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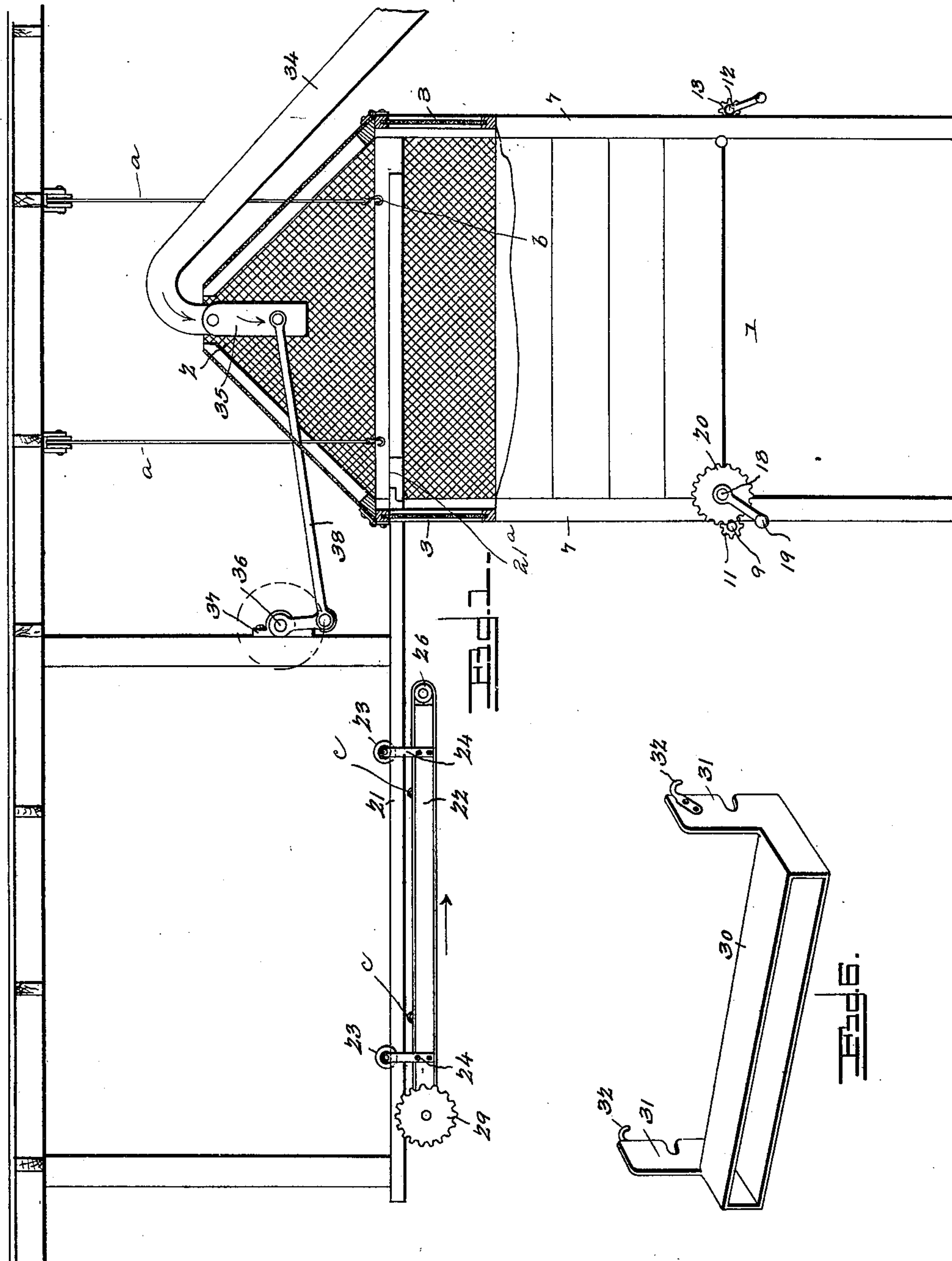
Patented July 3, 1900.

