

No. 775,642.

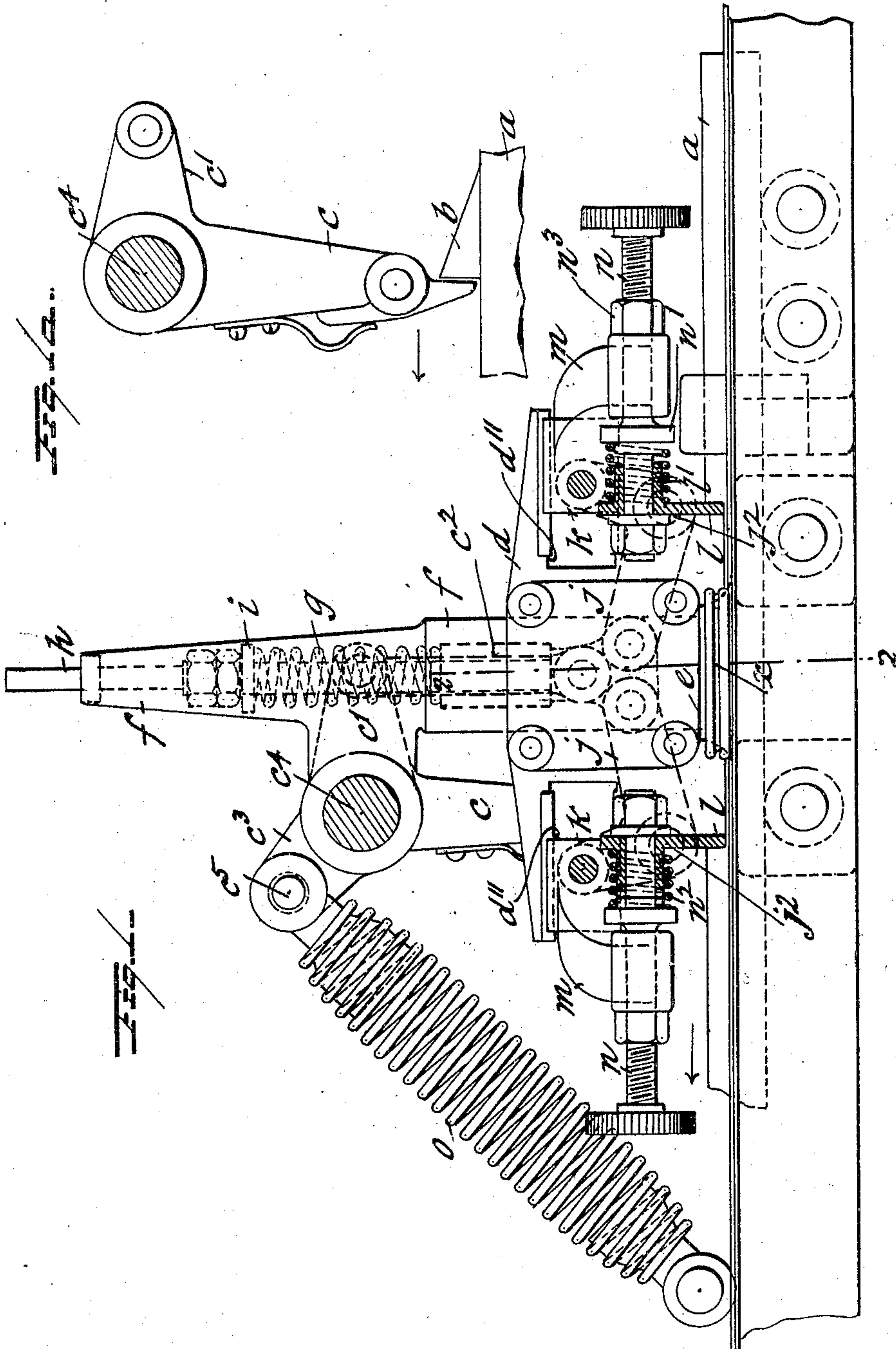
PATENTED NOV. 22, 1904.

G. S. BAKER.  
SANDWICH BISCUIT COATING MACHINE.

APPLICATION FILED APR. 4, 1904.

NO MODEL.

