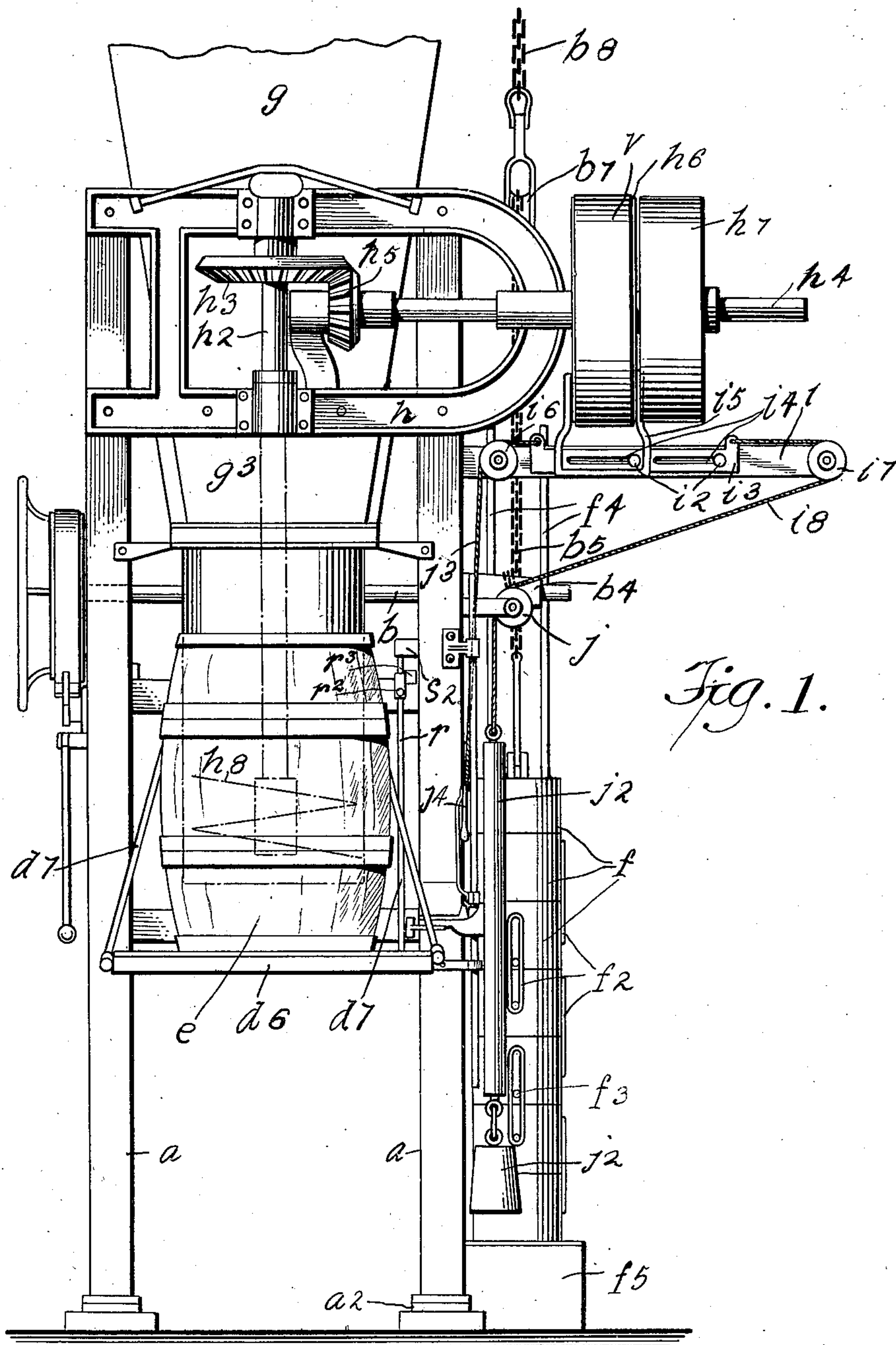


No. 862,303.

PATENTED AUG. 6, 1907.

