

(No Model.)

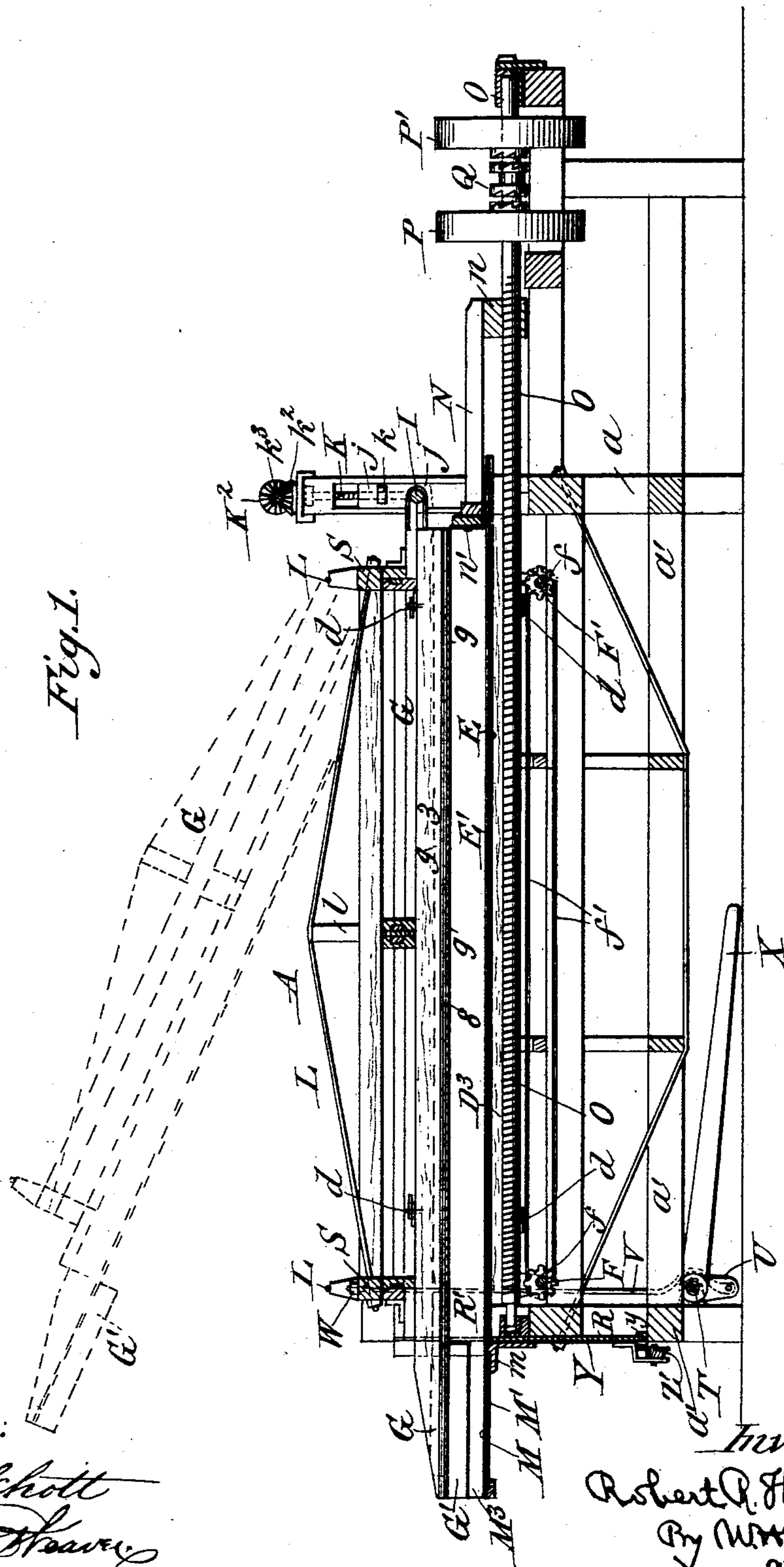
6 Sheets—Sheet 1.

R. R. THOMPSON.
MATTRESS STUFFING MACHINE.

No. 520,170.

Patented May 22, 1894.

Fig. 1.



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No. 520,170.

Patented May 22, 1894.

Fig. 2.

