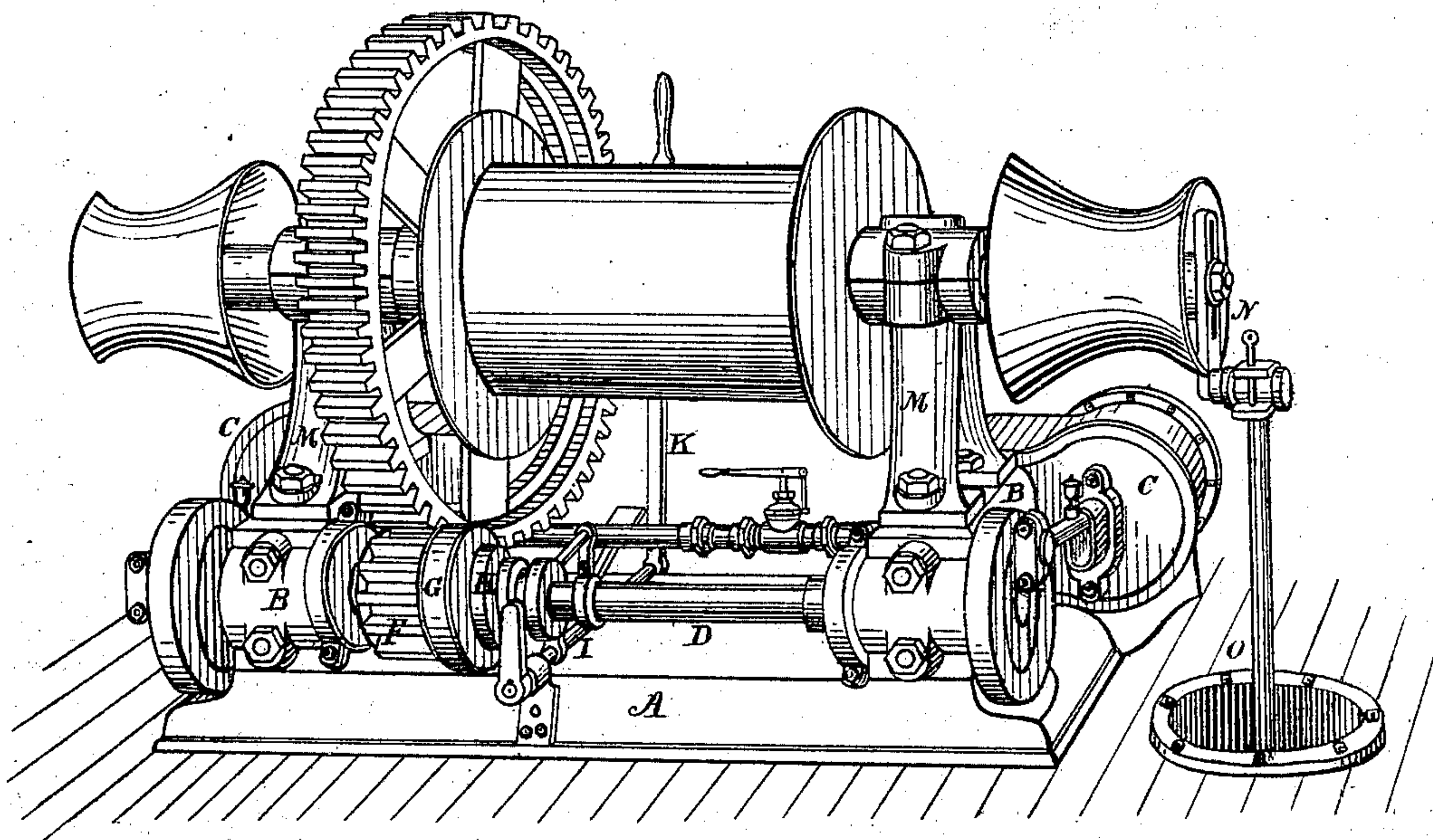


F. MURGATROYD.
Hoisting Engines.

No. 144,217.

Patented Nov. 4, 1873.



Witnesses.

Louis H. Rotenkagen
H. C. Smith

Inventor.

Frank Murgatroyd,
by his Attorney-
Geo. W. Tibbitts

UNITED STATES PATENT OFFICE.

FRANK MURGATROYD, OF CLEVELAND, OHIO.

IMPROVEMENT IN HOISTING-ENGINES.

Specification forming part of Letters Patent No. **144,217**, dated November 4, 1873; application filed September 4, 1873.

To all whom it may concern:

Be it known that I, FRANK MURGATROYD, of Cleveland, Ohio, have invented a Hoisting-Engine, of which the following is a specification:

This invention has for its object the combination and arrangement of small trunk-engines operating a drum-shaft having winch-heads, to which are attached adjustable cranks for operating bilge-pumps, in as simple, compact, and economical a form as possible, and designed for use on vessels for hoisting freights and such other work to which it may be applied, the pump-rods being arranged to be attached whenever required for pumping the ship, for which purpose it is very powerful and efficient.

The accompanying drawing illustrates my engine in perspective, and is described as follows:

A is a bed-plate, upon each end of which are placed the castings B B, which form the bases of the bearings for the drum-shaft and winch-heads, and also forming the supports for the cylinders C C, one head for which cylinders is cast with the supports B B. The bearings for the shaft D are also formed in one end of the said bases. The cylinders C C are bolted to the heads at the other end of said bases B B, and their valve and steam-chests cast with them, and which steam-chests are on the sides of the cylinders toward each other, so that the valve-rods connect with the eccentrics on the inside of said bases B B. The engines are small trunk-engines, by means of which the cross-head and slides are done away with. Upon the shaft D are the eccentrics E E. On the said shaft is a loose pinion, F, having a brake-wheel, G, cast with it and forming part of it. By the side of said pinion is a clutch, H, on the shaft D, operated by a rock-shaft, I, and lever, J, pivoted to the

bed-plate A. A brake-lever, K, is also hinged to the bed-plate A, which draws on a strap around the brake-wheel G. The steam-pipe L connects the two engines, conducting steam to each alike. It will be observed these engines are horizontal, and all the machinery for generating and controlling and regulating the power lies low down near the bed-plate, is compact and out of the way, leaving all sides of the drum and winch heads clear and always accessible. Bolted to the upper side of the bases B B are the uprights M M, in the top of which are the journal-boxes for the drum-shaft. The drum-shaft carries a drum, and has winch-heads on each end outside of the uprights M M. The said drum-shaft is operated by a large gear-wheel geared with the pinion F. To the outer ends of the winch-heads are attached adjustable crank-bars N N, having a slot in them through which the set-screw passes, whereby they may be adjusted to give more or less stroke to the cranks, as may be desired. By the sides of the engine are bilge-pumps O O, the pump-rods of which are attached to the cranks N N. The connections of the pump-rods are such that they may be readily connected when the engine is to be employed for pumping, and when not so used the cranks N may be reefed in flush with the winch-heads, so as to form no obstruction to their use for the handling and hauling of lines.

I claim—

The bases B B, cast with bed-plate A, the engines C C, shaft D, loose pinion F, brake-wheel G, clutch H, uprights M M supporting the drum and winch heads, all combined and operating substantially as described.

FRANK MURGATROYD.

Witnesses:

GEO. W. TIBBITTS,
FRED. H. BIERMANN.