



any more news.

## Robot Weather Men Replace Pilots

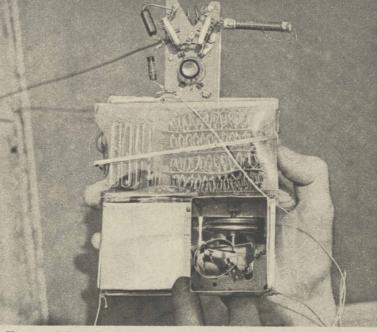
By WAYNE THOMIS

TEATHER pilots are airmen who fly each morning to the 17,000-foot level, carrying in their airplanes automatic recording devices to obtain information about temperature and humidity that is essential for accurate weather forecasting. This is dangerous work. Dozens of men have been killed at it, for the weather flyer is supposed to do his job even when weather is such that other airmen remain on the ground.

Because of the hazard involved, the United States weather bureau has developed a mechanical flyer to take the place of the flesh-and-blood pilot. This mechanical airman is an instrument called the radiometeorograph. This is a long technical word for a relatively simple device. The radiometeorograph consists of a miniature shortwave radio set, a barometer, hygrometer, and thermometer, and a small hydrogen - filled rubber balloon.

The basic instrument is the automatic broadcasting set. This is connected to a small arm that is kept in motion by clockwork. It passes in turn over each of the three elements. One of the elements records the hygrometer reading (from which the humidity can be computed), another the pressure reading of the barometer (from which the height can be computed), and the third the temperature reading from the thermometer.

As each contact is made the radio broadcasts a signal that is



Closeup of the radiometeorograph, which contains a small broadcasting set, a thermometer, a hygrometer, and a timing device made from a cheap watch.

a ground station. The signals weather that is too bad even for come from the receiving set in the weather pilot to fly. Seconda constant stream, and these are ly, they send out radio signals recorded on a tape. The tape until they reach heights well readings can be translated into above 50,000 feet, while the the proper records of pressure, human pilot goes no higher than humidity, and temperature.

carry the miniature broadcast- newer methods of forecasting ing station—a station that has a take into account the fact that range of only about thirty miles. weather is not only horizontal The balloon will lift such a but also vertical. transmitter, which weighs about three-fourths of a pound, to being made from twenty-three heights of ten miles before its stations throughout the United expansion in the rarefied air States. One of these is Chicago, causes it to burst.

the mechanical weather flyers. bring back the information needpicked up by a receiving set at First, they can be sent up in ed to complete the weather pic-

17,000 feet. This is a distinct ad-The balloon serves merely to vantage, especially since the

At present weather flights are where Harold Alford and War-There are two advantages to ren Malvick fly each morning to

ture in this area. The bureau would like to supersede all these human flyers with the new mechanical devices, but as yet the

expense of this is prohibitive. From only three stations-Fairbanks, Alaska; Boston, Mass., and Burbank, Cal.-are the radiometeorographs dispatched daily at this time. During the next year the bureau hopes to add six or seven other points where they will be sent up. The cost of one reading a day amounts to \$10,000 a year for each station. The radio transmitters and recorders cost \$35 each, the balloons \$2.25 each. and \$500 for the ground station receivers; and the cost of hydrogen must be added, as well as the salaries of the ground crews.

The balloon is usually out of sight of the ground when it bursts and the descent by means of a small parachute begins. The bureau has been offering rewards for return of the devices, and 85 per cent of those sent up have been recovered. They drift anywhere from ten to a hundred miles from their source. Most

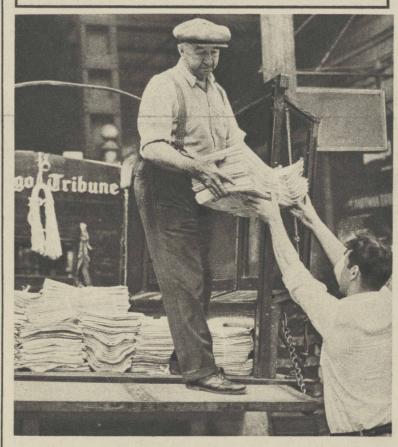
have escaped damage. During the fiscal year 1939 the bureau hopes to abolish the contracts with human flyers and install the radiometeorographs not only at the twenty-three stations where flights now are made but also at from fifty to seventy others. Dr. Willis R. Gregg, chief of the weather bureau, believes that if this is done the daily weather picture for the United States will be far more completely and accurately forecast than ever before.

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## **PRODUCTION**



VETERAN OF REINS AND WHEEL. Driver Frank Crawford (left) deliver's a bundle of Chicago Tribunes at one of the stops on his route. When Frank began delivering Tribunes from a horse drawn wagon in 1904, the daily circulation of the Tribune was 127,000. On Sunday 216,000. Today the daily circulation of the Tribune is in excess of 857,000.



**DOG CONFERENCE.** C. H. Wolfe (left to right), sales prom. mgr., Swift & Co., A. C. Merrick, D. V. M., Brookfield, Ill., C. M. Olson, sales mgr., Pard sales div., and C. S. Lund, adv. dept., Swift & Co., inspect points of pedigreed springer spaniel being treated by Dr. Merrick. To promote sales of Pard dog food in the Chicago territory, more than twice as much of the Swift advertising appropriation for this product is spent in the Tribune than in any other Chicago newspaper.



CAMPAIGN BACKBONE. "Our 1938 campaign is built around the Chicago Tribune," writes R. Cooper, Jr., pres., R. Cooper, Jr., Inc., General Electric distributors in the Chicago territory. Backbone of this ompany's 1938 drive is a series of full page advertisments in coloroto in the Sunday Tribune Graphic section. During the first seven months of this year, more of the R. Cooper appropriation for advertising was expended in the Tribune than in all other Chicago newspapers combined.



**SPREADING THE NEWS OF A SPREAD.** M. W. Boyer (right), sales mgr., and J. W. Pinter, asst. sales mgr., the Pabst-ett Corp., a division of the Kraft-Phenix Corp., discuss progress of campaign of advertising now carrying the Pabst-ett message to readers of the Chicago Tribune.

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