

(No Model.)

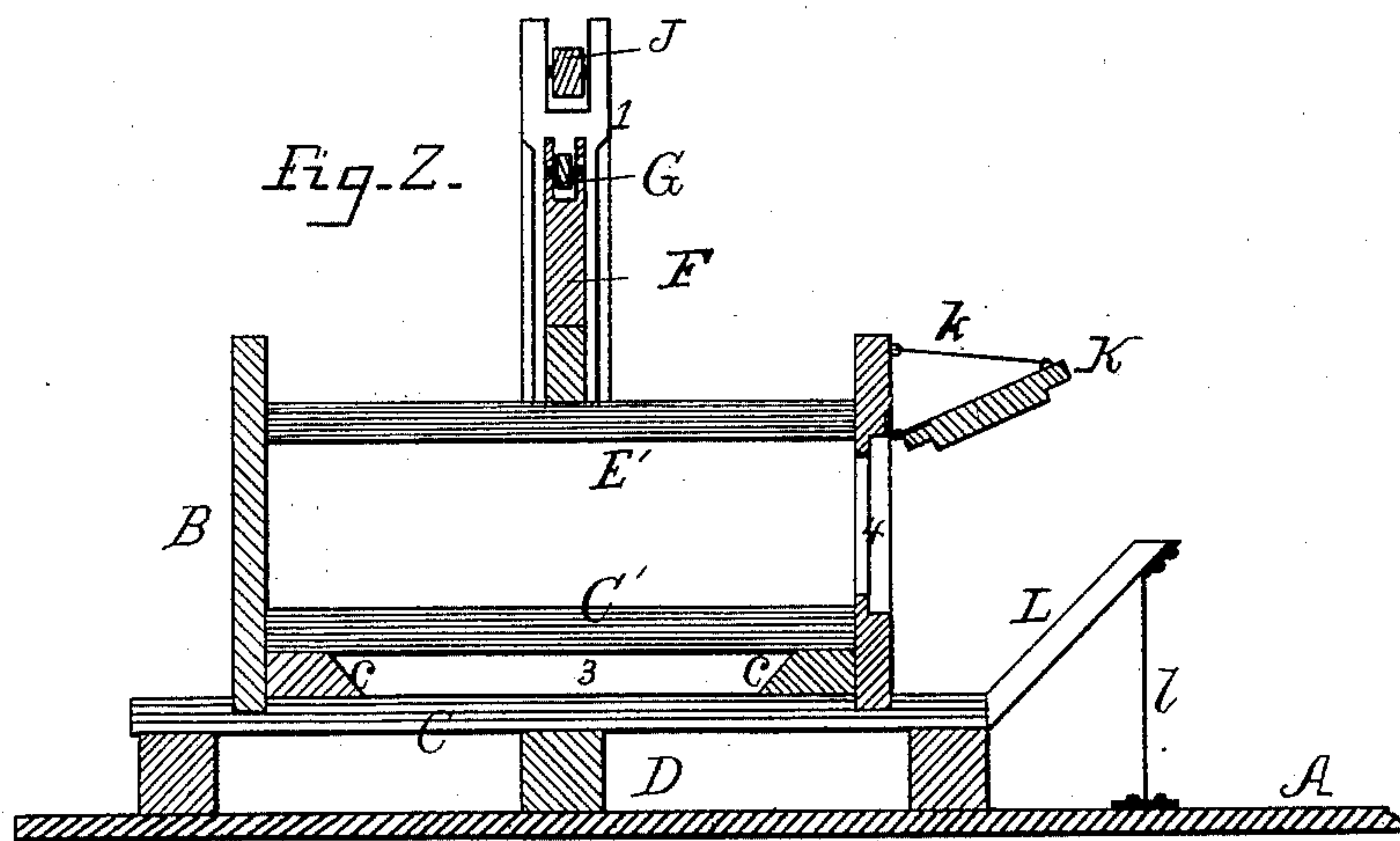
