

(No Model.)

N. B. B. LONG & P. A. ATCHLEY.

HOISTING MACHINE.

No. 387,687.

Patented Aug. 14, 1888.

Fig. 1.

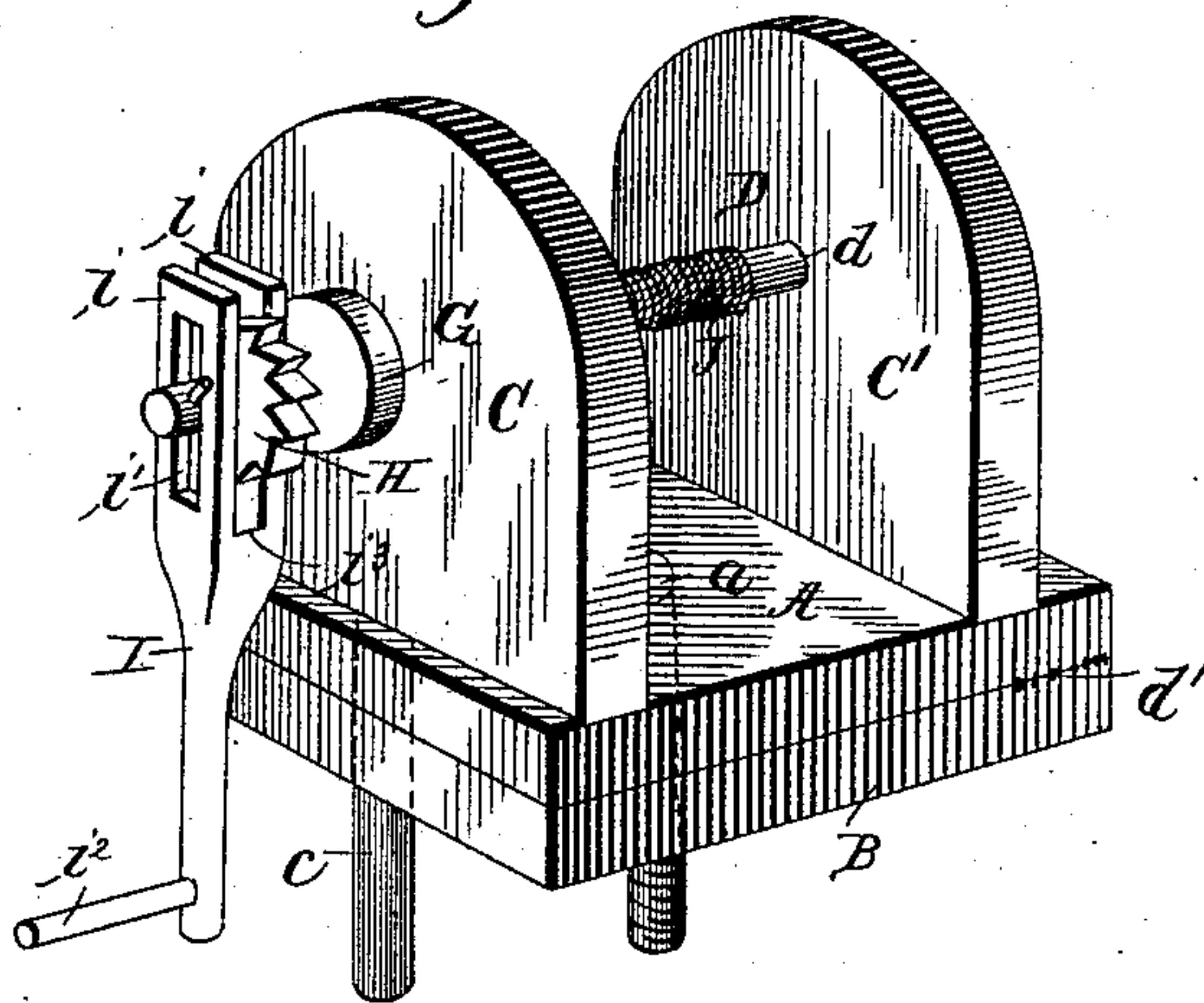


Fig. 2.

