

(No Model.)

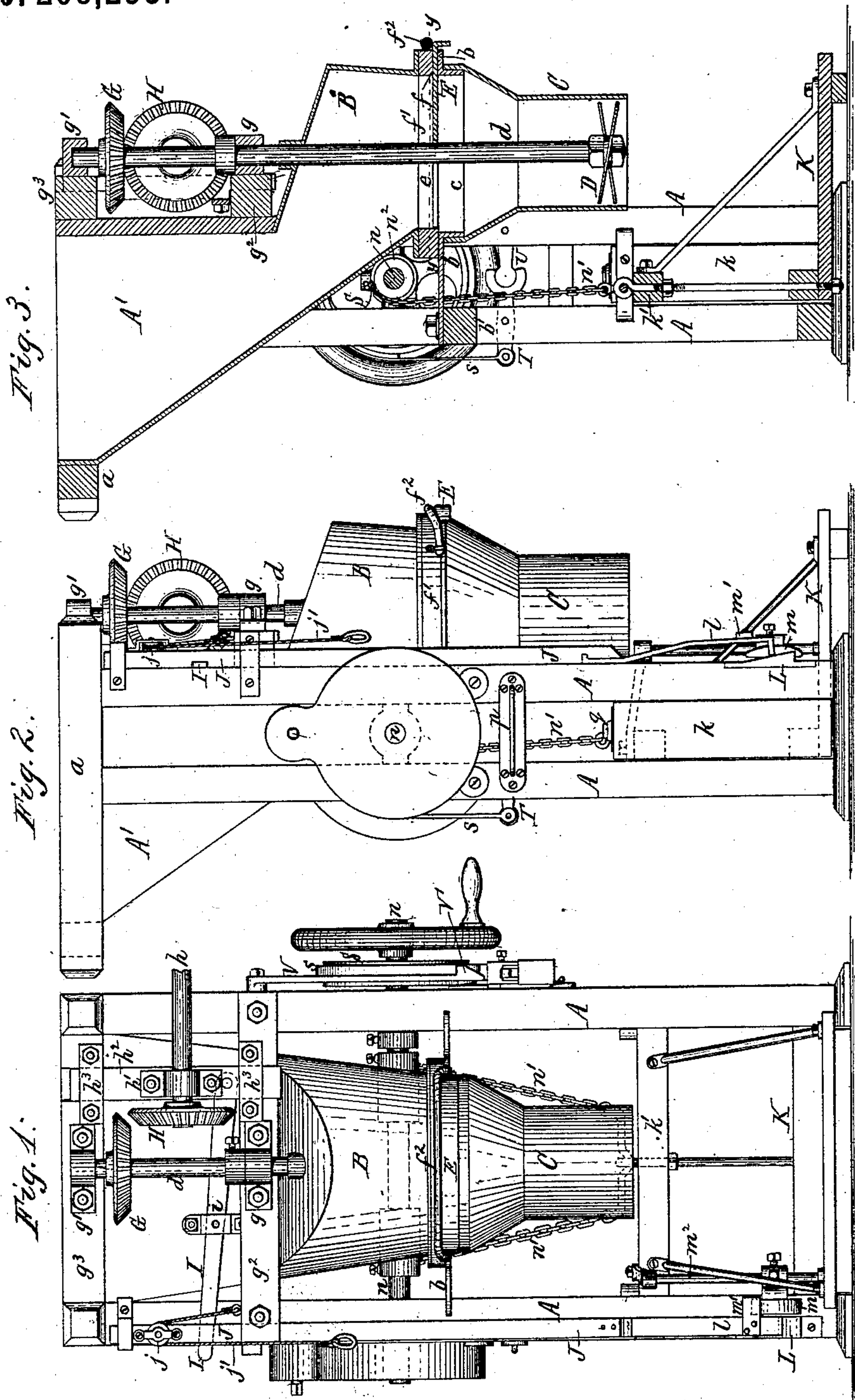
2 Sheets—Sheet 1.

J. B. MARTIN.

FLOUR PACKER.

No. 268,253.

Patented Nov. 28, 1882.



Witnesses:
Chas. J. Dickheit.
Edw. J. Brady.