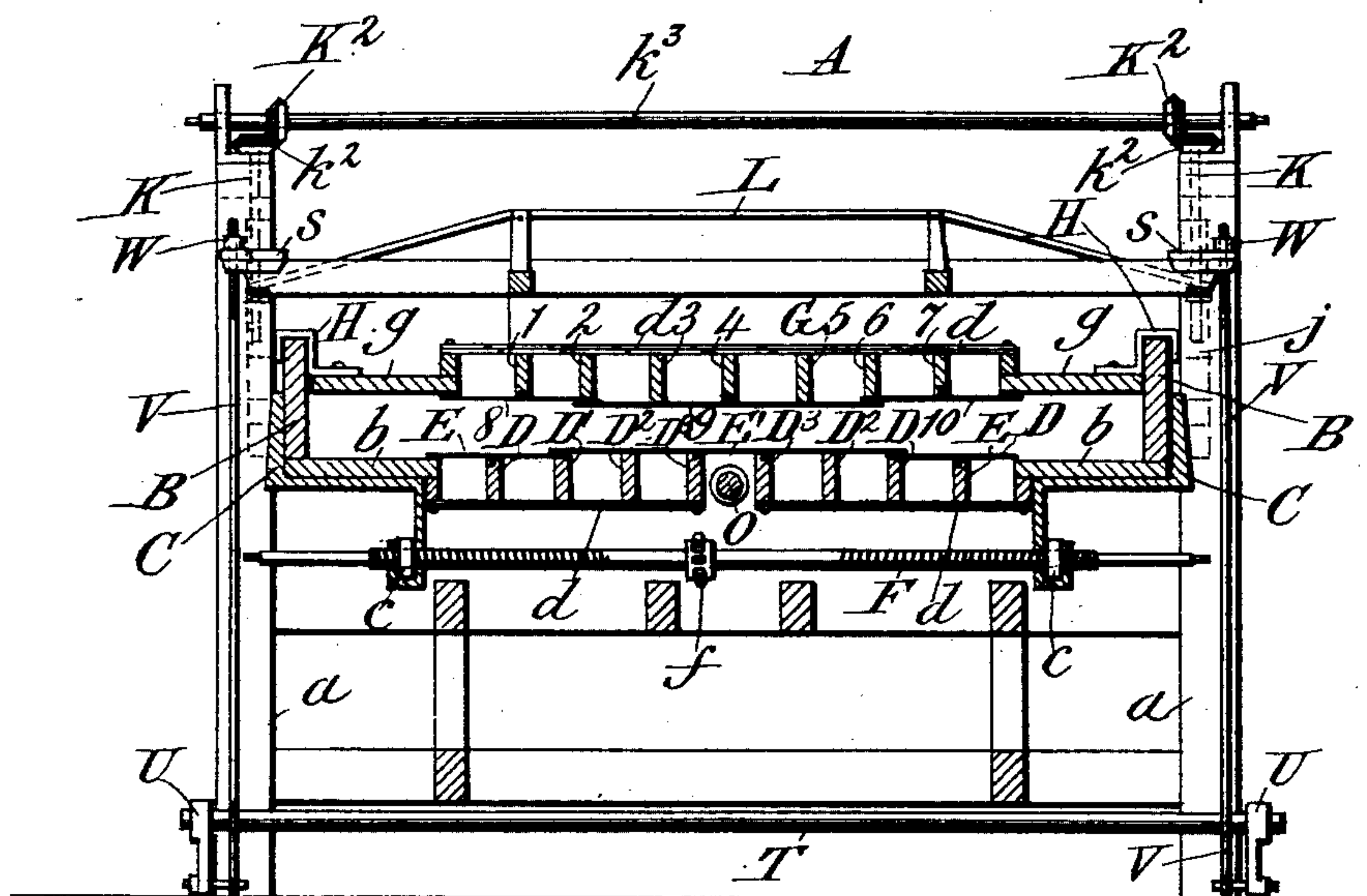
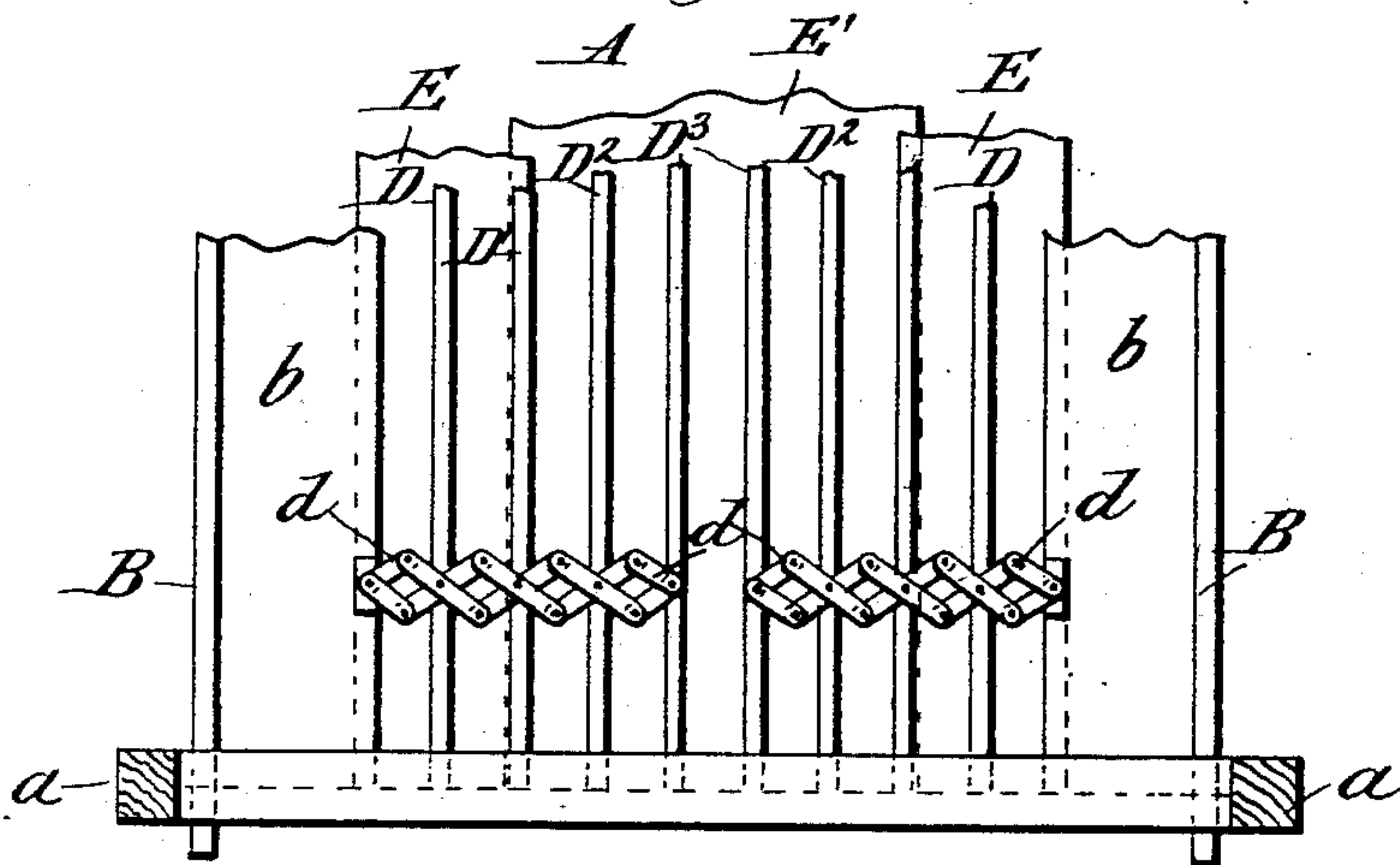


Fig. 5.



