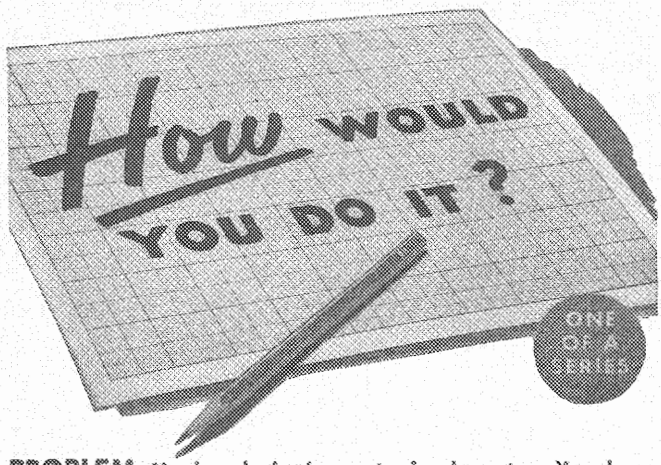
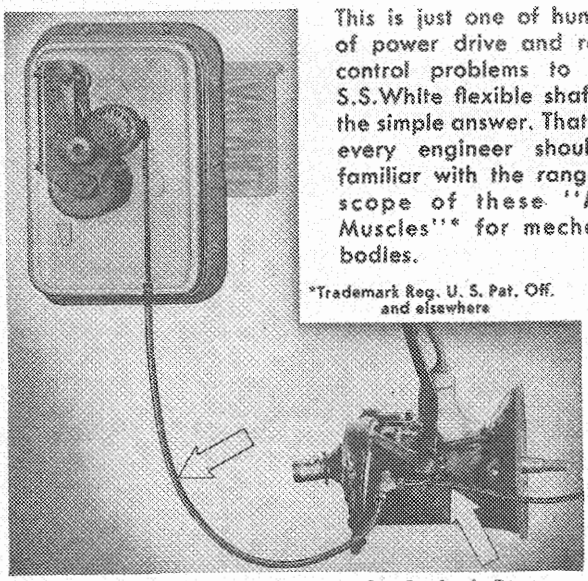


PROBLEM—You're designing a taxi-cab meter. You have worked out the mechanism that clocks waiting time and mileage and totals the charges. Your problem now is to provide a drive for the meter from some operating part of the cab—bearing in mind that the meter must be located where the driver can read it and work the flag. How would you do it?

THE SIMPLE ANSWER—Use an S.S.White power drive flexible shaft. Connect one end to a take-off on the transmission and the other to the meter. It's as simple as that—a single mechanical element that is easy to install and will operate dependably regardless of vibration and tough usage. That's the way a leading taximeter manufacturer does it as shown below.

* * *



This is just one of hundreds of power drive and remote control problems to which S.S.White flexible shafts are the simple answer. That's why every engineer should be familiar with the range and scope of these "Metal Muscles"* for mechanical bodies.

*Trademark Reg. U. S. Pat. Off. and elsewhere

Photo Courtesy of Pittsburgh Taximeter Co., Pittsburgh, Pa.

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Science in the News

Artificial Stars

■ ASTRONOMERS AT THE University of California's Lick Observatory have designed an ingenious new system for increasing the accuracy of star measurements. Dr. Joel Stebbins and his associate, Dr. Gerald Kron, now make telescopic observations of artificial stars perched on adjacent peaks from 1,000 to 3,000 feet away. The artificial stars consist of lamps with tungsten filaments which have temperatures of about 2,500 degrees absolute centigrade. Each lamp is placed in a box which has a small hole permitting observers to see just a part of the light from the filament. When a telescope is trained on it, observers see an artificial star with a magnitude approximating that of the brightest stars such as Arcturus and Betelgeuse.

In astronomy the magnitude, or brightness, of stars (and therefore their distance from the earth) is determined by their colors. Color is in turn determined by temperature. The brightest and hottest stars are blue; the next brightest are white, the faintest are red. Therefore, if the University of California astronomers know the temperature of their artificial stars, when the spectrum of a real star matches that of an artificial one they will be able to say it has the same temperature. Knowing how hot the star is, they will know how much light it is giving off. When they determine how much light is being received they will be able to tell how much has been lost on the way, and how far the star is from the earth.

Recovered Rocket

■ SCIENTISTS LAST MONTH recovered a fragment of the two-stage rocket which set a 250-mile altitude record last February at the White Sands (N.M.) proving ground. It had been generally agreed that the rocket had completely disintegrated when it re-entered the earth's atmosphere, but a civilian technician at White Sands stumbled over the wreckage recently near the north end of the 116-mile firing range. It was a badly-smashed and charred portion of the tail section of the WAC Corporal which was fired from the V-2 rocket at an altitude of 20 miles.

The fragment has now been turned over to the Jet Propulsion Laboratory—by the Army Ordnance Department and General Electric, which were responsible for firing the rocket—in the hope that it will provide information about the stresses encountered by supersonic missiles.

Water Shortage

■ IN A LECTURE to the Royal Institution of Great Britain Dr. Hans Pettersson, Swedish professor of oceanography, had some depressing things to say about water shortages. In a few thousand million years, he noted, there won't be any water left at all. The earth, according to Pettersson, is suffering from progressive desiccation, an ailment common to all aging planets. It is drinking all the water in the oceans, converting the water into components of its solid crust. "It will then have reached the present tragic state of its neighbor Mars, with its oceans gone," said Dr. Pettersson," and with them, inevitably also, its oceanographers."