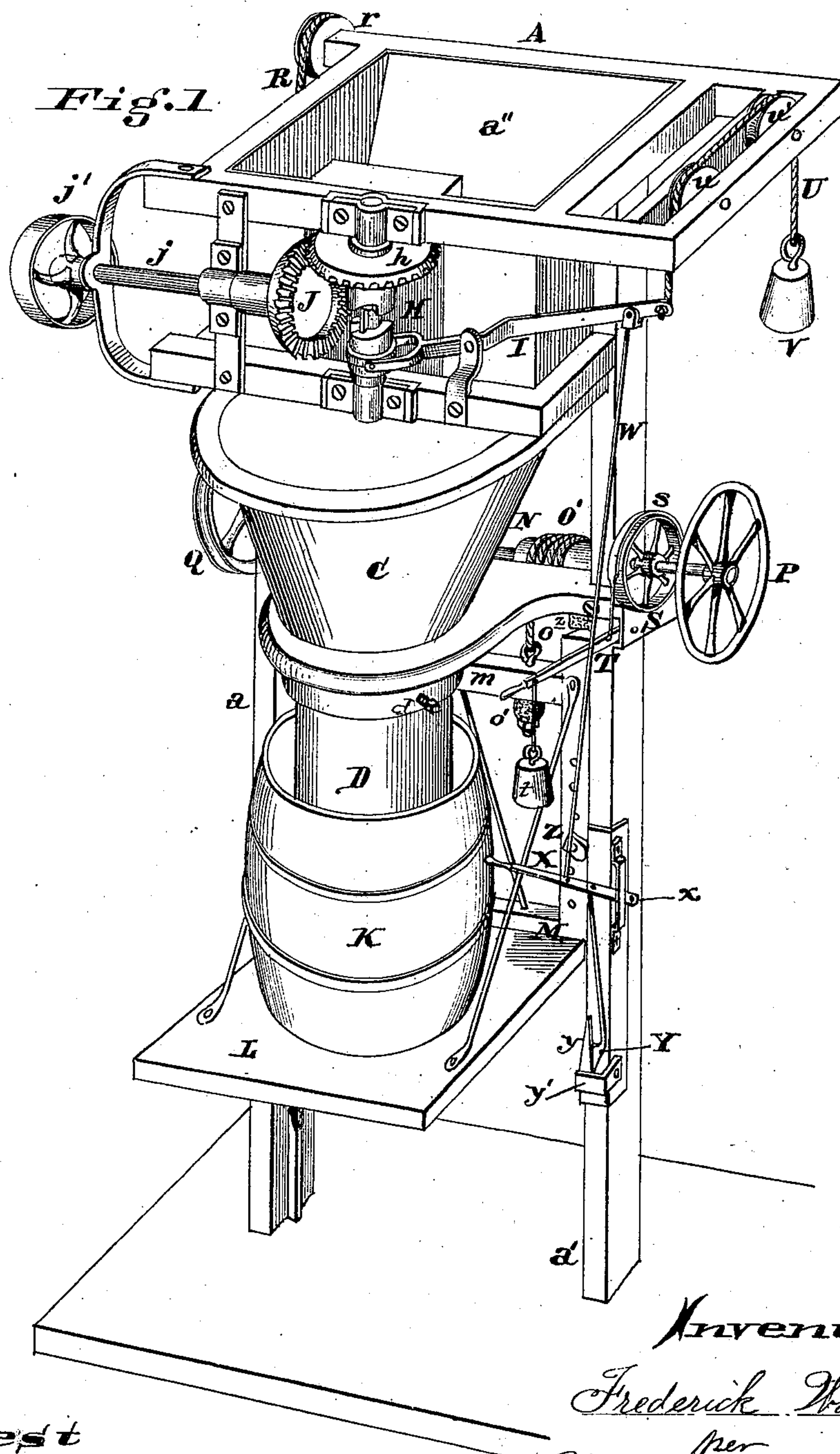


F. WOLF.
Flour-Packer.

No. 197,533.

Patented Nov. 27, 1877.