C. F. BISSINGER.  
PACKING MACHINE.  
APPLICATION FILED JAN. 4, 1907.

3 SHEETS—SHEET 1



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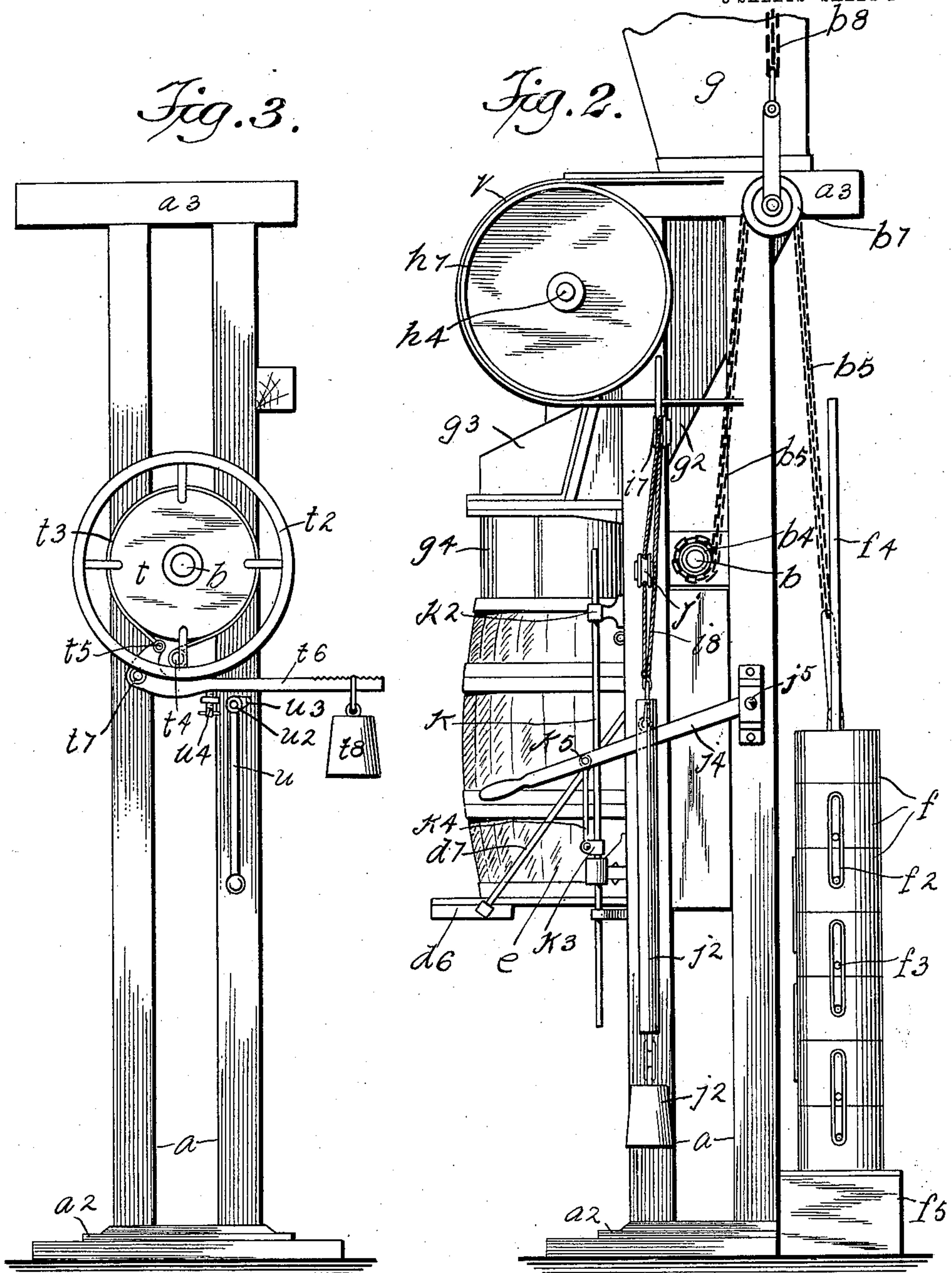
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3 SHEETS—SHEET 3.