5 SHEETS—SHEET 1.



Witnesses

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Inventor

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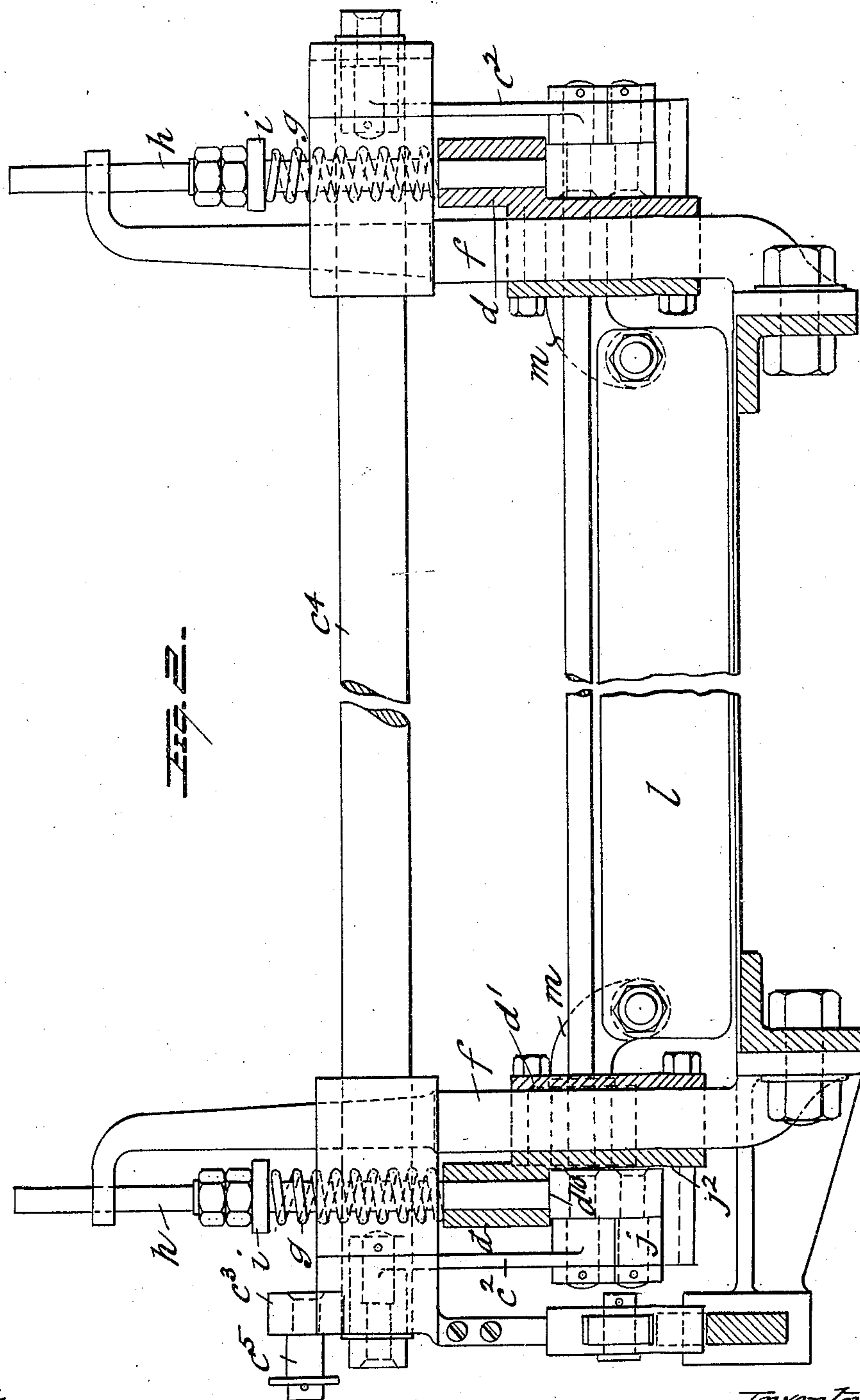
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5 SHEETS—SHEET 2.