Attest

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Notary Public

Inventor

Frederick Wolf

per

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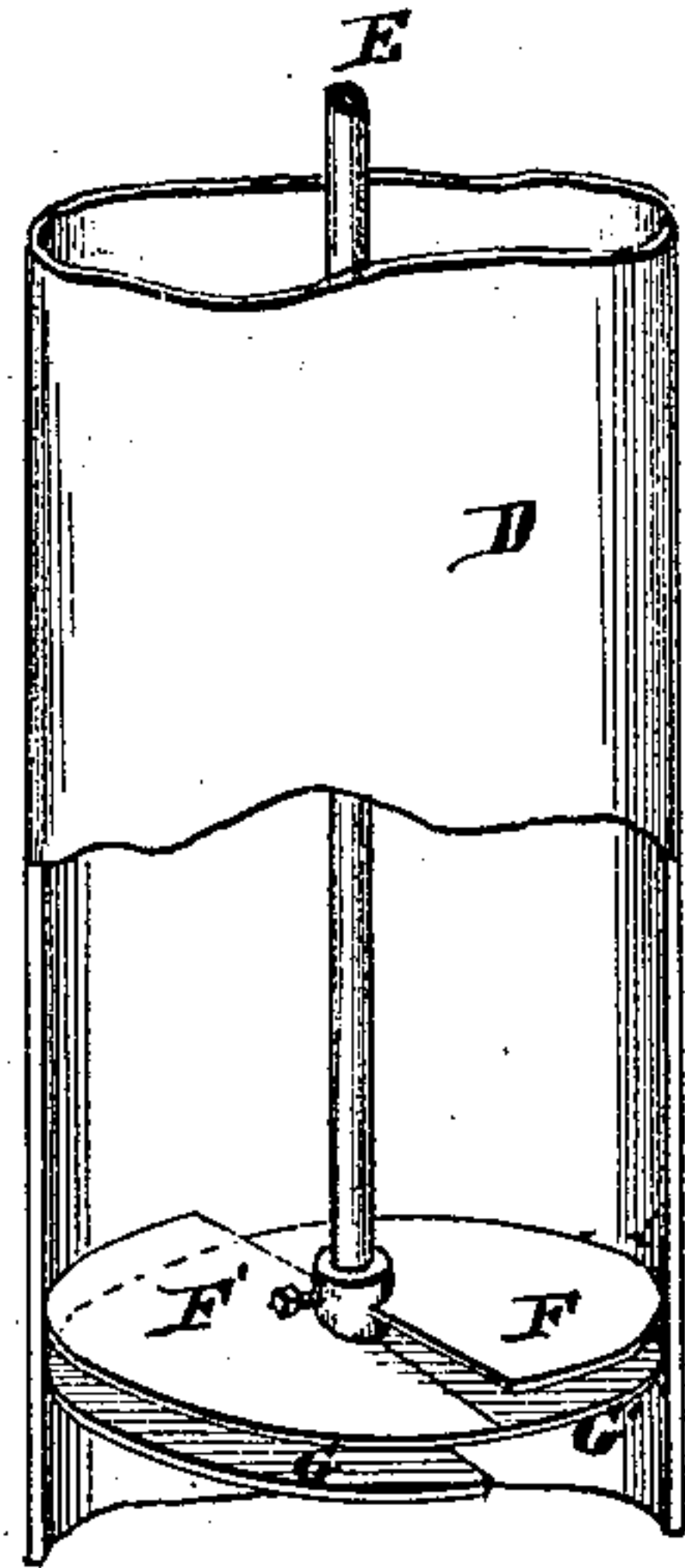


