

of the week. Each department of state is working at full pressure. The amount of work to be done is enormous, and the obstacles are removable only gradually. In the Public Works Department things are almost at a standstill owing to the difficulty of procuring goods from the coast. There is not only about twenty years' arrears of work to catch up, but also the destruction of the last three years to make good. Hospitals, asylums and gaols are waiting to be built or to be provided with increased accommodation and public offices of such towns as Ermelo and Caralua, Southeastern Transvaal, have to be rebuilt. The material needed for all these purposes would, at the present rate, take several years to carry from the coast, and little can be done until more rolling stock is procured.

**PETROLEUM THE NEW FUEL.**—An expenditure of some \$20,000 is now being made by the Navy Department in experiments to determine the value of petroleum for fuel on war ships. Tests of oils and of burners are being made at Washington, and it has been found that when a forced air draft of one inch was used the oil gave results about 33 per cent. better than the best Pocahontas coal. It was particularly noticeable that uniform results were obtained.

At the same time that experiments are being made by the U.S. Government, we learn that the Norwegian navy also is experimenting along this line. On the success of these tests depends largely the

general adoption of oil as fuel by the navies of the world. Over 90 per cent. of the petroleum now imported into Norway now comes from the United States.

As to the superiority of oil as fuel on ocean-going steamships there can be no question. It has been repeatedly demonstrated to be better and cheaper than coal and in every way more desirable. One of the most conspicuous instances of oil adaptation is that of the steamer Mariposa, of the Oceanic Steamship Co's coast fleet.

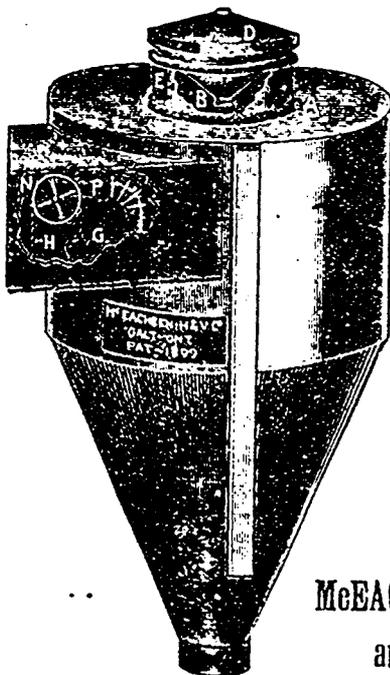
The Mariposa has been especially fitted up to ply between San Francisco and Tahiti and return, a distance of 7,316 nautical miles. As there is no fuel oil at present at Tahiti, it is necessary to carry 6,500 barrels of fuel supply for the round trip. This oil is carried in six compartments, in very strongly braced steel bulkheads, which extend right across the ship; a fore-and-aft bulkhead dividing them amidships. At each end of the fuel oil tanks a watertight collar dam of two frame spaces has been fitted, so as to obviate any possible danger of oil leaking into the ship's bilges or freight spaces. An expansion trunk has been fitted to each compartment, so as to allow for any increase in bulk of the oil, due to the variation of temperature during the ship's voyage through the tropics. A very efficient system of ventilation has been fitted to every compartment where oil is carried, and no one aboard could detect the odor of oil in any part of the ship.

The trial trip of this steamship, which was made July 5 off San Francisco harbor, demonstrated that the substitution of oil for coal as fuel will result in a great saving, not only in the cost of the fuel, but in the labor employed.

**UNIVERSAL PIG IRON PRODUCTION.**—The Commercial Intelligence presents a table showing the production of pig iron in the United States, United Kingdom, Germany and all other countries. Beginning with 1865 the figures are given at intervals of every five years up to and including the year 1900. The figures for 1901 are also given. This table shows that in 1865 the United States produced 832,000 tons, the United Kingdom 4,819,000, Germany 760,000, and all other countries 2,339,000. In 1901 the figures were: United States, 15,878,000; the United Kingdom, 7,750,000; Germany, 7,737,000; all other countries, 9,042,000. The figures for the United States are the only ones which show an increase in 1901 over 1900. In the latter year, 1900, the other nations reached their high-water mark. The figures for that year are: United States, 13,789,000; United Kingdom, 8,960,000; Germany, 8,386,000; all other countries, 9,265,000. It will be observed that in 1865 the United Kingdom produced more than all the rest of the world put together, and over three times as much as Germany and the United States combined. This country in that year led Germany by the narrow margin of 72,000 tons. In 1901 the

# DUST and SHAVINGS SEPARATORS

FOR WOOD REFUSE



The air carrying the refuse enters the separator at the top and whirls around inside. The shavings being heavier than the air are carried by centrifugal force to the outer shell of the separator and they then take up a spiral path for the outlet at the bottom, the air passing out of the opening at the top.

Write us for prices and particulars of Separators, Fans, Etc.

**MEEACHREN HEATING and VENTILATING CO.**

GALT, - ONT., - CANADA

## THE CHIMNEY MUST GO

### MECHANICAL DRAFT

**SAVES COST OF CHIMNEY  
BURNS CHEAPER FUEL  
INCREASES BOILER CAPACITY**

*Our Specialty is Mechanical Draft*

**B. E. STURLEVANT CO. BOSTON**  
NEW YORK PHILADELPHIA CHICAGO LONDON

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.