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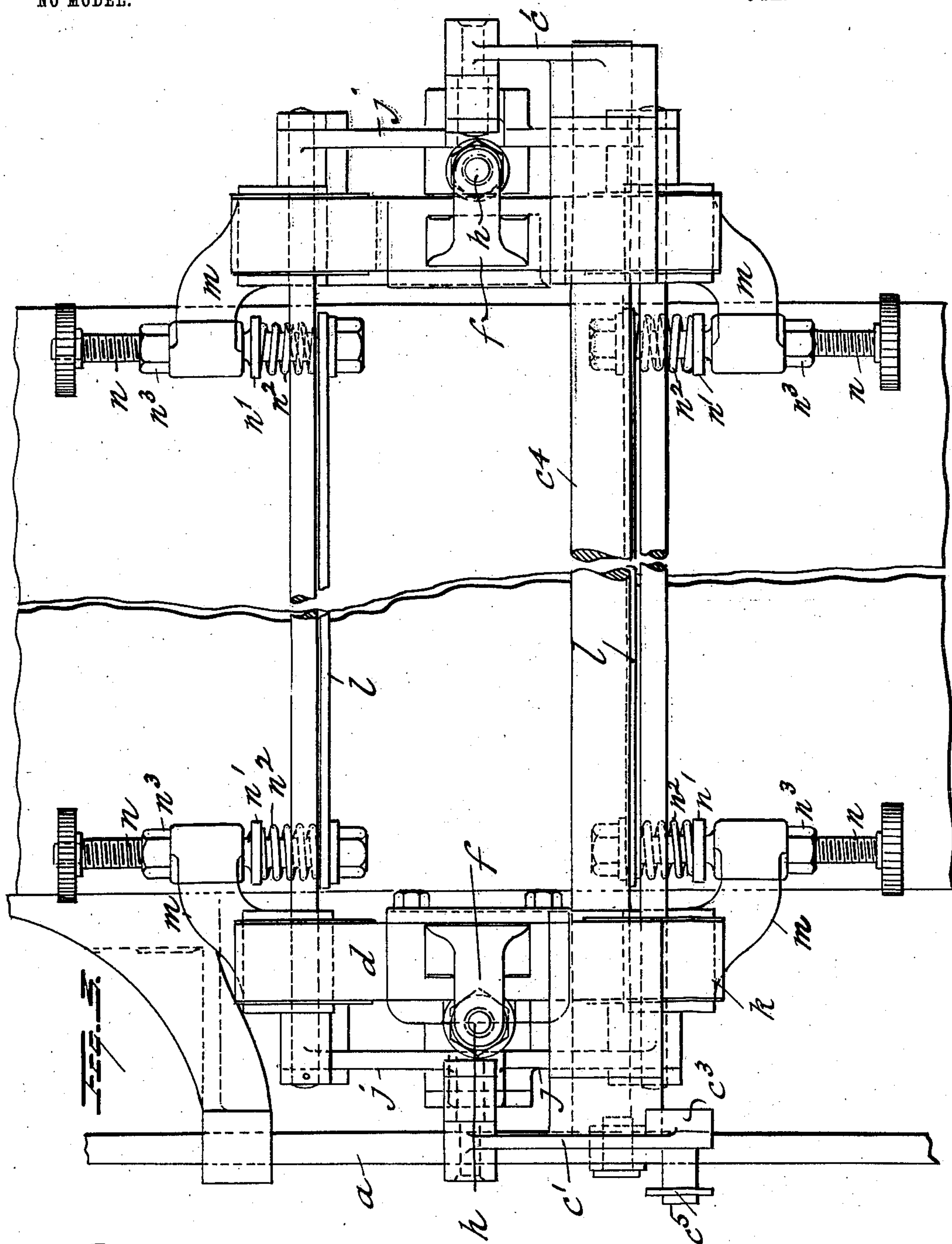
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5 SHEETS—SHEET 3.