Fig. 2

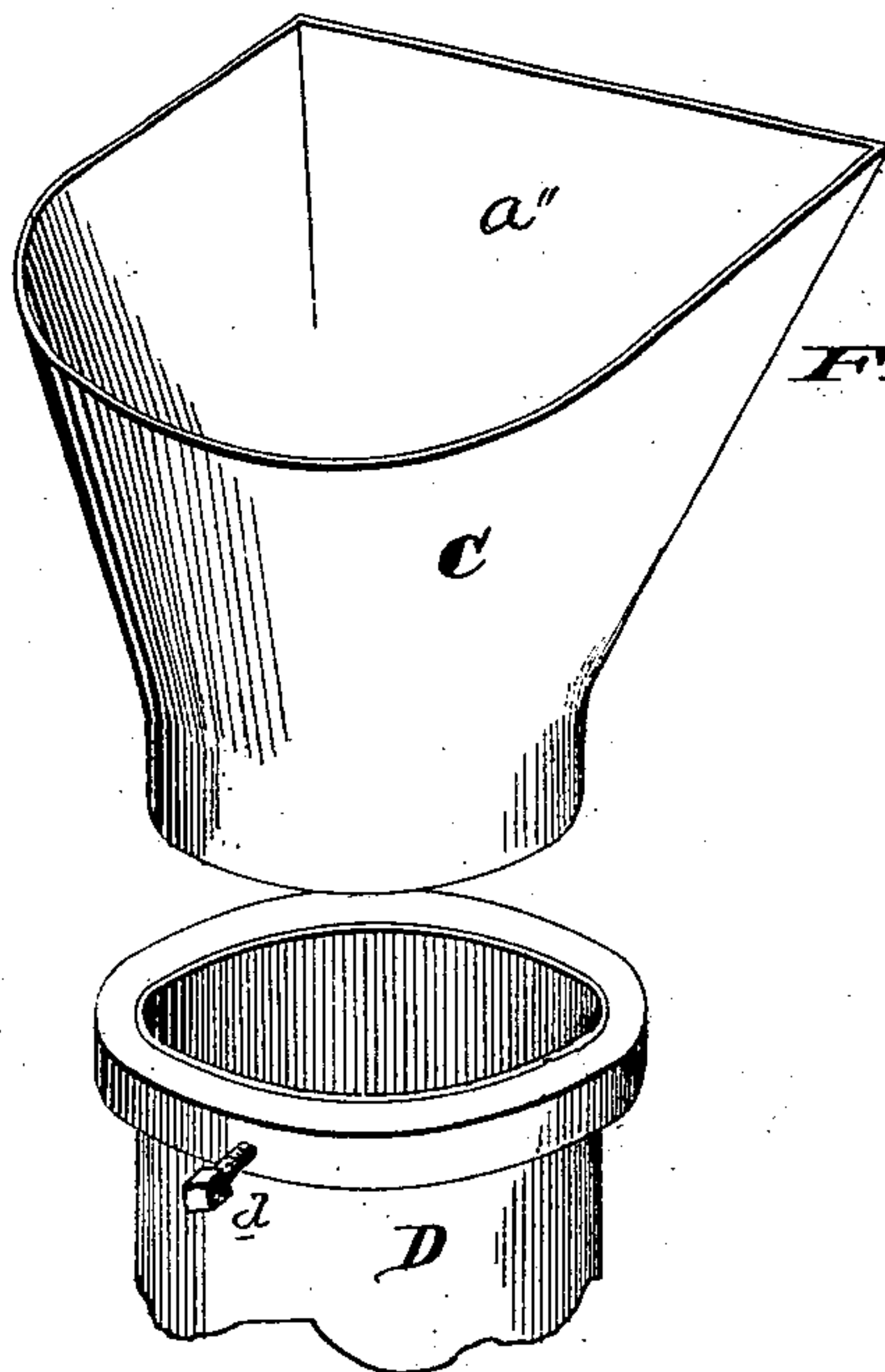
