

No. 724,978.

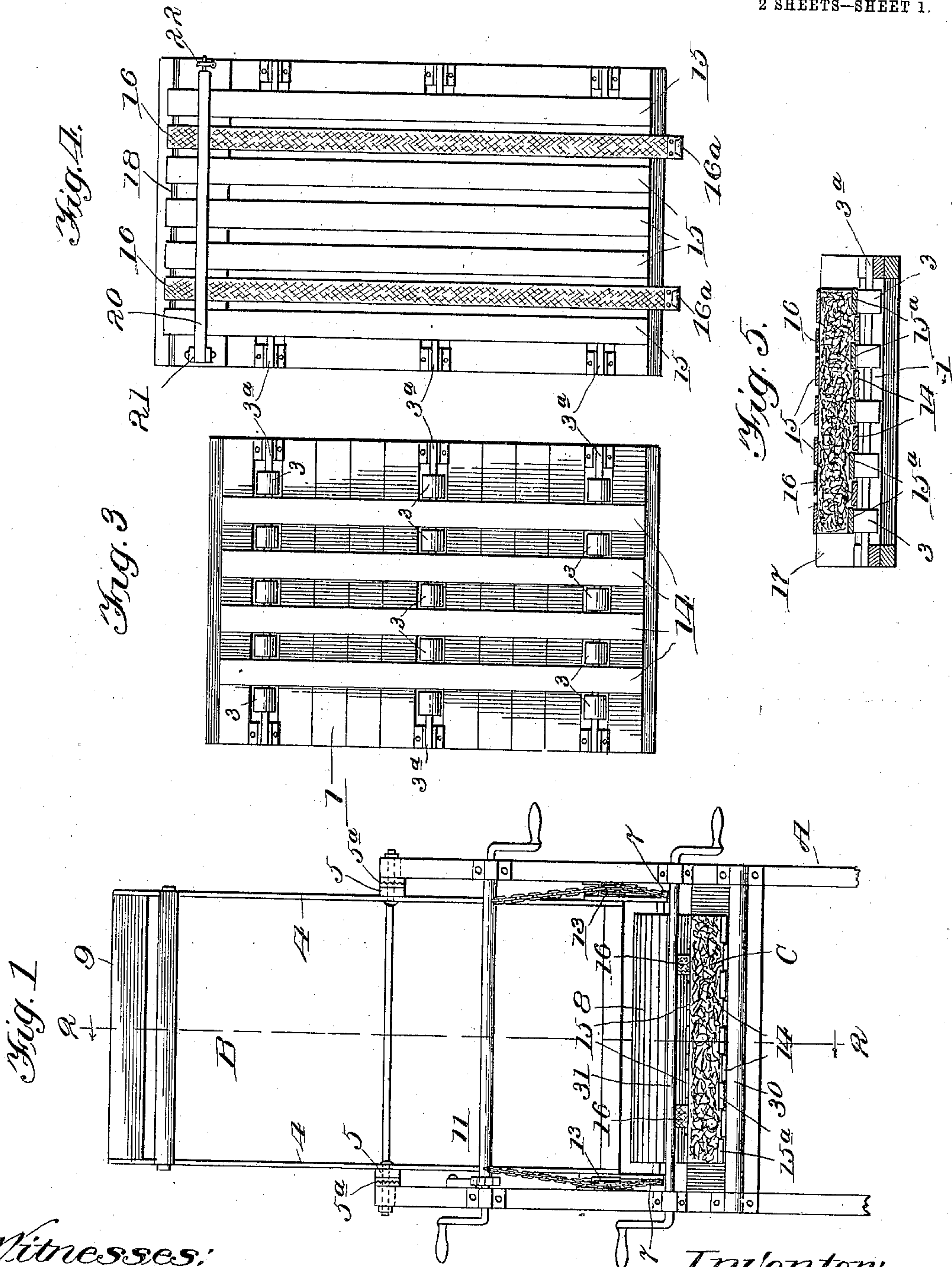
PATENTED APR. 7, 1903.

E. G. WHEELER.
MATTRESS MACHINE.

APPLICATION FILED AUG. 8, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

H. S. Gaither
J. C. Lee

Inventor
Edward G. Wheeler
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Attorney.