Witnesses

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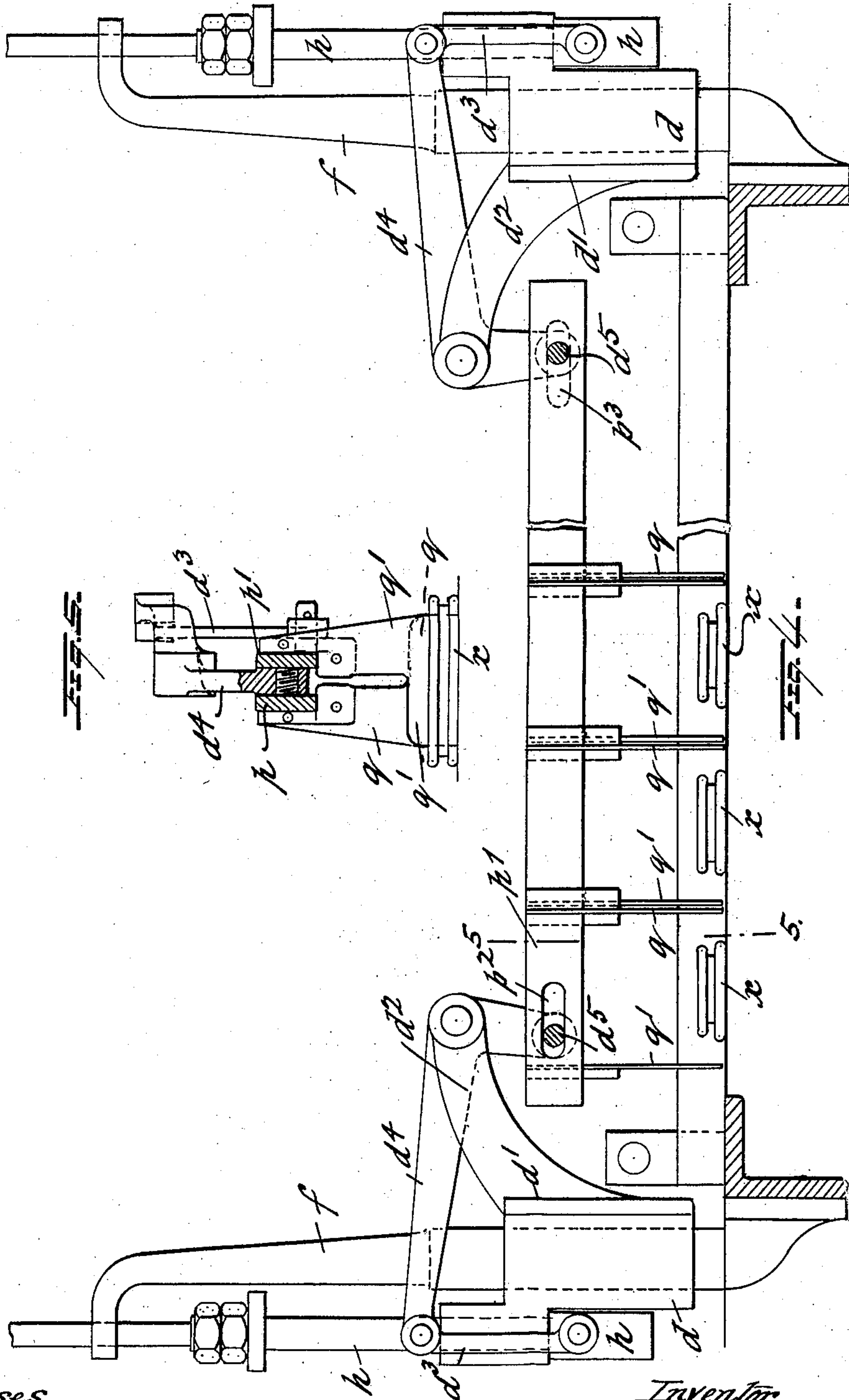
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5 SHEETS—SHEET 4.



