

No. 661,091.

Patented Nov. 6, 1900.

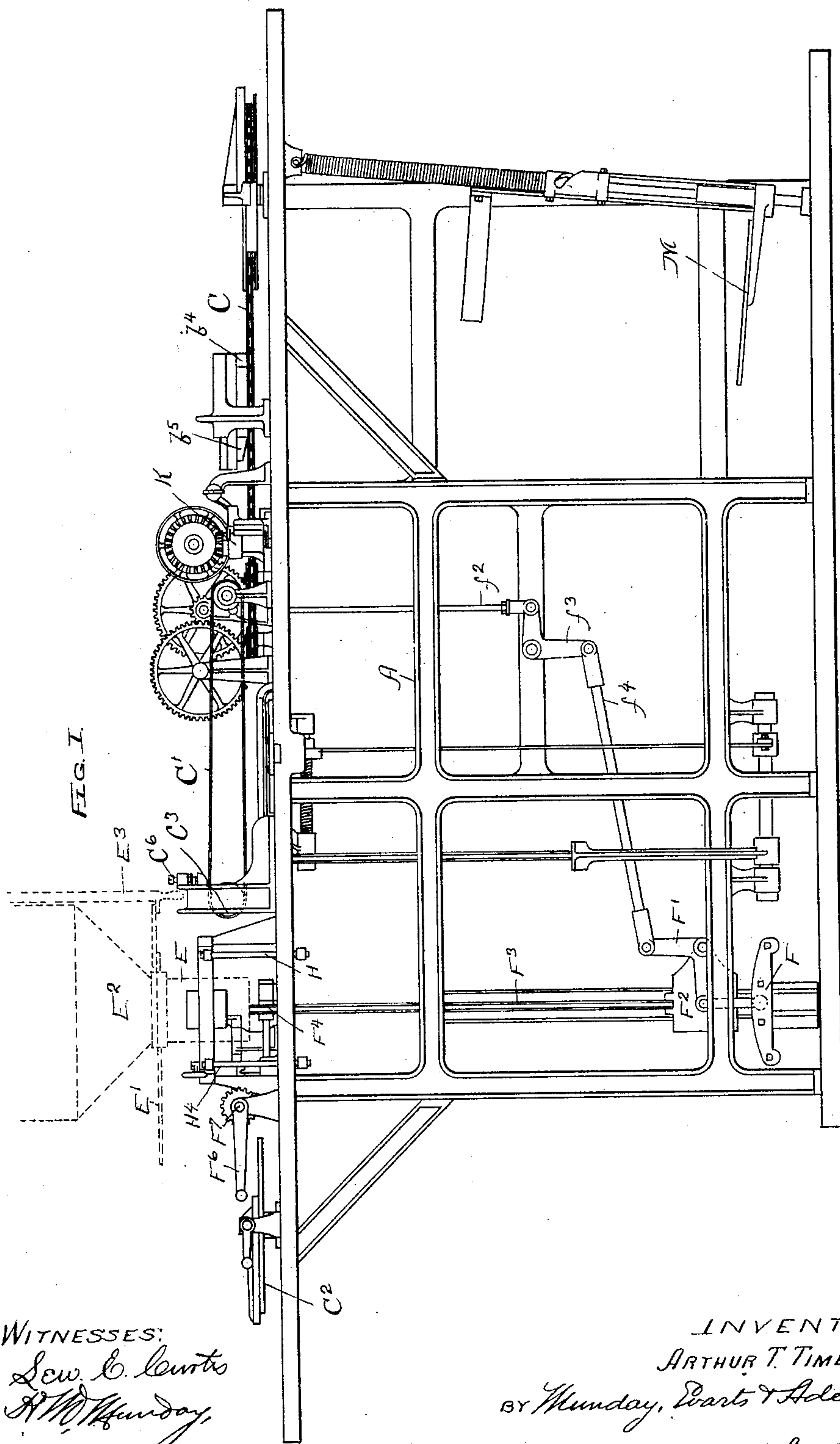
A..T. TIMEWELL.

SACK FILLING AND SEWING MACHINE.

(Application filed Sept. 20, 1897.)

(No Model.)

