research outlay is the chief reason why earnings will dip from last year's \$18 million to about \$15 million, on expected sales of some \$400 million.

N.C.R.'s restless research has brought some exciting new inventions, such as a carbonless carbon paper (chemically coated sheets that reproduce type on impact). While working on this, N.C.R. discovered a method of enclosing liquid in microscopic gelatin capsules, thus making a liquid look and act like a solid. So treated, castor oil becomes tasteless—because it is covered with gelatin. More than 1,000 companies are investigating the process to see if it can be used for their own products, and the Pentagon has contracted with National to "encapsulate" liquid rocket fuel so that it will pack the power of liquid propellant, yet have the handy convenience of a solid.

Brains for Banks. While N.C.R. hopes to cash in with these and other new specialty products, Allyn feels that the big market is for small computers and automated office equipment for small as well as big companies. He is willing to let IBM and Remington Rand dominate the market for huge scientific computers while he guides N.C.R.'s research into the broader market for smaller business computers. "We're aiming for fields where we can sell more than one computer," says Allyn. "We would rather make the Chevrolet than the Rolls-Royce."

Last year N.C.R. announced an automation system for banks, the first such system for "the world's biggest bookkeeping job"—the handling of ten billion checks (total amount: \$2.5 trillion) cashed yearly in the U.S. In N.C.R.'s system, which soon will go to work in banks, each check is imprinted with code numbers that identify the

bank, the signer, the number of the transaction. Sorting machines, which N.C.R. developed jointly with Pitney-Bowes and General Electric, then use electronic eyes to "read" code numbers, sort checks or deposit slips at the rate of 7,500 per hour v. 500 by hand. Then, using N.C.R.'s Post-Tronic, which is already in use, the checks are posted to the bank's records and the customer's account. In only two years, 800 U.S. banks have invested more than \$40 million for 3,434 Post-Tronic units, boosting N.C.R.'s machine sales by 5%.

By 1960 the system will be enlarged to automate almost all banking office work. Coming out next year is a new unit that will print the dollar amount of each check in magnetic ink. Checks will not only be sorted electronically, but added up as well. By 1960, N.C.R. will add still other units to electronically sort and record virtually all money movements in the bank and with other automated banks.

Favors for Foreigners. N.C.R. still rings up almost half its gross on the trusty mechanical cash register—a rapidly changing device itself. A year ago, N.C.R. put on the market a \$2,000 register that automatically calculates change from a transaction, dispenses the coins. Around the world, 4,500,000 N.C.R. registers are in daily use.

To businessmen abroad, N.C.R. is as well known as Coca-Cola, and so is Chairman Chick Allyn, an articulate advocate of freer trade who has served as U.S. representative on the U.N. Economic Commission for Europe and UNESCO. Allyn can really document the value of freer trade. In 104 foreign countries, N.C.R. employs 22,000 (of whom only six are Americans), draws 40% of its sales and 50% of its profits—much of them reinvested abroad. "We often adapt our production to individual foreign needs," says Allyn. "In the Middle East, they want to do bookkeeping in Arabic. So we made a machine that works in Arabic, writes from right to left using 72 characters, variations on characters and figures. Now we have all the Mideast business in our pocket." To keep atop the foreign market, Allyn leaves his Dayton office for about 40,000 miles of round-the-world travel yearly, usually accompanied by N.C.R.'s President Richard Schantz Oelman, 49. Says Allyn: "If I did not travel, I'd probably say 'No' to every suggestion. It would have been easy to sit at home in Dayton and say we don't need bookkeeping machines in Arabic."