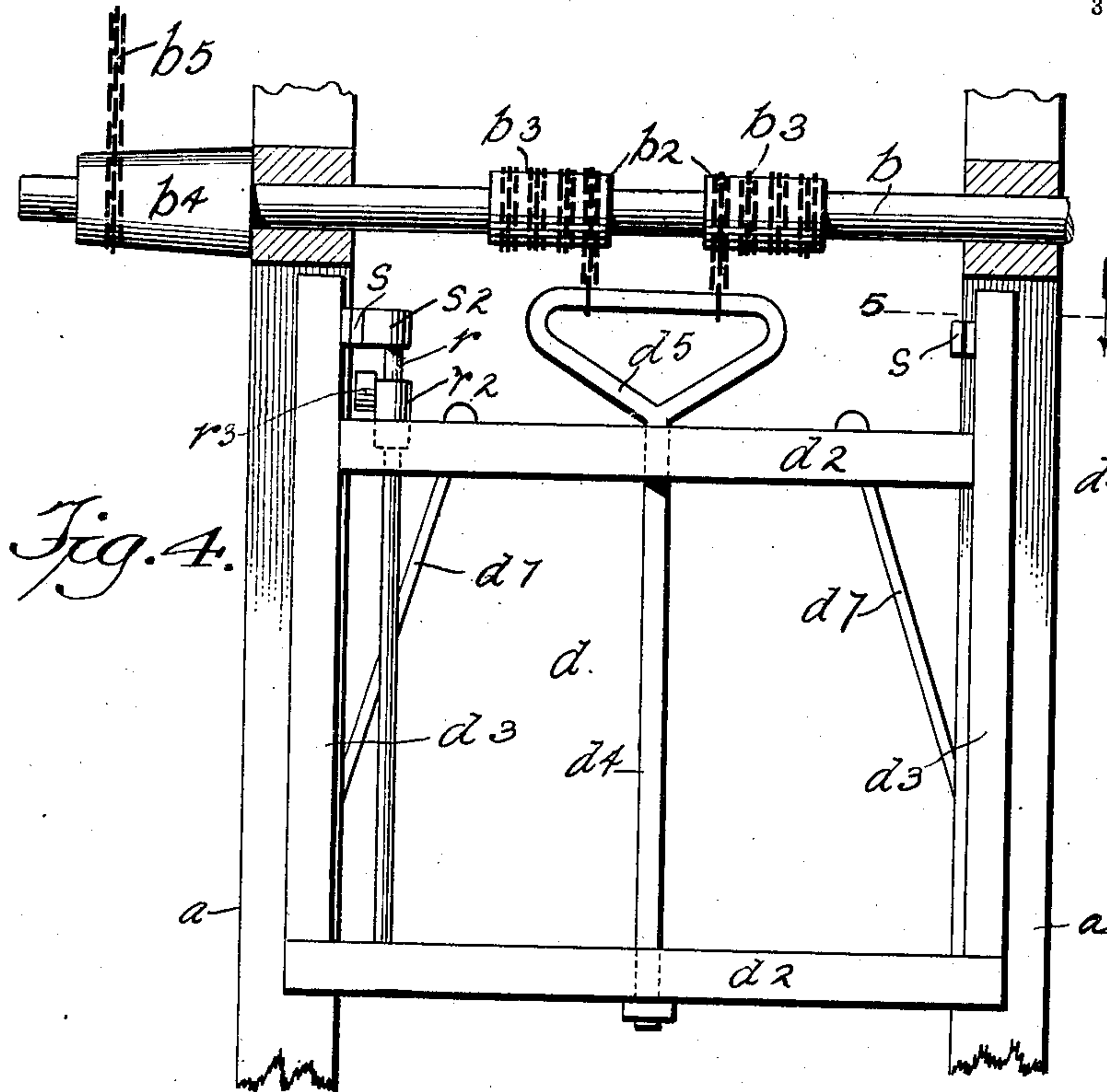


Fig. 4.