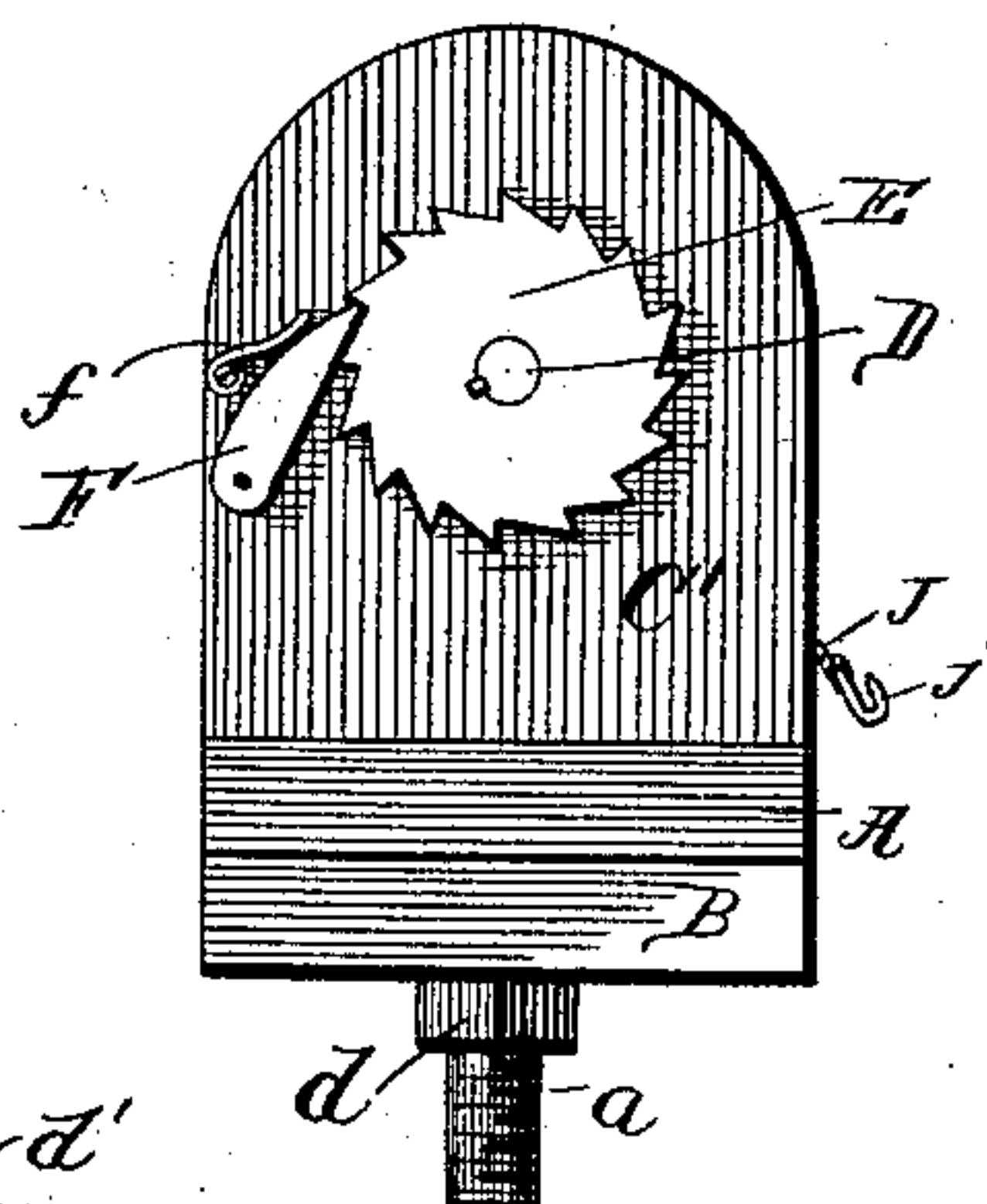


Fig. 5.