J. B. Martin, Inventor.
By William H. Brown,
Attorneys.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

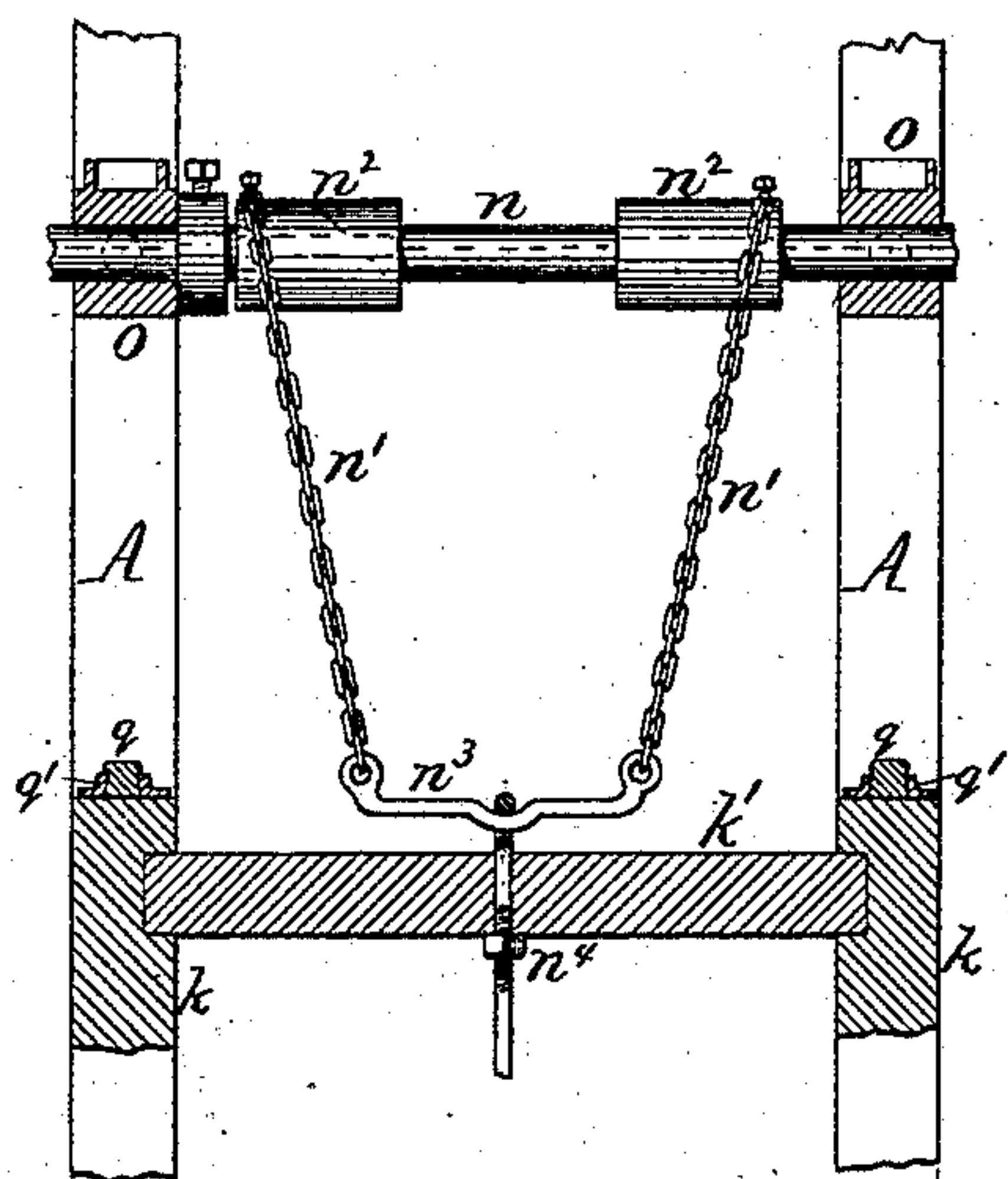


Fig. 5.