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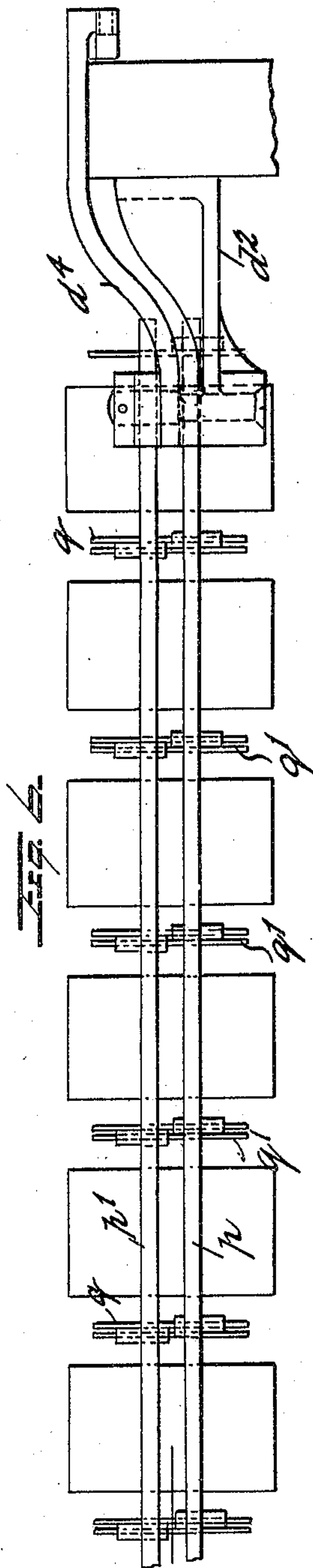
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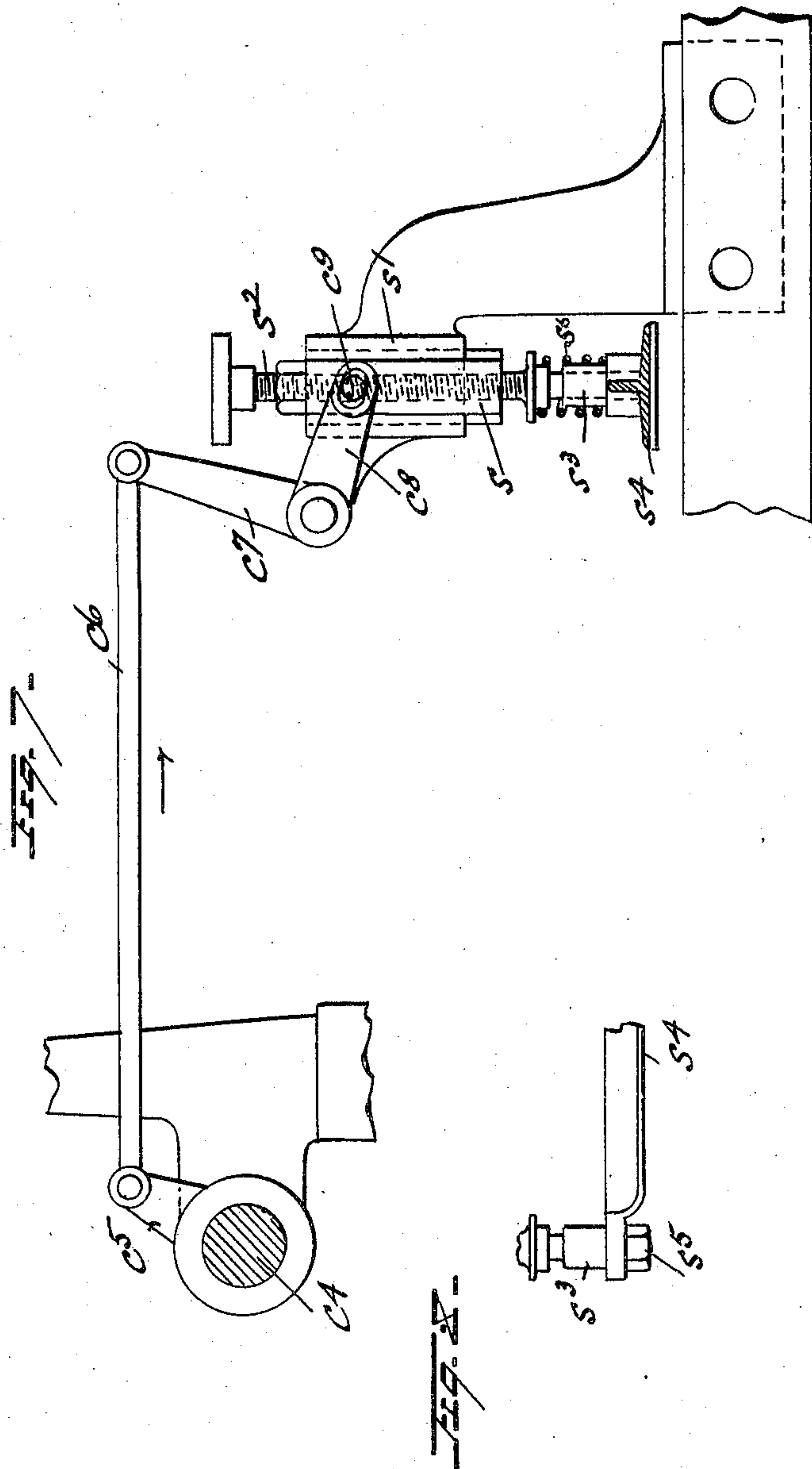
APPLICATION FILED APR. 4, 1904.

NO MODEL.

5 SHEETS—SHEET 6.



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# UNITED STATES PATENT OFFICE.

GEORGE SAMUEL BAKER, OF WILLESDEN JUNCTION, ENGLAND.