6 Sheets—Sheet 1.



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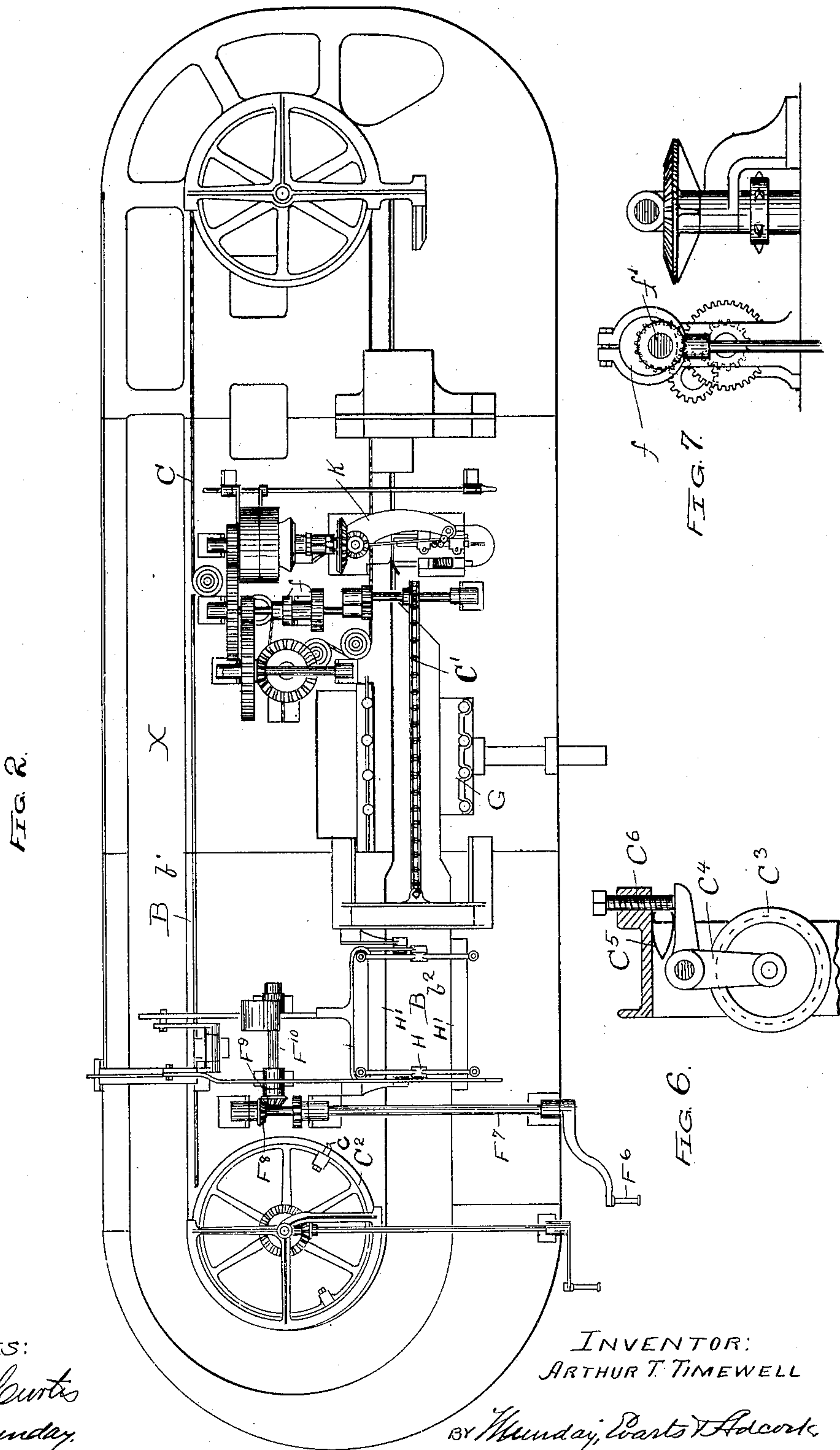