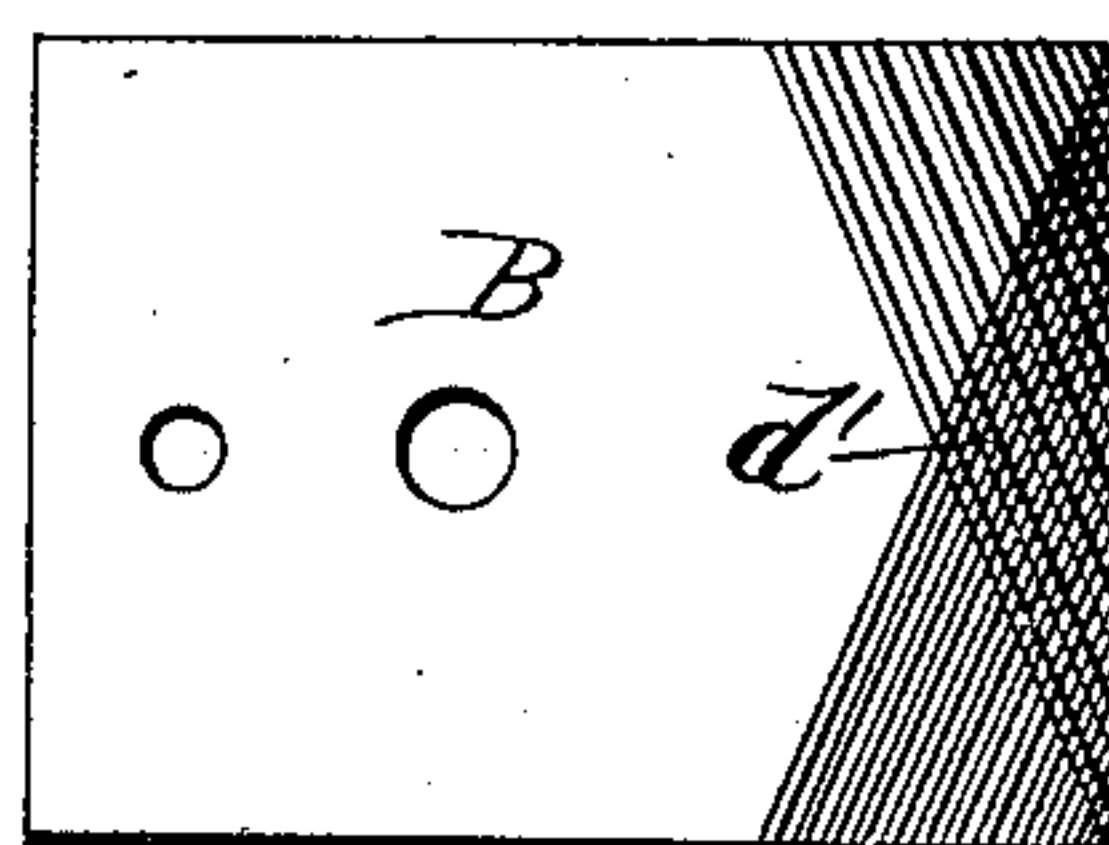


Fig. 4.