## SANDWICH-BISCUIT-COATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 775,642, dated November 22, 1904.

Application filed April 4, 1904. Serial No. 201,537. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE SAMUEL BAKER, a subject of the King of England, residing at Willesden Junction, Middlesex, England, have  
5 invented certain new and useful Improvements in Sandwich - Biscuit - Coating Machines, of which the following is a specification.

This invention relates to machines for coating biscuits with cream or the like and placing  
10 other biscuits on top to form a sandwich-biscuit, such as described in the specification of United States patent to Baker and Carr, No. 696,536, dated April 1, 1902; and the object is to "square up" or adjust the biscuits in proper  
15 relation to the table or web carrying them and to press such biscuits after they have passed from under the respective biscuit and cream hoppers.

To this end over the table or web of the  
20 machine I provide two devices operated from any desired moving part of said machine—viz., first, an adjusting device comprising a series of resilient or resiliently-mounted plates, which are caused to descend and move toward  
25 one another to square up the biscuits on all four sides, whereupon the biscuits are moved along on the web to the second device, comprising a presser-plate operated from the same source as the adjusting device, which firmly  
30 presses the biscuits one upon the other.

The improvements are represented in the accompanying drawings, wherein like letters of reference indicate corresponding parts throughout, and in which—

35 Figure 1 is a side elevation, partly in section, of the biscuit-adjusting device. Fig. 1<sup>a</sup> is a detail view of part of Fig. 1. Fig. 2 is a cross-section thereof on the line 2 2 of Fig. 1 with certain parts omitted, and Fig. 3 a plan  
40 view. Fig. 4 is an end view, partly in section, showing the side adjusting-plates omitted from Fig. 2. Fig. 5 is a section on the line 5 5 of Fig. 4. Fig. 6 is a plan view of the side adjusting-plates shown in Fig. 4. Fig.  
45 7 is a side elevation, partly in section, of the pressing device and its operating mechanism; and Fig. 8 is a detail view of part of Fig. 7.

Referring to Figs. 1 to 3, *a* represents a bar adapted to be given a reciprocating movement  
50 by any moving part—for instance, the pusher-

plate of the machine. (Not shown.) When this bar is moved in the direction indicated by the arrow, the rows of biscuits are stationary. Upon said bar *a* is a cam or projection *b*, Fig. 1<sup>a</sup>, adapted to engage and move from right to  
55 left a trip-lever *c*, mounted upon a shaft *c*<sup>1</sup>, extending across the machine and provided at each end with a rigid arm *c*<sup>2</sup>, connected, by means of a link *c*<sup>3</sup>, to a vertical rod or spindle *h*, on which is mounted a large bracket *d* of  
60 the shape shown in Figs. 1 and 2. The bracket *d* rests on a shoulder *d*<sup>10</sup> of said spindle *h* and is held down on the shoulder by a spring *g* bearing at one end on the top of the bracket and at the other end against a collar *i*, adjust-  
65 ably fixed upon said spindle. Brackets *f*, fixed to the machine-frame, act as guides for the brackets *d*, which slide on them and at their upper ends are bent to form bearings for the ends of the spindles *h*. The brackets *d* are  
70 each provided with two recesses, in which blocks *k* are adapted to slide, these blocks being operatively connected to the respective spindle *h* by means of a pair of bell-crank levers *j* on the other side of said blocks, pivoted  
75 at *j*<sup>2</sup> to *d*, and integral with the blocks *k* or connected thereto are curved depending brackets *m*, from which rods carrying the end adjusting-plates *l* are suspended. A powerful  
80 spring *o* is provided, connected at one end to the machine-frame and at the other end to a pin *c*<sup>5</sup> on an arm *c*<sup>3</sup>, rigidly mounted on the aforesaid cross-shaft *c*<sup>1</sup>. The action of this part of the device is as follows: On the bar  
85 *a* being moved in the direction of the arrow shown in Fig. 1<sup>a</sup> the cam *b* engages and rocks the trip-lever *c* from right to left. This movement rocks the shaft *c*<sup>1</sup>, and thus depresses the arms *c*<sup>2</sup>, links *c*<sup>3</sup>, and consequently the brackets *d*, down onto the shoulders *e*, Fig.  
90 1, of the fixed bracket *f*, thus bringing the plates *l* onto the table of the machine. Then the arms *c*<sup>2</sup> move down still farther, compress the spring *g* by means of the spindles *h* and collars *i* thereon, and move the long arms of  
95 the bell-crank levers *j* downward independently of the brackets *d*, which are now stationary. This movement of the bell-crank levers *j* forces the blocks *k* simultaneously inward toward one another, and thus causes  
100