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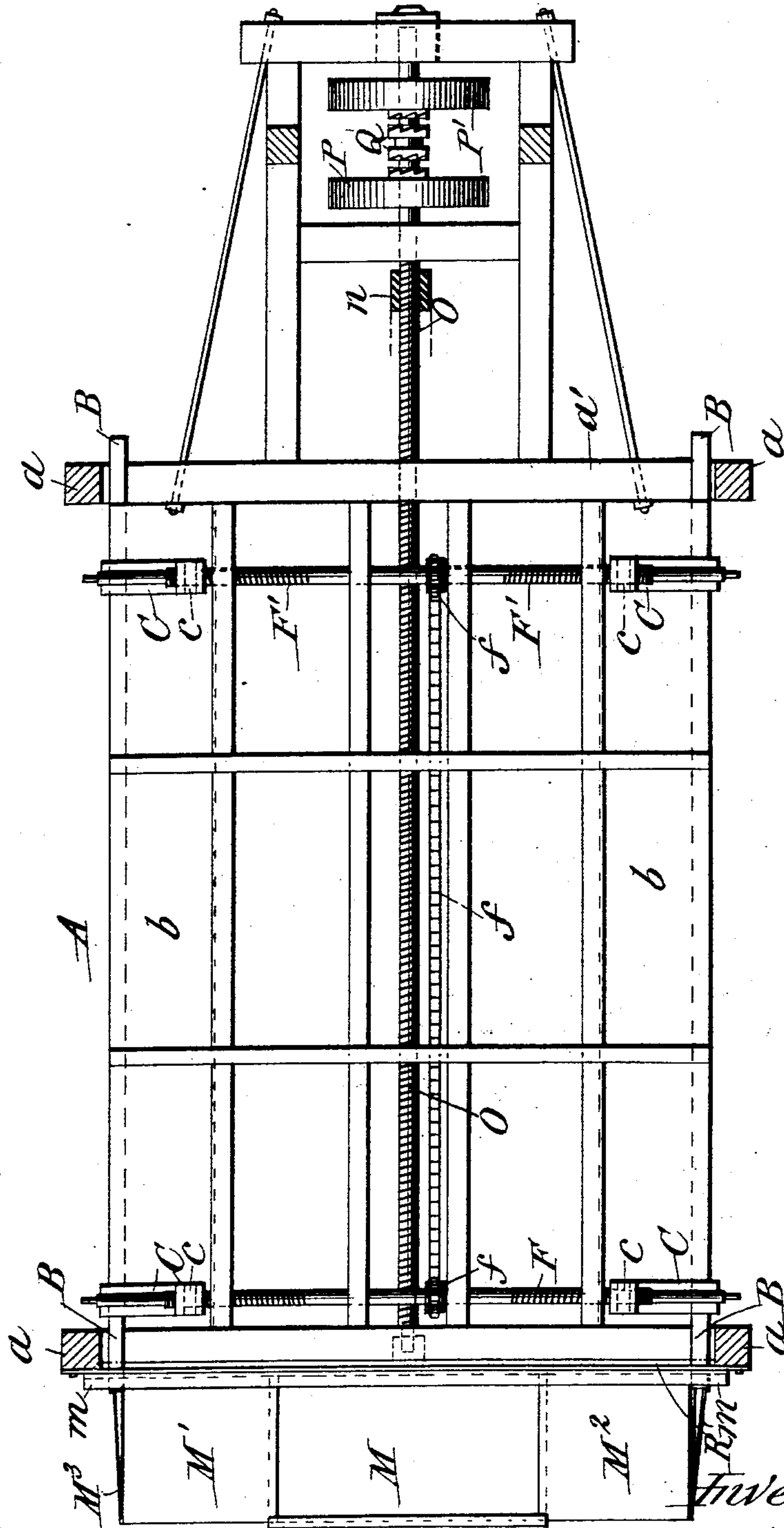
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Fig. 3.



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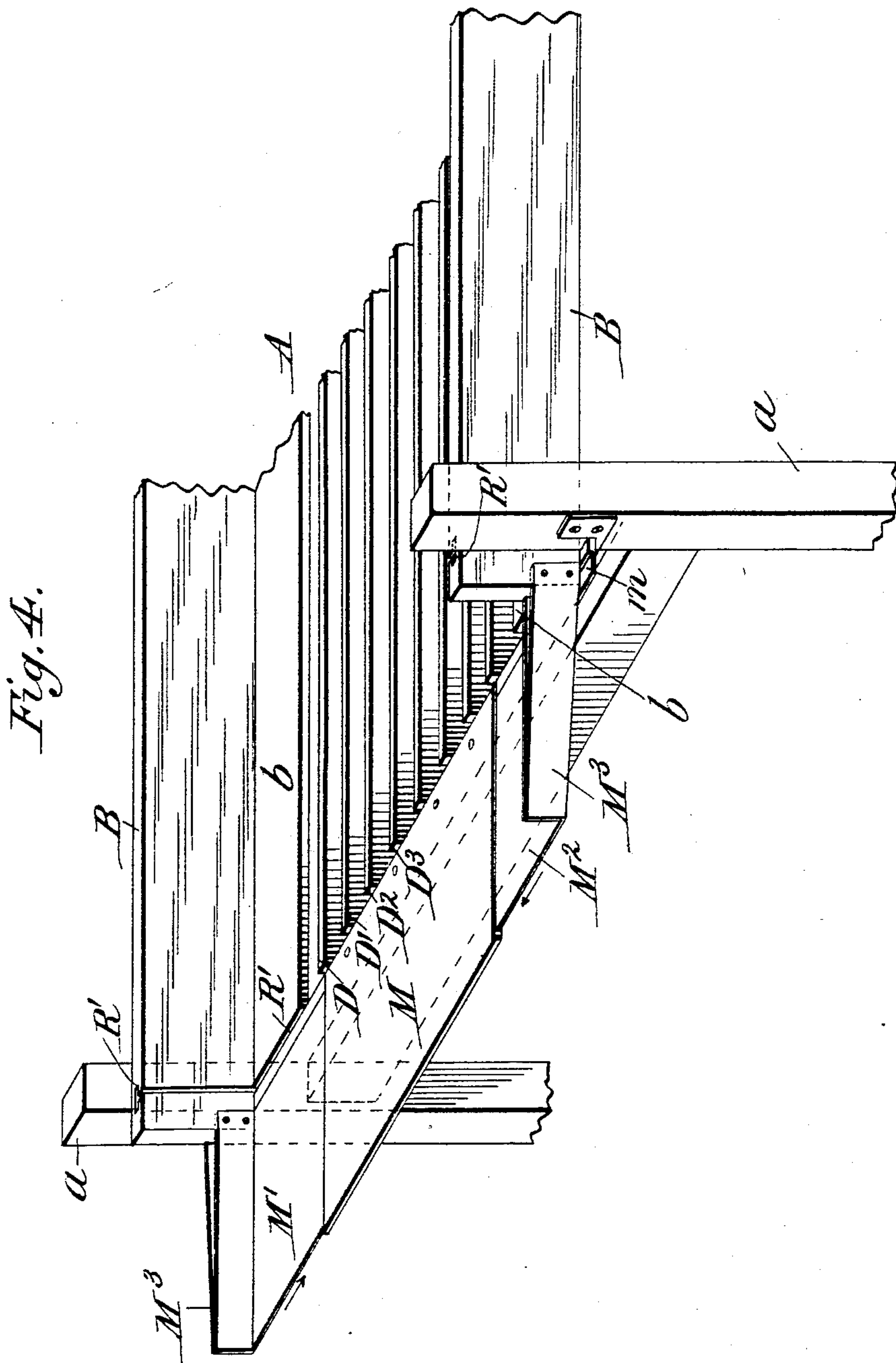
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Fig. 6.