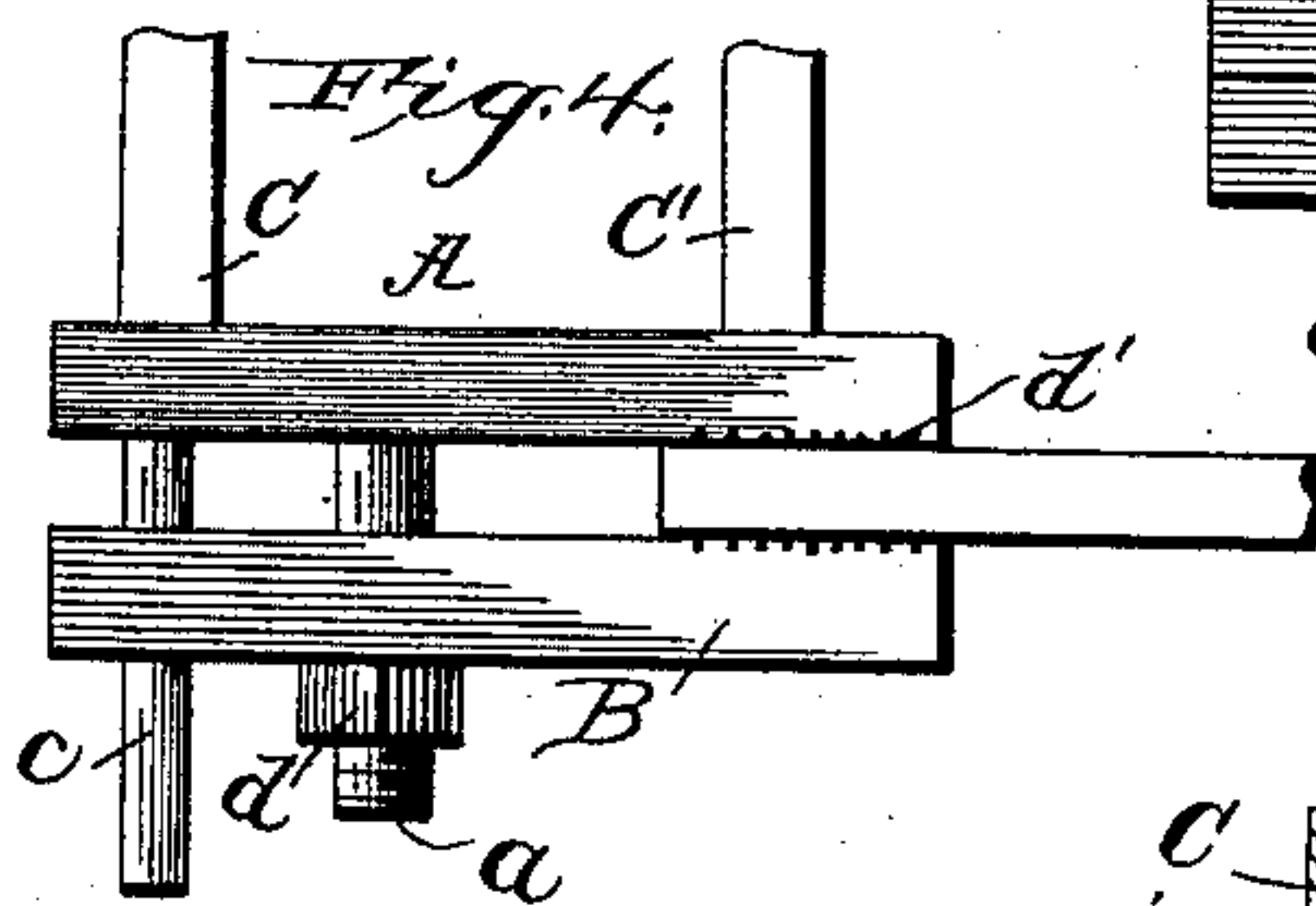
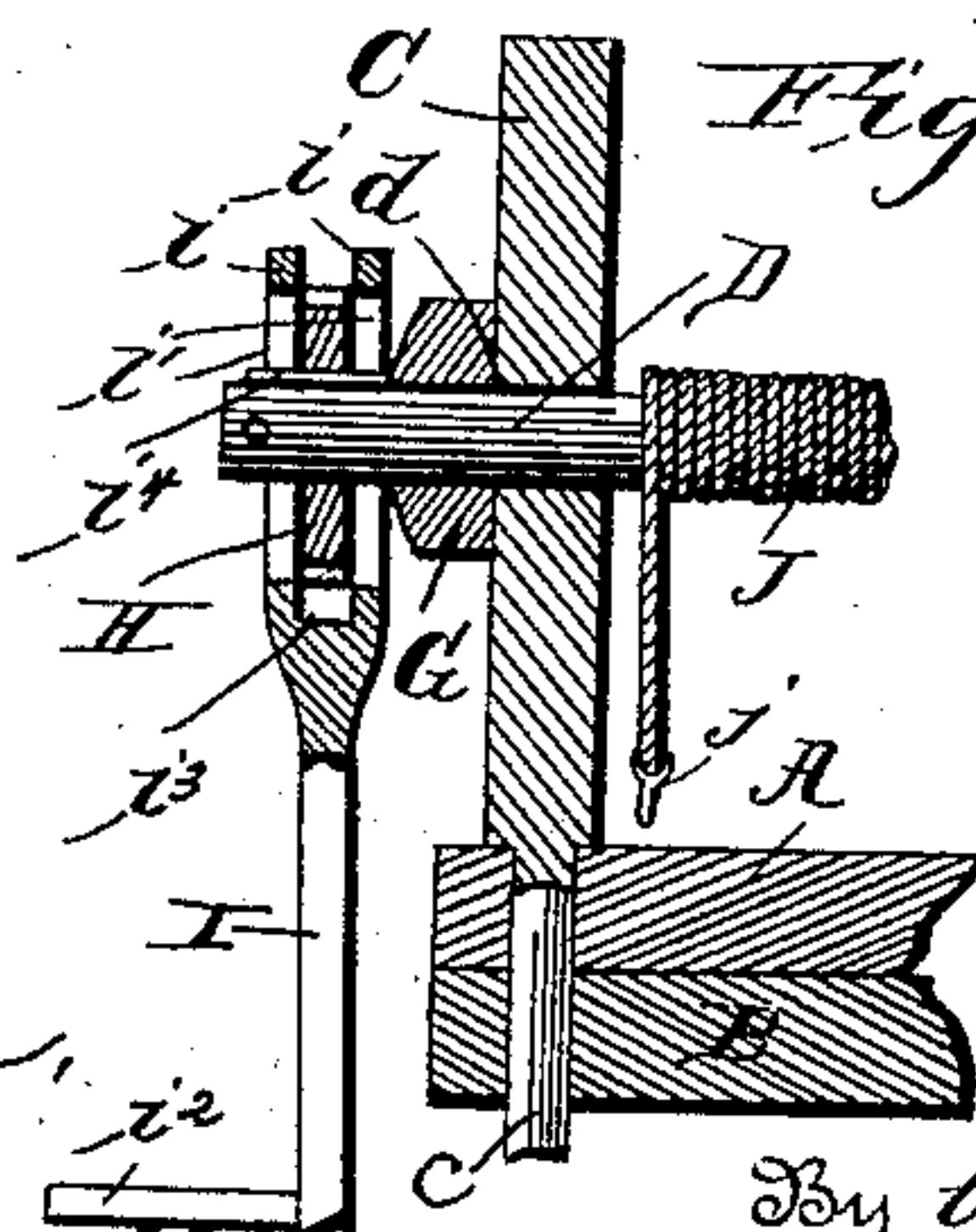


