

**MERRYWEATHER'S STEAM FIRE ENGINE
"SUTHERLAND."**

This Engine, which was awarded the first prize at the International contest, has been purchased by the Lords of the Admiralty for the Royal Dockyard, Devonport. At a recent testing of the engine before the authorities at the Dockyard, 60 lbs. of steam pressure was raised in eight minutes from the time of lighting the fire, the water in the boiler being perfectly cold at starting. The weather during the trial was unfavorable, being boisterous and wet. Four jets of 1 inch diameter, and six jets each of $\frac{3}{4}$ inch diameter, were attached to the hose from the engine at one time. The quantity of water discharged from each of these $\frac{3}{4}$ jets being from 150 to 160 gallons per minute, and through each of the four 1 inch jets 220 gallons per minute. The engine had to lift water from 12 to 14 feet, and then discharge it through two lines of leather hose, each 1000 feet long. The engine was run about the Dockyard by a few of the Metropolitan Police. On one occasion they ran the engine a distance of a quarter of a mile from the station, and had a large quantity of hose attached; and four fine streams, each from 1 inch nozzles, were playing in twenty minutes from the time of the alarm, the fire not being lit until the time of its arrival.

We notice also that Messrs. Shand and Mason have recently completed a light steam fire-engine,

for the Dublin Fire Brigade. It weighs in working order only 27 cwt. A trial of this engine took place yesterday, at the London Docks, with the following results:—Steam got up at 50 lbs. from cold water in 8 min. 5 sec.; started at that pressure with $\frac{3}{4}$ jet, steam 50 lbs.; water 40 lbs.; changed to 7-8ths jet, steam 90lbs; water 60 lbs.; changed to 15-16ths jet, steam 85 lbs., water 80 lbs.; changed to 1 in. jet, steam 100 lbs., water 60 lbs.; changed to two jets at one time $\frac{3}{4}$ and $\frac{3}{4}$, steam 10 lbs. water 60 lbs.; all these changes made without stopping engine. It was then worked through three jets, being two $\frac{1}{2}$ in. and one $\frac{3}{4}$ in., steam 80 lbs., water 60 lbs.; and changed to one 15-16ths jet, steam 100 lbs., water 90 lbs.; throwing over a shed 80 ft. distance, through 120 ft. of hose.

The jet third on the list was thrown 40 ft. above one of the large warehouses, which is 68 ft. from the parapet to the ground, through 160 ft. of hose. In all these experiments the engine was placed upon the quay, and drew at once from a depth of 20 ft. from the suction outlet of the engine to the surface of the water.

Messrs. Shand and Mason have recently simplified their machinery very considerably, thereby reducing the weight of their engines and adding to their efficiency.

Board of Arts and Manufactures for Upper Canada.

THE JOURNAL.

Secretaries of Mechanics' Institutes, and Agricultural and Horticultural Societies, are requested to send in their lists of subscribers to the *Journal* for 1864 as early as convenient; and all subscribers in arrears for the past are particularly requested to remit the amount due, in postage stamps or otherwise, as promptly as possible, as the amounts are too small to send an agent to collect.

The subscription price of the *Journal* for this year is 75 cents, and to members of Societies, when paid through their respective Secretaries, only 50 cents. A few copies of Vols. I., II. and III., half bound and lettered, are for sale at \$1 per volume.

The covers of each monthly issue are available for advertisements, at moderate charges.

W. EDWARDS, *Secretary.*

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- “ Assembly Journal for 1863.
- “ Sessional Papers for 1863.