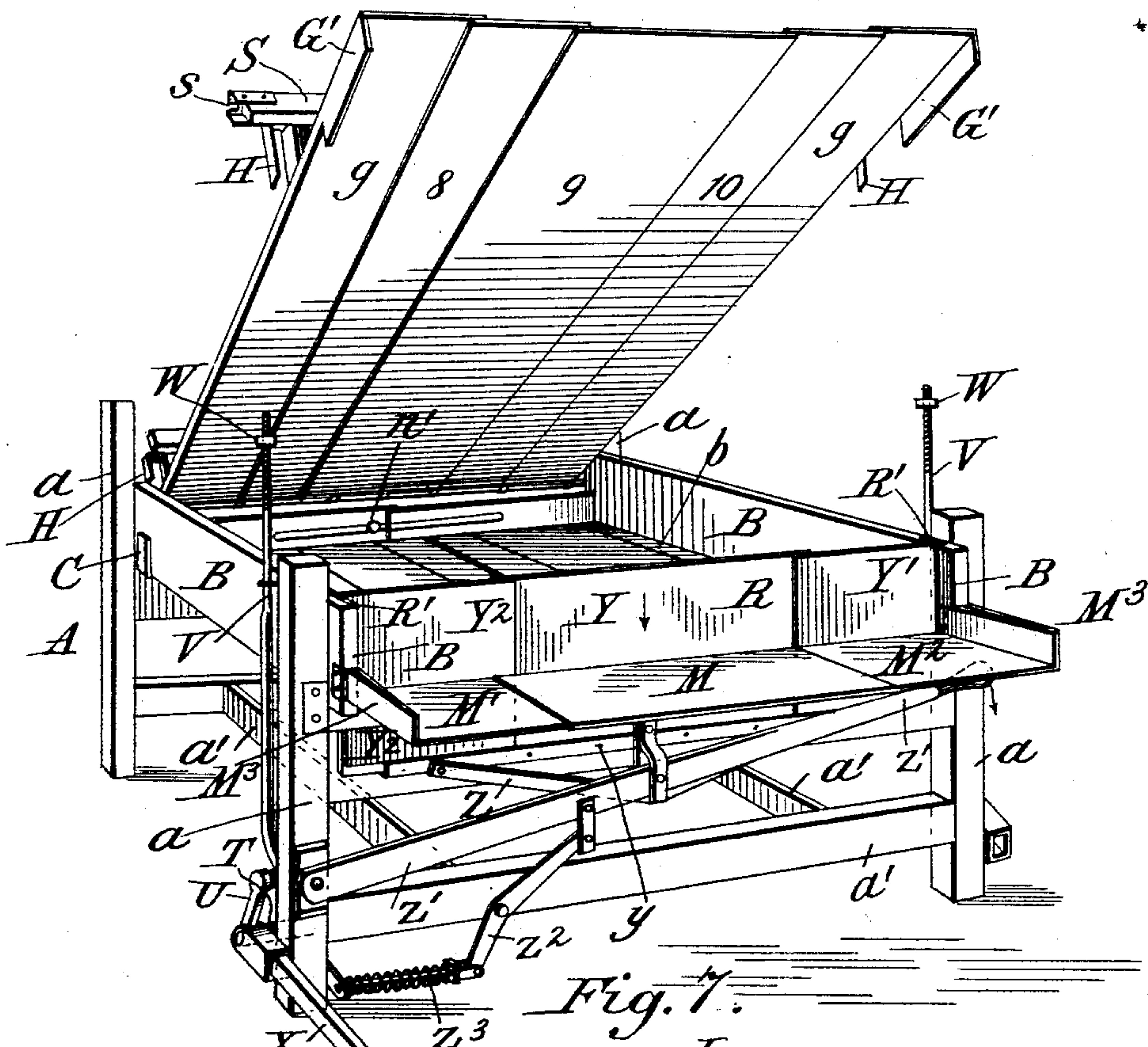
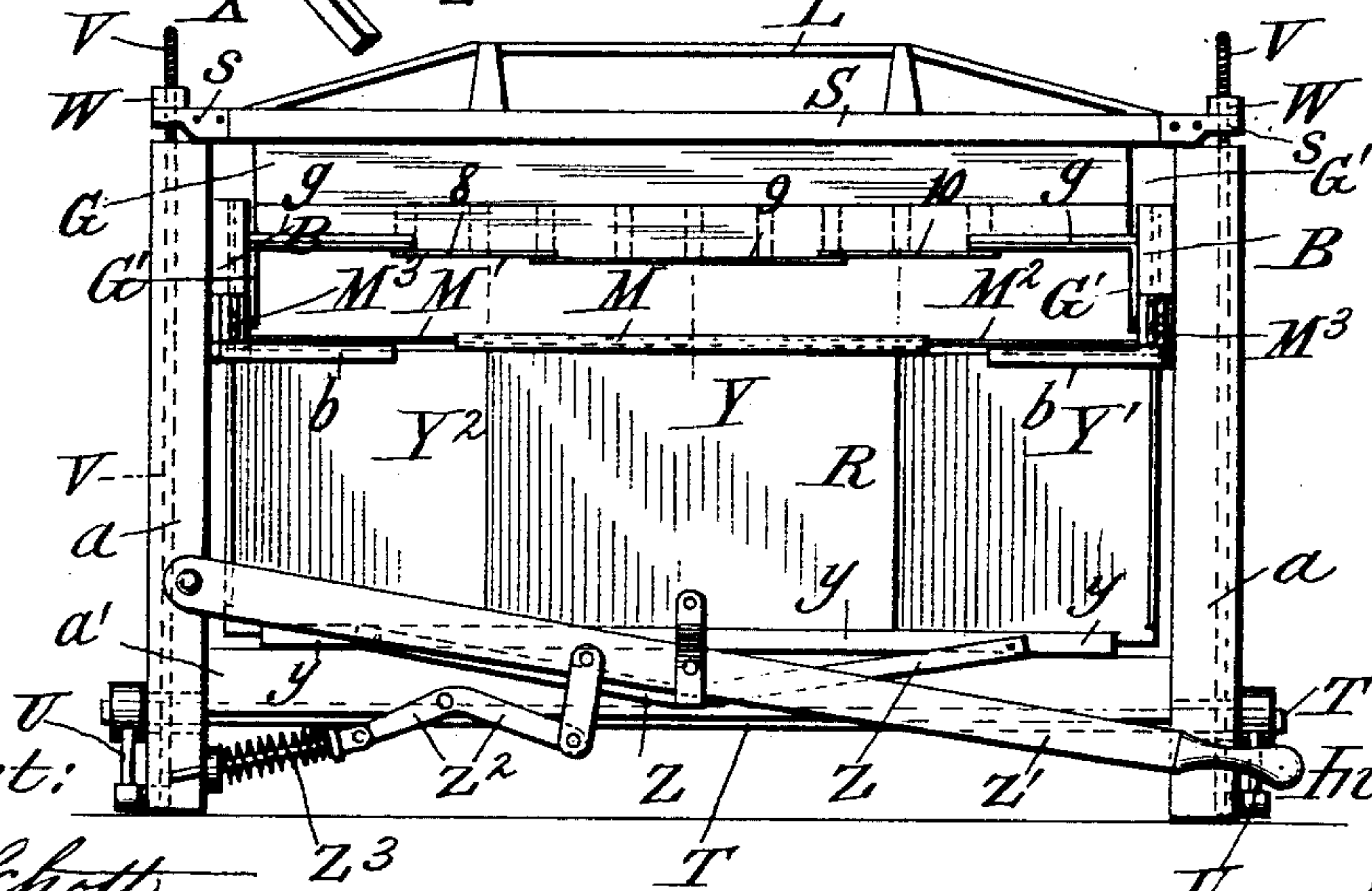