Fig. 3.



Witnesses,

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UNITED STATES PATENT OFFICE.

NAPOLEON BRADFORD BONYPART LONG AND PERRY ALFURD ATCHLEY,
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HOISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 387,687, dated August 14, 1883.

Application filed April 20, 1883. Serial No. 271,277. (No model.)

To all whom it may concern:

Be it known that we, NAPOLEON BRADFORD BONYPART LONG and PERRY ALFURD ATCHLEY, citizens of the United States, residing at Prairie City, Cherokee Nation, and Indian Territory, have invented a new and useful Improvement in Hoisting-Machines, of which the following is a specification.

The invention relates to improvements in hoisting-machines, the object being to lift heavy weights without jar or danger of the shaft or drum slipping backward; and it consists in the construction and novel combination of parts hereinafter described, illustrated in the accompanying drawings, and pointed out in the appended claims.

Figure 1 of the drawings represents a perspective view of a hoisting-machine embracing the invention. Fig. 2 represents a side view of the machine, showing the ratchet and pawl. Fig. 3 represents a detail sectional view through the handle and corresponding ratchet-wheel. Fig. 4 represents a detail view of the bed plates or blocks of the machine attached to the edge of the platform of any kind, such as the bed of a wagon. Fig. 5 represents a plan view of the inner surface of either bed-block, the inner surfaces of which are of similar construction.

Referring to the drawings by letter, A and B designate, respectively, the upper and lower base-blocks of the machine, of rectangular shape; and *a* is a bolt depending centrally from the block A and passing through a central opening in the block B.

d is a nut that engages the bolt below the block B. The inner surfaces of the said blocks are provided with facing-corrugations *d'*, by means of which the edge of the bed of a wagon or other platform may be held firmly between the blocks when the nut *d* is turned up against the block B.

