# MARRICKVILLE LOW LEVEL PUMPING ENGINES.

**Results of Duty Trials made on July 19th and 24th, 1900.**

| Data:—From Readings taken every 15 Minutes. | "B" Engine, July 19th. | "A" Engine, July 24th. |
|---|---|---|
| Duration of Trial | 12 hours | 12 hours |
| Total number of revolutions | 10,910 | 10,593 |
| Average ,, ,, ,, per minute | 15·15 | 1·471 |
| Indicated horse power, high pressure cylinder | 25·704 | 22·39 |
| ,, ,, ,, low ,, ,, | 20·107 | 20·35 |
| Total indicated horse power of engine | 45·811 | 42·74 |
| Total head in feet, including friction | 41·34 | 40·89 |
| Weight allowed for cubic foot of sewage | 63·5 pounds | 63·5 pounds |
| Capacity of pump plungers per revolution | 29·45 cubic feet | 29·45 cubic feet |
| Work done by ,, ,, ,, | 77,315·46 foot pounds | 76,473·85 foot pounds |
| ,, ,, ,, ,, in 12 hours | 843,511,681 ,, ,, | 810,087,546 ,, ,, |
| Pump horse power | 35·5 | 34·1 |
| Water from hot well in 12 hours | 12,897 pounds | 14,618 pounds |
| ,, ,, jackets ,, ,, ,, | 1,837 ,, | 1,837 ,, |
| ,, ,, econimiser engine ,, | 480 ,, | 480 ,, |
| ,, ,, leaks in 12 hours (say) | 150 ,, | 150 ,, |
| Total water evaporated | 15,364 ,, | 17,085 ,, |
| Total steam consumption | 14,734 ,, | 16,455 ,, |
| Steam consumption per pump horse power per hour | 34 58 ,, | 40·21 ,, |
| Total coal consumed in 12 hours | 14 cwt.=1568 ,, | 13 cwt.=1456 ,, |
| Water evaporated per pound of coal | 9·79 ,, | 11·73 ,, |
| Efficiency of mechanism | ·77 ,, | ·79 |
| Duty in foot pounds per 112 pounds of coal | 60,250,834 ,, | 62,314,426 |
| Coal consumed per indicated horse power per hour | 2·85 ,, | 2·83 pounds |

## MARRICKVILLE LOW LEVEL PUMPING STATION.

### CARDS FROM THE HIGH PRESSURE CYLINDER.

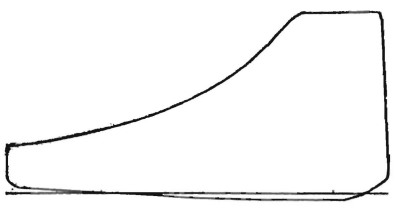
JULY 24th, 1900.

Diameter of Cylinder 15 inches; Stroke 36 inches; Piston Rod, front end 3 inches, back end 4 inches; Throttle full open. Pressure by gauge on Boiler 95 lbs. Pressure by gauge at Throttle 95 lbs. Vacuum by gauge on Condensor 27 inches. Temperature of feed at boiler 150° F. Revolutions per minute 14·71. Cards No. 10.

Scale of Cards 60. Crosby Indicators.

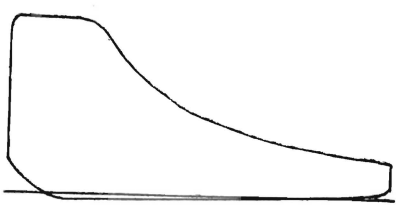
FRONT END.

Area 2·99 sq. in. Length 3·46 in. M.E.P. 51·85 lbs. Cut off 2½/10.



BACK END.

Area 2·98 sq. in. Length 3·46in. M.E.P. 51·67lbs. Cut off 2½/10.



### CARDS FROM THE LOW PRESSURE CYLINDER.

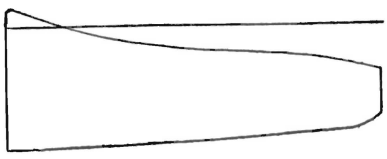
JULY 24th, 1900.

Diameter of Cylinder, 30 inches; Stroke, 36 inches; Piston Rod, 4 inches; Throttle full open. Pressure by gauge on boiler 96 lbs. Pressure by gauge at Throttle 95lbs. Vacuum by gauge on Condenser, 27 inches. Temperature of feed at boiler 160° F. Revolutions per minute, 14·71. Cards No. 10.

Scale of Cards 12. Crosby Indicators.

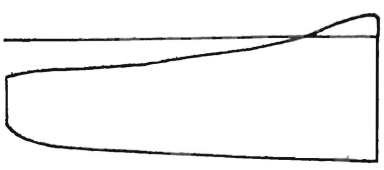
BACK END.