H. P. & N. F. DAVISS.  
MACHINE FOR MAKING MATTRESSES.

(Application filed Jan. 23, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses

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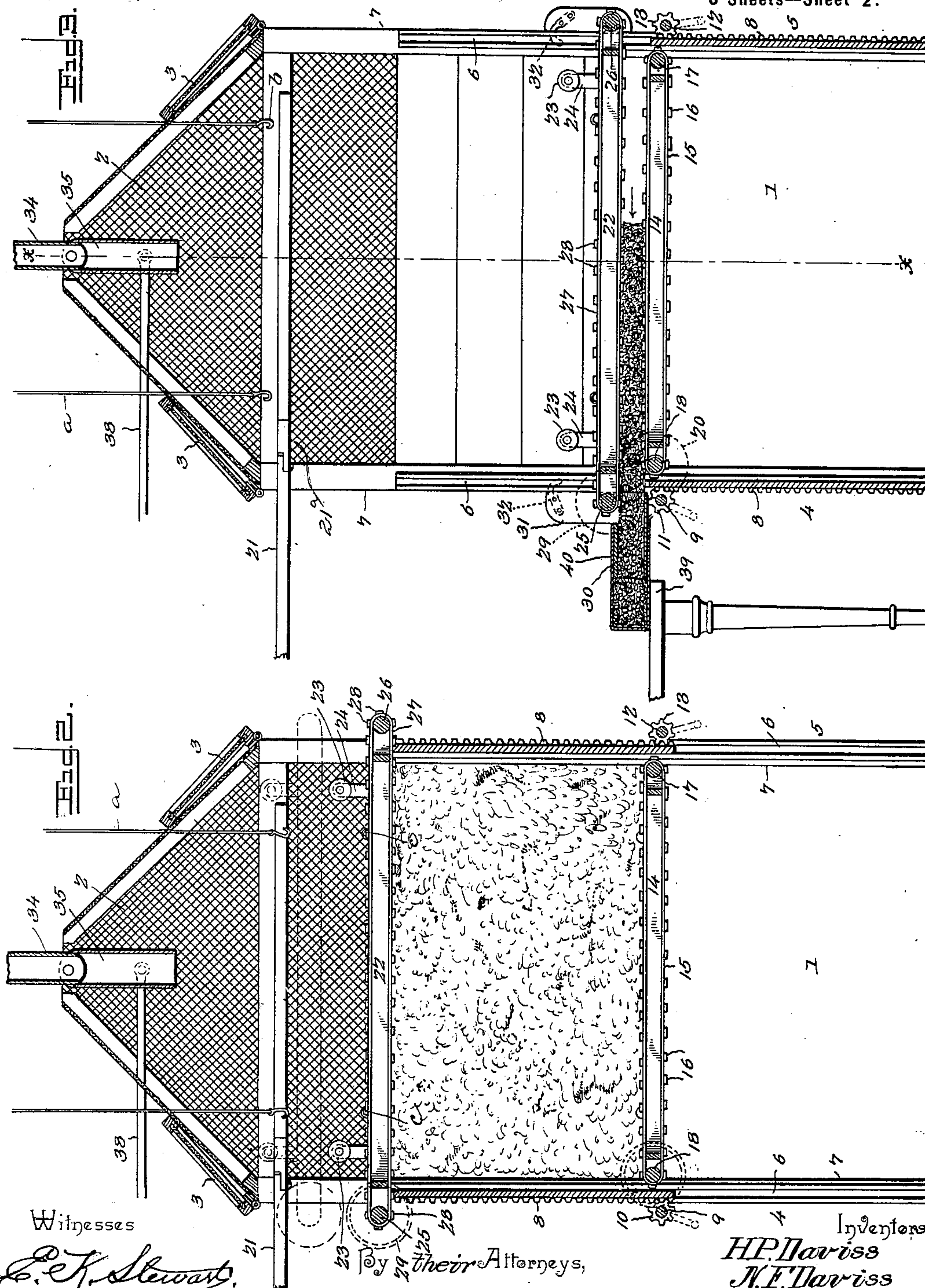