C C' are standards rising from the opposite ends of the block A, and *c* is a bar depending centrally from the lower edge of the standard C and passing through registering openings in the blocks A and B. The bar *c* serves to steady the blocks on each other.

D is a shaft journaled in bearings in said standards.

E is a ratchet-wheel secured on one end of

the shaft D, extended outside of the bearing on the corresponding side; and F is a pawl pivoted on the standard and engaging the ratchet-wheel and forced into engagement therewith by a suitable spring, *f*, secured to the adjacent standard.

G is a collar having a rounded outer face, which collar is fixed on the shaft D just outside the bearing on the standard opposite that adjacent to the ratchet-wheel E.

H is a ratchet-wheel on the shaft D, to the outer side of said collar, and having its teeth inclined in the same direction as the ratchet-wheel E.

I is a bifurcated lever, having the similar arms, *i i*, situated on each side of the ratchet-wheel H, and provided in said arms with the slots *i' i'*, through which passes the shaft D, the lever turning on said shaft. The lever I is provided with the arm *i²*, that stands outward at right angles from its end and where the arms *i* meet, and facing the radial shoulders of the teeth with the shoulders *i³*, that can be pushed between said teeth and will act as a detent or pawl to turn the shaft D, with the aid of the ratchet-wheel H and lever I. The ratchet-wheel H is usually keyed or splined on the shaft D by a key as long as said wheel is wide; but if it is desired to use the lever I as an ordinary crank-handle the said short key is replaced by a detachable key, *i⁴*, long enough to project into the slot *i'*. This key will impinge on the sides of the slots *i'* and enable the lever to turn the shaft continuously. The key is used, however, only when lifting light weights.

J is a rope attached at one end to the shaft D, and having a hook, *j*, or other connecting device at its other end for the attachment of the desired height. After the lever I has been slipped in such manner on the shaft D as to engage the shoulder *i³* between the teeth of the ratchet-wheel H, the lever is moved in the proper direction to wind the rope J upon said shaft. The shoulder *i³* is then pulled away from the teeth of wheel H and turned back to its first position, the engagement of pawl F and ratchet-wheel E preventing the shaft D from turning in the reverse direction. The weight may thus be lifted continuously without jar. The rounded surface of the collar G prevents

the friction of the lever I on the adjacent standard.

We do not desire to limit ourselves to the exact manner of attaching the rope to the device or to the weight to be hoisted; neither do we desire to limit ourselves to the mere purpose of lifting weights, as the machine may be used in all the various operations in which ropes are made taut and wires stretched.

10 Having described our invention, we claim—

1. In a hoisting-machine, the combination of the shaft journaled in the standards rising from opposite ends of the base-block, a ratchet-wheel fixed thereon, and the lever I, provided with the arms *i i*, the longitudinal slots *i' i'*, through which the said shaft passes, and the shoulder *i³* at the junction of the arms and facing the teeth of the ratchet-wheel, substantially as specified.

20 2. In a hoisting-machine, the combination of the shaft D, journaled in the arms rising from opposite ends of the base-block, the ratchet-wheel E on one end thereof, the spring-controlled pawl engaging said wheel, the ratchet-wheel H on the opposite end of the shaft D and turning in the same direction as the wheel E, and the lever-handle I, provided with the arms *i i*, slots *i' i'*, arm *i²*, and shoulder *i³*, to engage the teeth of the ratchet-wheel
30 H, substantially as specified.

3. In a hoisting-machine, the combination of the block A, pivoted on the block B by the bolt *a* and nut *d*, the standards C C, rising from said block A, the shaft D, the ratchet-wheels E and H, the spring-controlled pawl F, engaging the wheel E, the rope J, attached to the shaft D and having the hook *j* on its free end, and the lever-handle I, having the arms *i*, the slots *i'*, the arms *i²*, and shoulder *i³*, substantially as specified.

4. In a hoisting-machine, the combination, with the base-blocks, the standards, the shaft D, the ratchet-wheel E, and spring-controlled pawl F, of the ratchet-wheel H, the lever I, provided with the arms *i* and slots *i'*, and the removable key or spline *i⁴*, holding the ratchet-wheel H in place on the shaft D, and extending on each side of the said wheel into the slots *i'*, substantially as and for the purpose specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

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Witnesses:

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