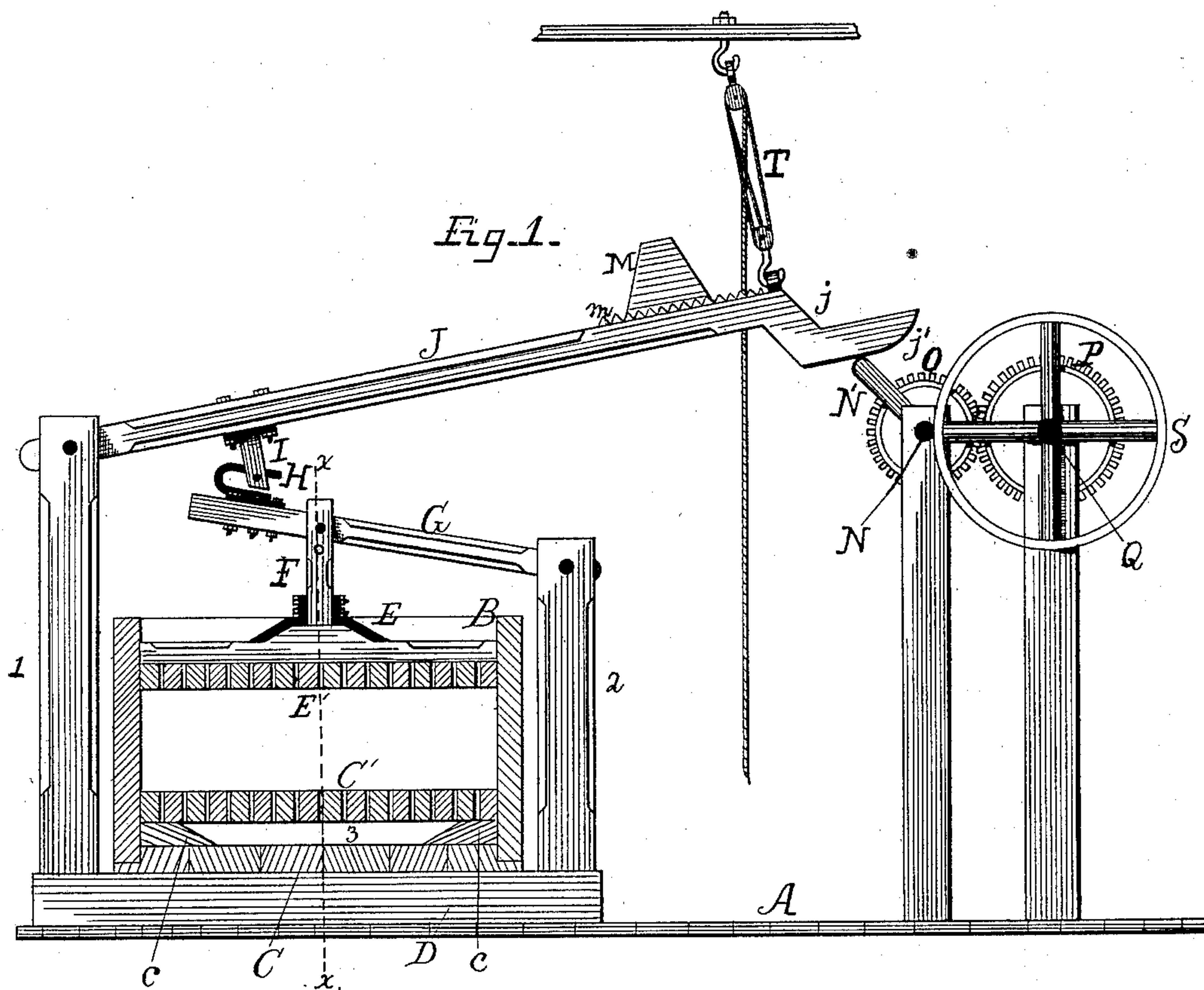
2 Sheets—Sheet 1.