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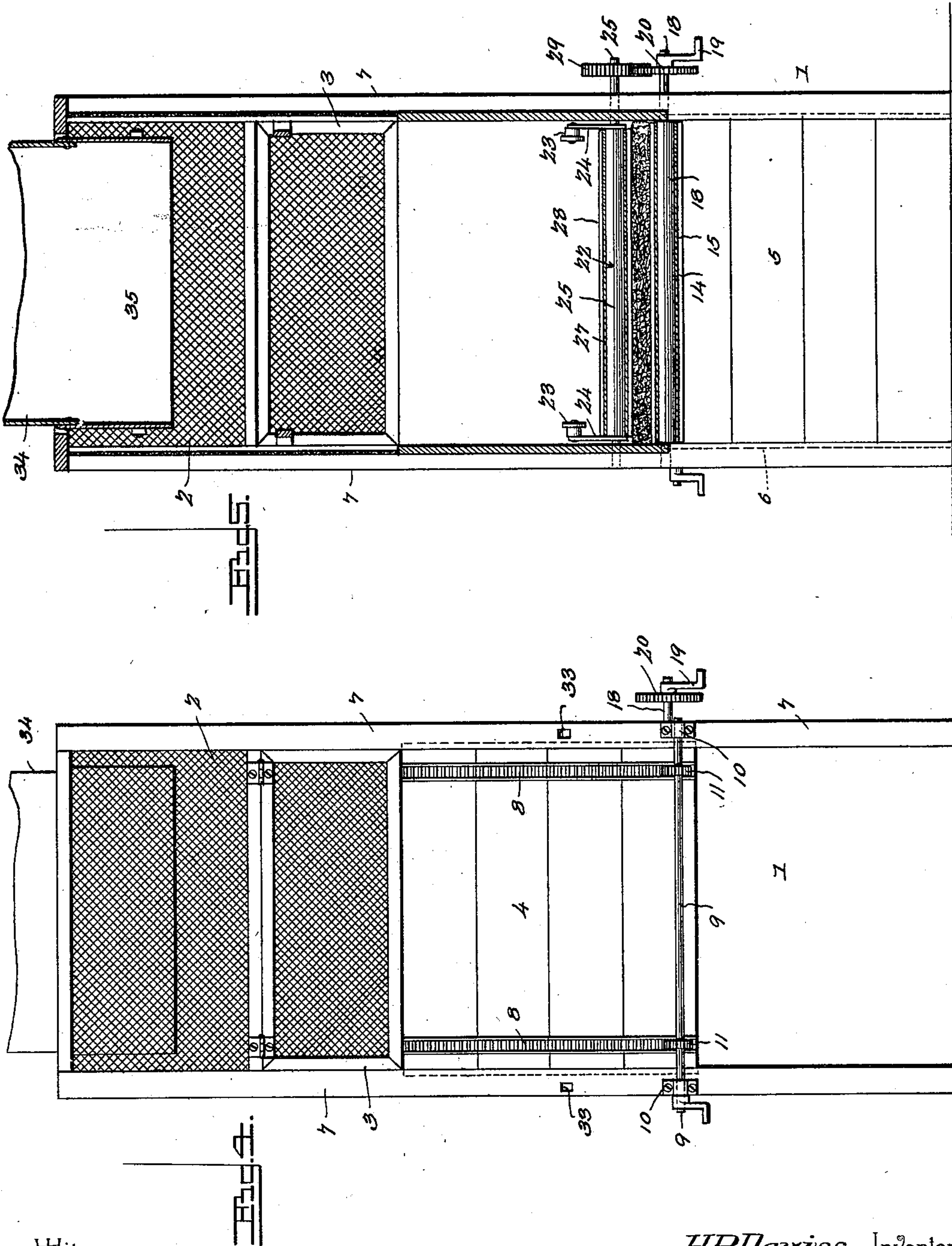
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# UNITED STATES PATENT OFFICE.

