

ENGINEERING

Post Office "Automatized"

Improved postal service for both large and small communities is foreseen with the development and use of various automatic devices for processing the mail.

BETTER POST office service is in store for small towns as well as big cities.

Some automatic mail-handling machines displayed in the Post Office Department's building are destined for ultimate use in communities of 5,000 population as well as 5,000,000.

Postmaster General Arthur E. Summerfield cited in particular a parcel post acceptance machine for use in towns where the Post Office Department now considers it unjustifiable to keep a man on duty 24 hours a day.

This machine, one of 21 postal improvements on exhibit, could be on duty day and night. You simply put the parcel in the machine on a scales platform, dial the zone number the parcel is being mailed to, punch in how much insurance you want, put in your money and get your change. The machine does the rest and your package is mailed.

Another machine that may find widespread use throughout the United States is an automatic vendor of money orders. Another vendor sells stamps, postal cards, envelopes and stationery.

Mr. Summerfield's announcement that a new, fully-automated post office is scheduled for Oakland, Calif., to handle West Coast

and Pacific-going mail, is part of the Post Office Department's crash plan to "catch up" with the present and foreseeable mail situation.

He said U.S. post offices handled 61,000,000,000 pieces of mail last year and that double that volume is foreseeable. Meanwhile, until recently, Congress had made no appropriations for new buildings since 1938. The Department is now getting three new post office buildings a day and expects to be getting six a day by the end of the year.

Mr. Summerfield foresees many "self-service post offices," which would offer lock box service, and contain patron-operated machines. These proposed post offices could be unattended, but serviced about four times a day by a nearby main station, he said.

Bigger post offices may get such highly automated equipment as conveyors, machines that can read typed or printed addresses with an efficiency of 75%, machines that can face and cancel 30,000 pieces of mail an hour and machines that can sort 3,000 pieces to 300 destinations an hour. Each machine is considered a "module," and by combining the proper number of modules, any mail volume can be handled, he said.

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Wisconsin, the National Bureau of Standards Boulder Laboratories and the Naval Research Laboratory. Youngest astronomer on these teams will be Tim Wyngaard, a 17-year-old school boy of Madison, Wis., who has been sponsored by the National Academy of Sciences as junior member of an observing team.

Details on needful observations amateurs can make are outlined in *Sky and Telescope* (Aug.). A total solar eclipse occurs when the moon comes between the earth and the sun, blotting out the sun's light for a brief time for those in a narrow path on the earth's surface.

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FACER-CANCELER — A new machine, capable of facing and canceling letters up to 500 a minute, is one of the devices breaking postal bottlenecks.

ASTRONOMY

Total Solar Eclipse Due

Eastern Massachusetts, the Canary Islands, the Sahara, the Sudan and Ethiopia, and the Indian Ocean will be the best viewing area for the October total solar eclipse.

ONE OF the world's most spectacular heavenly displays, a total eclipse of the sun, will occur at sunrise on Oct. 2 in the northeastern United States.

Only those lucky enough to live in or travel to a narrow belt of eastern Massachusetts that includes Boston and southern New Hampshire will be able to see the total phase, weather permitting. Millions in the eastern U. S., however, will be able to view a partial eclipse, if clouds do not interfere.

The sun will be wholly covered by the moon for watchers in a narrow strip extending from Massachusetts across the Atlantic Ocean to the Canary Islands, then through the Sahara Desert, the Sudan and Ethiopia, ending in the Indian Ocean. The eclipse occurs at 5:50 a.m. E.S.T. in the Boston area.

Outside this ribbon, observers will see the sun partially eclipsed over a vast area reach-

ing from Greenland to the southern part of Africa, and from Michigan to Moscow.

Over the eastern United States, the sun will already be blotted out when it rises. In New York, for instance, the partial eclipse ends about an hour after sunrise, while in Ann Arbor, Mich., it is finished only 16 minutes after sunrise.

Because the sun will be so low on the horizon from the Boston area during the total phase, scientific studies will be hindered by the extreme thickness of the atmosphere through which the eclipse must be viewed. Much more suitable observations can be made from the Canary Islands, a Spanish possession near the coast of north-west Africa.

Conducting eclipse studies there will be teams of scientists from Sacramento Peak Observatory, Sunspot, N. Mex., the High Altitude Observatory, Boulder, Colo., the University of Minnesota, the University of

CHEMISTRY

Tough Metal Coatings Made From Soybean Oil

FILMS MADE from soybean and linseed oils have been shown to provide tough, flexible coatings for aluminum and black iron.

Chemists at the Agricultural Research Service northern utilization research and development division at Peoria, Ill., reacted fatty alcohols produced from soybean and linseed oils with welding-grade acetylene to produce vinyl ethers. By polymerization the vinyl ethers were joined together to form giant molecules that make up the films.

The coating films are flexible and withstand heat. They resist abrasion, alkalis, acid and such solvents as alcohols, mineral oil and benzene. These properties make them very well-suited for metal coatings.

Soybean and linseed oil films also may be used in adhesives, concrete and masonry paint, the USDA says. The research on the metal coatings is still in the laboratory stage.

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