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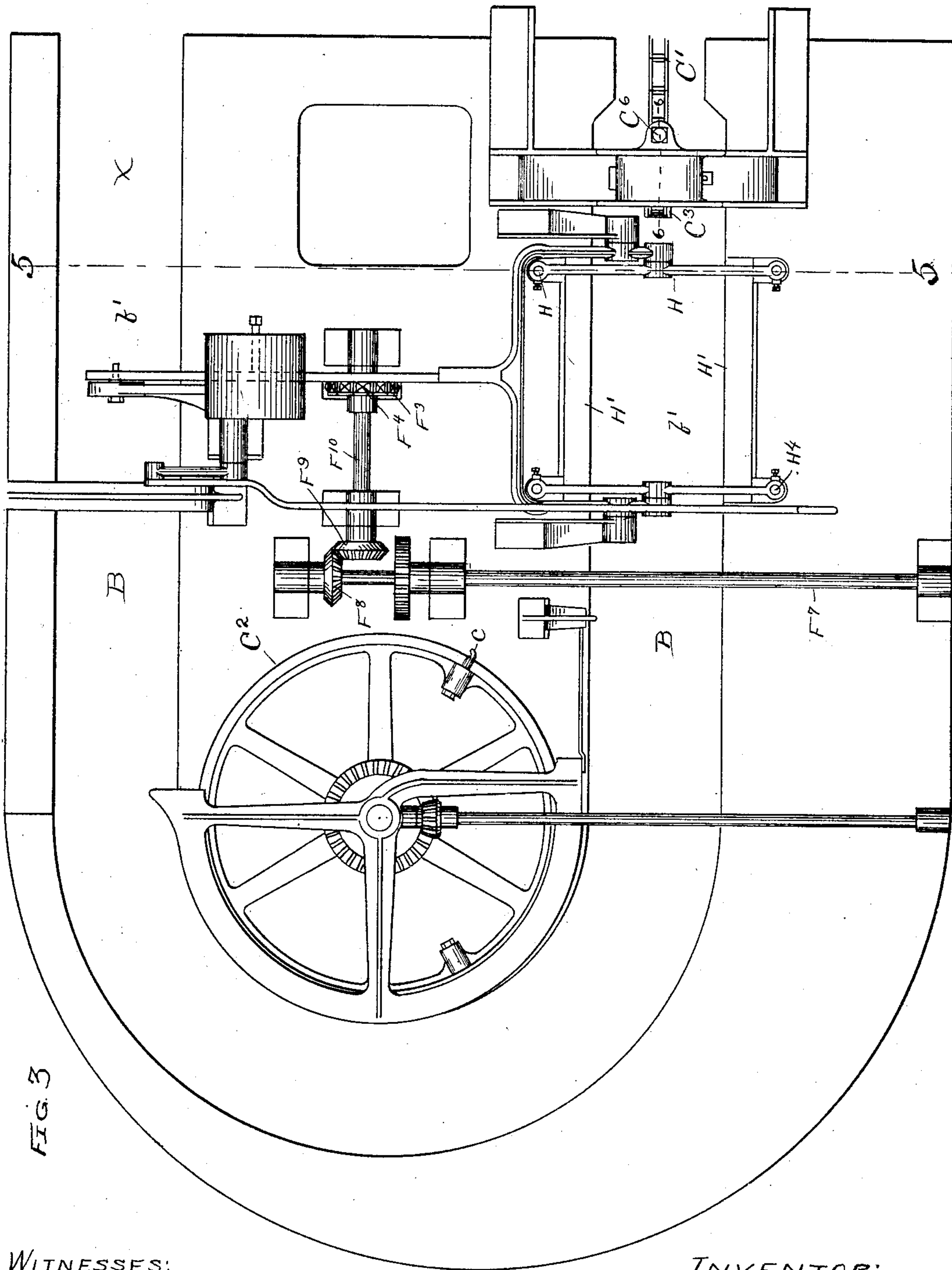