HORATIO PAXTON DAVISS AND NAT FIELDS DAVISS, OF HOUSTON, TEXAS.

## MACHINE FOR MAKING MATTRESSES.

SPECIFICATION forming part of Letters Patent No. 652,755, dated July 3, 1900.

Application filed January 23, 1900. Serial No. 2,531. (No model.)

*To all whom it may concern:*

Be it known that we, HORATIO PAXTON DAVISS and NAT FIELDS DAVISS, citizens of the United States, residing at Houston, in the county of Harris and State of Texas, have invented a new and useful Machine for Making Mattresses, of which the following is a specification.

Our invention is an improved machine for making mattresses of lint-cotton and the like material, the object of the invention being to provide an efficient, cheap, simple, and easily-operated machine for compressing material, as lint-cotton or the like, into a bat or felt of the desired size and thickness of a mattress and to feed the said felt or bat into the tick or covering of the mattress, thereby greatly lessening the cost and labor of making such mattresses.

With this object in view our invention consists in the combination, with a compressing box or compartment having a bottom with a sliding or movable surface, of a follower which is adapted to be run into the box or compartment above the material therein and having a sliding or movable lower surface and means for compressing said follower on the material in the said box or compartment to convert the same into a felt or bat.

Our invention further consists in the combination, with a press box or compartment, of a follower, means for operating the follower, and means for ejecting the compressed material from the press-box while under compression.

Our invention further consists in the peculiar construction and combination of devices hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation, partly in section, of a machine for making mattresses embodying our invention and showing the initial position of the follower when the same is run out from the compressing box or compartment. Fig. 2 is a vertical sectional view of the same, showing the follower in its initial position for compressing the lint-cotton or like material in the press-box into a bat or felt. Fig. 3 is a similar view of the same, showing the follower in position after having formed the bat or felt and illustrating the operation of our

improved machine in ejecting the felt or bat from the press-box while under compression and inserting the same into the tick or covering of the mattress. Fig. 4 is a front elevation of the press-box of our improved machine for making mattresses. Fig. 5 is a vertical transverse sectional view of the same, taken on the line *xx* of Fig. 3 and showing the follower in the same position as that indicated in the said Fig. 3. Fig. 6 is a detail perspective view of the spout through which the bat or felt is ejected from the press-box under compression and inserted in the tick or covering of the mattress.

The press-box 1 is of suitable height and construction and corresponds in interior length and width with the required similar dimensions of the mattresses for the manufacture of which the machine is adapted. As herein illustrated and preferably the upper portion and top of the press-box are of open construction and covered with wire-netting or other foraminous material 2 to admit of the ready escape of air which is forced into the box with the cotton or other stock through the flue 34. Hinged sections 3 constitute the upper portions of the front and rear sides of the press-box. The front and rear sides 4 5, respectively, of the press-box have their ends engaged in suitable guideways 6 on the inner sides of the corner-posts 7 of the press-box and are adapted to move vertically in said guideways, and said front and rear sides 4 5 are provided each on its outer side with a pair of vertical rack-bars 8. A crank-shaft 9 is journaled in bearings 10 on the corner-posts of the front side of the press-box and in the plane of the bottom of the press-box, and keyed to said shaft are a pair of pinions 11, which engage said rack-bars 8. A similar crank-shaft 12 is journaled in bearings on the corner-posts on the rear side of the press-box and is provided with similar pinions 13, which engage the rack-bars on the vertically-movable rear side 5 of said press-box. The bottom of the press-box is formed by an endless conveyer 14, comprising the endless belt 15, of suitable material, the transverse slats 16 on the said endless belt, and the supporting shafts or rollers 17 18 for said endless belt, which said supporting shafts or rollers are mounted in suitable bearings with which the



press-box is provided. The shaft 18, which is near the front side of the press-box, projects beyond one of the side walls of the latter and is provided with a crank 19, by which  
 5 said shaft may be turned, and with a spur-wheel 20. From the foregoing it will be understood that the bottom of the press-box has a movable sliding surface.

