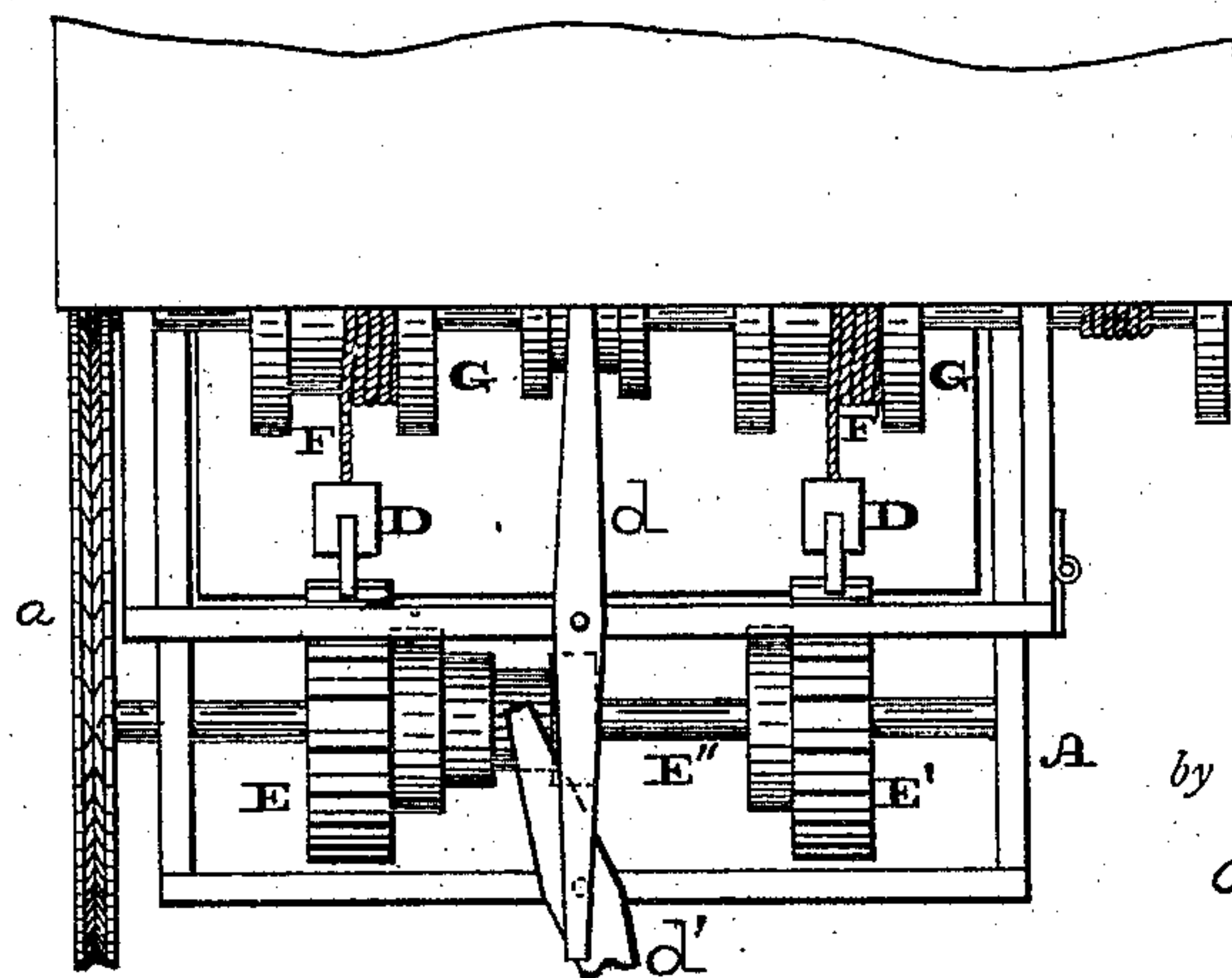
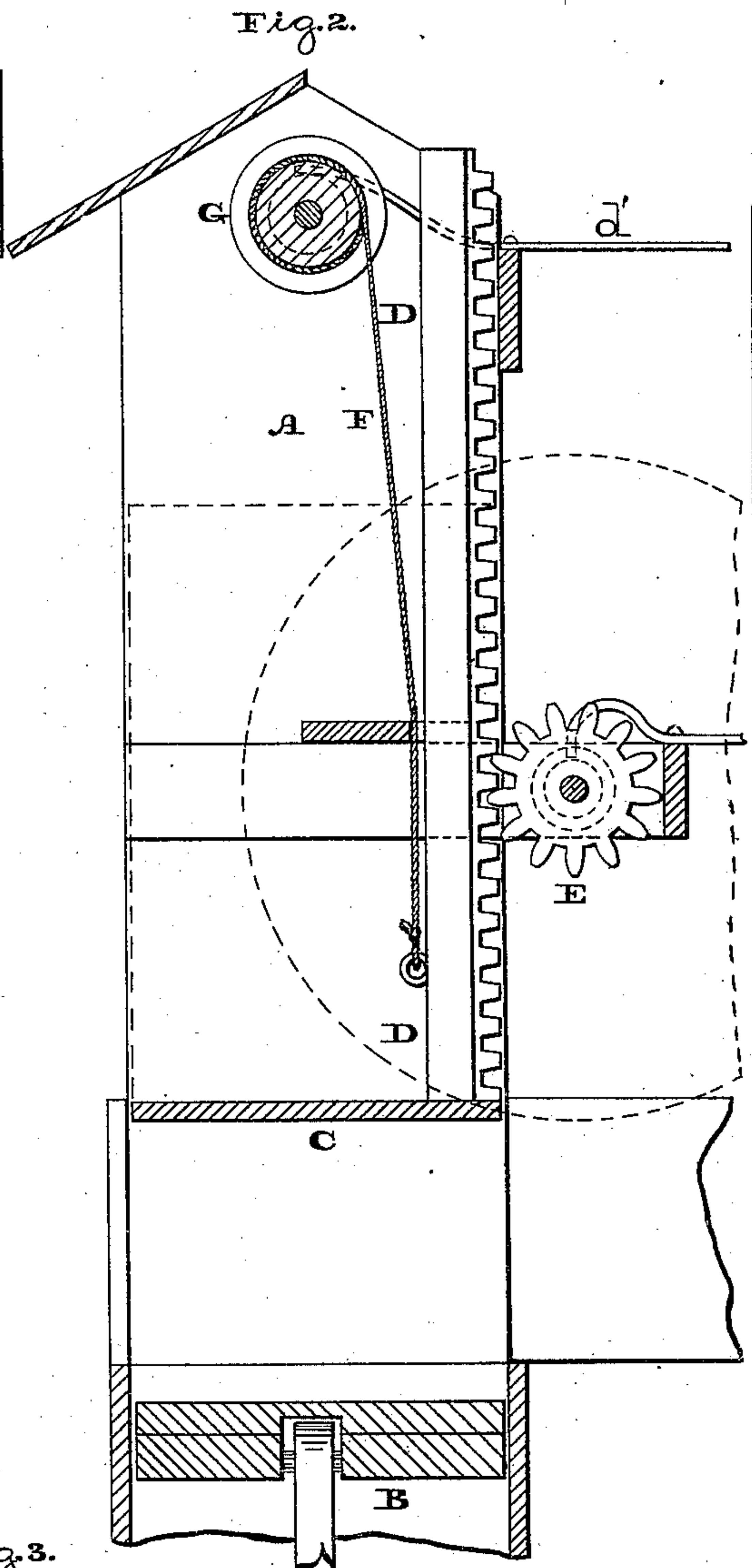