Fig. 7.



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R. R. THOMPSON.
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Fig. 8.

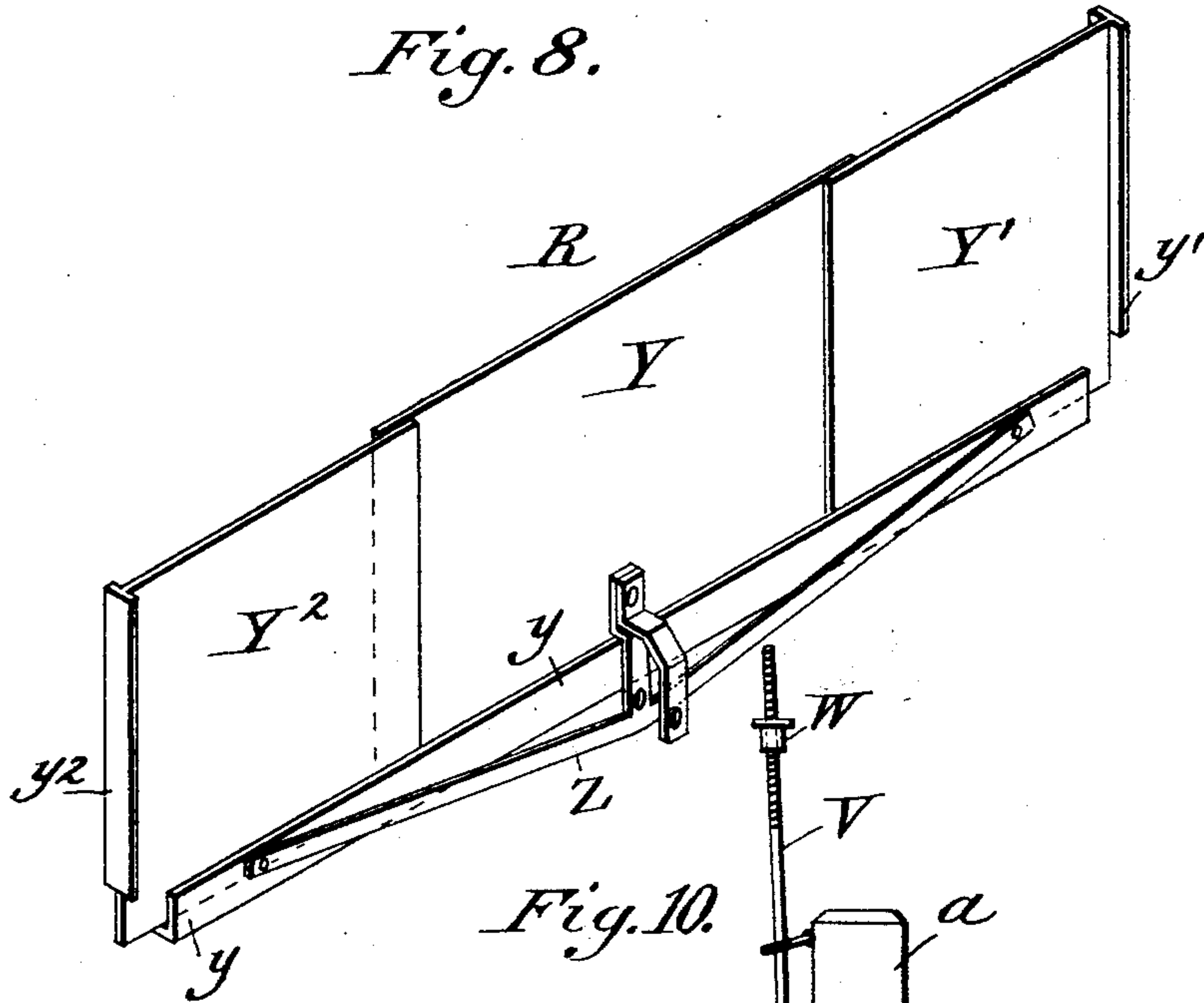


Fig. 10.

