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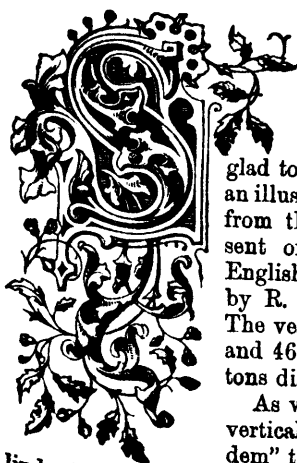
AND
PATENT OFFICE RECORD

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NOTE AND COMMENT.



SO much interest was shown in Canada on the completion last summer of the Allan Steamship "Parisian" that we are glad to be able to give this month an illustration of her engines taken from the *Engineer*. They represent one of the latest types of English marine engines, as built by R. Napier & Sons, Glasgow. The vessel itself is 450 feet long and 46 feet wide, and has 10,000 tons displacement.

As will be seen, the engines are vertical compounds of the "tandem" type; that is, with the cylinder in line with the keel.

There are one high-pressure and two low-pressure cylinders, which are 60 inches and 85 inches respectively, with 5 feet stroke of piston. The crank shaft is of steel, 20 inches diameter, while the crank pins are 21 inches diameter, by the same length. Steam of 75 pounds pressure is used.

The general arrangement of the engines is well shown in the engraving, so that we need add but little by way of explanation. The valves are of the piston variety, and are worked by a link motion, which is peculiar in some details, especially the rock shaft and levers which connect the link motion with the valve stems.

These engines are handled for reversing or going ahead by a single steam cylinder which is located behind the central main cylinder, connecting directly by a rod with the reverse shaft, the arm of which is shown in the extreme left of the engraving, and the air pumps are worked directly from the cross head of the main engines instead of a separate engine.

With the propeller blades four feet out of water (owing to light draught of the ship) these engines were run at 85 revolutions per minute, at which speed they indicated 6,020 horse power.

This is very high piston speed for such large pistons—850 feet per minute—and it shows to what perfection modern workmanship has attained when it is possible for even a short time.

SINCE the U. S. Senate has approved unanimously of what is known as Capt. Eads' bill for a ship railway across the Isthmus of Tehuantepec, guaranteeing six per cent. dividends, for fifteen years, upon fifty millions of dollars, the subject is attracting considerable attention abroad, and so eminent an authority as *Engineering* says: "We shall watch the progress of the bill with interest, and hope to see it passed in such a form as will enable an undertaking so important to the commerce of the world to be proceeded with and completed at no distant date." It seems that the objections to the engineering practicability of this scheme which were at first urged are rapidly vanishing. The most eminent English, European, and American Engineers and naval architects are unanimous in favor of the practicability of transporting fully laden ships in the way Capt. Eads proposes, with perfect safety, and it is the general opinion that this can be done with less possibility of straining than ships frequently meet with at sea. From an economical, commercial and military point of view, this plan of a ship railway across the Tehuantepec, is much more favorable to the United States than the rival canal at Panama and Nicaragua. It is 1,250 miles nearer this country than Panama; it is on Mexican soil, and that government has granted very liberal concessions to Capt. Eads, so that he will be able to discriminate in favor of the commerce of any nation which aids in building the work. The Isthmus is 143 miles wide where it is proposed to make the railway, but a portion of this distance is traversed by the Coatzacoalcas river, a broad stream, with twenty-five feet of water, for thirty miles up, where it meets a tributary stream which carries the deep water channel twenty miles further inland to a bend at Ceiba Benita, where the work of the railway will begin. Thus fifty miles of the 143 is already provided for. The railway will be straight, will run through a very fertile country, and its highest elevation will be but 650 feet.