A suitable elevated trackway 21 is supported in any suitable manner, either as here  
 10 shown in Fig. 1 or otherwise, at the plane coincident with the upper portion of the press-box, and from the said trackway is suspended a follower 22, which has suitable supporting  
 15 wheels or rollers 23, that bear upon the rails of the trackway, and hangers 24, which depend from the journals of said follower. The inner ends of the track-rails are a sufficient distance from the rear side of the press-box  
 20 to permit the rollers at rear side of the follower to clear the said track-rails when the follower is within the press-box, and included in the track-rails are removable sections 21<sup>a</sup>, which are pivotally supported, and when  
 25 turned at right angles to the track-rails the openings in the latter previously spanned by the pivoted sections 21<sup>a</sup> permit the front rollers of the follower to pass from the track-rails, as will be understood. Any other suitable means may, however, be employed for  
 30 relieving the follower-rollers from the track-rails, and we do not desire to limit ourselves in this particular. The follower constitutes substantially a rectangular frame, at the front  
 35 and rear sides of which are mounted roller-shafts 25 26, which said roller-shafts serve to support an endless belt 27, which is similar to the belt 15, that forms a part of the bottom of the press-box and on which are secured trans-  
 40 verse slats 28, which correspond with the slats 16. It follows from the above that the follower is provided with a movable or sliding surface corresponding with that of the bottom of the press-box. To one end of the roller-  
 45 shaft 25 is keyed a spur-wheel 29, which is adapted to mesh with the wheel 20 on the roller-shaft 18 when the said follower is lowered to the position indicated in Figs. 3 and 5 of the drawings. A spout 30 of suitable di-  
 50 mensions is provided with vertical arms 31 to bear against the corner-posts on the front side of the press-box and with hooks 32, which are adapted to enter suitable mortises 33 in said corner-posts, and thereby secure said  
 55 spout on the front side of the press-box, with the lower side of said spout on the same horizontal plane as the upper movable side of the bottom of the press-box.

A pneumatic conveyer-flue 34 communi-  
 60 cates with the upper side of the press-box and is adapted to discharge lint-cotton or the like material from a gin or other opening-machine, together with a large volume of air, from said gin brush or fan into the said press-box, and  
 65 said conveyer-flue is provided at its discharge end with a hinged spout 35, to which oscillating or rocking motion may be imparted by

a crank-shaft 36, mounted in suitable bearings 37, and a pitman 38, which connects said crank-shaft to the said rocking spout, the  
 70 function of the latter, as will be readily understood, being to pneumatically deliver lint-cotton or the like material evenly from the front to the rear side of the press-box as the said hinged spout 35 oscillates or swings. 75

A suitable table or receiving-platform 39 is located near the front side of the press-box, at or about the level of the upper side of the bottom thereof, upon which the finished mat-  
 80 tress is received as the same is ejected from the press-box.

The operation of our invention is as follows: When the sides 4 5 of the press-box are run up above the bottom thereof, the hinged upper sections 3 of the front and rear sides of  
 85 the press-box closed, and the follower 22 run out from the press-box and suspended from the trackway, as shown in Fig. 1, the machine is in its initial position. A suitable quantity of lint-cotton or the like material is then  
 90 blown into the press-box by the means hereinbefore described. The hinged upper sections 3 of the front and rear sides of the press-box are then opened, the follower run into the press-box, disengaged from the supporting-  
 95 trackway, lowered upon the upper edges of the vertically-movable front and rear sides 4 5 of the press-box, and secured thereto, whereupon the crank-shafts 19 and 12 are rotated either manually or in any other suitable man-  
 100 ner to cause their pinions, which engage with the rack-bars on the vertically-movable front and rear sides of the press-box, to move said front and rear sides of the press-box downward and to carry the follower with them, thereby  
 105 compressing the material in the press-box between said follower and the bottom of the press-box into a bat or felt of the desired thickness of the mattress, this being predetermined by the diameters of the spur-wheels  
 110 20 29. When the follower has reached the lowermost limit of its vertical movement in the press-box, the spur-wheel 29 becomes engaged with the spur-wheel 20, thereby connecting the supporting roller-shafts of the  
 115 bottom of the press-box and the follower on the front side of the press-box together, and the crank-shaft 18 being then rotated manually in the direction indicated by the arrow in Fig. 1 the proximate slatted surfaces of the  
 120 bottom of the press-box and the follower are caused to move in unison and in the direction indicated by the arrow in Fig. 3. The open end of the tick or covering of the mattress (indicated at 40 in Fig. 3) having been  
 125 placed on the spout 30 the bat or felt constituting the filling of the mattress while still under compression between the follower and the bottom of the press-box is moved outward and ejected from the press-box and  
 130 conveyed into the tick or covering of the mattress, as will be readily understood, when all that remains to be done to complete the manufacture of the mattress is to sew up the