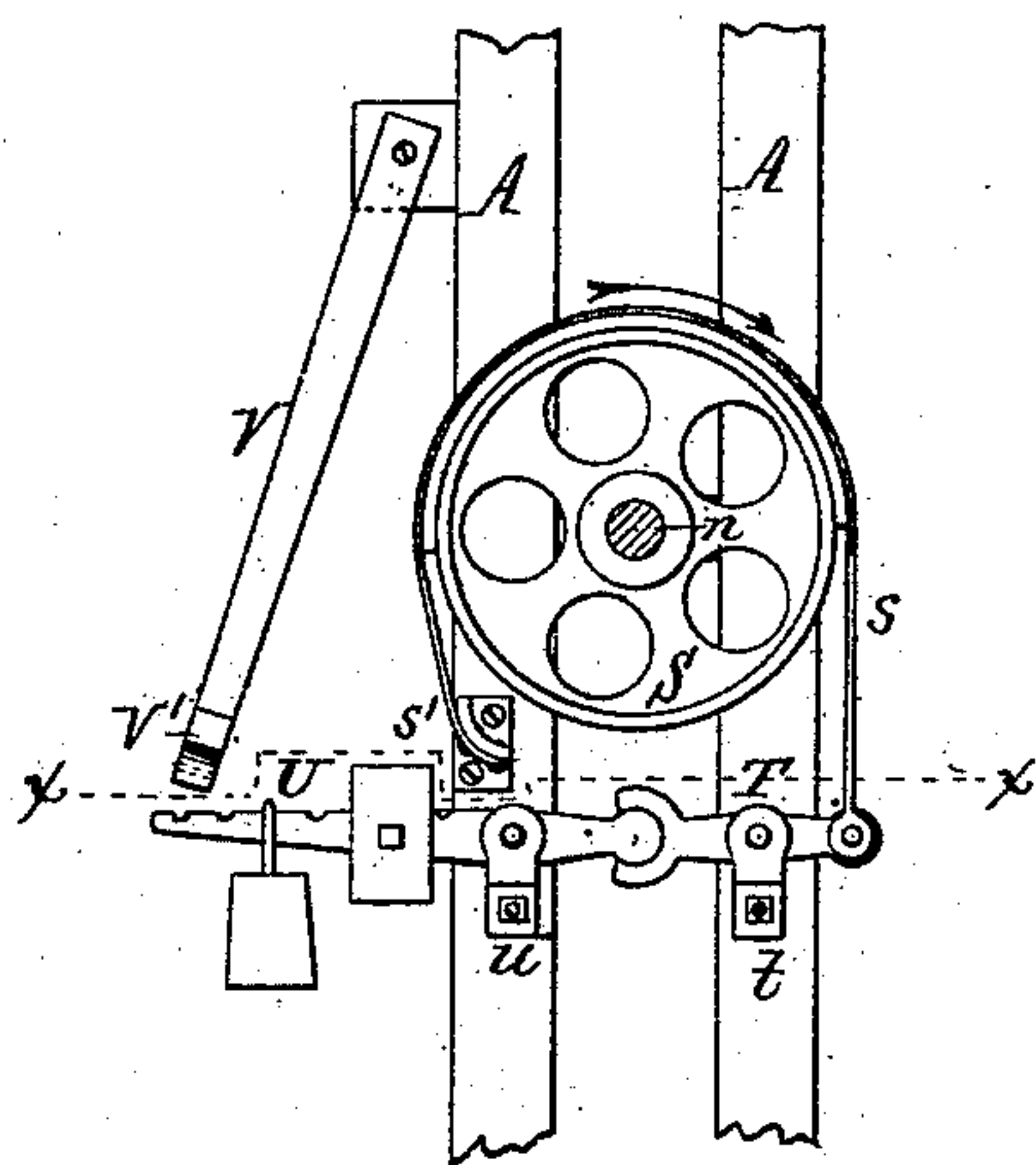


Fig. 6.

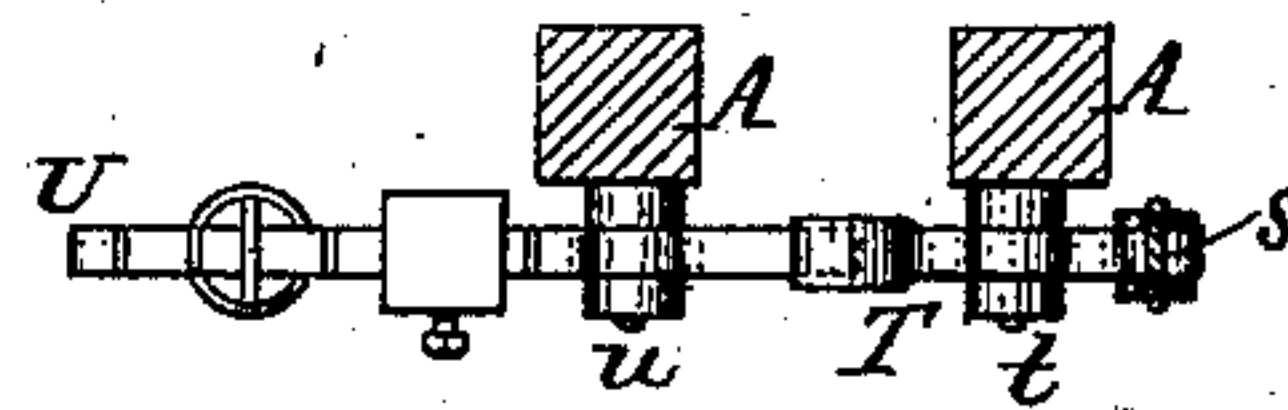


Fig. 7.

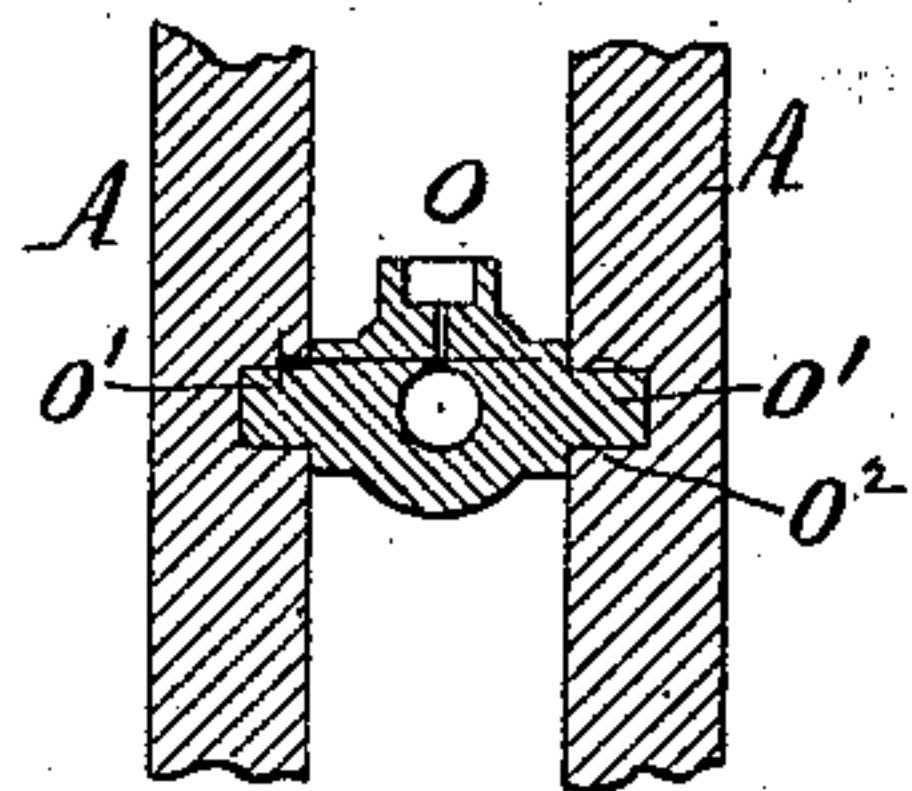


Fig. 8.