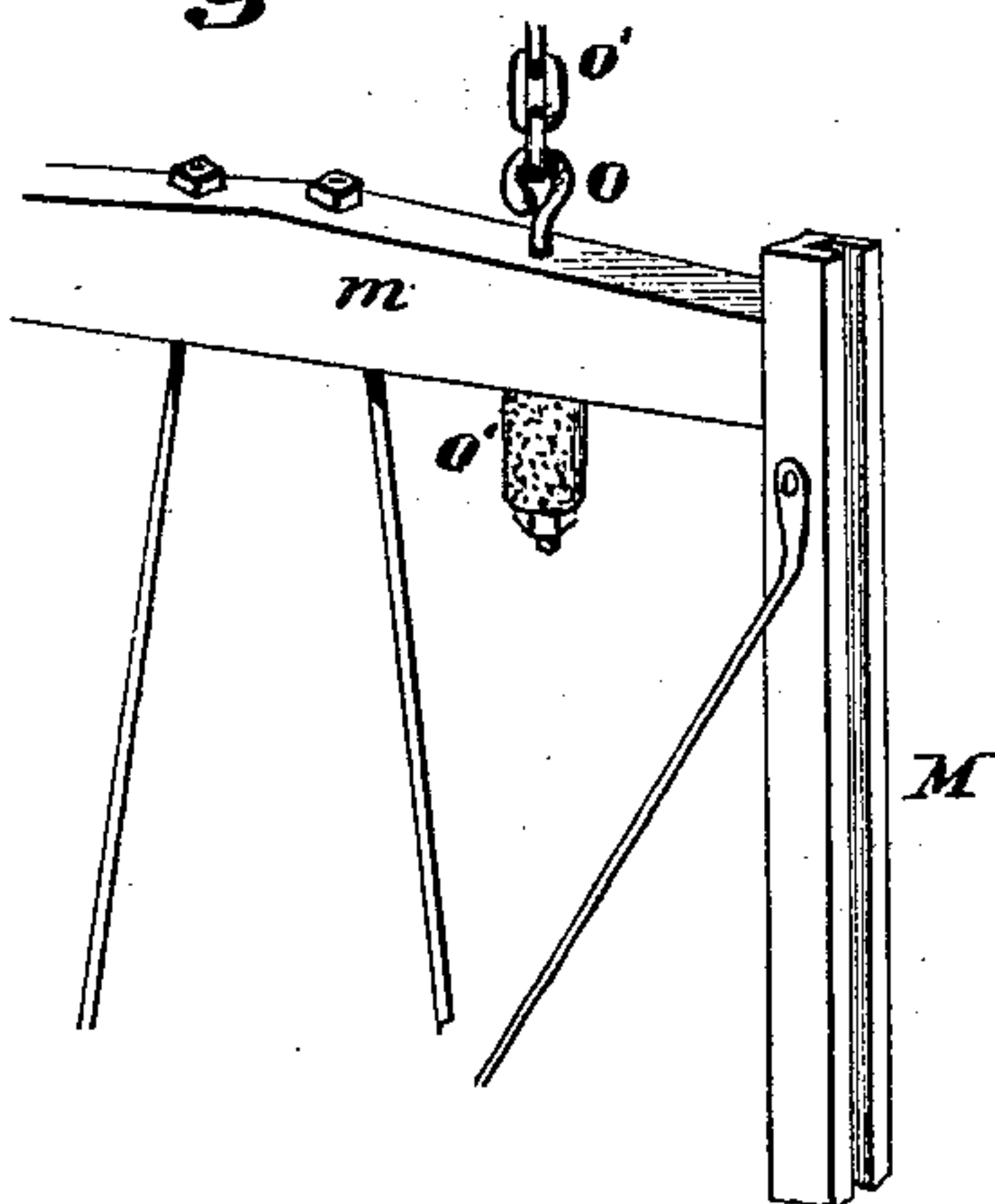