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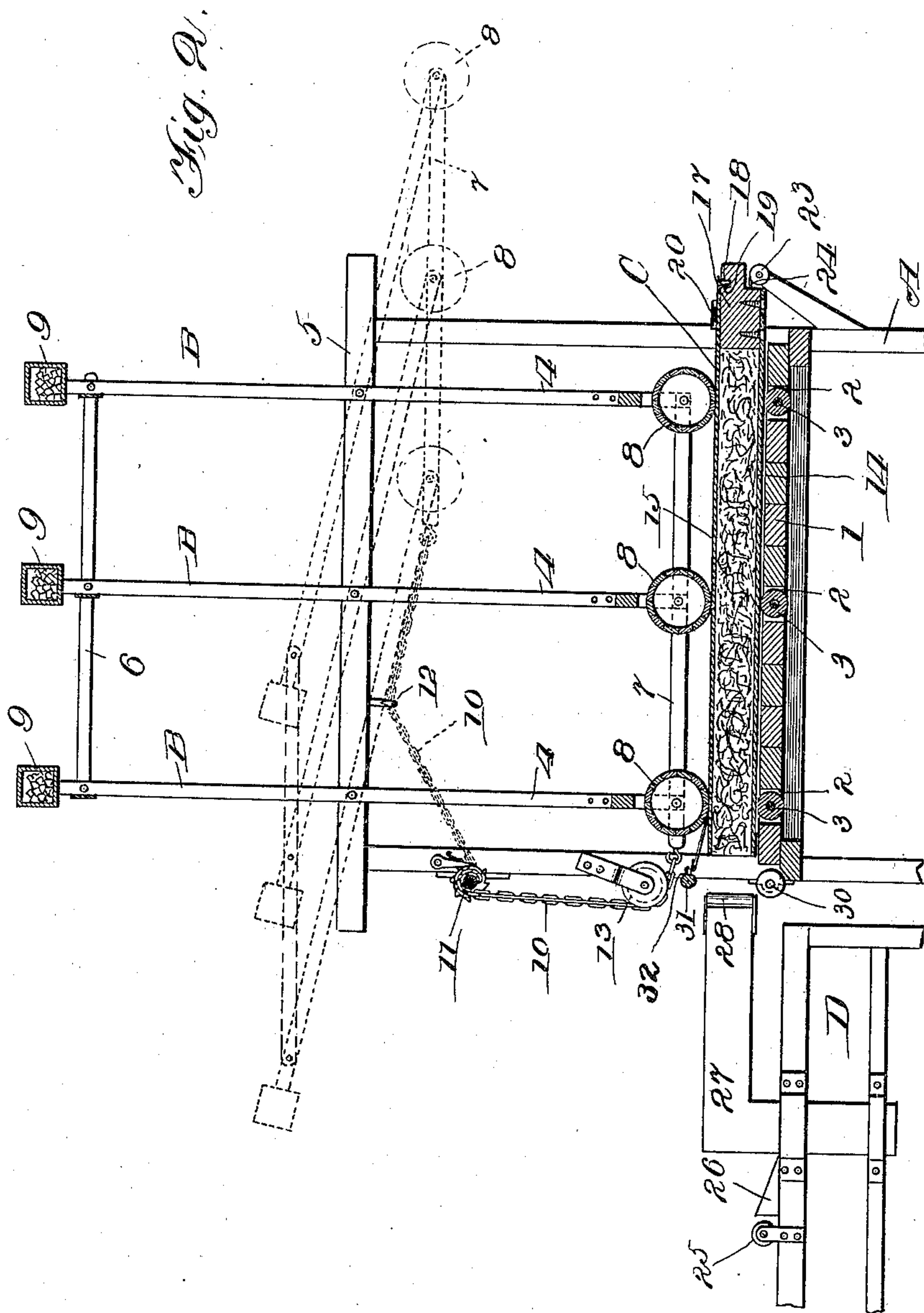
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UNITED STATES PATENT OFFICE.

EDWARD G. WHEELER, OF MOBILE, ALABAMA.

MATTRESS-MACHINE.

SPECIFICATION forming part of Letters Patent No. 724,978, dated April 7, 1903.

Application filed August 8, 1902. Serial No. 118,964. (No model.)

To all whom it may concern:

Be it known that I, EDWARD G. WHEELER, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented a certain new and useful Improvement in Mattress-Machines, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to machines for compressing material forming the body of mattresses and for thrusting or stuffing such material in the compressed condition into a previously-prepared mattress-tick.