FIG. 3

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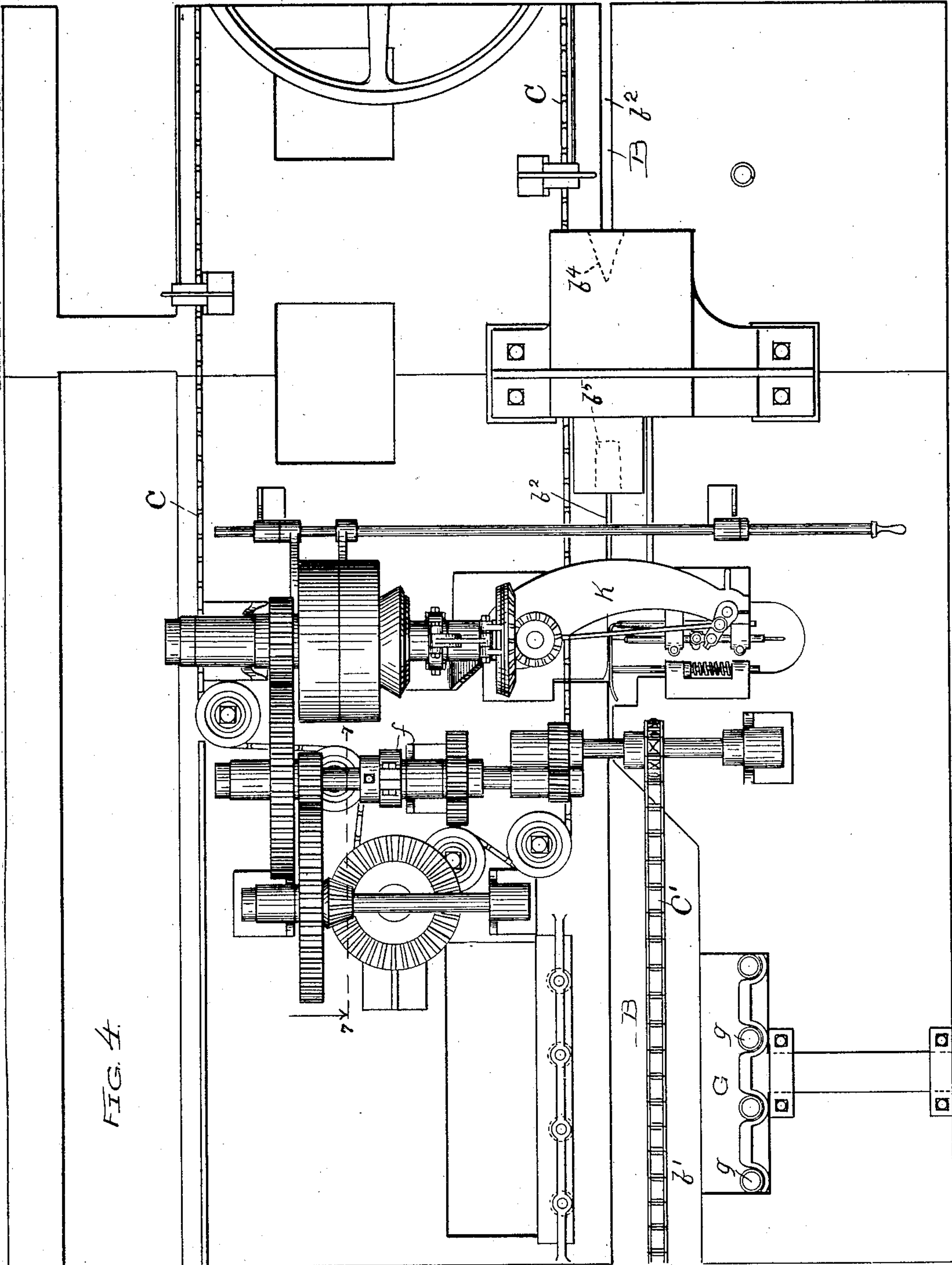
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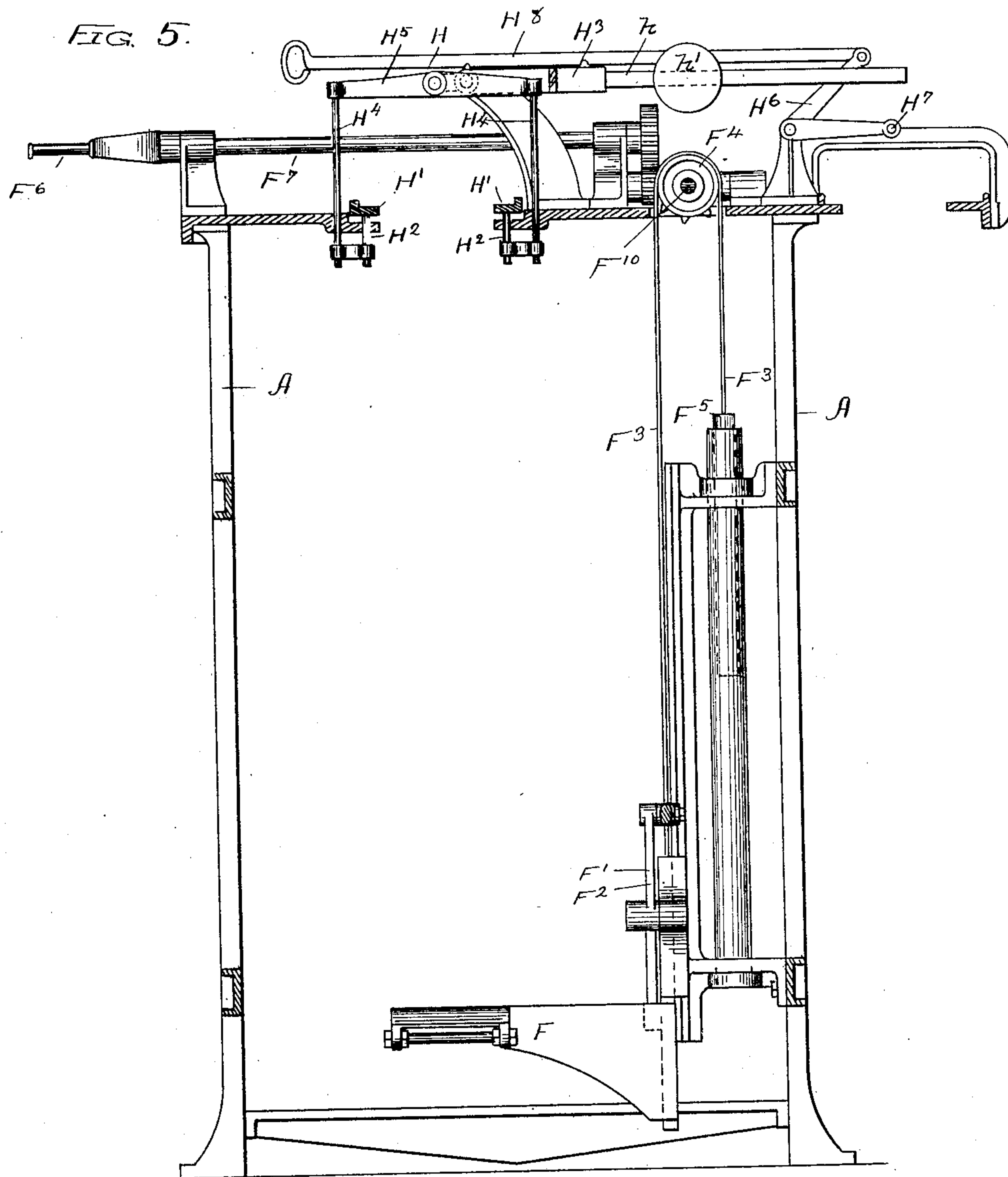
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FIG. 12