Fig. 9.

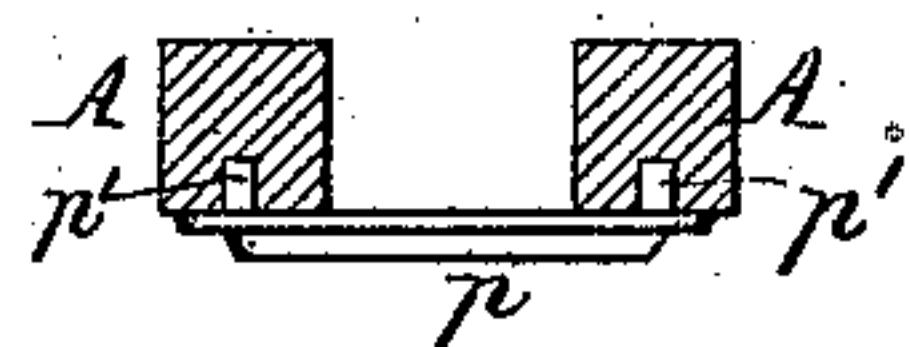


Fig. 10.

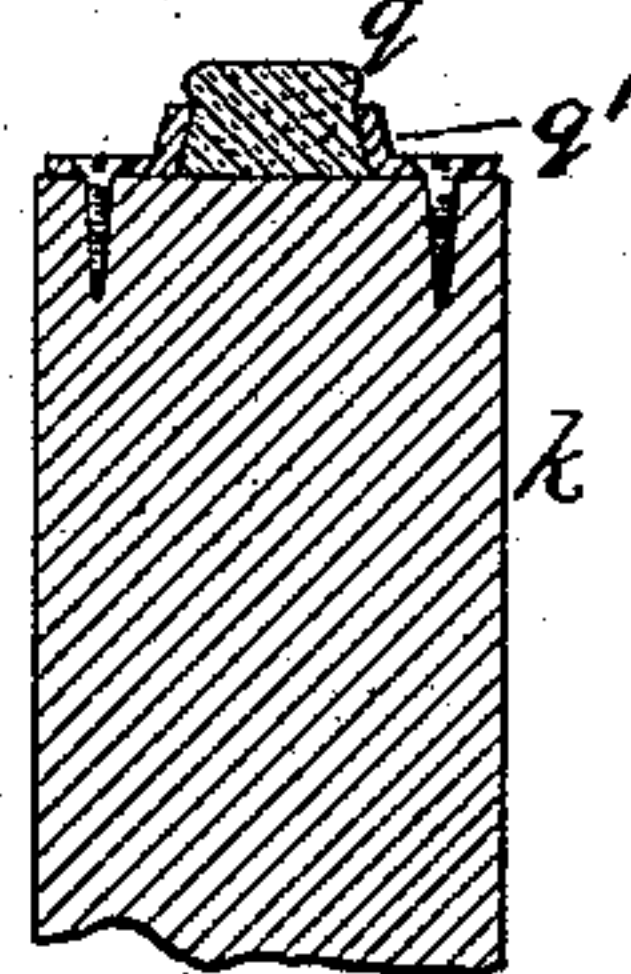


Fig. 11.

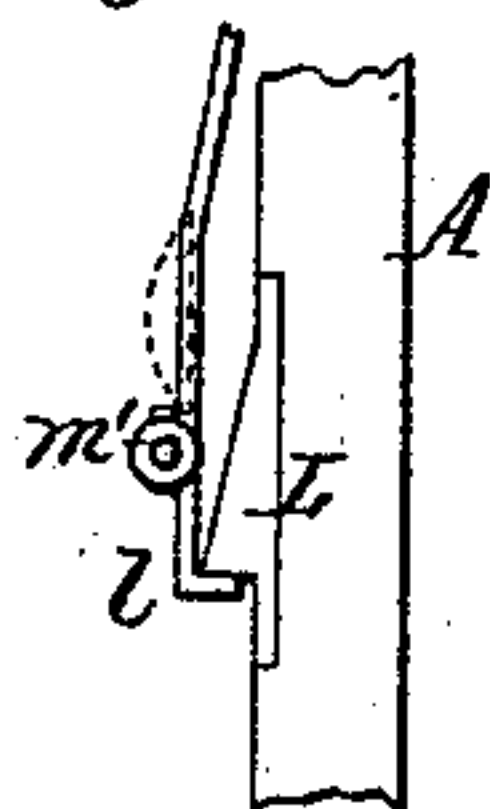


Fig. 12.