Fig. 3

Fig. 4



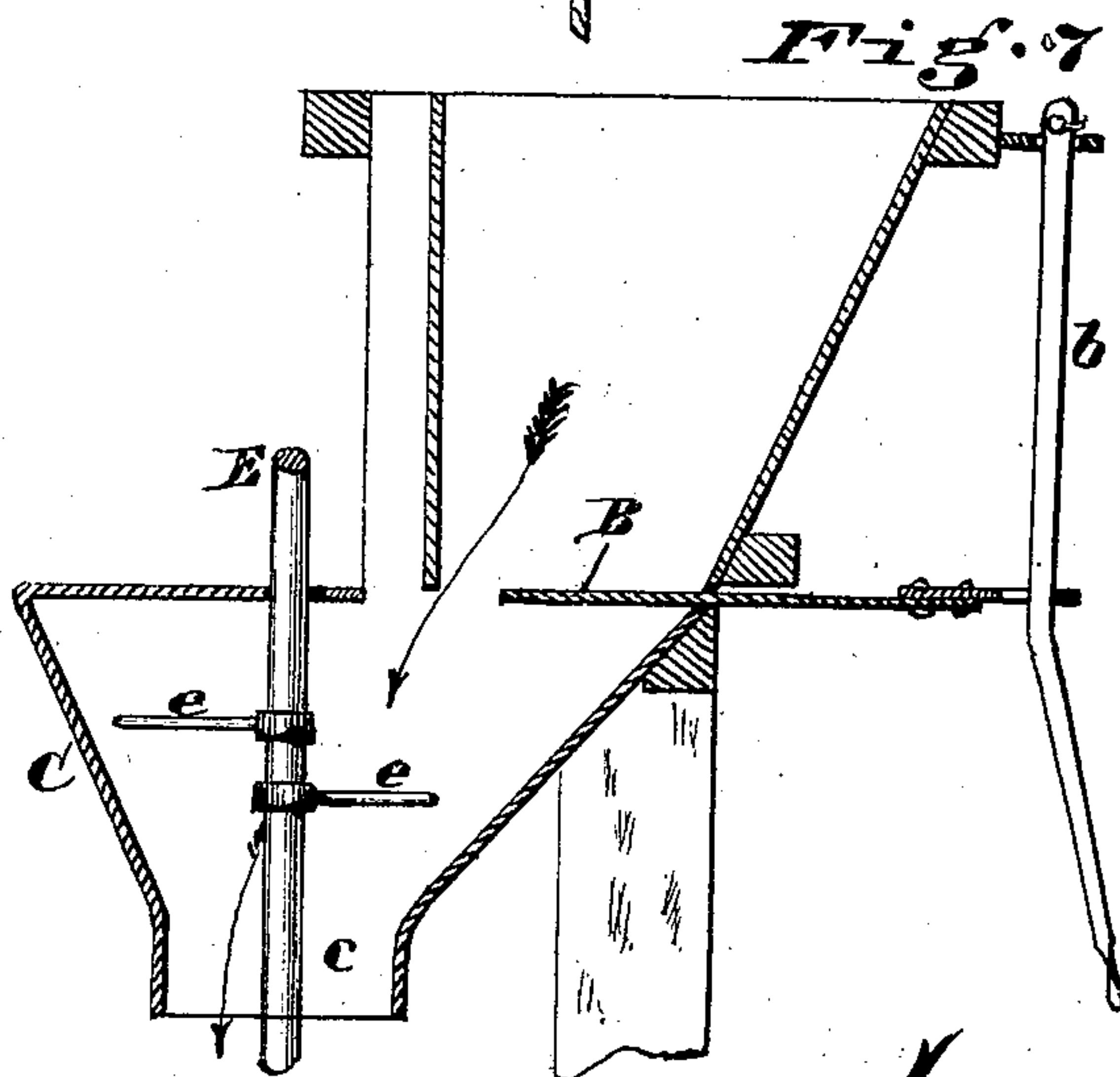
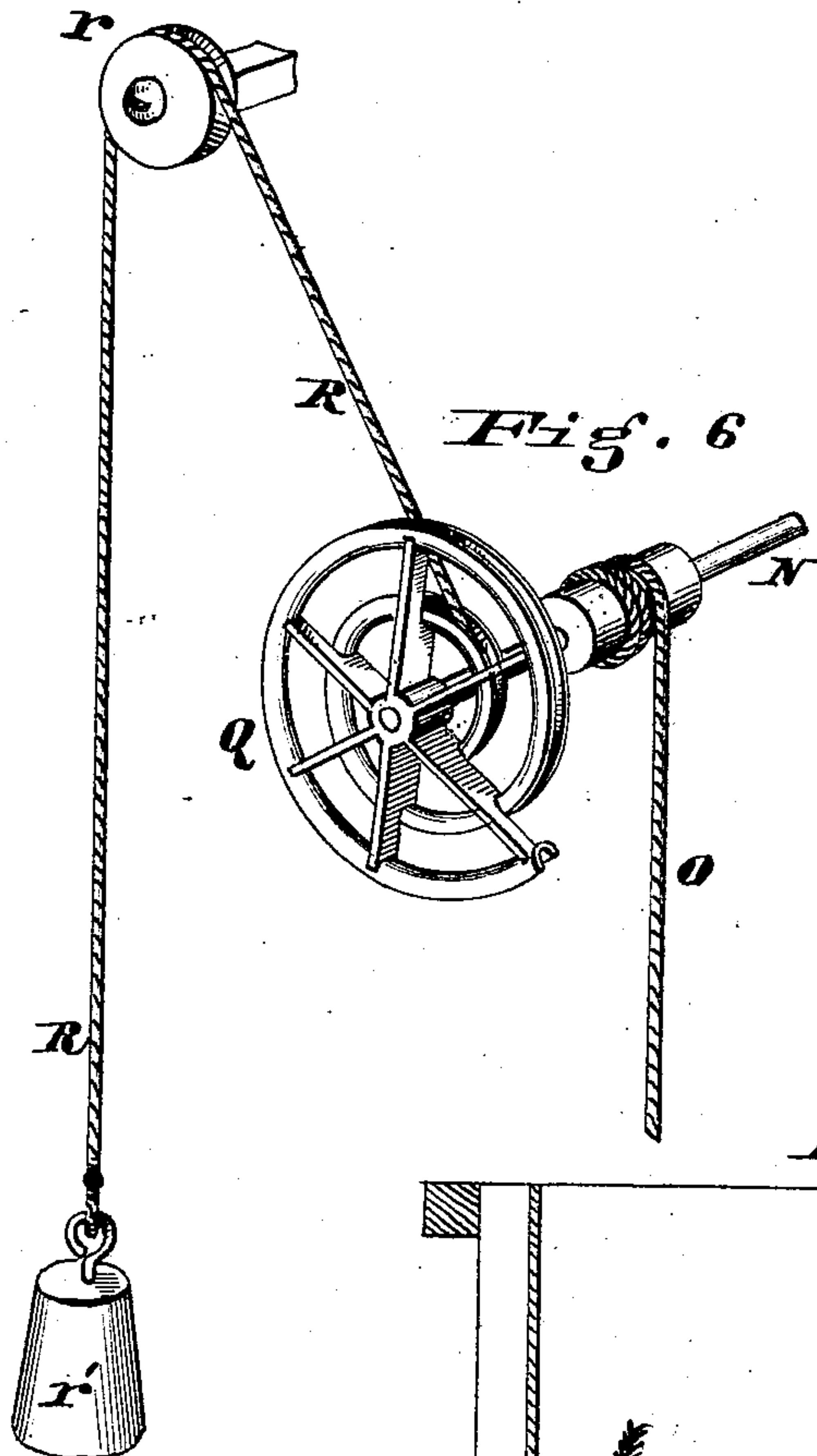