The object of my invention is to provide a simple, practical, inexpensive, and effective machine of this class.

In the accompanying drawings, Figure 1 is an end elevation of a mattress-machine embodying my invention. Fig. 2 is a cross-section taken on line 2 2 in Fig. 1. Fig. 3 is a view of the floor of the machine. Fig. 4 is a plan of the movable holder for the material, and Fig. 5 is a cross-section showing the floor and holder. In all of these drawings the side boards and end boards forming the box for holding the material are removed for convenience of showing the working parts of the machine.

The machine which I have shown in the drawings to illustrate my invention is provided with a supporting-frame A of any suitable form and construction. This frame A is provided with a floor 1, made of flooring or other suitable material and having open spaces 2 2 2, in which are arranged sets of rollers 3 3 3, loosely mounted on suitably-journalled transverse shafts 3^a 3^a. The floor 1 is provided with a series of slats 14 14, Fig. 5, secured to it between the rollers 3 3. The tops of the rollers 3 3 are slightly above the upper surface of the floor 1, but below the upper surfaces of slats 14 14. The frame A also supports a set of swinging rods or beams 4 4 4, which are pivotally connected between their ends to upper bars 5 of the frame A. The bars 5 5 are desirably made vertically adjustable by means of corrugated plates 5^a 5^a, Fig. 1. These plates are made in pairs. One of each pair is fastened securely to the bar 5, the other to the upright post of frame A.

Through the center of each pair is a longitudinal slot through which a bolt passes for rigidly uniting the whole together. These swinging rods 4 4 4 are connected at their upper ends by cross-rods 6 and at their lower ends by cross-rods 7, the whole thus constituting a swinging frame. The lower ends of the rods 4 4 are provided with compression-rollers 8 8 8, which may be of any suitable or desired construction, and the upper ends of the rods 4 4 are provided with weight-boxes 9 9 9, which are adapted to hold weights of any variety capable of slightly overbalancing the rollers 8 8. Thus the rods or beams 4 4 and the cross-pieces 6 and 7 form a swinging counterbalanced compression-roller frame B. The frame is adapted to be swung about the pivotal connections of the rods 4 4, so that the rollers 8 8 can be elevated to the position indicated in dotted lines in Fig. 2 or lowered to the position shown in the full lines in said figure. By having the counterbalancing-weights adapted to slightly more than counterbalance the rollers 8 8 the frame is normally held in a position with the rollers elevated.

As an arrangement for swinging the swinging frame B, I conveniently provide a chain 10, having one of its ends connected with the forward end of the lower cross-rod 7 and its other end attached to a windlass 11. The frame-piece 5 is provided with a depending hook 12, adapted to engage the chain 10, as shown in dotted lines, Fig. 2, and the forward upright of the frame A is provided with a block or sheave 13, below which the chain can be passed, as shown in full lines in said figure. At the front end of the machine is a long transverse roller 30, whose upper edge is substantially in alinement with the tops of the rollers 3 3. Below the windlass 11 is arranged a second windlass 31, which is located so that its lower edge is slightly above the plane passing through the lower edges of the compression-rollers 8 8 when the same are in their lowermost positions. The windlass 31 is provided with hooks or staples 32 32.

A holder C for the mattress material is arranged above the floor 1, resting upon the sectional rollers 3 3. The form of holder C shown comprises top slats 15 15 15, webbing belts 16 16 between the same, bottom slats

15^a 15^a, and a following block 17, to which all of the foregoing are attached. The forward ends of the webbing belts 16 16 are provided with hooks 16^a 16^a, adapted to engage the hooks 32 32 on the windlass 31. The bottom slats 15^a 15^a are arranged above the rollers 3 3 and between the floor-slats 14 14, so as to roll upon the former and slide between the latter. The following block 17 is of such height as to permit it to pass below the compression-rollers 8 8 when the latter are in their lowermost positions and when the top and bottom slats are attached to the following block. The top of the following block is provided with a groove 18, and the top slats 15 15 are provided with downwardly-projecting flanges or loops 19 19, adapted to fit into the groove 18. A locking bar or rod 20 is arranged over the rear ends of the slats 15 15 and webbing belts 16 16 to lock the same in position close against the following block 17. The locking-bar 20 is arranged so that it can be locked and unlocked, a convenient arrangement being to connect one of its ends pivotally to the following block, as at 21, and to provide a catch 22 for engaging its other end. A coil-spring roller 23 is mounted in the rear of the following block 17 and connected thereto by a rope 24, this roller being adapted to draw the material-holder C backwardly to the position indicated in Fig. 2.