S. DAVIS.

MACHINE FOR WASHING WOOL.

No. 362,065.

Patented May 3, 1887.



WITNESSES

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2 Sheets—Sheet 2.

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Fig. 3.

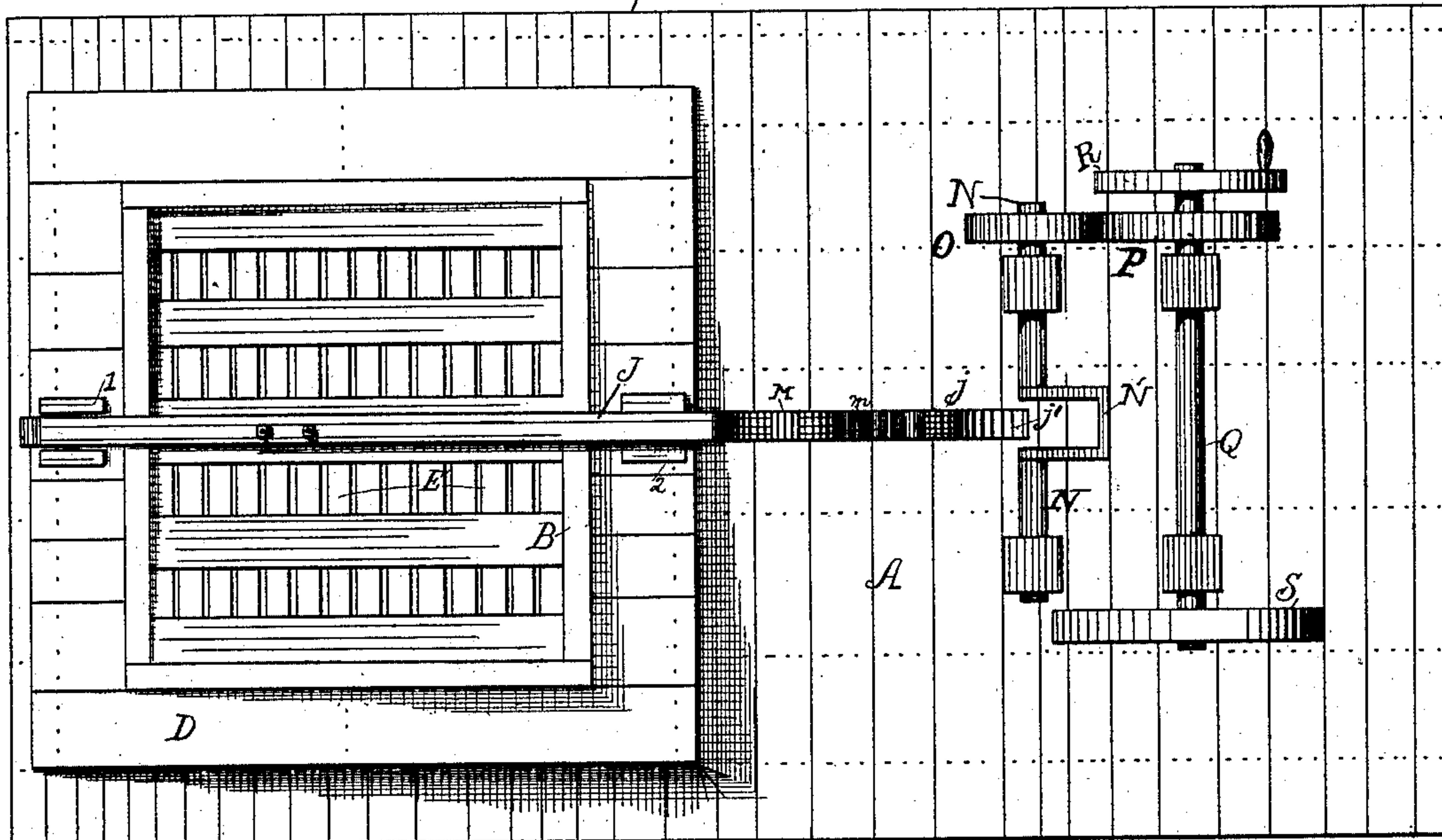


Fig. 4.