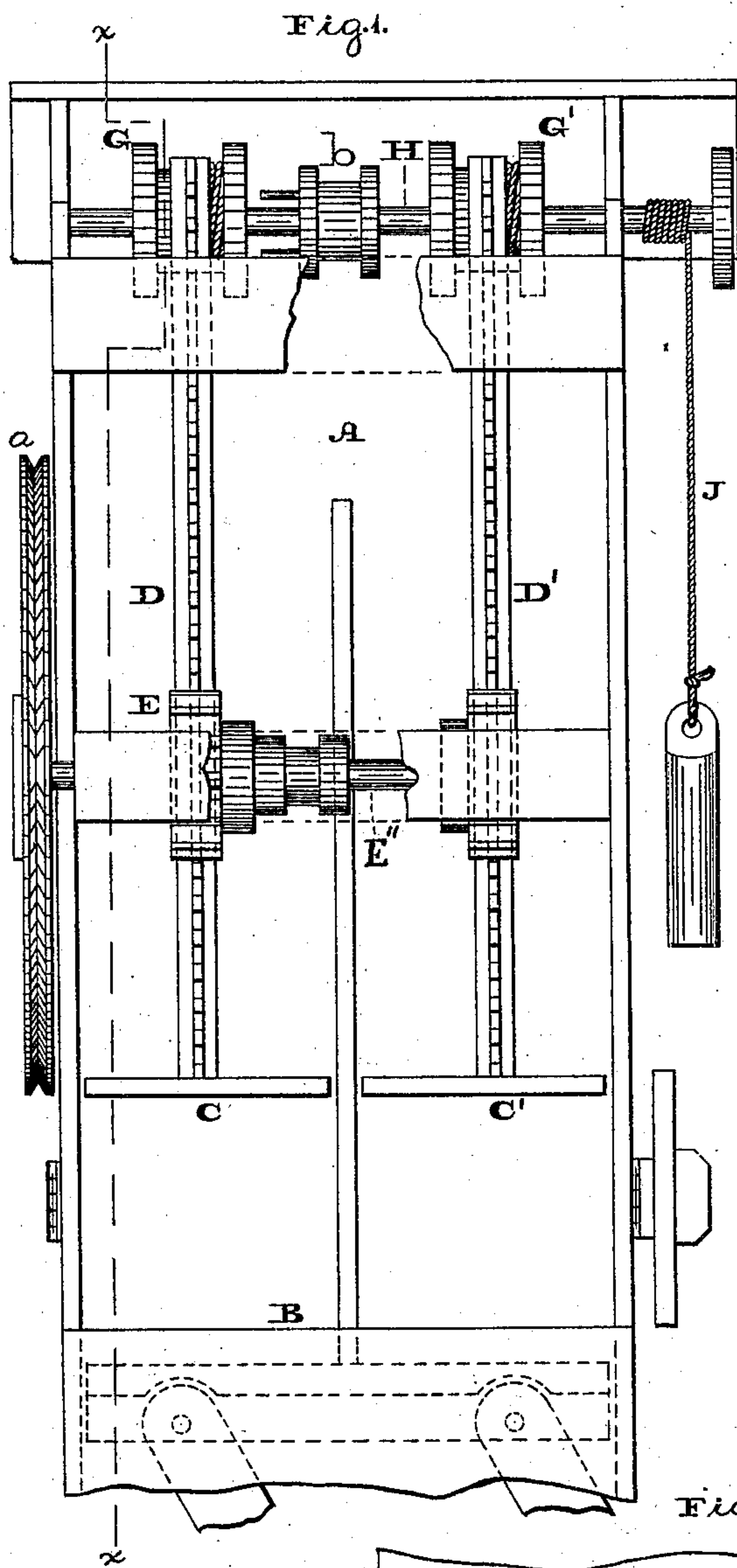