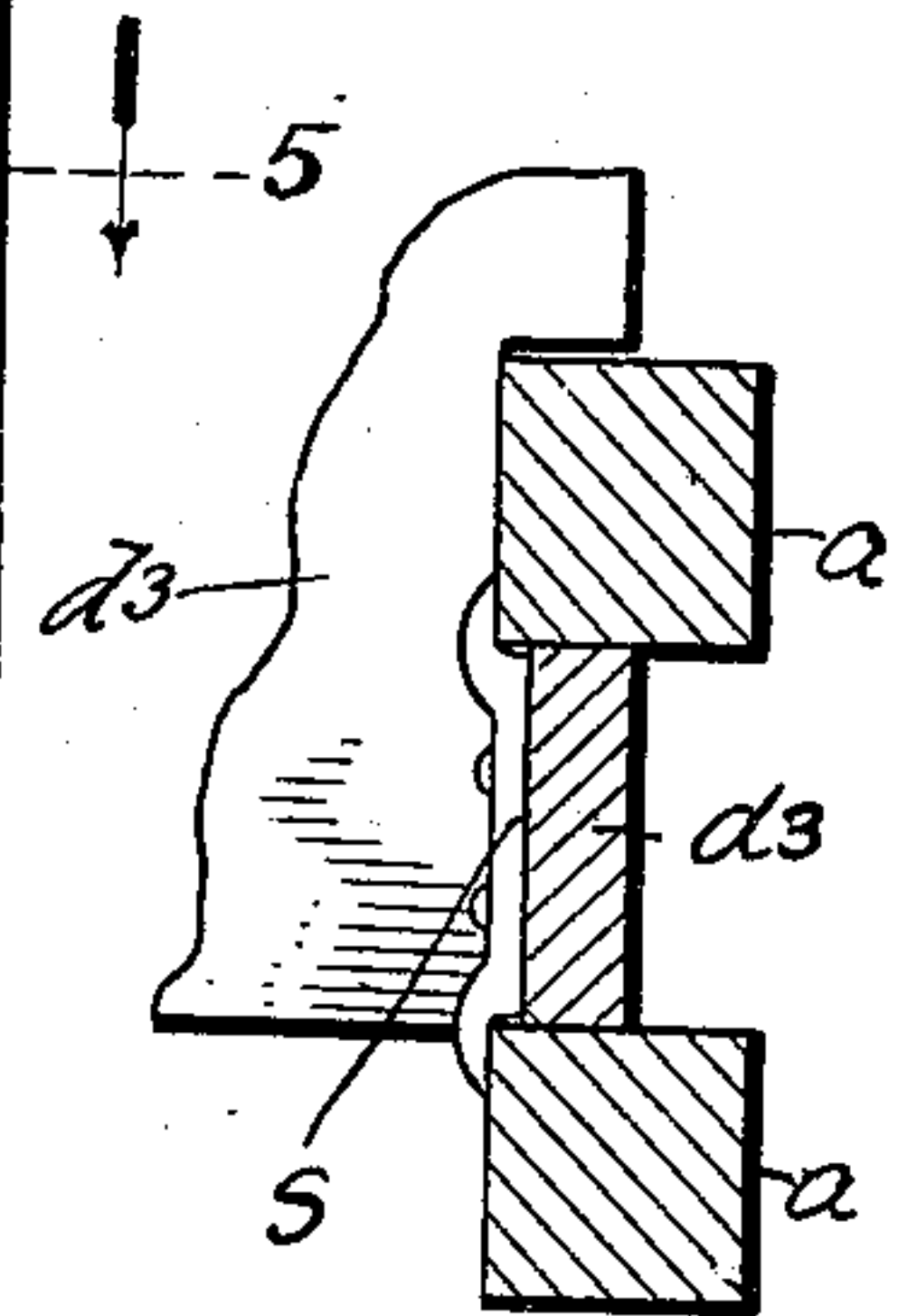


Fig. 5.

