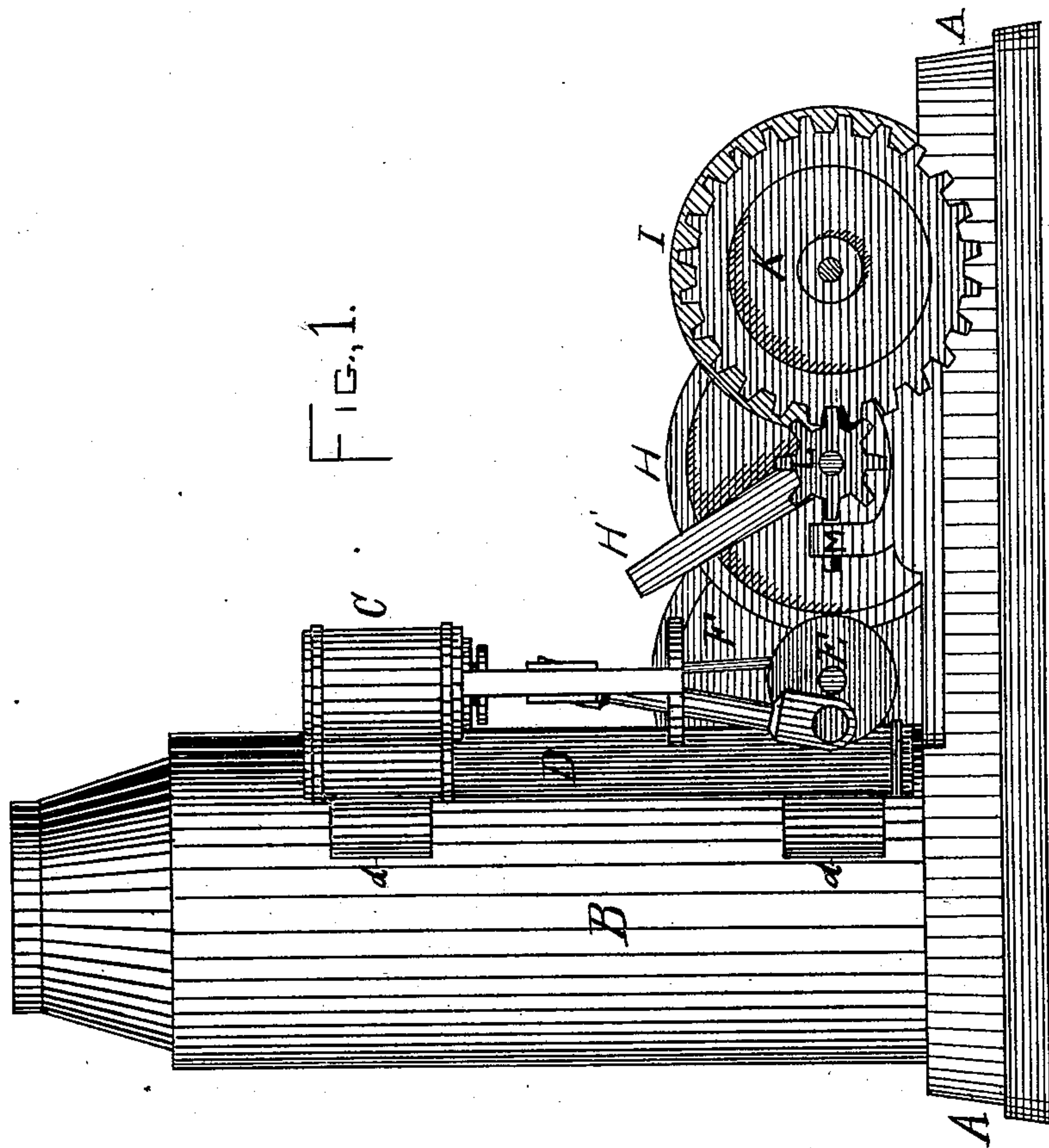


L. H. HALL.
Portable Hoisting-Engine.

No. 227,104.