open end of the tick or covering thereof. Having completed the formation of the mattress, the vertically-movable front and rear sides of the press-box are run up to their initial position, thereby elevating the follower, the latter is reengaged with and run out upon the trackway, the hinged upper sections 3 and the front and rear sides of the press-box are closed as before, and the machine is then in position for making another mattress.

It follows from the foregoing that our improved machine for making mattresses while being extremely simple in construction, admitting of its being constructed at slight cost, is highly efficient, adapted to be operated either manually or by other power, and is adapted to manufacture mattresses very rapidly and at slight cost.

While we have hereinbefore described our invention as being adapted for making mattresses from lint-cotton and the like, it will be understood that the same could be used for making mattresses from wool, hair, and other materials as well as from cotton and fibrous substances.

In the operation of the machine it is sometimes desirable to elevate the follower in the press-box without running up the front and rear sides 4 5, and to enable the follower to be readily hoisted we provide suitable tackles *a*, having hooks *b*, which are adapted to be engaged with ears or eyes *c*, with which the follower is provided.

Having thus described our invention, we claim—

1. The combination with a press-box having vertically-movable sides provided with racks, of a shaft in fixed supports having gears engaging said racks, an endless conveyer forming the bottom of the press-box and having an actuating-gear, and a follower movable with said sides and having an endless conveyer provided with a gear adapted to engage that of the conveyer in the bottom of the press-box, when said follower is lowered, substantially as described.

2. The combination with a press-box, an endless conveyer forming a compressing-surface at the bottom thereof, a vertically-movable follower having an endless conveyer forming its compressing-surface, and gears for driving said conveyers, said gears being

normally out of engagement with each other and engaging when the follower is lowered, substantially as described.

3. In a machine of the class described, the combination of a press-box having a traveling bottom, a discharge-opening on one side thereof, and vertically-movable sides; a vertically-movable follower having the coacting traveling bottom, means for operating said sides to raise and lower the follower, and gears, engaging when the follower is lowered, to actuate the traveling bottom of said follower and press-box, substantially as described.

4. The combination with a press-box having vertically-movable sides, and means to operate them, of a follower carried by said vertically-movable sides, and means for operating said follower, substantially as described.

5. The combination, with a press-box, of a vertically-movable follower and means for moving the same, supporting-guides for said follower extending from said press-box, and means for connecting said follower to said guides and disconnecting the same therefrom, whereby said follower can be withdrawn from and run into said press-box, substantially as described.

6. In a machine for making mattresses, a press-box having an endless movable bottom and having a discharge-spout in line therewith, vertically-movable sides to said press-box said vertically-movable sides having racks, a gear to actuate the endless movable bottom of the press-box an operating-shaft geared to the racks of the vertically-movable sides, a vertically-movable follower carried by said vertically-movable sides and having an endless movable bottom and a gear to actuate the same, said gear being adapted to engage the actuating-gear of the endless movable bottom of the press-box when the follower is lowered, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

HORATIO PAXTON DAVISS.  
NAT FIELDS DAVISS.

Witnesses:

JAS. M. MCCORD,  
W. G. LANE.