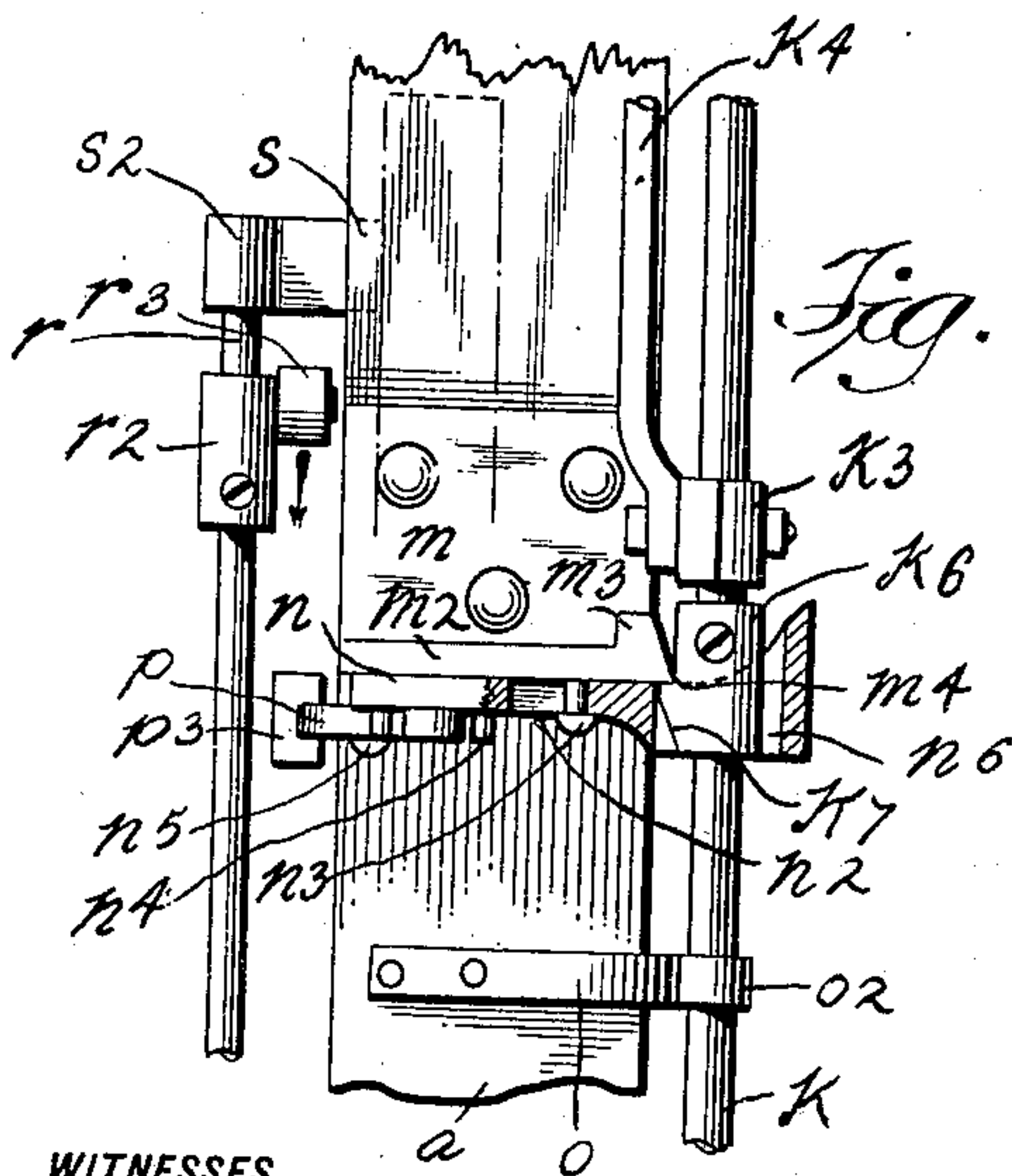


Fig. 6.

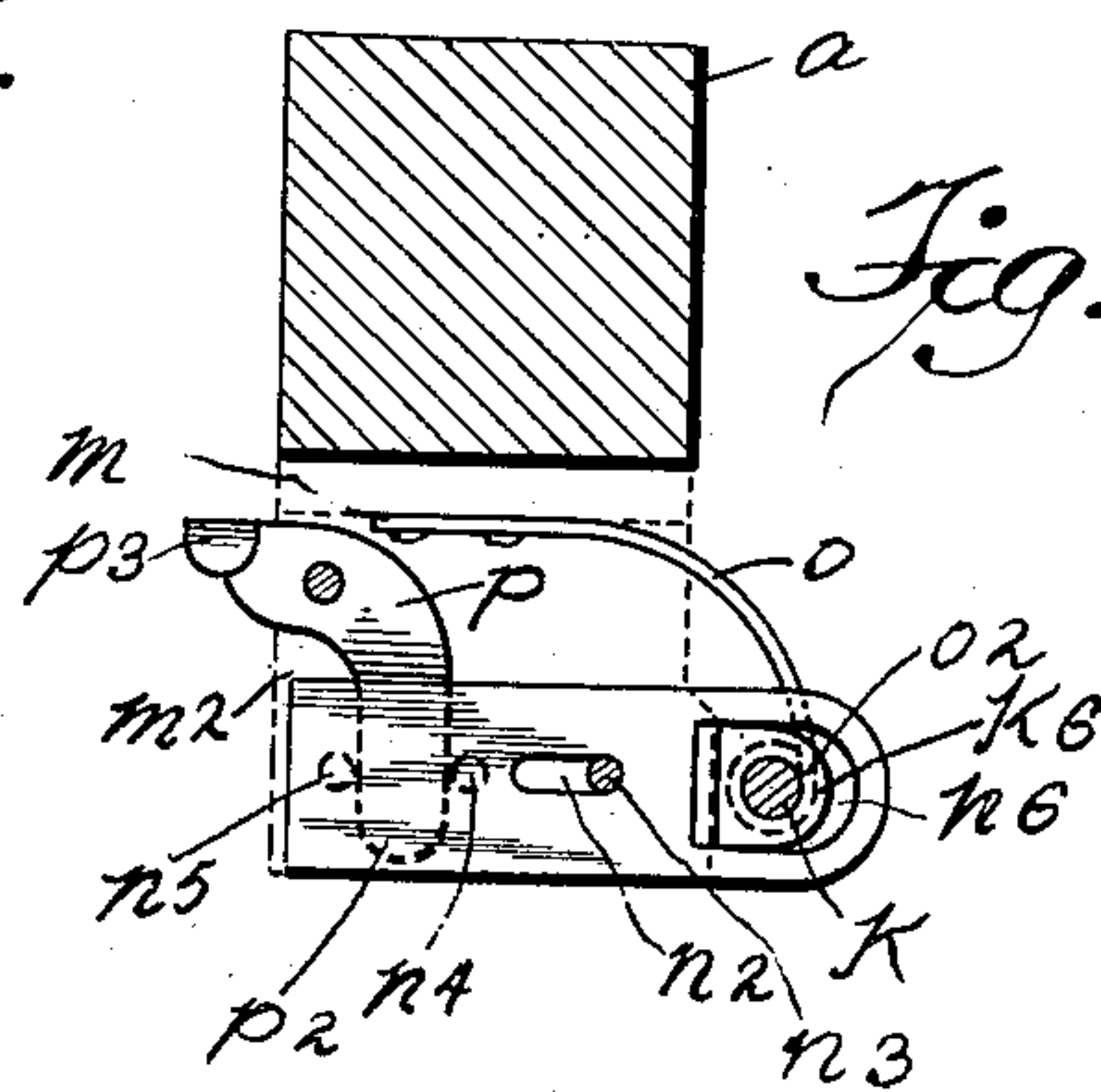


Fig. 7.