the plates  $l$  to move inward against the edges of the biscuits  $x$  from each end, and so bring them into correct location on the bed in this direction. To prevent the biscuits from being pressed to too great an extent, and consequently broken, and to permit of biscuits of various sizes being adjusted, the plates  $l$  are resiliently and adjustably suspended from the brackets  $m$  by means of the rods  $n$ , on which the sockets  $l'$  of the plates  $l$  have limited sliding movement, each rod  $n$  having a collar  $n'$  thereon, between which and the plate  $l$  a spring  $n^2$  is placed, as more particularly shown in Fig. 3. The rods  $n$  are also screw-threaded to engage in the brackets  $m$  and are provided with set-nuts  $n^3$ . On release of the trip-lever  $c$  from the cam  $b$  the spring  $o$  returns all these parts to their original or uppermost position.

I will now refer to Figs. 4 to 6, which show the side adjusting-plates. Integral with or connected to caps  $d'$ , bolted to the brackets  $d$ , Fig. 2, are arms  $d^2$ , which support bell-crank levers  $d^4$ , the longer arms of which are connected to the spindles  $h$  by means of links  $d^3$ . The shorter arms of the levers  $d^4$  carry the pair of bars  $p$  and  $p'$ , to which the respective sets of side adjusting-plates  $q$  and  $q'$  are connected. The short arms of the levers  $d^4$  are connected, by means of pins  $d^5$ , to the respective bar  $p$  or  $p'$ , each of these pins being connected to the bar which it is intended to operate, but engaging a slot  $p^2$  or  $p^3$  in the other bar. The plates  $q$   $q'$  are preferably made of thin resilient metal, so that they will give under excess pressure without breaking the biscuits. The action of the mechanism just described is as follows: When the movements previously described for operating the end adjusting-plates take place—that is to say, when the brackets  $d$  are depressed—the plates  $q$  and  $q'$  are brought down upon the table, and on further depression of the spindles  $h$  the bell-crank levers  $d^4$  are rocked by means of the links  $d^3$ , connected to said spindles  $h$ , thus causing the bars  $p$  and  $p'$  to be moved one in one direction and the other in the opposite direction toward opposite sides of the tables, respectively. This brings the plates  $q$  and  $q'$  toward one another to adjust the biscuits  $x$  from the side simultaneously with the adjustment from the ends by the plates  $l$ , as before described. The shape of the plates  $q$   $q'$  is preferably as shown in Fig. 5.

After being adjusted the biscuits are carried along on the table and pressed by a device represented in Figs. 7 and 8. This device comprises a bracket  $s'$ , fixed to the machine-frame and in which is adapted to slide a block  $s$ , through which passes an adjusting-screw  $s^2$ . This screw  $s^2$  is provided at its lower end with a collar  $s^3$  and slidably carries the presser-plate  $s^4$ , extending across the machine, the plate being secured by a nut  $s^5$ , against which it is held by a spring  $s^6$ . Simi-

lar mechanism is arranged at the opposite side of the machine. When the lever  $c$ , Fig. 1, is tripped by the cam  $b$ , as described, and the shaft  $c^4$  rocked, arms  $c^5$  on the latter (one on each side of the mechanism) push rods  $c^6$  in the direction indicated by the arrow, and thus force back the longer arms  $c^7$  of bell-crank levers, the shorter arms  $c^8$  of which are connected to the slides  $s$  by pin-and-slot connections  $c^9$ , thus causing said slides, and consequently the presser-plate  $s^4$ , to be pressed down upon the row of biscuits beneath said plate.

As before mentioned, when the trip-lever  $c$  is released from cam  $b$  all the parts are returned to their uppermost positions, thus allowing another row of biscuits to be moved along on the table to be adjusted and pressed.

I claim—

1. In a machine for pressing biscuits, the combination with a biscuit-feed surface and a press, of an adjusting mechanism comprising a pair of plates, movable toward and from each other and mechanism for lifting and lowering said plates and for moving them as aforesaid.