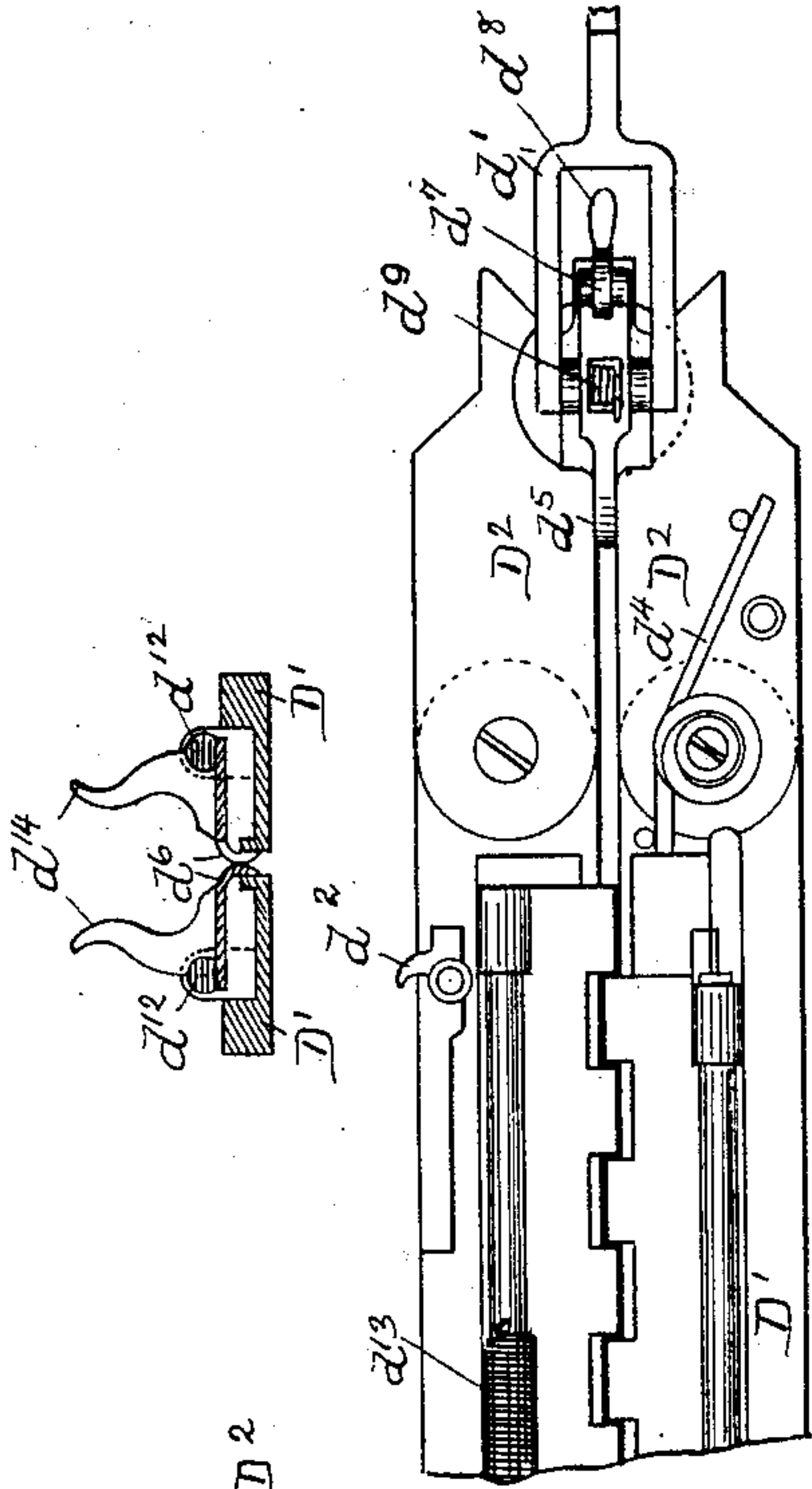


FIG. 11

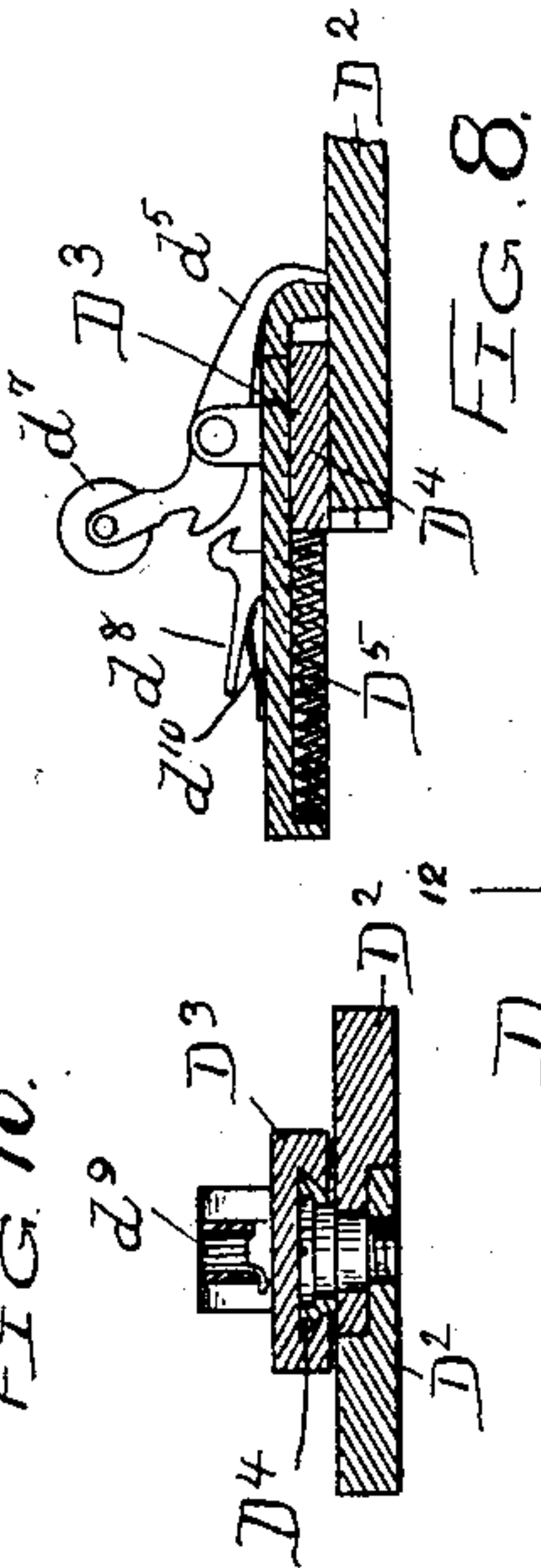


FIG. 10.