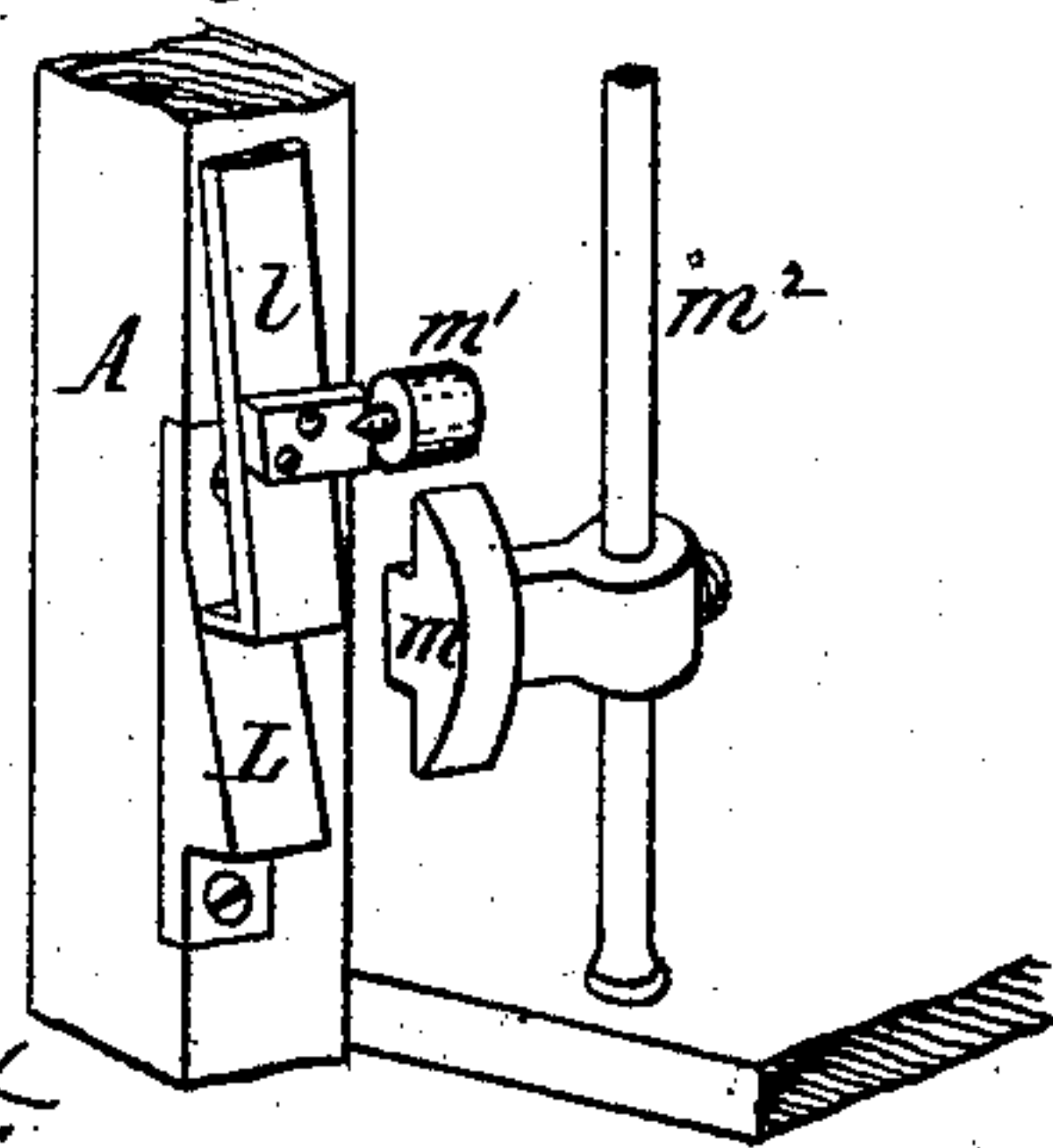


Fig. 13.