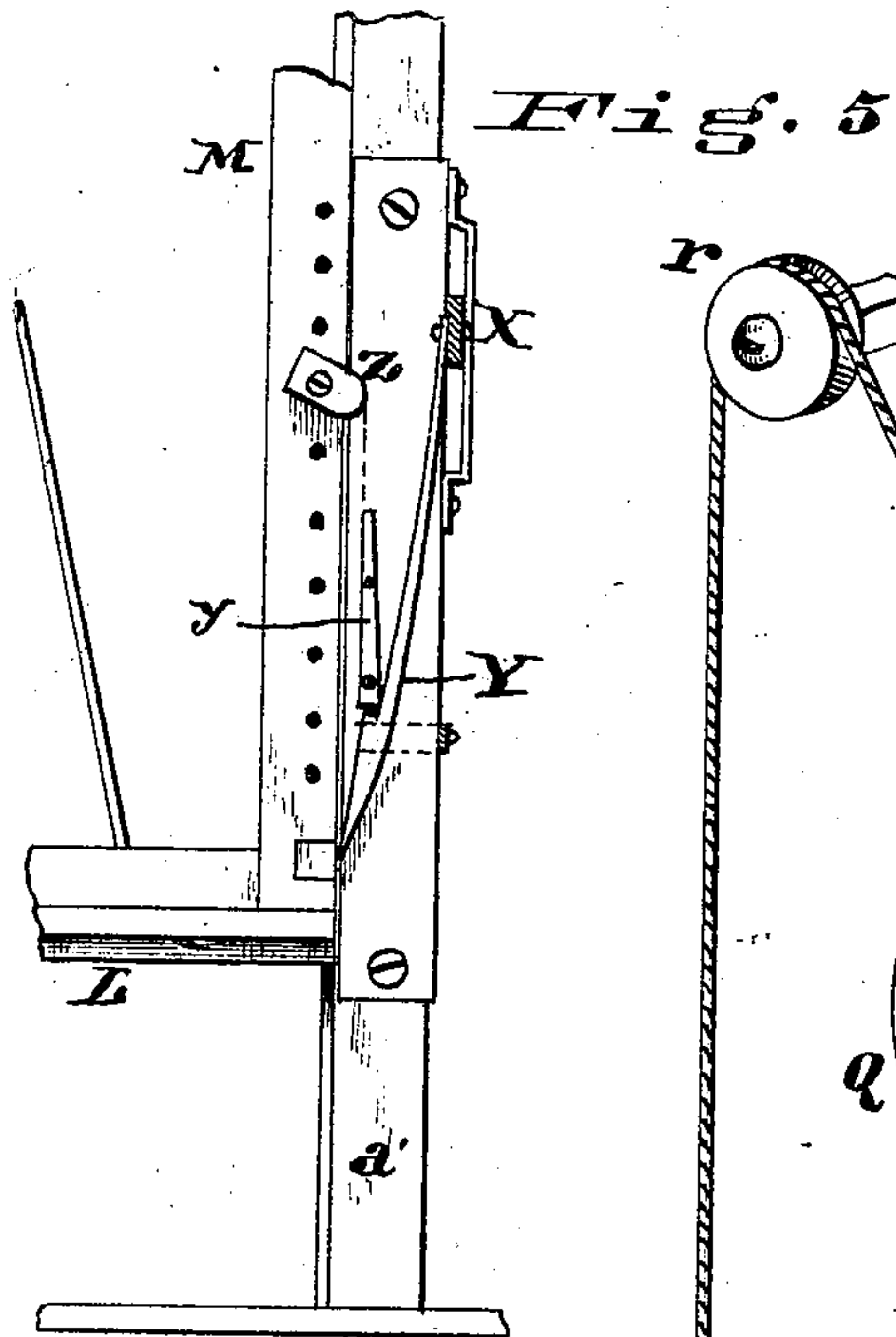
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UNITED STATES PATENT OFFICE.