I. R. KULP.
Hay-Press.

No. 210,542.

Patented Dec. 3, 1878.



Witnesses:

Le. P. Grant,
W. F. Fischer

Inventor:

Isaac R. Kulp,
by John A. Diederichs
ATTORNEY.

UNITED STATES PATENT OFFICE.

ISAAC R. KULP, OF HATFIELD, PENNSYLVANIA.

IMPROVEMENT IN HAY-PRESSES.

Specification forming part of Letters Patent No. **210,542**, dated December 3, 1878; application filed October 16, 1878.

To all whom it may concern:

Be it known that I, ISAAC R. KULP, of Hatfield, in the county of Montgomery, State of Pennsylvania, have invented a new and useful Improvement in Hay and other Presses, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a front elevation of the press embodying my invention. Fig. 2 is a vertical section in line *x x*, Fig. 1. Fig. 3 is a top view thereof.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to mechanism adapted for packing hay, &c., prior to pressing, so as to obviate the necessity of any one entering the box to stamp the hay, as is now generally practiced.

The invention consists of a rack and pinion for depressing the packing head or follower; a shaft having a drum and rope, which latter is connected to the rack of the head or follower and wound on the drum by a suitable weight, so as to automatically elevate said head or follower; and means for permitting two or more pressing heads or followers to be operated simultaneously or separately.

Referring to the drawings, A represents the press-box, and B the follower, which may be operated in any well-known or desired manner. C C' represent heads or followers, which are connected to vertical rack-bars D D', which move in proper guides and mesh with pinions E E', whose shaft E'' is mounted on bearings supported on the frame-work of the box, and is rotated by a wheel, *a*, to which power is communicated in any suitable manner.

Secured to rack-bars are ropes or chains F F', which are adapted to be wound on and unwound from drums G G', whose shaft H is mounted at or near the top of the box A, and to said shaft is also connected a weighted rope or chain, J, which winds and unwinds in reverse order to the ropes or chains F F'.

The operation is as follows: The followers C C' being raised, hay or other material is placed in the box A, and power then communi-

cated to the wheel *a*, whereby the followers descend and pack the hay. The wheel *a* is then let go, and immediately the weight of the cord, rope, or chain J rotates the shaft H in such direction that the ropes F F' are immediately and quickly wound on the drums G G', thus imparting rapid rising motions to the rack-bars D D', and elevating the followers C C'. A fresh quantity of hay is then placed in the press, and power again imparted to the wheel *a*, thus overcoming the weight of the rope or chain J and forcing down the followers C C', so as to continue the packing operations, which being accomplished, the followers being elevated, the top doors or boards are applied to the box A, and the pressing operations may then be begun.

It will be noticed that the packing of the hay is performed by simple, powerful, and reliable means, entirely obviating the entrance of the workman into the pressing box or chamber.

In some cases it may be desirable to pack and press but a single bale. To provide for this the pinion E is connected to the shaft E'' by a sliding joint, and the drum G to the shaft H by a clutch, *b*, whereby, by shifting the pinion E from the rack D and the clutch *b* from the drum G, the relative rack-bar D is rendered inoperative, and the drum G remains loose on the shaft H, without, however, affecting the operation of the other follower, rack-bar, and drum.

The levers of the shifting pinion E and clutch *b* are shown at *d' d''*.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The packing-followers C C', rack-bars D D', shifting pinion E, pinion E', ropes or chains F F', drums G G', clutch *b*, and weighted rope or chain J, combined and operating substantially as and for the purpose set forth.

ISAAC R. KULP.

Witnesses:

JOHN A. WIEDERSHEIM,
WM. A. WRIGHT.