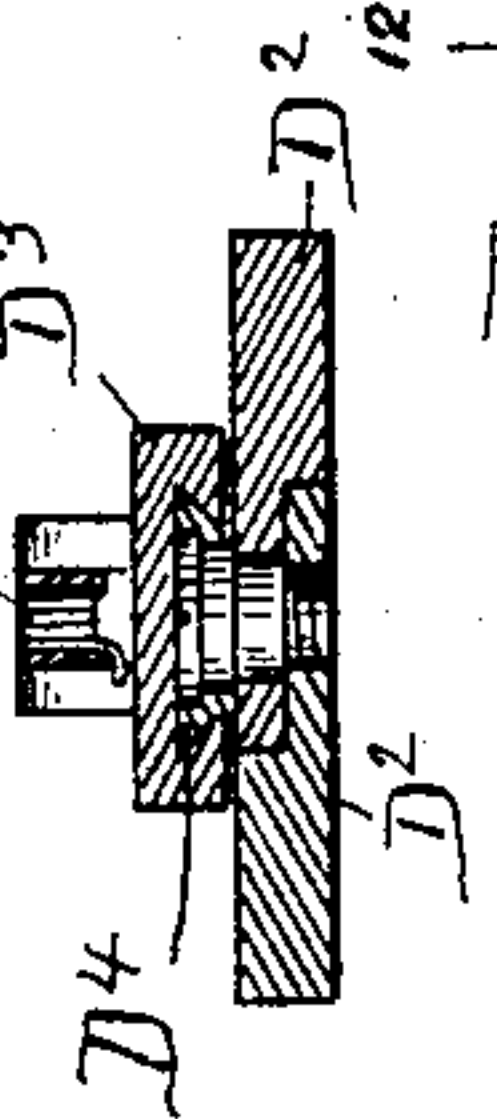


FIG. 8.

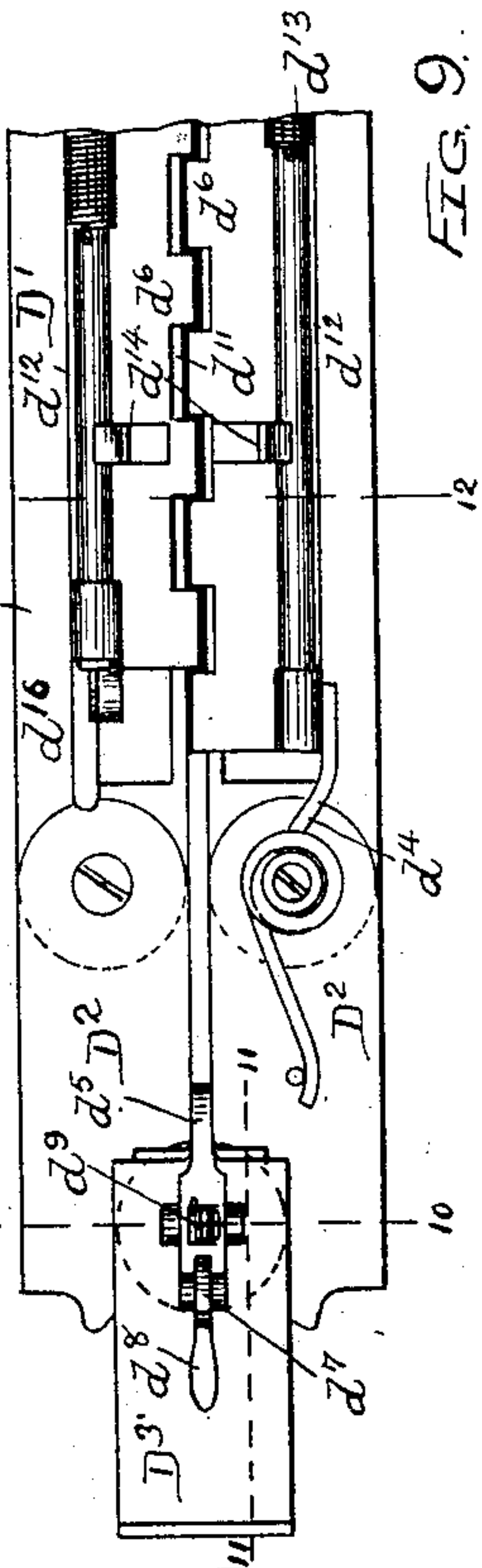
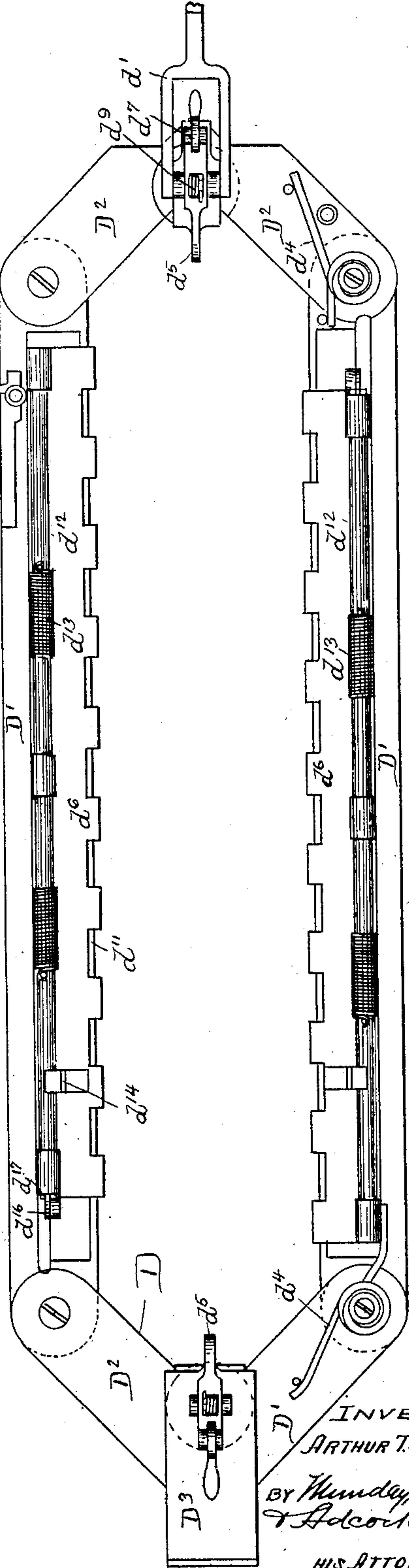


FIG. 9.