FREDERICK WOLF, OF CINCINNATI, OHIO.

IMPROVEMENT IN FLOUR-PACKERS.

Specification forming part of Letters Patent No. **197,533**, dated November 27, 1877; application filed November 27, 1875.

To all whom it may concern:

Be it known that I, FREDERICK WOLF, a resident of the city of Cincinnati, and State of Ohio, have invented certain new and useful Improvements in Flour-Packers, of which the following is a specification:

My invention relates to that class of machines which are employed for packing flour or other pulverized or ground materials into barrels or similar receptacles; and my improvements are more especially applicable to the form of apparatus patented by Judson Mattison, March 9, 1858, and are fully described hereinafter, having for their objects to properly and uniformly feed the flour and regulate the movements of the platform supporting the barrel.

In the accompanying drawings, forming part of this specification, Figure 1 is a view, in perspective, of my improved packer, the platform being shown in its elevated position, and the clutch-coupling disengaged. Fig. 2 is an axial section through the lower part of the cylinder or trunk. Fig. 3 is a view, in perspective, of the funnel-section, with the cylinder detached therefrom; Fig. 4, a detached perspective view. Fig. 5 is an elevation of the disengaging mechanism. Fig. 6 is a view, in perspective, of the devices employed for counterbalancing the platform; and Fig. 7 is a vertical section through the hopper and funnel.

a a' represent two stout vertical and parallel stanchions, which serve to support the operative parts of the packer, the receiving member of which consists of an open-mouthed box or hopper, A, into which the flour is discharged. The rear side *a''* of this hopper is inclined, as more clearly shown in Fig. 7, and said hopper is furnished at its bottom with a horizontally-sliding gate, B, operated by a lever, *b*, situated at the rear side of the machine. This gate or cut-off serves to regulate the quantity of flour that escapes from hopper B into funnel C, which latter is attached to the frame of the machine in the manner represented, or in any other convenient way. Coupled to the neck *c* of this funnel, by bolts *d* or otherwise, is a removable trunk, cylinder, or conductor, D, that conveys the flour or other pulverized material into the barrel.

By thus temporarily coupling the cylinder to the funnel-section, I am enabled to readily apply a trunk of greater or less length or diameter, according to the kind of receptacle that is to be filled, whether it be a barrel, half-barrel, or bag.

Occupying an axial position within the funnel C and cylinder D is a shaft, E, the lower end of which carries two separate and distinct pairs of screws or augers, F F' and G G', which are respectively attached to said shaft by means of set-screws.

In applying these screws to their driving-shaft E, it should be done in such a manner as to bring the open spaces between the upper pairs F F', directly above the solid portions of the lower screws G G', as this arrangement will completely obstruct the cylinder, and effectually prevent any escape of flour from the cylinder when its lower end is exposed by the removal of the filled barrel.

Attached to shaft E is one or more radial arms, *e*, which act to agitate the flour within funnel C, and thereby prevent it becoming clogged or choked up.

H is a clutch-coupling, which is capable of being thrown either in or out of gear with bevel-wheel *h*, by means of lever I, whose office will presently appear. The wheel *h* meshes with another bevel-wheel, J, secured to a horizontal shaft, *j*, that is rotated by a band passing around the pulley *j'*.