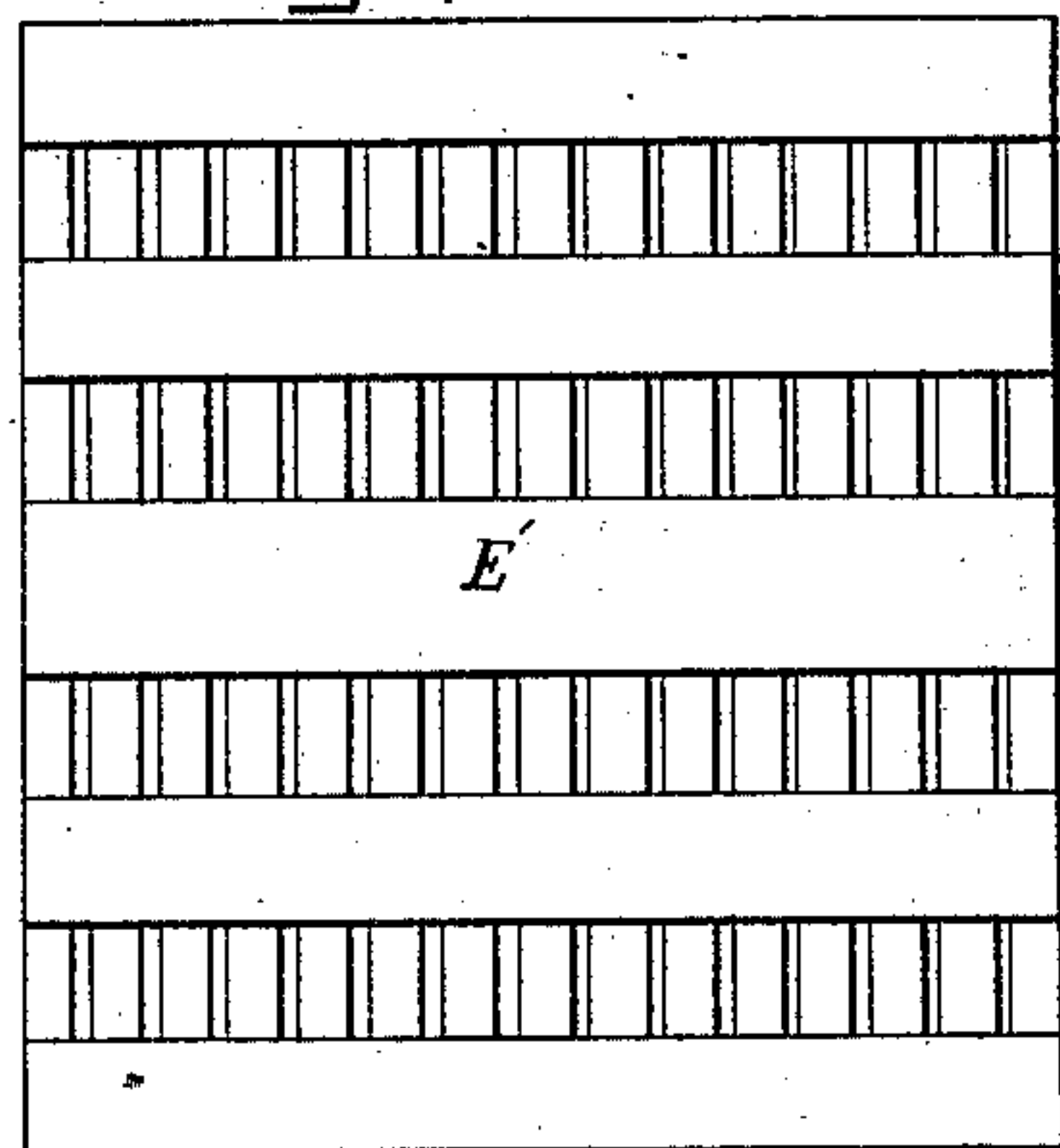
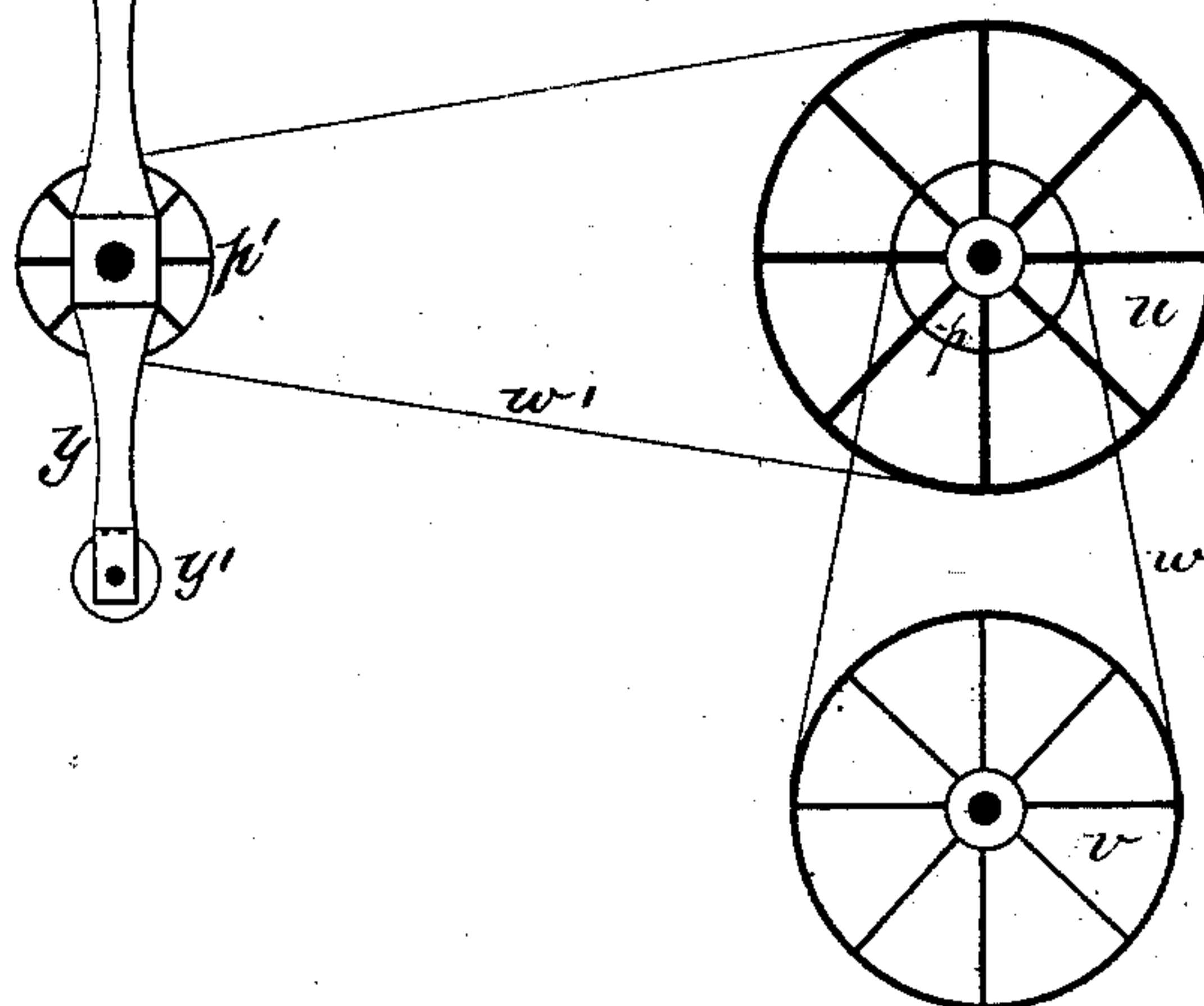