Patented May 4, 1880.



WITNESSES

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INVENTOR

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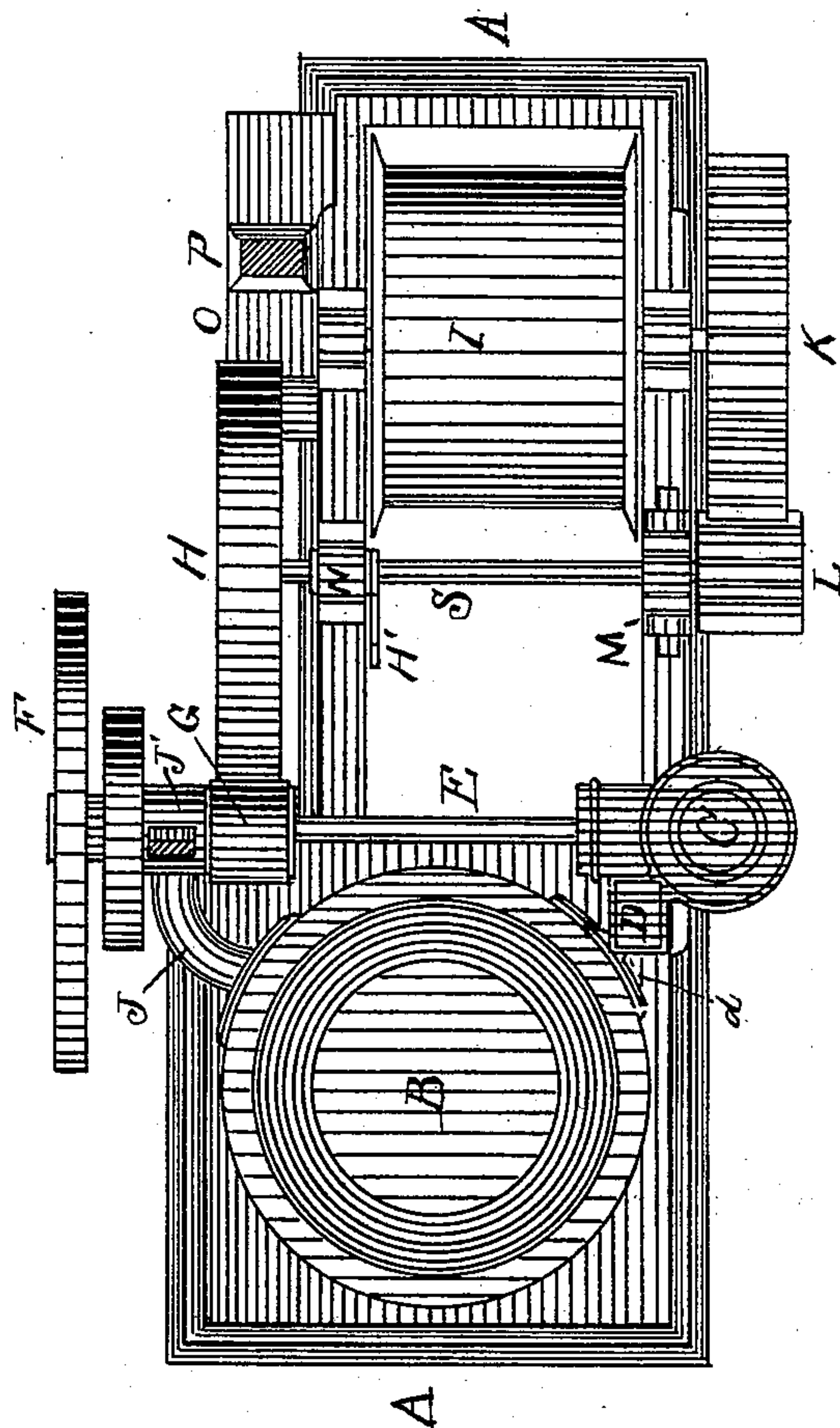


FIG. 2.