In front of the frame A is a table D for receiving the mattress material from the machine. This table D is conveniently provided with a roller 25 and an inclined plane 26, leading to the same. The roller 25 shown is understood to be one of several rollers with which the table B is desirably provided, a portion of the table being broken away for convenience of illustration. The table is also provided with a side bar 27, having a vertically-arranged roller 28 for holding the tick.

The machine is operated as follows: When the machine is out of use, the swinging frame B is in the position indicated in dotted lines in Fig. 2, being placed in this position by reason of the weights 9 9 being more than necessary to counterbalance the compression-rollers 8 8. In order to have the chain 10 out of the way of the operator, it is placed in engagement with the depending hook 12. The material for the mattress is placed upon the bottom slats 15^a 15^a, being held in position by the side and end boards, which, it is understood, are not present in the drawings. When sufficient material has been placed in position for compression, the top slats 15 15 and the webbing belts 16 16 are placed in position upon the material. Then the chain 10 is disengaged from the hook 12, and the windlass 11 operated to cause the frame B to be swung downwardly. This is continued until the rollers 8 8 strike the top of the mattress-holder, at which time there is sufficient slack in the chain 10 to allow it to be placed under

the sheave 13. A few more turns of the windlass 11 are then made to draw the roller-frame forwardly to its upright position, where it is securely held. The top slats 15 15 and webbing belts 16 16 are then securely locked to the follower 17, the front and rear end boards removed, and the hooks 16^a 16^a at the forward end of the webbing belts 16 16 placed in engagement with the staples 32 on the windlass 31. The windlass 31 is thereupon turned, so as to wind the webbing belts upon it, and thereby advance the material-holder C. This moves out upon the receiving-table B and into a previously-prepared tick, which is suitably arranged in position on said table, as well known in the art. The slats 15 15 15^a 15^a, webbing belts 16 16, and following block 17 are then returned to position in the machine by the spring-roller 23, leaving the material in the tick, the smoothness of the slats and slight adherence between the mattress and the tick permitting the withdrawal of the slats without withdrawing the material. To make mattresses of different thicknesses, the rollers 8 8 are adjusted vertically as desired by vertically adjusting the side bars 5 5.

It will be seen that the machine is simple, inexpensive, and practical and that it accomplishes the desired result in an easy and effective manner.

It will be understood that I do not desire to limit myself to the specific construction herein shown and described, for it is obvious that changes, modifications, and alterations may be made therein without departing from the spirit of my invention.

What I claim is—

1. A device of the class specified, comprising a floor provided with rollers, a holder for the material adapted to move upon said rollers, and a swinging frame having its lower end provided with rollers adapted to travel upon the top of said material-holder, whereby the swinging of the frame will lower the rollers and cause the compression of the material in the holder, substantially as described.

2. A machine of the class specified, comprising a floor provided with rollers, a holder for the material adapted to rest and travel upon said rollers, a swinging frame arranged above the material-holder and having its lower end provided with a set of rollers adapted to travel upon the top of the material-holder, said frame being adapted to produce a parallel motion of said rollers so that the same move correspondingly downwardly and along the top of the holder and thereby produce an even compression of the material in the latter, substantially as described.

3. A machine of the class specified, comprising a platform provided with rollers, a holder for the material adapted to rest and move upon said rollers, a swinging frame arranged above said platform, said frame comprising a set of pivotally-supported rods or beams having their lower ends provided with rollers,

and cross-rods pivotally connected with said rods or beams, said swinging frame being arranged so that the pivotally-supported rods or beams can be swung to cause a downward movement of the rollers upon and along the top of the material-holder, substantially as described.

4. A machine of the class specified, comprising a floor provided with rollers, a material-holder adapted to rest and move upon said rollers, a swinging frame comprising a set of pivotally-supported rods or beams 4, 4, having their lower ends provided with rollers 8, 8, and their upper ends provided with weights 9, 9, and cross-rods 6 and 7 connecting said rods 4, 4, the said swinging frame being arranged so that a swinging movement of the rods 4, 4, into vertical position causes the rollers to depress the top of the material-holder and thereby compress the material therein, substantially as described.