Fig. 5.



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UNITED STATES PATENT OFFICE.

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JAMES HARVEY AND MICHAEL BRUGGER, BOTH OF SAME PLACE.

MACHINE FOR WASHING WOOL.

SPECIFICATION forming part of Letters Patent No. 362,065, dated May 3, 1887.

Application filed October 20, 1886. Serial No. 216,758. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL DAVIS, a citizen of the United States, residing at Las Vegas, in the county of San Miguel and Territory of New Mexico, have invented certain new and useful Improvements in Machines for Washing Wool; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in washing-machines, particularly that class of machines designed for washing wool and other similar substances; and my said invention consists in certain details of construction and arrangement of the parts composing the same, as and for the purposes hereinafter more fully described, and pointed out in the claims.

The object of this invention is to render the operation of washing wool effectual and easy of accomplishment, and at the same time so simplify the construction of the parts composing the machine as to bring it within the reach of persons of limited means, and yet be of sufficient strength and durability to properly perform its function.

For a better understanding of the details of construction of my invention reference must now be had to the accompanying drawings, in which—

Figure 1 represents a sectional side elevation of a machine for washing wool constructed according to my invention; Fig. 2, a similar view taken at right angles to Fig. 1 on the line *xx*, and Fig. 3 a plan view of the same. Fig. 4 is a view of the removable slatted bottom, and Fig. 5 a view illustrating a modification in the form of the lever-lifting mechanism.

Similar letters and figures of reference indicate like parts in the several views.

When constructing a wool-washing machine according to my invention, I proceed as follows: Upon a suitable platform, A, is secured the press or box B, for holding the wool to be cleaned. This press has a close bottom, C, which rests upon a stout supplemental base, D, which in turn rests upon the platform A. Adjacent the press B, and upon opposite sides

thereof, are secured two uprights or standards, 1 2, to form the pivot-bearings for the levers which operate the plunger, as will presently appear.

Within the press, around the bottom thereof, is arranged beveled cleats *c*, for supporting the movable slatted false bottom C', whose outer edges only rest upon said cleats, as shown in Figs. 1 and 2.

E is the plunger of the press, also formed with a slatted bottom, E', similar to the false bottom C', and adapted to slide up and down within the press. This plunger is secured at its central portion to a short upright, F, which in turn is pivoted to the outer end of a short lever, G, one end of which is pivoted to the post 2 and the other connected by a hanger, H, and link I to a long lever, J, which is pivoted to the post 1 upon the opposite side of the press to the post 2.