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# UNITED STATES PATENT OFFICE.

CHARLES F. BISSINGER, OF PORT RICHMOND, NEW YORK.

## PACKING-MACHINE.

No. 862,303.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Application filed January 4, 1907. Serial No. 350,792.

*To all whom it may concern:*

Be it known that I, CHARLES F. BISSINGER, a citizen of the United States, residing at Port Richmond, in the county of Richmond and State of New York, have invented certain new and useful Improvements in Packing-Machines, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to machines for packing powdered material in barrels or other receptacles, and the object of the invention is to provide an improved machine of this class whereby the operation thereof is facilitated and rendered more simple and effective, and whereby the danger of breaking a machine is obviated, and whereby the power shaft of the machine may be automatically and easily thrown out of gear whenever desired.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which;—

Figure 1 is a front view of a machine of the class described provided with my improvement; Fig. 2 a view of the right hand side thereof; Fig. 3 a partial view of the left hand side of said machine; Fig. 4 a back view of parts of the machine including the table or carrier which supports a barrel or other receptacle to be filled; Fig. 5 a section on the line 5—5 of Fig. 4; Fig. 6 a sectional side view showing details of the tripping mechanism by means of which the power shaft is thrown out of gear; and, Fig. 7 a plan view of a part of the construction shown in Fig. 6.

My invention is applied to a machine of well known construction having a main frame comprising two pairs of vertically arranged side standards *a* connected at the top and bottom in any suitable way, or by base members *a*<sup>2</sup> and top members *a*<sup>3</sup>. Mounted transversely of the main frame and between the separate pairs of side standards is a shaft *b* having one or more drums *b*<sup>2</sup> on which are wound chains or similar devices *b*<sup>3</sup>, and mounted in the main frame below the shaft *b* and between the side standards *a* is a rectangular barrel supporting frame *d* composed of transverse top and bottom members *d*<sup>2</sup> and vertically arranged side members *d*<sup>3</sup>, and this frame is provided with a suspending device comprising a rod *d*<sup>4</sup> provided at its upper end with a transverse link *d*<sup>5</sup> with which the chains *d*<sup>3</sup> are connected, and the frame *d* is provided at the bottom with a forwardly directed platform or table *d*<sup>6</sup> adapted to support a barrel or other receptacle *e*, and the platform *d*<sup>6</sup> is provided with side supports *d*<sup>7</sup> which are connected with the top part of the frame *d*. The shaft *b* is also provided at its end with a drum *b*<sup>4</sup> with which is connected a chain *b*<sup>5</sup> which passes over a pulley *b*<sup>7</sup> with which is connected a chain *b*<sup>8</sup> which, in practice,

is suspended from any suitable overhead support, and placed back of the machine in any suitable position are a plurality of weights *f* loosely connected by links *f*<sup>2</sup> and pins *f*<sup>3</sup> secured to said weights and the chain *b*<sup>5</sup> is connected with the top weight *f* and all of said weights are mounted on two vertically arranged rods *f*<sup>4</sup> secured to a base *f*<sup>5</sup> on which the weights *f* rest. At the top of the machine is a hopper *g* having a downwardly and forwardly directed part or member *g*<sup>2</sup> having a base member *g*<sup>3</sup> below which is placed a cylindrical continuation *g*<sup>4</sup> of said chute which is secured to the base portion *g*<sup>3</sup> and which is adapted to fit, or fit in, the top of the barrel *e* placed on the table or support *d*<sup>6</sup>. At the top of the main frame and secured to the front portion thereof is a yoke-shaped bracket *h* provided with a vertically arranged shaft *h*<sup>2</sup> having a beveled gear wheel *h*<sup>3</sup>, and in said bracket is mounted a horizontal shaft *h*<sup>4</sup> provided with a beveled pinion *h*<sup>5</sup> which meshes with the gear wheel *h*<sup>3</sup>, and the shaft *h*<sup>4</sup> is provided with a drive pulley *h*<sup>6</sup> and idler pulley *h*<sup>7</sup>. All these features of construction as hereinbefore described are old and well known, and form no part of this invention and in machines of this class the lower end of the shaft *h* extends downwardly and is provided with a packing screw or spiral *h*<sup>8</sup> which is indicated in dotted lines in Fig. 1, and which in the operation of the machine is revolved and serves to pack the material in the barrel *e*.

Below the outer end of the shaft *h*<sup>4</sup> is a horizontal arm *i* which is secured to the main frame and which is provided with two pins *i*<sup>2</sup>, and mounted on the pins *i*<sup>2</sup> is a slide plate *i*<sup>3</sup> having two slots *i*<sup>4</sup> through which said pins pass, and the slide plate *i*<sup>3</sup> is provided with a shifting fork *i*<sup>5</sup>.