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UNITED STATES PATENT OFFICE.

ARTHUR T. TIMEWELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO ALBERT DICKINSON, OF SAME PLACE.

SACK FILLING AND SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 661,091, dated November 6, 1900.

Application filed September 20, 1897. Serial No. 652,270. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR T. TIMEWELL, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Sack Filling and Sewing Machines, of which the following is a specification.

My invention relates to sack filling and sewing machines, and more particularly to certain improvements upon the machine shown and described in my Letters Patent Nos. 539,455, 562,438, and 597,075.

The object of my present invention is to further improve and perfect said machine by adapting it to operate properly upon sacks of different sizes or widths by so constructing and combining the packing mechanism with the other parts of the machine as to prevent the jar or vibration due to the operation of the packer being communicated to the sewing mechanism and other parts of the machine, and thus interfering with the certainty and regularity of the operation of the machine as a whole and by combining a scale or weight-measuring apparatus with the other parts of the machine, so as to coöperate properly therewith.

With this object in view my invention consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described, and specified in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a machine embodying my invention. Fig. 2 is a plan view. Fig. 3 is an enlarged detail plan view of one end of the machine, showing the scale mechanism and other parts. Fig. 4 is an enlarged plan view showing the central or middle portion of the machine. Fig. 5 is a vertical section on the line 5 5 of Fig. 3. Fig. 6 is a detail section on line 6 6 of Fig. 3. Fig. 7 is a detail section on line 7 7 of Fig. 4. Fig. 8 is a detail plan view of the opening and closing sack-holder, showing it in its closed position. Fig. 9 is a plan view of the sack-holder, showing it open. Figs. 10, 11, and 12 are vertical sections on lines 10 10, 11 11, and 12 12 of Fig. 8, respectively.

In the drawings like letters of reference indicate like parts in all the figures.

In said drawings I have illustrated in detail and will herein describe only those portions of the machine heretofore patented to me in the Letters Patent heretofore mentioned which are necessary to properly describe and explain my present improvements, and for a more full and complete illustration and description of other parts of my machine would respectfully refer to said Letters Patent Nos. 539,455, 562,438, and 597,075.

In the drawings, A represents the frame of the machine; B, the endless recurving track on the frame along which the series of opening and closing movable sack-holders D are moved or conveyed from the sack-filling device E and scale or weight-measuring device H and shaking or bumping device F to the sack-holder-closing device G, thence to the sewing device K, thence to the discharging or delivering device M, thence to the sack-receiving station X, and finally back again to the filling device.

C C' C² are conveyers for moving or conveying the sack-holders along this track B, the conveyer C C' being preferably power-operated endless chains, and the conveyer C² is a hand-operated wheel. The track B is furnished with a wide slot or open space b', extending from the sack-receiving station X, where the holder is open, to the device for closing the holder, and with a narrow slot b² extending from the position where the holder is closed to the position where it is again open to discharge the filled and sewed sacks.

Each of the opening and closing traveling sack-holders D comprises two opposite long side bars D D' and four opposite end bars D² D² D² D², all pivoted together. Each of the holders D is also provided with a hook or projection d², adapted to engage the links of the chain conveyer C, and with a hinged or pivoted hook d', adapted to be lifted by the operator into engagement with the quick-moving conveyer-chain C' after the sack has been filled and the material packed therein by the shaking or packing device F. The feed wheel or conveyer C² has a hook or projection c, which engages the hook or projection d² on the holder. The holders D are provided with

springs d^4 at one or more of their pivots to open the holder. The holders, further, have clamping-jaws d^5 d^5 , one at each of its opposite ends and the clamping-jaws d^6 d^6 at its sides. The pivoted clamping-jaws d^5 d^5 are each provided with friction-rollers d^7 , adapted to engage, respectively, the stationary cams or projection b^5 , overhanging the track B, and thus automatically open these clamping-jaws when the holder reaches the position for discharging the filled and sewed sack. Each of the clamping-jaws d^5 is also provided with a pivoted pawl or latch d^8 to hold the clamping-jaw open against the pressure of the spring d^9 , by which the clamping-jaw is held closed. The latch d^8 is furnished with a spring d^{10} to hold it in position for engaging the clamping-jaw d^5 when it is open. Each of the clamping-jaws d^6 consists of a long sectional blade having notches d^{11} at intervals secured to a rock-shaft d^{12} , which has a torsion-spring d^{13} to hold the clamping-jaw closed. Each of the rock-shafts d^{12} is furnished with an upwardly-projecting arm d^{14} , by which the clamping-jaw is opened and which is adapted to engage a stationary cam or projection b^4 , overhanging the track B, and thus open the clamping-jaw d^6 when the holder reaches the position for discharging the filled and sewed sack. A pivoted pawl or latch d^{16} engages a notch or projection d^{17} on the rock-shaft of the clamping-jaw to hold it open, the pawl or latch d^{16} being provided with a spring.

To enable the holder D to properly grasp sacks of different widths when the holder is either open or closed, as required for filling or sewing, I mount one of the two clamping-jaws d^5 d^5 upon a movable slide D^3 , which reciprocates back and forth on a guide D^4 , secured to one of the pivot-pins of the holder, and which slide is adapted to reciprocate lengthwise of the holder and is automatically held in any position required according to the width of the sack by a spring D^5 . By this means the holder is adapted to compensate for any ordinary variation in the width of the sacks.