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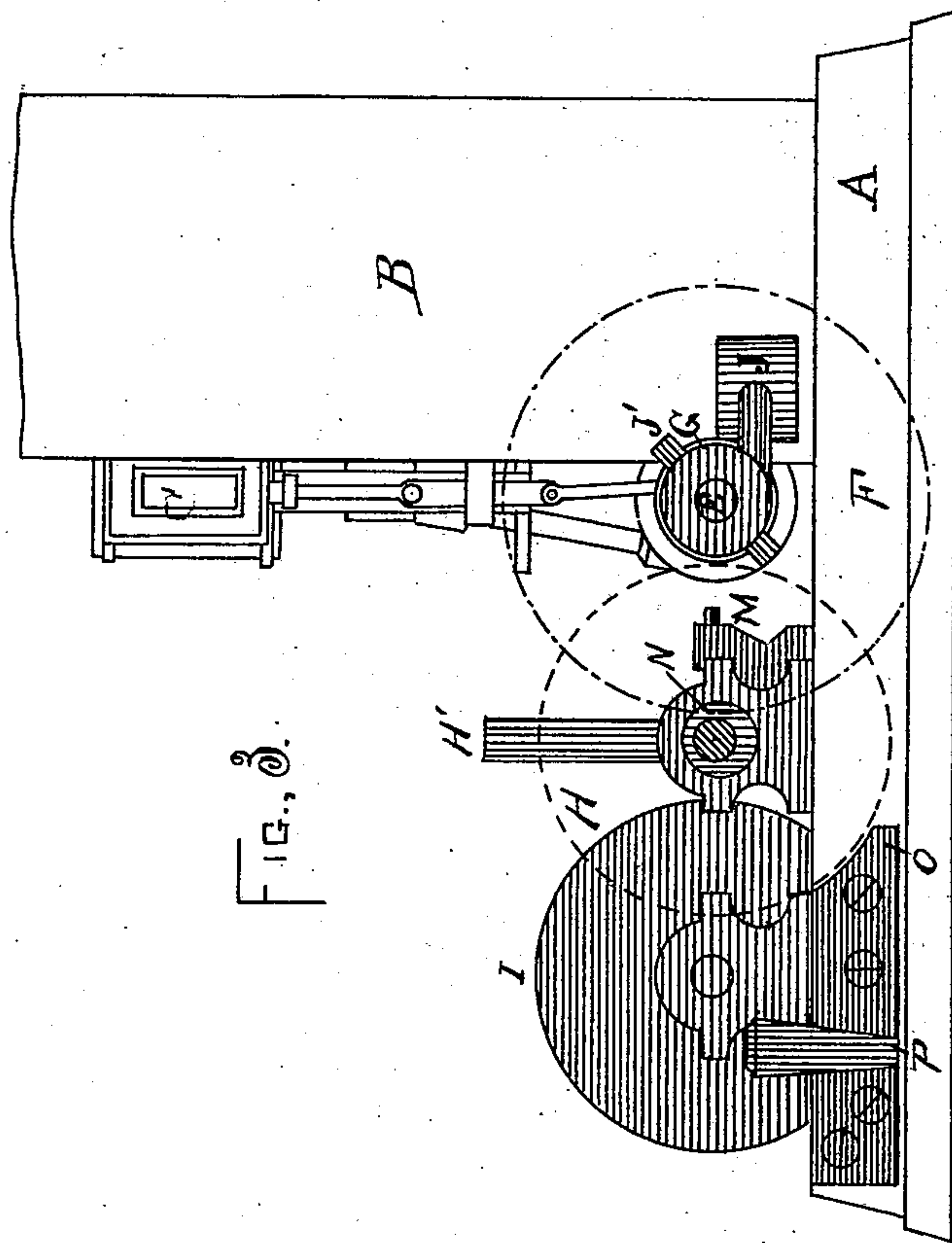


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UNITED STATES PATENT OFFICE.