5. A machine of the class specified, comprising a floor provided with rollers, a holder for the material adapted to rest and travel upon said rollers, a swinging frame arranged above the material-holder and having its lower end provided with a set of rollers adapted to travel upon the top of the material-holder, said frame being adapted to produce a parallel motion of said rollers so that the same move correspondingly downwardly and along the top of the holder and thereby produce an even compression of the material in the latter, and means for swinging said frame, substantially as described.

6. A machine of the class specified, comprising a floor provided with rollers, a material-holder adapted to rest and move upon said rollers, a swinging frame comprising a set of pivotally-supported rods or beams 4, 4, having their lower ends provided with rollers 8, 8, and their upper ends provided with weights 9, 9, and cross-rods 6 and 7 connecting said rods 4, 4, the said swinging frame being arranged so that a swinging movement of the rods 4, 4, into vertical position causes the rollers to depress the top of the material-holder and thereby compress the material therein, and means for swinging said frame, substantially as described.

7. A device of the class specified, comprising a floor provided with rollers, a holder for the material adapted to move upon said rollers, a swinging frame having its lower end provided with rollers adapted to travel upon the top of said material-holder, whereby the swinging of the frame will lower the rollers and cause the compression of the material in the holder, and means for swinging said frame, comprising a chain attached thereto and a windlass for winding up the chain, substantially as described.

8. A machine of the class specified, comprising a floor provided with rollers, a material-holder adapted to rest and move upon said rollers, a swinging frame comprising a set of pivotally-supported rods or beams 4, 4, hav-

ing their lower ends provided with rollers 8, 8, and their upper ends provided with weights 9, 9, and cross-rods 6 and 7 connecting said rods 4, 4, the said swinging frame being arranged so that a swinging movement of the rods 4, 4, into vertical position causes the rollers to depress the top of the material-holder and thereby compress the material therein, a chain 10 attached to the front end of the lower cross-piece 7, a windlass 11 for winding up said chain, and a sheave 13 about which the chain can be placed to permit the lower end of the swinging frame to be drawn directly forward, substantially as described.

9. In a machine of the class specified, a swinging frame comprising a set of pivotally-supported bars or rods, means for connecting the same, rollers at the lower ends of said bars or rods, and weights at the upper ends thereof, substantially as described.

10. In a machine of the class specified, the combination of a swinging frame having its lower end provided with a series of compression devices, said frame being adapted to cause a parallel movement of such devices, in combination with a holder for the material to be compressed, said holder being arranged to be acted upon by said compression devices, substantially as described.

11. In a machine of the class specified, the combination of a swinging frame, comprising a set of pivotally-supported rods or bars 4, 4, having their lower ends provided with rollers and their upper ends provided with weights, connections 6 and 7 between said bars 4, 4, and a chain 10 for swinging said frame, substantially as described.

12. In a device of the class specified, a swinging frame comprising a set of connected pivotally-supported rods or bars 4, 4, having their lower ends provided with rollers 8, 8, and their upper ends with weights 9, 9, and means for swinging said frame, comprising a chain 10, a windlass 11, and a sheave 13, substantially as described.

13. In a machine of the class specified, the combination of a floor having a set of sectional rollers, and a holder for the material having a floor consisting of portions whose lower surfaces are at different levels, the lower portions being arranged to fit between the sectional parts of the rollers and the upper portions being adapted to roll upon the same, substantially as described.

14. In a machine of the class specified, a holder for the material, comprising a floor composed of strips arranged at different levels, each alternate strip being below the intermediate ones, a following block secured to said floor, and a top consisting of a series of slats and webbing belts, whereof the slats have their rear ends provided with flanges adapted to fit into a groove formed in the following block, in combination with means for locking the rear ends of said slats in position, substantially as described.

15. In a machine of the class specified, the

combination of a holder for the material, webbing belts secured to the rear end of the holder, and a windlass upon which the webbing belts can be wound, the windlass and webbing
5 belts being provided with means for detachably engaging one another, substantially as described.

In witness whereof I hereunto subscribe my name this 14th day of July, A. D, 1902.

EDWARD G. WHEELER.

Witnesses:

F. C. FLEMING,

P. J. SCHEUERMANN.