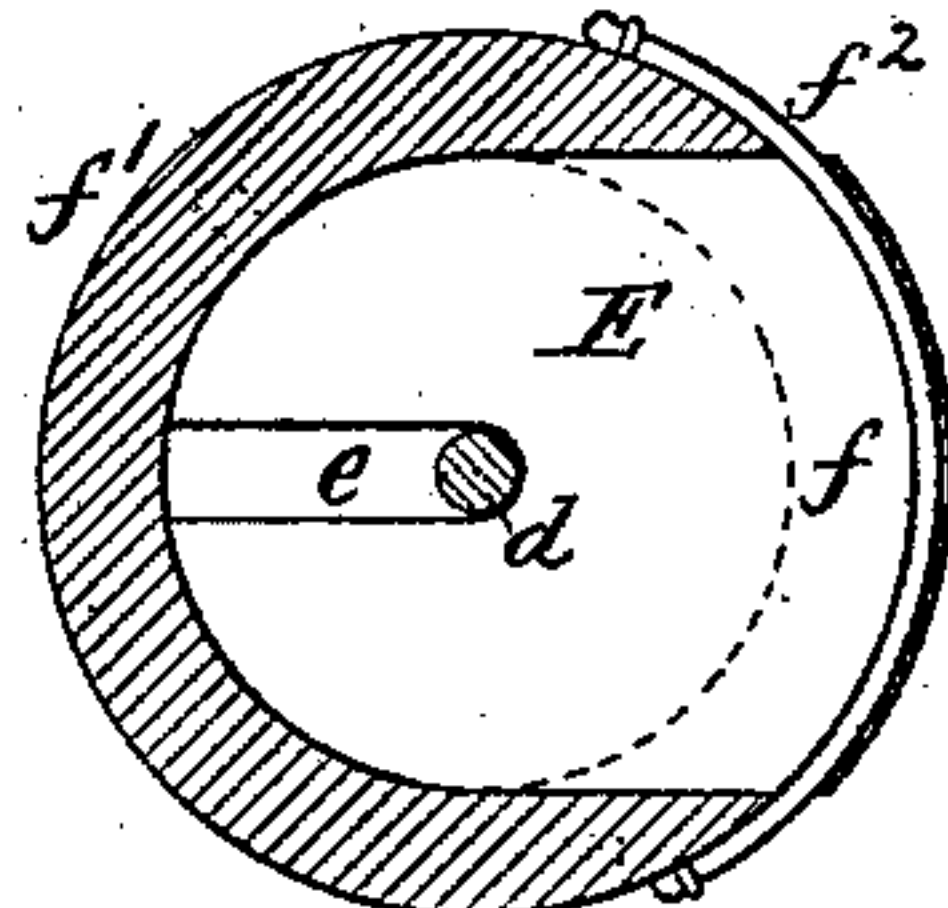
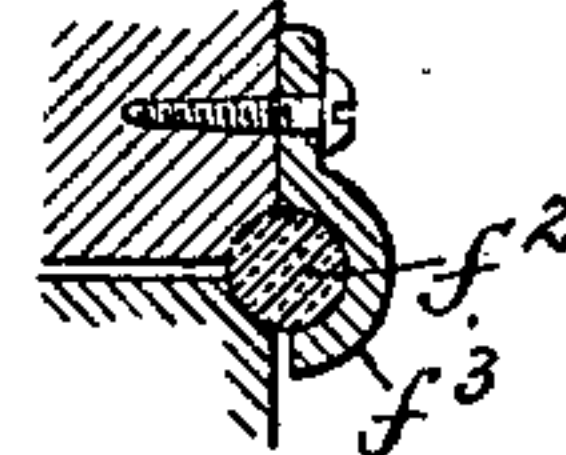


Fig. 14.



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UNITED STATES PATENT OFFICE.

JOSEPH B. MARTIN, OF SILVER CREEK, NEW YORK, ASSIGNOR TO HOWES, BABCOCK & EWELL, OF SAME PLACE.

FLOUR-PACKER.

SPECIFICATION forming part of Letters Patent No. 268,253, dated November 28, 1882.

Application filed March 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH B. MARTIN, of Silver Creek, in the county of Chautauqua and State of New York, have invented new and useful Improvements in Flour-Packers, of which the following is a specification.

This invention relates more particularly to improvements in that class of flour-packers which are provided with a movable platform, on which the barrel, sack, or other receptacle to be filled is placed, and which has a rotating feed-screw and a tube or cylinder surrounding the same, whereby the flour or other material is forced into the barrel or other receptacle which is placed upon the platform, and which surrounds the cylinder which incloses the feed-screw, the platform receding automatically from the feed-screw in the same measure as the receptacle becomes filled.

The object of this invention is to render this class of machines more reliable and convenient in their operation.

My invention consists, to that end, of a peculiar device whereby the escape of flour is prevented when the slide is withdrawn which is employed to support the flour when the filling-tube is exchanged; also, of the peculiar mechanism whereby the feed-screw is set in motion and stopped at the proper time; also, of the peculiar manner in which the movable platform is suspended; also, of the peculiar construction of the bearings in which the shaft is supported to which the movable platform is attached; also, of the peculiar construction of the brake mechanism, as will be hereinafter fully set forth.

In the accompanying drawings, consisting of two sheets, Figure 1 is a front elevation, Fig. 2 a side elevation, and Fig. 3 a vertical section, of a flour-packer provided with my improvements. Fig. 4 is a sectional rear elevation of the parts whereby the platform is raised and lowered. Fig. 5 is a side elevation of the brake mechanism. Fig. 6 is a horizontal section of the same in line *x x*, Fig. 5. Fig. 7 is a vertical section of one of the bearings in which the shaft rotates to which the platform is attached. Fig. 8 is an inside elevation of that portion of one of the posts to which this bearing is secured. Fig. 9 is a top plan view of the brace whereby each pair of posts are con-

nected. Fig. 10 is a vertical section, on an enlarged scale, of the upper end of one of the side pieces of the platform. Fig. 11 is a side view of the lower portion of the mechanism whereby the feed mechanism is thrown in and out of gear, showing the spring-catch engaged. Fig. 12 is a perspective view of the same parts, showing the spring-catch released. Fig. 13 is a horizontal section in line *y y*, Fig. 3. Fig. 14 is a vertical section, on an enlarged scale, of the device whereby the elastic band is secured to the machine.

Like letters of reference refer to like parts in the several figures.