As will be seen in Fig. 1, the plunger E is pivoted to the short lever G, near the outer end thereof or remote from the fulcrum thereof, while said lever G is connected to the long lever J near the pivot or fulcrum end of said long lever, whereby a compound leverage of great power is obtained.

As before stated, the false bottom C' is only supported at its outer edges, so that a space, as at 3, is formed between said false bottom and the bottom C of the press, and at one side of the said press an opening, as at 4, is formed, which, when the machine is in operation, is closed by a hinged door, K, whereby the passage of the wool to and from the machine is provided for. Before this opening 4 is arranged a fender, L, supported at an angle by a brace, *l*, which rests upon the platform A, and the door K is held open by a hook, as at *k*, and secured when closed by suitable lock.

Referring again to the long lever J, Fig. 1, it will be seen that the outer end thereof is formed with an angle, as at *j*, the under surface of which is curved, as at *j'*, and upon the top of said lever is a rack or toothed surface, as at *m*, for retaining in proper position upon said lever a weight, M, for depressing said lever.

To raise the lever, the following mechanism is employed:

N is a crank-shaft whose crank N' engages beneath the end j' of the lever J and raises the same. This shaft N carries at one end a gear-wheel, O, which meshes with a larger gear-wheel, P, on a shaft, Q, arranged parallel to and upon the same plane with the shaft N. This shaft Q carries at one end a hand-crank wheel, R, and at the other end a balance-wheel, S, whereby the rotation of the shaft N is effected, and through the crank-arm N' thereof the lever J is raised. As will be observed, the mechanism just described is merely to raise the lever. The proper depression thereof is effected by its own and the added weight M, so that a regular upward and downward movement of said lever is effected, and through it the desired reciprocating motion of the plunger E.

T is a rope with suitable blocks secured at one end to the outer end of the lever and at the other end to a support above the same, whereby the lever may be raised by hand and suspended when desired.

The operation is as follows: The plunger being first raised to its full height, the wool is placed within the machine through opening 4, which is then closed and its door securely locked. The press is now partially filled with water and the lever-operating mechanism started in motion. The crank-arm N', engaging beneath the end of the lever J, raises the same, and through it the lever G and plunger E. After the crank-arm has attained the limit of its stroke and passes beyond the end of the lever J said lever, because of the weight thereof, drops with great pressure upon the mass of wool, tightly compressing the same within a small space and ejecting the water therefrom. Upon the lever being again raised the suction of the plunger causes the water to again circulate through the mass of wool and effectually cleanse it. This alternate ebb and flow of the water under pressure through the wool quickly removes the dirt therefrom, which settles in the space 3, below the false bottom C'. When cleaned, the door K is opened, and the wool is removed through the opening 4 and a new charge substituted, and the operation repeated. The fender L prevents the dropping of the wool upon the floor when removing the same from the machine.

By reason of the long lever J, coupled to the

short one G, very great leverage of the compound order is secured, so that the positive circulation of the cleaning-fluid through all parts of the mass of wool is assured, and in addition to this the parts are rendered strong and durable.

A series of these machines may be arranged to be operated in pairs of two, four, six, &c., so that when one set of levers is elevated the next set will be depressed, and so on, thereby securing uniformity of action and equal strain upon the lifting-cranks and preventing unequal movements in the machinery.

In the modification shown in Fig. 5 v is a hand-wheel, upon the revolution of which the large wheel u is caused to turn by reason of the belt w , which passes over a pulley, p , on the shaft of said large wheel u . The revolution of this wheel u , through band w' , over a pulley, p' turns the arm y and causes its ends y' , having roller bearings therein, to engage the under surface of lever J, and thereby raise the same.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent of the United States, is as follows, viz:

1. In a machine for washing wool, the box or press B, with closed bottom C, having cleats c , slatted false bottom C', slatted plunger E E', opening 4, door K, and fender L, combined with suitable connection for raising said plunger, for the purposes specified.

2. In a machine for washing wool, the combination, with the press B, having opening 4, door K, bottom C, cleats c , slatted bottom C', and plunger E E', of the standard F, posts 1 2, short lever G, hangers H I, and long lever J, with suitable mechanism for raising said levers, for the purposes specified.

3. In a machine for washing wool, in combination with the press B C, plunger E E', short lever G, and long lever J, having a curved end, j' , the crank-shaft N N', gear-wheel O, shaft Q, gear-wheel P, and wheels R S, all constructed and arranged substantially as and for the purposes described and shown.

SAMUEL DAVIS.

In presence of—
F. G. DAVIS,
EPIFANIO ESCUDERO.