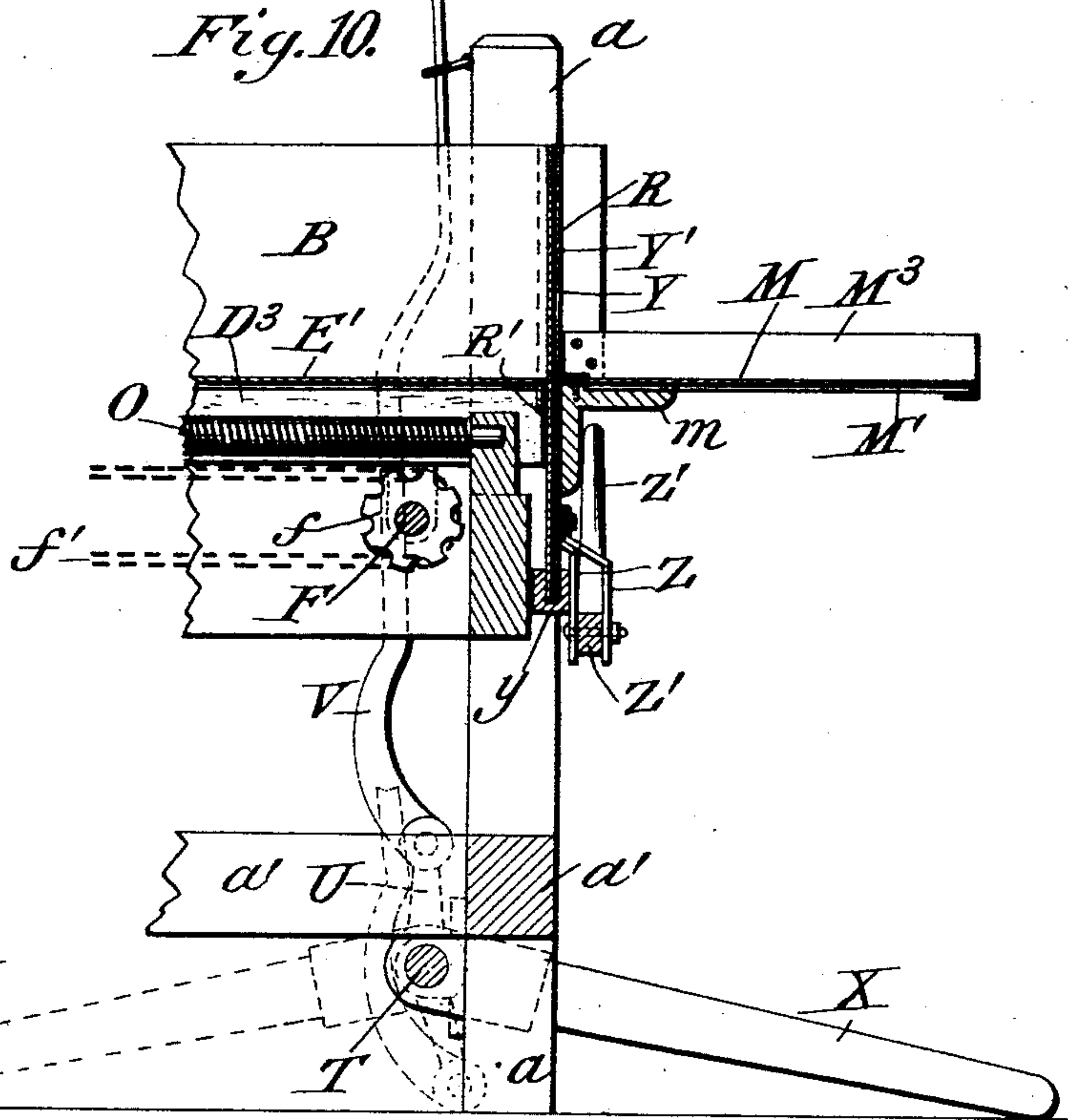
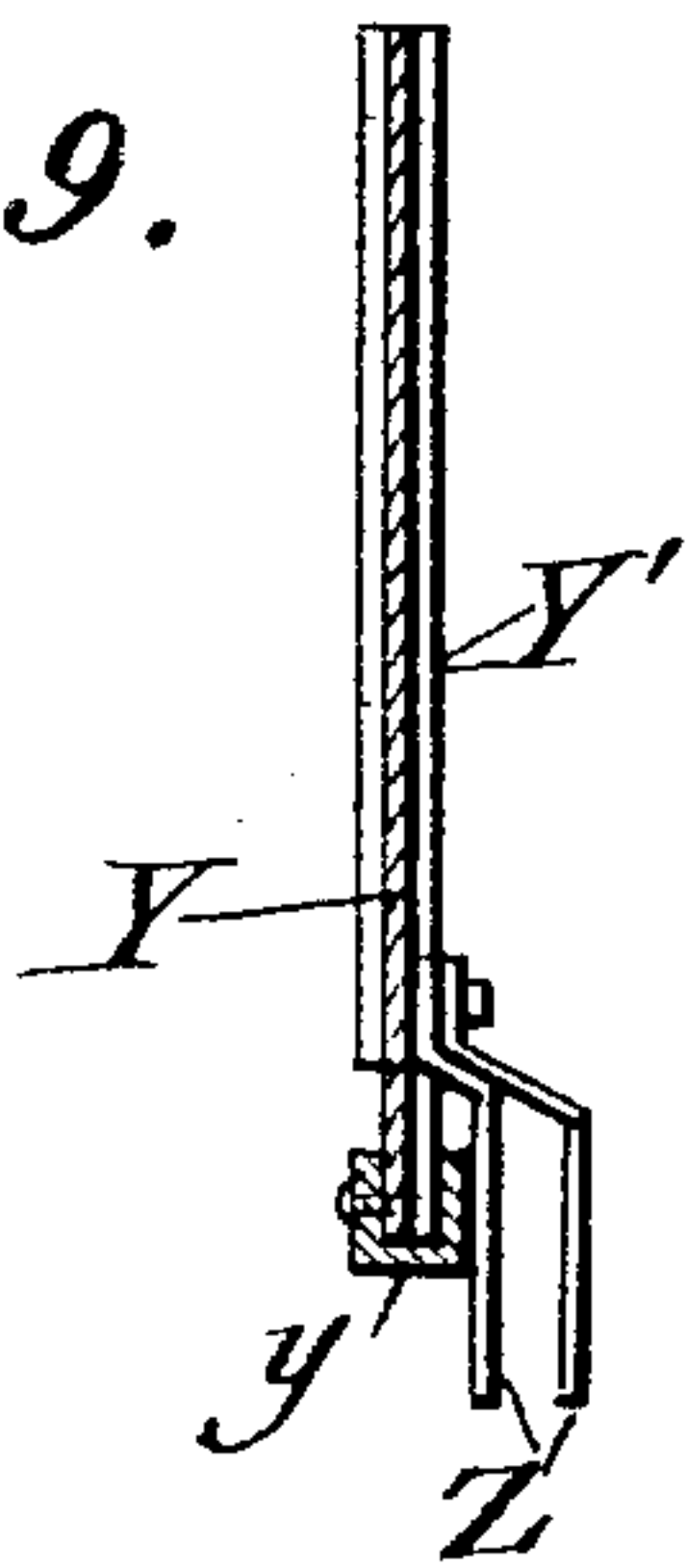