A A represent the vertical posts of the machine, arranged in pairs on opposite sides of the machine; and A' represents the hopper-shaped receptacle, secured between the upper parts of the posts, and connected with the discharge-opening in the bottom of the flour-bin, so as to receive the flour therefrom. The top of the receptacle A' is inclosed by a rectangular frame, *a*, which is secured to the upper ends of the posts. The lower end of the receptacle A' connects with a hood, B, which projects forwardly beyond the frame of the machine, and which rests upon a plate or frame, *b*, having a circular opening which coincides with the opening of the hood B. The plate *b* is secured to the hood B and to a cross-piece, *b'*, of the frame, and is provided on its under side with a short sleeve or collar, *c*, to which the removable tubes C are attached.

d is the vertical shaft, arranged axially within the tube C; and D is the auger or feed-screw, secured to the lower end thereof, and operating to pack the flour or other material in the bag or other receptacle in a well-known manner.

E represents a horizontal slide, arranged on the plate *b* for the purpose of closing the opening in the plate when the tube C is removed. The slide E is provided with a slot, *e*, which permits the inner portion of the slide to straddle the vertical shaft *d* when the slide is closed, as represented in Fig. 13. The slide is inserted through an opening, *f*, in the outer side of a ring, *f'*, which is secured to the bottom of the hood B.

*f*² represents an elastic band or cord, secured

to the ring f' , on opposite sides of the opening f , and bearing against either the upper or lower side of the slide E, above or below the opening f . When the tubes C are required to be changed the slide E is closed, thereby preventing the flour from escaping from the hood B. The tube C is then removed and another one put in its place. The slide E is now withdrawn, and as soon as the slide is entirely removed from the opening f the band f^2 , by reason of its elasticity, assumes a position in front of the opening, entirely closing the same and preventing the flour from escaping through said opening into the mill. The ends of the elastic band f^2 are adjustably secured to the machine by clamps f^3 , which are released when the band has become relaxed, and which are again tightened after the band has been stretched to the proper tension, thereby affording means for regulating the tension of the band.

Instead of constructing the band f^2 of elastic material, it may be made of non-elastic material and connected with the ring f' by means of short elastic end pieces.

The vertical shaft d extends upwardly through the top plate, and is held above the latter in bearings $g g'$, attached to cross-pieces $g^2 g^3$ of the frame.

G represents a bevel-wheel secured to the shaft d , near its upper end, and receiving motion from a similar wheel, H, mounted on the end of a horizontal shaft, h . The latter is supported near the wheel H in a bearing, h' , which is attached to a vertically-sliding bar, h^2 , which is guided in ways h^3 , attached to the cross-pieces $g^2 g^3$ of the frame.

I represents a lever pivoted to the front side of the receptacle A', at i , and connected with its inner end to the sliding bar h^2 , and passing with its outer end through a notch in a vertically-sliding bar, J, arranged on the face side of one of the front posts A of the machine.

j represents a pulley attached to the sliding bar J, near its upper end.

j' is a cord which runs over the pulley j , which has one of its ends attached to the cross-piece g^2 of the frame, and its other end provided with a ring or other suitable device adapted to be taken hold of, and hanging in convenient reach of the operator. The weight of the shaft h and connecting parts tend to hold the wheel H away from the wheel G, as represented in Fig. 1. When the parts are in this position no motion is communicated to the wheel G, and the feed-screw remains stationary. Upon pulling down on the free end of the cord j' the sliding bar J and the outer end of the lever I are lowered, thereby raising the inner end of the lever I and sliding bar attached thereto, and bringing the wheel H in contact with the wheel G, whereby the feed-screw is rotated. Upon releasing the cord j' the wheel H drops away from the wheel G, if not otherwise held in contact therewith.

K represents a movable platform, arranged

underneath the tube C, between the posts of the machine; and k is a vertical piece secured to the platform on each side thereof, so as to slide between the adjacent faces of each pair of posts A. The vertical pieces k are connected near their upper ends by a cross-piece, k' , in the usual manner. The lower end of the sliding bar J is provided with a spring hook or catch, l , which engages over a stop or shoulder, L, secured to the face side of the post A, against which the sliding bar J is arranged. The upper face of the stop L is inclined and its lower face is made abrupt, as clearly shown in Figs. 2 and 11.

m represents a cam attached to the platform K, near the sliding bar J; and m' represents a laterally-projecting arm and roller, secured to the spring-catch l in such manner as to be operated upon by the cam m . As shown in the drawings, the cam m is secured to a vertical rod, m^2 , secured to the platform in such a manner that the cam can be adjusted up or down, as may be required. Upon lowering the sliding bar J, in order to throw the wheel H into gear with the wheel G, the spring-catch l , attached to the lower end of the bar J, engages over the shoulder L, and thereby holds the wheels H and G in gear for the time being after the cord j' is released. The platform descends in the same measure as the flour or other material is packed by the feed-screw into the barrel or other package placed on the platform until the cam m engages behind the arm m' of the spring-catch l . The operating-face of the cam m is so curved or inclined that the cam will disengage the spring-catch l from the shoulder L, and the cam m is so adjusted on the rod m^2 that the disengagement takes place at the moment when the desired quantity of material has been packed in the barrel or other receptacle. Upon releasing the catch l from the shoulder L the wheel H drops away from the wheel G by its own weight and that of its connecting parts, thereby stopping the operation of the feed-screw and raising the sliding bar J to the position shown in Figs. 1 and 2. If desired, the shoulder L may be formed on the sliding bar J in a reversed position and the spring-catch l be secured to the post below said shoulder.