Area 2 88 sq. ins. M.E.P. 10·74 lbs. — Length 3·31 ins. Cut off, 9/10.



FRONT END.

Area 3·01 sq. ins. M.E.P. 10·78 lbs. — Length 3.35 ins. Cut off, 9/10.



### CARDS FROM THE HIGH PRESSURE CYLINDER.

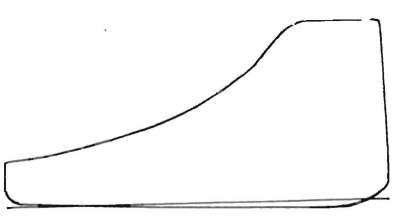
JULY 19TH, 1900.

Diameter of Cylinder, 15 inches: Stroke, 36 inches; Piston Rod, front end, 3 inches, back end, 4 inches; Throttle full open. Pressure by gauge on boiler, 96 lbs. Pressure by gauge at Throttle, 95 lbs. Vacuum by gauge on Condenser, 27·75 inches. Temperature of feed at Boiler, 160° F. Revolutions per minute, 15·15. Cards No. 4.

Scale of Cards, 60. Crosby Indicators.

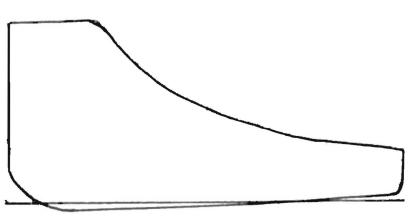
FRONT END.

Area 3·42 sq. in. Length 3·43 in. M.E.P. 59·82 lbs. Cut off 2½/10.



BACK END.

Area 3·50 sq. in. Length 3·52 in. M.E.P. 59·65 lbs. Cut off 2½/10.



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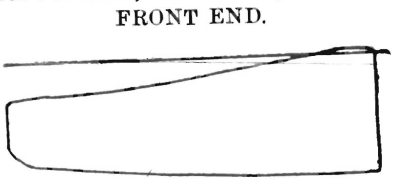
Scale of Cards, 12. Crosby Indicators.

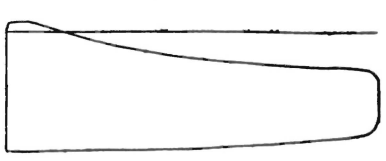
FRONT END.

Area 2·88 sq. in. M.E P. 10·37 lbs. — Length 3 33 ins. Cut off, 9/10.



BACK END.

Area 2·76 sq. in. M.E.P. 9·91 lbs. — Length 3 34 in. Cut off 9/10.



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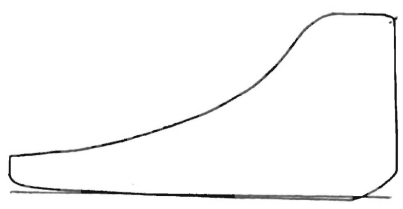

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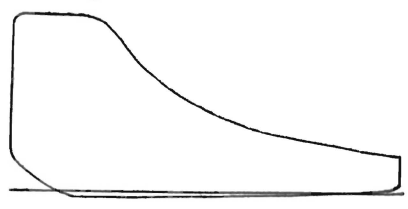

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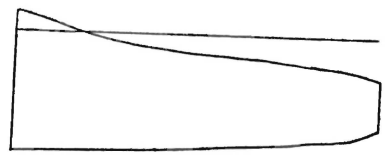
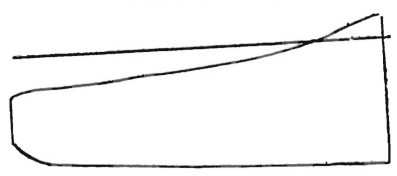
BACK END.

Area 2·88 sq. in. M.E P. 10·74 lbs. — Length 3·31 in. Cut off 9/10.



FRONT END.

Area 3·01 sq. in. M.E.P. 10·78 lbs. — Length 3·35 in. Cut off 9/10.



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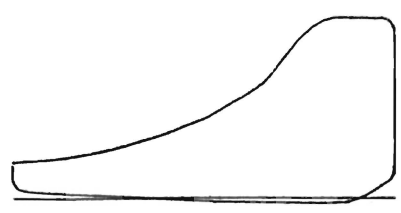

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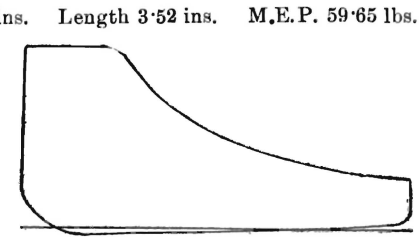

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