At the inner end of the arm *i* is a pulley *i*<sup>6</sup>, and at the outer end thereof another pulley *i*<sup>7</sup>, and a cord *i*<sup>8</sup> is connected with the outer end of the slide plate *i*<sup>3</sup> and passed over the pulley *i*<sup>7</sup> and carried back and passed over a pulley *j* supported at the side of the machine, and connected with said cord are weights *j*<sup>2</sup>, and said weights may be separated so as to regulate the amount of pull on the cord *i*<sup>8</sup>.

Connected with the inner end of the slide plate *i*<sup>3</sup> is a cord *j*<sup>3</sup> which is carried backwardly and connected with a lever *j*<sup>4</sup> pivoted to the side of the main frame at *j*<sup>5</sup>, the connection of said cord and the lever *j*<sup>4</sup> being shown in dotted lines in Fig. 2 and indicated in full lines in Fig. 1, and said lever projects forwardly as clearly shown in Fig. 2. In front of the right hand side of the main frame and adjacent to the lever *j*<sup>4</sup> is mounted a vertically movable rod *k* the upper end of which passes through a keeper *k*<sup>2</sup> secured to the main frame, and connected with said rod *k* below the lever *j*<sup>4</sup> is a fixed sleeve *k*<sup>3</sup> with which is connected a link *k*<sup>4</sup> which is connected with the lever *j*<sup>4</sup> at *k*<sup>5</sup>.

Below the sleeve *k*<sup>3</sup>, the rod *k* is provided with a



cam sleeve  $k^6$  the inner side of which is provided at the bottom thereof with an inclined cam surface  $k^7$ , and secured to the upright frame member  $a$  is a plate  $m$  having a transverse and horizontal bottom member  $m^2$  provided at its right hand end and at the right hand side of the machine with a head  $m^3$  having an inclined surface which corresponds with the inclined surface  $k^7$  on the cam sleeve  $k^6$  and forming a projecting nose  $m^4$ .

Below the part  $m^2$  of the plate  $m$  is a horizontally and transversely movable plate  $n$  having a slot  $n^2$  through which passes a headed pin  $n^3$  secured to the plate  $m$  or the part  $m^2$  thereof, and the plate  $n$  is provided with two pins  $n^4$  and  $n^5$  shown in full lines in Fig. 6 and dotted lines in Fig. 7, and the right hand end of the plate  $n$  is provided with an opening  $n^6$  through which the rod  $k$  and the cam sleeve  $k^6$  are adapted to pass.

Secured to the side of the main frame member  $a$ , below the plate  $m$ , is a spring arm  $o$ , the free end of which extends outwardly and forwardly and is coiled around the rod  $k$  as shown at  $o^2$ , and the function of the spring arm  $o$  is to pull the rod  $k$  inwardly transversely of the front of the machine.

Pivoted to the bottom of the part  $m^2$  of the plate  $m$  is a bell crank  $p$  the lever arm  $p^2$  of which extended outwardly and forwardly of the pins  $n^4$  and  $n^5$  of the plate  $n$ , and the shorter arm of which extends inwardly toward the center of the machine and is provided with a cam nose  $p^3$ . Fixed to the table, or table frame which supports the barrel  $e$  is a vertical rod  $r$  provided near its upper end with a sleeve  $r^2$  which supports a roller  $r^3$  which is adapted to operate in connection with the cam nose  $p^3$  of the bell crank  $p$ .

The vertically arranged side members  $d^3$  of the barrel supporting frame  $d$  is provided at the top thereof with transverse guide plates  $s$  which overlap the upright members  $a$  as shown in Fig. 5, and one of said plates is provided with a support  $s^2$  in which the upper end of the rod  $r$  is secured.

The central part of the shaft  $b$  which is clearly shown in Fig. 4, is back of the chute member  $g^4$  and the drums  $b^2$  and chains  $b^3$  do not show in Fig. 1, but said shaft and the drums thereon are clearly shown in Figs. 2 and 4.

The shaft  $b$  is provided at its left hand end as shown in Fig. 3, with a brake device comprising a friction drum  $t$  to which is fixed a hand wheel  $t^2$  and the friction drum  $t$  is provided with a friction band  $t^3$  one end of which is secured to the framework at  $t^4$  and the other end of which is connected at  $t^5$  with the shorter arm of a lever  $t^6$  pivoted at  $t^7$  and provided with a weight  $t^8$ . The lever  $t^6$  may be thrown out of operation by means of an arm  $u$  pivoted at  $u^2$  and provided with a nose  $u^3$  adapted to bear on the lever  $t^6$ , and by means of an adjusting screw  $u^4$  supported by the main frame the frictional tension of the band  $t^3$  may also be regulated. This brake device forms no part of my invention and any suitable device of this class may be employed.