n represents a horizontal shaft, arranged between the two pairs of posts A; and n' represents two chains, ropes, or cables, which connect the movable platform K with the shaft n in such a manner that by turning the shaft in one or the other direction the platform is raised or lowered. The shaft n is preferably provided with drums or cylindrical enlargements n^2 , upon which the chains are wound. The chains n' are attached to the drums n^2 , near their outer ends, and the lower ends of the chains are connected to a lever, n^3 , which is pivoted centrally to the upper cross-piece, k' , of the platform K. As shown in Fig. 4, the lever is pivoted to the cross-piece by means of a bolt, n^4 , which is provided above the cross-piece with an eye, through which the lever passes, and in which

it is held against lateral displacement by a bend formed in the lever. The lever is shorter than the distance between the two points at which the chains n' are attached to the drums of the shaft n , whereby the chains are made to converge from the shaft toward the platform, so that in raising and lowering the platform the draft will be in the vertical center-line, equidistant from the converging chains, and not in an inclined line, changing its inclination as the platform is raised and lowered, as is the case when the chains are arranged parallel with each other.

O represents the bearings in which the shaft n rotates. Each bearing O is arranged between a pair of posts A, and provided at their ends with cylindrical studs O' , which fit in correspondingly-shaped sockets O^2 , formed on the inner sides of the posts A, as represented in Figs. 7 and 8. The pair of posts between which the bearing is arranged are held at the proper distance apart by bars p , which are secured to the outer sides of the posts, and which are provided on their inner sides with studs or teeth p' , which engage in sockets or recesses formed in the posts, as clearly shown in Figs. 2 and 9.

q represents a block of rubber or other elastic material, secured to the top of each side piece, k , of the platform K by means of a metallic socket, q' . The elastic blocks q serve to arrest the upward movement of the platform gradually by coming in contact with the under side of the bearings O.

S represents a brake wheel or pulley secured to one end of the shaft n ; and s represents a brake-band, which partially surrounds the brake-wheel S, and which is secured with its front end to the adjacent part of the frame of the machine, as shown at s' , while its rear end is attached to the rear end of the short lever T. The latter is pivoted in a bearing, t , secured to the rear post, and is connected with its front end to the rear end of a lever, U, by means of a knuckle-joint, as shown in Figs. 5 and 6. The lever U is pivoted to the front post by means of a bearing, u , and the outer or front end is provided with one or more adjustable weights, whereby the friction of the brake is regulated. The weight or weights applied to the outer arm of the lever U depress the same, thereby raising the inner arm of the lever U, which causes a corresponding movement of the front end of the lever T and a downward movement of the rear end of the lever T, to which the brake-band is attached. By this construction of the brake mechanism the weights are located at the front of the machine, where they are in convenient reach of the operator, and the pressure is applied to the brake-band in the direction opposite to that in which the brake-wheel revolves and in which the pressure is most effective, which would not be the case if a single brake-lever were employed, as the brake-pulley ro-

tates in the direction of the arrow, Fig. 5, during the downward movement of the platform.

V represents an arm pivoted to the front post of the machine, above the brake mechanism, and having its lower end provided with the shoulder V' , which is arranged near the outer end of the brake-lever U, so that when it is desired to relieve the shaft n entirely from the friction of the brake the outer end of the lever U can be placed on the shoulder of the arm V, whereby the brake-band is lifted from the brake-pulley, and the latter permitted to rotate freely.

I claim as my invention—

1. The combination, with the flour-passage B, having an opening, f , adapted to receive a slide, E, of an elastic band or cord, f^2 , adjustably secured to the machine, whereby said opening is closed when the slide is removed, substantially as set forth.

2. In a flour-packer, the combination, with a platform, K, moving in vertical ways, of a shaft, n , and converging chains n' , connecting the platform with said shaft, whereby the platform is prevented from binding in its ways, substantially as set forth.

3. The combination, with a pair of posts, A, and the shaft n , of the bearings O, provided with studs O' , entering sockets in the posts A, substantially as set forth.

4. The combination, with a pair of posts, A, and shaft n , of the bearings O, provided with studs O' , entering sockets in the adjacent sides of the posts, and a connecting-bar, p , secured to the outer sides of both posts, and provided with studs p' , entering sockets in the outer sides of the posts, substantially as set forth.

5. In a flour-packer, the combination, with the shaft n , whereby the platform is moved, of a brake-wheel, S, mounted on said shaft, a brake-band, s , a lever, T, attached with its rear end to the brake-band, and a lever, U, having its rear end connected with the front end of the lever T and its front end adapted to receive the pressure by which the brake is applied and released, substantially as set forth.

6. In a flour-packer, the combination, with the shaft n , whereby the platform is moved, of a brake-wheel, S, mounted on said shaft, a brake-band, s , a lever, T, attached with its rear end to the brake-band, a lever, U, having its rear end connected with the front end of the lever T and its front end adapted to receive the pressure by which the brake is applied and released, and the pivoted arm V, adapted to be engaged with the lever U, and to hold the brake-lever in a position in which the brake-band is released, substantially as set forth.

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Witnesses:

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