LEONARD H. HALL, OF ERIE, PENNSYLVANIA.

PORTABLE HOISTING-ENGINE.

SPECIFICATION forming part of Letters Patent No. 227,104, dated May 4, 1880.

Application filed December 13, 1879.

To all whom it may concern:

Be it known that I, LEONARD H. HALL, of Erie, in the county of Erie and State of Pennsylvania, have invented a new and useful
5 Portable Hoisting-Engine; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the construction of hoisting-engines; and it consists in providing
10 a portable hoisting-engine composed of a steam-boiler, steam-engine, and hoisting apparatus arranged upon one bed-piece and constructed in a compact form.

My device is illustrated in the accompanying drawings, of which there are three sheets,
15 as follows:

Figure 1 is a side elevation. Fig 2 is a plan or top view. Fig. 3 is an elevation from the side opposite that shown in Fig. 1, and shows
20 part of the device in section, the removed parts being indicated by dotted lines.

A is the bed-piece, and is of one solid casting, on which all the parts of the device are placed. B is the steam-boiler, and is firmly
25 secured at one end of the bed-piece. This boiler is an upright boiler, and may be of any desired construction.

C is an upright steam-engine, the bed or frame of which, D, is secured to the upright
30 boiler by the bracket-irons *d d*. This steam-engine may be of any desirable construction.

E is the crank-shaft of the engine, its outer journal-box, J', being in a bracket pillow-block, J, on the opposite side of the boiler. F
35 is an ordinary fly-wheel on the shaft E. G is a friction-pulley attached on the main shaft E.

I is a hoisting-drum, windlass, or winch, mounted on the end of the bed-piece A opposite the boiler. This winch or windlass is op-
40 erated from a counter-shaft, S, by the usual gearing L K.

The counter-shaft S is mounted in journal-boxes M N, which are pillowed on the bed-piece A, between the winch and the engine
45 and boiler. Of these journal-boxes M is swiveled, and N is in an eccentric which is attached to the lever H'. Therefore, as the lever H' is moved the line of the counter-shaft is changed from or toward the crank or main
50 shaft E.

H is a friction-pulley on the shaft S, and as that shaft is changed in position by the lever

H' the friction H is put in contact with or removed from contact with the friction G on the shaft E. Consequently the movement of the
55 winch or windlass is regulated by the movement of the lever H'.

O is a dead friction, made adjustable by the wedge P, and against which the friction H may be pressed to regulate the movement of
60 the winch when lowering the bucket—that is to say, when unwinding the cable or chain.

The operation of my device is as follows: The engine C being put in operation, the friction G will revolve, and when it is desired to
65 revolve the winch to wind up the cable or chain to which the load is attached the operator moves the lever H' so as to bring the friction H in contact with the friction G, and thus sets in operation the winch.

When the cable is to be unwound the operator simply moves the lever H', so as to take the friction H off of the friction G, and then the weight will operate the winch in a reverse
70 direction, and the operator, to prevent too rapid a motion, can brake the friction H against the dead friction O by throwing the lever H' far enough over.

I do not claim any of the several parts of my device as new, the invention consisting
80 wholly in the combination and arrangement of parts, substantially as shown, to form a compact portable hoisting-engine. Therefore,

What I claim as my invention is—

A portable hoisting-engine consisting of a
85 solid bed-piece upon which are secured an upright boiler and engine, a main shaft having a fly-wheel and friction-gear, a counter-shaft bearing another friction-gear and provided with means, substantially as shown, whereby
90 the friction-gear thereon can be thrown against or away from the friction on the main shaft, and a winch or windlass and gearing for operating the same from said counter-shaft, all being constructed, combined, and arranged
95 to operate together substantially as and for the purposes set forth.

In testimony whereof I, the said LEONARD H. HALL, have hereunto set my hand.

LEONARD H. HALL.

Witnesses:

JNO. K. HALLOCK,
GEO. P. GRIFFITH.