2. In a machine for pressing biscuits, the combination with a biscuit-feed surface and a press, of an adjusting mechanism comprising a pair of plates, movable toward and from each other and mechanism operating to lower said plates toward the feed-surface, then to move them as aforesaid, and finally to lift them from the feed-surface.

3. In a machine for pressing biscuits, the combination with a biscuit-feed and a press, of an adjusting mechanism comprising two pairs of plates, the members of each pair being movable toward and from each other in direction perpendicular to the movement of the other pair, and mechanism for lifting and lowering said plates and for moving them as aforesaid.

4. In a machine for pressing biscuits, the combination with a biscuit-feed and a press, of an adjusting mechanism comprising a pair of plates movable to and from each other, and a plurality of pairs of plates, the members of each pair being also movable to and from each other in a direction perpendicular to the movement of the first pair, and mechanism for lifting and lowering all said plates and for moving them as aforesaid.

5. In a machine for pressing biscuits, the combination with a biscuit-feed surface and a press, of an adjusting mechanism comprising two pairs of plates, the members of each pair being movable toward and from each other in direction perpendicular to the movement of the other pair and mechanism operating to lower said plates to the feed-surface, then to move them as aforesaid thereover, and finally to lift them from the feed-surface.

6. In a machine for pressing biscuits, the combination with a biscuit-feed surface, and a



press, of an adjusting mechanism comprising two pairs of plates, the members of each pair being movable toward and from each other in direction perpendicular to the movement of the other pair, mechanism for lifting and lowering said plates and for moving them as aforesaid, and mechanism connected for corresponding operation of the press.

7. In a machine for pressing biscuits, the combination with a biscuit-feed surface of vertical standards, brackets sliding thereon, rods sliding in said brackets, means for operating said rods, springs on said rods bearing downwardly on said brackets, bell-crank levers connected to said rods, blocks having sliding movement horizontally in said brackets and connected to said bell-crank levers, and biscuit-adjusting plates carried by said blocks.

8. In a machine for pressing biscuits, the combination with a biscuit-feed surface of vertical standards, brackets sliding thereon, rods sliding in said brackets, a power-operated rock-shaft having arms connected to said rods, springs on said rods bearing downwardly on said brackets, means for arresting the downward movement of the brackets after partial stroke of the rods, bell-crank levers connected to said rods, blocks having sliding movement horizontally in said brackets and connected to said bell-crank levers, and biscuit-adjusting plates carried by said blocks.

9. In a machine for pressing biscuits, the combination with a biscuit-feed surface of vertical standards, brackets sliding thereon, rods sliding in said brackets, means for operating said rods, springs on said rods bearing downwardly on said brackets, bell-crank levers connected to said rods, biscuit-adjusting plates mounted and adapted to move horizontally with regard to said brackets and connected to said bell-crank levers, other bell-crank levers attached to said rods to rock in planes perpendicular to the aforesaid bell-crank levers, and a plurality of biscuit-adjusting plates at-

tached to be operated in pairs by the said other bell-crank levers.

10. In a machine for pressing biscuits, the combination with a biscuit-feed surface of vertical standards, brackets sliding thereon, rods sliding in said brackets, means for operating said rods, springs on said rods bearing downwardly on said brackets, bell-crank levers connected to said rods, blocks having sliding movement horizontally in said brackets and connected to said bell-crank levers, biscuit-adjusting plates carried by said blocks, other bell-crank levers attached to said rods to rock in planes perpendicular to the aforesaid bell-crank levers, reciprocable bars connected respectively to said other bell-crank levers, and a plurality of biscuit-adjusting plates attached to said bars and coöperating in pairs substantially as set forth.

11. In a machine for pressing biscuits, the combination with a biscuit-feed surface of a vertical standard, brackets sliding thereon, rods sliding in said brackets, a rock-shaft having arms connected to said rods, a trip connected to operate said shaft in connection with the biscuit-feed springs on said rods bearing downwardly on said brackets, bell-crank levers connected to said rods, blocks having sliding movement horizontally in said brackets and connected to said bell-crank levers, biscuit-adjusting plates carried by said blocks, other bell-crank levers attached to said rods to rock in planes perpendicular to the aforesaid bell-crank levers, reciprocable bars connected respectively to said other bell-crank levers and a plurality of biscuit-adjusting plates attached to said bars and coöperating in pairs, substantially as set forth.

In witness whereof I have signed this specification in the presence of two witnesses.

GEORGE SAMUEL BAKER.

Witnesses:

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H. D. JAMESON.