The operation of my improvement is as follows. In practice the table  $d^6$  is lowered and the barrel  $e$  is placed thereon, and in the operation of lowering the table  $d^6$  the weights  $f$  are raised and the friction device at the left hand side of the machine regulates the upward

movement of the table and barrel. The barrel, being in position, the material is dumped or poured into the hopper, and this operation is also regulated so as to control the discharge of the material into the barrel. At this time or when the material begins to descend into the barrel the lever  $j^4$  is in its raised position and the belt  $v$  is on the idler  $h^7$ . The lever  $j^4$  is now depressed and this operation throws the belt  $v$  onto the driving pulley  $h^6$  and the shaft  $h$  is rotated and the material is gradually and firmly packed in the bottom of the barrel by the rotating packing screw or spiral  $h^8$ . As this operation proceeds the platform and the barrel are gradually depressed by the packer, and as the platform and barrel go down the chains  $b^3$  are unwound and the chain  $b^5$  is wound up and this latter operation successively raises the weights  $f$ , all this operation except the weights  $f$  and the operation thereof being common to the old machine as now constructed. When the table is fully depressed, or to a predetermined point, and the barrel is full, the roller  $r^3$  strikes the nose  $p^3$  of the bell crank  $p$  and the longer arm of said crank forces the plate  $n$  outwardly against the operation of the spring arm  $o$ , and this operation forces the nose of the cam  $k^7$  out from beneath the nose  $m^4$  of the head  $m^3$  of the plate  $m$  or the part  $m^2$  thereof, and at this time the weights  $j^2$  operating through the cord  $i^8$  to raise the lever  $j^4$  and rod  $k$  and at the same time the cord  $i^8$  pulls the shifting fork  $i^5$  to the right and shifts the belt  $v$  to the idler  $h^7$ . The power shaft is now out of gear and the operation of the machine is stopped. The barrel  $e$  may now be removed from the table  $d^6$  and another barrel placed thereon, and it will be understood that during this operation the table  $d^6$  must be held down either by placing the foot thereon or by any other means.

By employing the weights  $f$  which are loosely connected by the link members  $f^2$  and which are mounted on the vertically arranged rods  $f^4$  by which they are held in proper position, the packing of the material in the barrel or other package or receptacle is regulated and made even throughout, said weights being successively raised as the barrel or other package is depressed, and in this way from twenty to thirty percent more material may be packed in the barrel or other package than by means of the old machine as heretofore constructed.

By means of this construction it will be seen that I provide a shifting mechanism which is automatically operated when the barrel or barrel supporting frame is fully depressed for throwing the power shaft out of gear and stopping the operation of the machine, and by means of this construction accidents are avoided and the operation of the machine rendered more safe and effectual.

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

1. A machine of the class described, comprising a main frame, a vertically movable barrel support mounted therein, a hopper adapted to discharge material into a barrel mounted on said support, a vertically arranged packing shaft the lower end of which passes into said barrel when in its highest position, a plurality of weights supported so as to be successively raised by the barrel support as the latter is depressed, a horizontal power shaft geared in connection with the packing shaft and provided with a fixed and a loose pulley, a belt shifter support mounted beneath the power shaft, a belt shifter connected with said support, a lever pivoted to the main frame, a cord connecting



the inner end of the belt shifter with said lever, another cord connected with the outer end of the belt shifter and passed over a pulley supported by the main frame and provided with weights a vertically arranged rod connected with the barrel support, a vertically arranged rod connected with the main frame, and devices connected with said rods and with the main frame and operated by the barrel support when in its lowest position to shift the belt from the fixed to the loose pulley, said belt being shifted from the loose to the fixed pulley by depressing said lever.

2. In a machine of the class described, a main frame, a shaft mounted horizontally therein and provided at one end with a drum, a vertically movable barrel support mounted in said frame and connected with said shaft by suspending devices wound thereon, a hopper adapted to discharge material into a barrel or other receptacle mounted on said support, a vertically arranged packing shaft the lower end of which passes into said barrel or other receptacle when in its highest position, a plurality of

weights placed one above another on vertical supports adjacent to the main frame and loosely connected, a flexible device connected with the top weight and with the drum on said shaft, a horizontal power shaft geared in connection with the packing shaft and provided with a fixed and a loose pulley, a belt shifter support mounted beneath the power shaft, a belt shifter connected with said support, a lever pivoted to the main frame, devices connected with the belt shifter and said lever for moving the belt from the loose to the fixed pulley and other devices connected with the belt shifter and with the main frame and operated by the barrel support when in its lowest position to shift the belt from the fixed to the loose pulley.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 31st day of December 1906.

CHARLES F. BISSINGER.

Witnesses:

ALBERT W. GIBBS,  
C. E. MULREANY.