Most Powerful Vessel

Marine Engineering

The recent record trip of the German ship "Bremen" marks a new era in marine transportation and ship building. Not only is the "Bremen" the longest ship afloat, but it is also the most powerful.

When the "Lusitania" and the "Mauretania," sister ships, were built twenty-three years ago, they were designed for turbine machinery of 75,000 horsepower. This was almost double the power of any ship which had been built up to that time and it was more than double the power of any turbine engines then in existence. Yet the "Bremen" has turbine machinery of 96,000 horsepower. Prophecy was made that the "Mauretania" could not possibly withstand the vibration from such powerful engines, but must inevitably shake herself to pieces. Yet the "Mauretania" is still on the sea and last year established a new speed record. And passengers on the new "Bremen" report that the vibration was not so pronounced as to be disagreeable.

Yet the "Bremen" is only the first of a series of ships of unprecedented power promised by shipbuilders. The White Star Line is building a vessel of 60,000 tons, the "Oceanic." It is reported that this ship will be propelled by a Diesel-electric system far above the power of the largest Diesel-electric marine plant ever built. It is also reported that the Cunard Line is planning to build one or more ships even larger than the "Oceanic" which will be propelled by steam turbines up to 160,000 horsepower, more than double the power of the famous "Mauretania."

The first steamship to cross the Atlantic took 26 days for the passage. The "Bremen" crossed in less than five days. The "Oceanic" is expected to cut the record to an even shorter time.

Science News-Letter, August 3, 1929

The Maya race of old Mexico knew how to use gold and bronze, but reserved them chiefly for ornaments and used stone tools.

Bees Do Not Chew Their Food

Entomology

Bees, never having been taught correct table manners, bolt their food whole. The mandibles, formerly assumed by bee-keepers to serve as grinding instruments for "chewing" the food of the bee, were found by University of Wisconsin scientists to be in reality more comparable to our knives and forks than to our teeth. They tear off small "bites" of pollen from a large mass so that they can more easily be mixed with honey and consumed.

The whole process of digestion was made visible by feeding the bees pollen grains and honey stained different colors with harmless dyes. The two scientists, Warren Whitcomb, Jr., and H. F. Wilson, of the Agricultural Experiment Station of Wisconsin University, then followed in detail every step of the interesting process.

Pollen and honey are sucked together into the "honey stomach", which is like the crop of a chicken except that it serves only as a reservoir and does not aid in the process of digestion. From there the grains are strained out into the ventriculus by a remarkable organ called the proventriculus or "honey stopper". The observers with the aid of their optical instruments could plainly see the pollen collecting near the honey stopper and then could watch the lips of this organ separate while they pushed forward into the honey stomach and closed over the pollen. Very little, if any, of the blue-stained honey was taken with the pollen.

Immediately when it reaches the ventriculus, the pollen is surrounded by what is described as a structureless membrane and digestion at once begins. The pollen mass, with the surrounding membrane, then passes rapidly through the alimentary canal, reaching the hind intestine within two and one-half hours after it was eaten by the bee. By this time the pollen grains are nearly all empty, but the walls are still uncrushed. In some strange manner the bee is able to absorb the nourishment through the walls ot the pollen grain without ever at any time masticating the grain.

Science News-Letter, August 3, 1929

In This Issue—

Record Bison Skull

Zoology

Yellowstone National Park has had the largest bison skull in the world for three years without suspecting it until now. It was found in 1926 by former Chief Ranger Sam Woodring, now superintendent of the new Teton National Park. Measurements recently made by a well-known firm of taxidermists indicate that it is a record head.

The two horns measure 21½ and 23 inches respectively in length, and their basal circumferences are 16 and 15¼ inches. The widest spread between the horns is 30½ inches. The largest head hitherto on record has horn lengths of 20⅞ inches on either side, with a basal circumference of 15 inches; the inside spread is the same as in the Park specimen.

Science News-Letter, August 3, 1929

Tea Grown in Mexico

Agriculture

Common oriental tea of trade is now produced in small but commercial quantities in Mexico, according to the Ministry of Industry, Commerce and Labor.

This Mexican tea, which is of good quality, is being produced by a private planter who has been experimenting near Cuicátlan, Oaxaca, for some years. The fact that Mexico can produce this tea may become of great significance, for heretofore all tea-drinking countries have been dependent upon the Orient with its monopoly prices. *Science News-Letter, August 3, 1929*

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