Fig. 9.



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UNITED STATES PATENT OFFICE.

ROBERT R. THOMPSON, OF BLOOMINGTON, ILLINOIS.

MATTRESS-STUFFING MACHINE.

SPECIFICATION forming part of Letters Patent No. 520,170, dated May 22, 1894.

Application filed February 6, 1894. Serial No. 499,286. (No model.)

To all whom it may concern:

Be it known that I, ROBERT R. THOMPSON, of Bloomington, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Machines for Stuffing Mattresses; 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 adjustable mattress stuffing machines, and has for its object to provide an improved mattress stuffing machine, as herein set forth and claimed.

Referring to the accompanying drawings,— Figure 1 is a vertical longitudinal section of the machine. Fig. 2 is a vertical cross-section thereof. Fig. 3 is a bottom plan view with parts removed. Fig. 4 is a perspective view of the front end of the machine, with parts removed. Fig. 5 is a detail view of a portion of the stuffing box, showing the means for equalizing the adjustment of the plates. Fig. 6 is a perspective view of the machine, with cover raised. Fig. 7 is a front end view of the machine, with cover closed and gate lowered. Fig. 8 is a perspective view of the gate detached. Fig. 9 is a vertical cross-section of the gate; and Fig. 10 is a detail side view of the front end of the machine in vertical section.

A, indicates the frame of the machine constructed with four corner posts *a*, connected to and braced by horizontal beams *a'*.

The floor, sides, spout, gate and cover of this machine are constructed and arranged as hereinafter set forth, so as to be simultaneously or synchronously adjusted by one operation. The stuffing box is constructed with side-rails B, B, to which are permanently attached horizontal side-boards *b*, each side-rail and side-board being united by a metallic brace C, which is bent at its lower end, as shown, to embrace a nut *c* mounted on a transverse shaft F arranged beneath the stuffing box and provided with a right and left hand screw thread. Said shaft passes through the brackets C, as shown. The floor of the stuffing box is formed, in connection with the side-boards *b*, of longitudinal rails D, D', D² and D³, arranged at equi-distances apart, and metallic sheets or plates E, E', the sheets E

being attached to rails D and extending over rails D and D', and a side-board *b*, and the sheets E' being attached to the rails D², D³, and extending over the sheets E. The outer ends of the side-rails B rest and are laterally movable upon a bracket or angle iron *m* secured to the front of the machine. At the rear of the machine is a transverse shaft F' similar to the shaft F, and each of said shafts is provided with a sprocket wheel *f*. The sprocket wheels *f* are connected by a sprocket chain *f'*, whereby the shaft F' will be operated by the rotation of the shaft F. The shaft F' is mounted in brackets depending from the side-boards *b*, and similar to the brackets C, and is provided with nuts similar to the nuts *c*, engaging right and left hand screw threads on said shaft F'. By means of this mechanism the ends of the bottom of the stuffing box will be moved simultaneously. A crank being applied to the shaft F, the side-boards, rails and plates of the bottom may be simultaneously adjusted laterally.

G indicates the cover of the stuffing box which is constructed with longitudinal rails 1, 2, 3, 4, 5, 6, 7, plates 8, 9, 10, and horizontal side-boards *g*, *g*, connected and arranged together similarly to the floor of the stuffing box. The side-boards *g*, *g*, are provided with depending hook-shaped brackets, H, H adapted to overlap and engage the side-rails B, B, when the cover is closed and thereby cause the cover to be laterally adjusted simultaneously with the bottom and sides of the stuffing box by a single operation of the crank on the end of shaft F.

The cover G is connected at its rear to a rotary rod I by a hinged connection laterally adjustable on said rod as the cover is laterally adjusted. The ends of the rod I rest in bearing blocks *j*, which are adjusted vertically in uprights by means of screw-threaded vertical shafts K engaging nuts *k* located in recesses in said blocks *j*, each of said shafts K being provided with beveled gears *k*², *k*³ connected to corresponding gears K² on a transverse shaft *k*³, operated by a suitable crank. By means of the foregoing mechanism the rear end of the cover G may be vertically adjusted to stuff mattresses of different thicknesses.

In order that the rails and plates of the

bottom and cover of the stuffing box may be caused to maintain equal distances apart in their lateral adjustment, an equalizing adjusting mechanism is provided, preferably consisting of lazy-tongs d , which are connected at their ends to the side-boards of the bottom and cover, and to such of the rails as are adjusted laterally, as hereinbefore set forth.

The cover G is braced and strengthened by truss rods L , which are secured to the ends of the cover and pass over a central bridge l , as shown, whereby the cover is made very stiff and rigid, to withstand the great pressure when the plunger is operated. The discharge end of the machine is provided with a laterally adjustable spout, preferably constructed as follows: A horizontal sheet of metal M is fastened to the bracket m midway between the sides of the machine and on either side of the sheet M is located a horizontal metallic sheet M' , M^2 , having its inner edge lapping the plate M and its outer edge turned up to form a flange M^3 , which is fastened to the projecting end of each side rail B . The aforesaid construction forms the lower half of the spout. The upper half thereof is formed by the front end of the cover G being extended so as to extend out over to the outer edges of the plates M , M' , M^2 , when the cover is lowered. The outer ends of the side-boards g , g , of the cover are also provided with depending flanges G' , which overlap the flanges M^3 and form therewith the sides of the spout.

