which airmail and air freight may be picked up by arrangement.

Citing their possible convenience, Col. Hanks quotes a possible conversation of the future, between the pilot of the Bangor-Boston airmail plane and the Boston airport. The pilot has noted fog rolling in from the sea, and has been told that Boston is completely blanketed, "zero-zero" and will be for eight hours more.

Boston tells him, "Not a chance, Bob. Work into Boston as close as you can, then set your plane down on a flight strip. We'll send out a mail truck to the flight strip and pick up the mail."

Already, uniform enabling legislation has been drawn up, and is in the hands of state governors for consideration. Flight strips may range from 200 to 740 feet wide and from 1800 to 5000 feet long, depending on the type of aircraft they are designed to accommodate.

Science News Letter, January 29, 1938

ARCHAEOLOGY

Indians Had Syphilis—Along White Man's Trail

SYPHILIS, disease now nationally fought in America, apparently afflicted almost half the Indians in some communities along the Potomac River.

Displaying Indian bones marred by disease, Dr. T. D. Stewart of the U. S. National Museum raised the question: Where did syphilis come from?

Prehistoric America has generally been blamed for giving the world this serious malady, Dr. Stewart told the Anthropological Society of Washington. Recent discoveries in Virginia and Maryland warrant re-opening the question, and may lead to the opposite verdict, that white men from Europe brought syphilis to America.

Possibility that the Maryland and Virginia Indians caught their disease from white men of Jamestown or other explorers or colonists is pointed out by Dr. Stewart, who finds particularly significant the spreading of the disease through so many Indians in one group. This is the way the malady would spread, he explains, and it is curious that supposedly very ancient cases of syphilis in America have been single skeletons, or Indians of uncertain antiquity.

Indian bones marked by ravages of syphilis have a characteristic spongy surface, which Dr. Stewart says was caused by inflammation of the covering membrane of the bone during the afflicted Indian's lifetime.

Science News Letter, January 29, 1938

ASTRONOMY

Dome for 200-Inch Telescope Is Now Nearing Completion

Mt. Palomar Observatory Structure Is Scheduled for Finishing on February 1; Instrument Under Construction

By DR. R. M. LANGER

See Front Cover

THE DOME for the great 200-inch telescope on Mt. Palomar is practically finished structurally and California Institute of Technology engineers can now breathe easier while completion and installation of equipment takes place under its shelter during the next couple of years. By February 1 the dome itself will be complete.

The external shell is still to be painted outside and in with aluminum paint, miles of wiring for electrical circuits are still to be put into place and of course the great telescope itself is far from completion.

Economical in size for the giant telescope it is to house, the dome covers about half an acre and is 137 feet in diameter. Above a cylinder seventy feet tall is a slotted hemisphere through which the telescope will look out at any angle with the horizon.

The upper part, including the hemisphere and twenty-seven feet of the cylinder below it, can be rotated to any direction of the compass so that the instrument can see through the slot any part of the sky available in these latitudes.

Trucks Carry Dome

The fixed part of the dome is devoted to offices, laboratories, storage space and photography rooms. On top of the thirty-foot outer wall is a circular track on which the movable upper portion of the dome rolls on thirty-two four-wheeled trucks, each carrying four heavy springs wound with 1½ inch steel rods.

The room within this moving structure is solely for telescopic observation. There are no appendages or supports to impair the clearance of the telescope tube no matter which way it points. The vault is about ninety feet high from the floor of the observation room to the center of the ceiling. Visitors will not be admitted into this room at all but will have access during special hours to a gallery walled off and insulated from the main observing room.

The moving portion is built from three-eighths-inch steel plate, welded together from pieces of from one to two hundred square feet each. No bolts or rivets are used and the plates are fitted to the required spherical or cylindrical shape in advance. Each plate weighs about a ton. The moving portion of the dome weighs about one thousand tons.

There are two great arches three feet wide and eight feet deep alongside the shutter opening, and a horizontal plate girder near the bottom of the moving part to keep the cylinder circular. The rigidity of the steel shell is such that only slight additional structural support is needed.

This inside framework was erected first to hold the plates during the welding process and to prevent buckling afterwards. This so-called monocoque type of construction, developed and used with such success in the airplane industry, gives the dome the right to be called streamlined in the sense that it is a modern edifice.

The inner surface of the dome is made up of aluminum-faced steel boxes four inches thick hung from the steel shell. These boxes contain layers of aluminum foil to keep out the heat of the sun, so that when night comes the instrument will already be at night temperature and no precious time will be lost having to wait for a gradual dissipation of heat and change of shape accompanying the cooling process.

Science News Letter, January 29, 1938

GEOPHYSICS

Magnetic Storm Disrupts Wire and Radio Services

MAGNETIC storm conditions of unusual severity wrought havoc in both wireless and wired communications from Jan. 16 to Jan. 18, while auroras flared over the North. Telegraph engineers reported that they had great difficulty getting traffic through from the East to the interior of the country, and radio telephone service to Europe was still out of commission on the eighteenth.

Science News Letter, January 29, 1938