K represents the flour-barrel, which is supported upon a platform, L, attached to a cage, M, whose cross-beam *m* is connected to the winding-drum N by means of two or more chains, ropes, or other flexible connections, O O'. The lower ends of these connections take hold of ring-bolts *o*, which traverse the beam *m*, and have india-rubber or other suitable springs or cushions *o'* interposed between these bolts and the under side of said beam. This winding-drum carries at one end a hand-wheel, P, wherewith said drum may be conveniently rotated in either direction, as occasion may require. The opposite end of said drum has secured to it a scroll-wheel, Q, to which is attached one end of a rope, R, that passes over a roller, *r*, and has a counter-balance, *r'*, attached to its pendent end. (See Fig. 6.) Furthermore, said drum N carries a wheel, S, around the pe-

riphery of which is passed a strap, *s*, that is connected to a lever, *T*, upon which rides a shiftable weight, *t*.

The object of this strap and weight is to produce a greater or less degree of friction upon the wheel *S*, and thereby act as a brake or tension device to regulate the rotation of drum *N*.

The clutch-lever *I*, previously alluded to, has attached to its outer end a rope, *U*, which, after passing over two rollers, *u u'*, carries a weight, *V*, that is heavy enough to disengage the coupling *H* as soon as said lever is unlocked by the descending platform.

This unlocking of the lever is accomplished in the following manner: By referring to Fig. 1, it will be noticed that a connecting-rod, *W*, extends from said lever to a hand-lever, *X*, the latter being pivoted at *x* to the stanchion *a'*. Secured to this hand-lever is a hook-catch, *Y*, that is adapted to engage under a strap, *y*, which is attached to the main frame of the machine. *y'* is a guard that prevents the hook *Y* becoming accidentally disengaged from the stop. *Z* is an adjustable tappet that is secured at any suitable elevation on the cage *M* of the platform.

The operation of my packer is as follows: An appropriate cylinder, *D*, is first applied to the neck *c* of funnel *C*; the barrel *K* is then properly located upon platform *L*, and the latter elevated by rotating the winding-drum *N* with hand-wheel *P*. As soon as the platform has been elevated far enough, the cage *M* strikes against the fixed cushions *z*, and thereby arrests the further movement of the devices *L M*. The weight *t* is now adjusted upon lever *T*, the gate *B* opened, and the catch engaged under stop *y*. The flour at once flows down hopper *B* into funnel *C*, and thence into conductor *D*, as indicated by arrows in Fig. 7.

The engagement of catch *Y* with stop *y* throws the coupling *H* in gear, and consequently the shaft *E* is driven by shaft *j*. This rotation of axial shaft *E* causes a corresponding movement of the two pairs of attached screws *F F'* and *G G'*, which act to pack the flour evenly in the barrel. This continued and forcible packing of the flour causes a corresponding descent of the platform, and as soon as the latter has been carried down far enough to insure the complete filling of the barrel the tappet *Z* strikes against the catch *Y*, and at once disengages it from the stop *y*. The weight *V* instantly elevates the outer

end of lever *I*, and the result is that the clutch *H* is disengaged, and the further rotation of shaft *E* arrested.

The packed barrel can now be shifted from the platform *L*, the two screws *F F'* and *G G'* serving to effectually close and prevent any escape of flour from the cylinder *D* while the filled barrel is being removed and an empty one substituted in its place, after which the above-described operations are again repeated, with the exception of the adjustment of the braking mechanism *S s T t*, which requires no attention after it has once been properly regulated.

I have described my apparatus as a flour-packer, that being the use to which it will generally be put; but I do not propose to limit the machine to this purpose alone, as it is evident it may be employed for packing calcined and land-plaster cement of any kind, &c.

I am aware that elastic couplings have been heretofore used, but I am not aware that they have been combined with a power-driven drum, the sudden movement of which, when thrown in gear, renders it very desirable to provide means for overcoming the abrupt action.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the detachable trunk *D*, the hopper-gate *B*, the intermediate funnel *C*, expanding toward the top and communicating with the trunk at its contracted lower end *c*, and the shaft *E*, provided with arms *e*, arranged in the funnel above the lower end thereof, all as set forth.

2. The combination of the sliding platform *L M*, the screw-shaft *E*, driving-pinion *h*, clutch *H*, and connecting mechanism whereby the said clutch is operated on the movement of the platform, substantially as set forth.

3. The combination of the sliding platform, winding-drum *N*, and connecting chains or bands secured through the medium of a yielding or spring coupling to the platform, as set forth.

4. The combination of the sliding platform of a flour-packer, a balance-weight and cord, and a drum of gradually-increasing diameter, whereby the leverage exerted by the weight increases in proportion to the increased weight upon the platform, as set forth.

FREDERICK WOLF.

Attest:

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AUSTIN T. EARLE.