R indicates the gate against which the stuff is compressed by the plunger. The gate R is movable vertically in a passage way R' between the spout and the floor of the stuffing box and in the side-rails B , as shown in Figs. 4 and 10. The gate R , as more clearly shown in Fig. 8, consists of a central plate Y and side plates Y' , Y^2 , overlapping the plate Y . The central plate Y is fixed in a trough or U-shaped bar y and the side-plates Y' , Y^2 , have their lower edges resting in said bar y and are adapted to slide laterally therein over the plate Y . The plates Y' , Y^2 , are connected to the side-rails B by flanges y' , y^2 , which engage T-shaped slots R in the side-rails B , and which permit of a vertical movement of the plates Y' , Y^2 . The gate is raised and lowered by a suitable mechanism, such as the metallic frame Z , which is secured to the central plate Y and the bar y , and a hand lever Z' extending transversely to the front end of the machine below the spout and pivoted to one of the corner posts a . The gate may be normally held up by a bell-crank lever Z^2 and a spring Z^3 mounted on the frame of the machine and connected to the hand lever Z' . If desired, removable gates of different sizes may be employed in lieu of an adjustable gate.

It will be readily understood from the foregoing description that with the connections of the gate and spout with the side-rails B , B , the bottom, sides, cover, and spout may be

adjusted laterally by one operation of the shaft F .

N indicates the plunger, provided upon its under side with a screw-threaded shaft D , extending lengthwise beneath the stuffing box, said shaft having loosely arranged on its rear end two oppositely driven pulleys P , P' , and having keyed thereon a longitudinally adjustable clutch Q , adapted to be shifted to engage either of said pulleys to rotate said shaft in either direction and thereby cause the plunger to stuff mattresses of different sizes, its head is removable and heads of various sizes may be employed; and the heads may also be made laterally adjustable, as shown at n' in Fig. 6. A space is provided between the bottom plates in order that the feed nut may have an unobstructed passage the entire length of the machine and that there may be no impediment to the advance of the plunger through the stuffing box.

To clamp the cover tightly upon the stuffing material, the following described mechanism is employed: The front end of the cover is provided with a cross-bar S , having at its ends slotted plates s , s . A shaft T is journaled in the front posts a , a , of the frame of the machine and to the ends of the shaft T are rigidly fastened levers U . To the levers U are pivoted the lower ends of vertical rods V , screw-threaded at their upper ends and provided with binding nuts W . When it is desired to clamp the cover, the rods V are moved into the slots of the plates s and the nuts W screwed down upon the latter. The cover is then drawn down and held upon the stuffing material in the box by a lever X on the shaft T , the two positions of the lever X being shown in dotted and full lines in Fig. 10.

The operation of the machine will be readily understood from the foregoing description. A mattress of a given width and thickness being required to be stuffed, the stuffing box, spout, gate and cover are adjusted to the necessary width. The cover is then clamped upon the stuffing material in the box and the stuffing material pressed by the plunger. The ticking having been secured to the spout in any suitable manner to receive the stuffing material, the gate is lowered, and the plunger being moved forward, the stuffing material is forced into the ticking. By means of a machine constructed as herein set forth, the machine may be quickly and readily adjusted at one operation to stuff mattresses of different sizes.

What I claim is--

1. A mattress stuffing machine, constructed with a floor and vertically adjustable top, said floor and top being constructed with a number of laterally adjustable beams provided with laterally adjustable overlapping plates, in combination with mechanism for adjusting said beams and plates in the top and floor of said machine synchronously.
2. A mattress stuffing machine constructed

with a bottom, having laterally adjustable overlapping plates, a hinged top having laterally adjustable overlapping plates and a vertically adjustable hinge, in combination with mechanism for synchronously adjusting the plates of the top and floor of the machine, as herein set forth.

3. A mattress stuffing machine, constructed with laterally adjustable side-rails, a floor composed of laterally adjustable overlapping plates, a top provided with laterally adjustable overlapping plates, and mechanism for synchronously adjusting said plates in the top and floor of the machine.

4. In a mattress stuffing machine, the combination with a laterally adjustable floor, a laterally adjustable top, and mechanism for synchronously adjusting said top and floor, and a reciprocating plunger, as herein set forth.

5. A mattress stuffing machine, constructed with a floor, composed of a series of laterally adjustable plates, a top composed of a series of laterally adjustable plates, laterally adjustable sides, a spout composed of laterally adjustable plates, and mechanism for synchronously operating the said several plates of the top and floor and spout.

6. A mattress stuffing machine constructed with a floor and top, each provided with overlapping laterally adjustable plates, means for synchronously adjusting said plates, and a mechanism for equalizing the adjusted distance of the plates relative to one another.

7. A mattress stuffing machine constructed with a floor and top, each provided with laterally adjustable overlapping plates, means for synchronously adjusting said plates, and a lazy-tongs mechanism connecting said plates, whereby the relative movement of the plates to each other is equalized.

8. In a mattress stuffing machine, a spout composed of a fixed lower horizontal central

plate, and lower side laterally adjustable plates, in combination with a hinged cover extended forwardly to constitute the upper section of the spout, and having laterally adjustable plates, the outer side plates thereof having depending flanges.

9. In a mattress stuffing machine, the combination with a bottom and a hinged cover, each formed with overlapping plates and adjustable sides, of mechanism for synchronously operating said plates, an adjustable spout, and an adjustable gate, substantially as described.

10. A mattress stuffing machine constructed with a bottom, sides, gate, spout and cover, each of said parts being laterally adjustable and connected together so as to be adjusted, in combination with a mechanism for effecting said adjustment.

11. The combination with the frame and the swinging cover mounted thereon, of slotted wear-plates secured to the sides of the cover, a rock-shaft mounted on the frame near the base thereof and provided with levers, rods pivoted to said levers and adapted to engage slots in the wear-plates, and nuts mounted on the upper ends of the said rods.

12. In a mattress stuffing machine, the combination with the gate, consisting of a fixed central plate, a U-shaped bar secured thereto, and side plates moving laterally in said bar over the central plate, of a hand-lever connected to the gate, an angle lever connected to the hand lever, and a spring bearing on the hand lever to hold the gate normally closed.

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

ROBERT R. THOMPSON.

Witnesses:

H. R. DODGE,
L. H. McROSKEY.