The filling device E may preferably consist of a filling-spout furnished with a valve or cut-off slide E^1 and a hopper E^2 , the slide being operated by a hand-lever E^3 .

The scale or weight-measuring mechanism H comprises, primarily, two movable sections H^1 H^1 of the track B, over which the holder D is moved as it is conveyed around the track B to the position under the filling spout or device and upon which the sack-holder, with the sack held in and suspended from it, rests while the sack is being filled and weighed, and, second, lifting pins or bars H^2 , adapted to engage the movable sections H^1 H^1 of the track, and, third, a scale mechanism H^3 , with which these lifting pins or devices are connected through suitable connecting-rods H^4 and equalizing-levers H^5 H^5 . The scale mech-

anism H^3 may be of any suitable kind or construction known to those skilled in the art. As illustrated in the drawings, it comprises a scale-beam h and counterpoise h' , which may be fixed in any position desired on the scale-beam, according to the number of pounds desired to be filled into the sack. To depress the movable sections H^1 H^1 of the track, so that the sack-holder D may move over and onto the same as required, I provide the scale with a bent lever H^6 , having a pin or projection H^7 , adapted to engage the scale-beam when the lever H^6 is operated by the pull-rod H^8 .

The packing, shaking, or bumping device F consists, preferably, of an up and down moving platform adapted to be moved up and down against the bottom of the sack as it is being filled. In order to prevent, however, the jars or vibrations created by the blows of the bumper or packer F against the bottom of the sack being injuriously communicated to the frame of the machine, and thus the sewing mechanism and other moving parts of the machine, I connect the bumping-lever F^1 to an up and down movable slide F^2 , connected by a line or chain F^3 , passing over a pulley F^4 , with a weight F^5 . The operator by turning a crank F^6 on the shaft F^7 , which is connected by gears F^8 F^9 to the shaft F^{10} of the sprocket or pulley wheel F^4 , raises the bumper F against the bottom of the sack in proper position for striking or operating against the same as the bumper is vibrated by its operating-cam, the counterpoise-weight F^5 serving to hold the bumper in this position while being operated. The bumper F is vibrated up and down by a cam or eccentric f on the driven shaft f' of the machine, and which is connected with the operating-lever F^1 by means of a connecting-rod f^2 , bent lever f^3 , and connecting-rod f^4 , which connects with the bent operating-lever F^1 . By this means I find that the jars or vibrations due to the blows of the bumper against the sack are largely absorbed or taken up by the weight F^5 and are prevented from being injuriously communicated to the sewing mechanism and other moving parts of the machine.

The quick-moving conveyer or chain C' , by which the holder D is moved or conveyed from the filling and weighing devices to the sack-holder-closing device, has its rear pulley or sprocket wheel C^3 mounted upon a bent lever C^4 , said lever being provided with a spring C^5 for automatically taking up the slack in the conveyer-chain in order to keep the lower loop of the chain from sagging and to be always in proper position by engaging the hinged hook d' on the holder D. An adjusting-screw C^6 limits the movement of the bent lever in one direction.

The sack-holder-closing device G consists of a slide provided with antifriction-rollers g and is operated in the same manner as described in my said pending application and

will need no further description, as my present improvement does not relate particularly to this part.

The sewing device K is or may be likewise of the same construction and operation as that shown and described in my said pending application or in my said patents hereinbefore referred to, and for the same reason needs no further description herein.

10 I claim—

1. In a sack filling and sewing machine, the combination with a sack-filling device and a sack-sewing mechanism, of a bumper, mechanism for vibrating the bumper against the lower end of the sack, and a slide to which the operating-lever of the bumper is connected, and a counterbalance-weight connected to said slide for holding the bumper in position for operation against the sack, whereby the jars and vibrations due to the operations of the bumper are prevented from being communicated to the sewing mechanism and other moving parts of the machine, substantially as specified.

25 2. The combination with a sack-holder, of a sack-filling device, a sack-sewing mechanism, a movable bumper to engage the lower end of the sack, mechanism for vibrating the bumper, and a counterbalance weight and line connected to the bumper for holding it in position to engage the sack and relieving the frame of the machine and parts mounted thereon from jars or vibrations, substantially as specified.

35 3. The combination with a sack-filling device and a sack-sewing mechanism, of an

opening and closing traveling sack-holder provided with sack-clamping jaws at its opposite ends, and a reciprocating spring-held slide on the holder upon which one of said clamping-jaws is mounted to enable the sack-holder to automatically accommodate itself to variations in the width of the sack, substantially as specified.

4. An opening and closing sack-holder, comprising a number of hinged bars and provided with sack-clamping jaws at each end, and a reciprocating spring-held slide upon which one of said sack-clamping jaws is mounted to enable the holder to accommodate sacks of different widths, substantially as specified.

5. The combination with a sack-filling device and a sack-sewing mechanism, of an opening and closing traveling sack-holder, a track for the holder provided with movable sections at the filling device, and a scale or weighing mechanism having lifting pins or bars engaging the movable sections of said track, substantially as specified.

6. The combination with a sack-filling device and a sack-sewing mechanism, of an opening and closing traveling sack-holder, a recurving track for the holder provided with movable sections at the filling device, and a scale or weighing mechanism having lifting pins or bars engaging the movable sections of said track, substantially as specified.

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Witnesses:

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