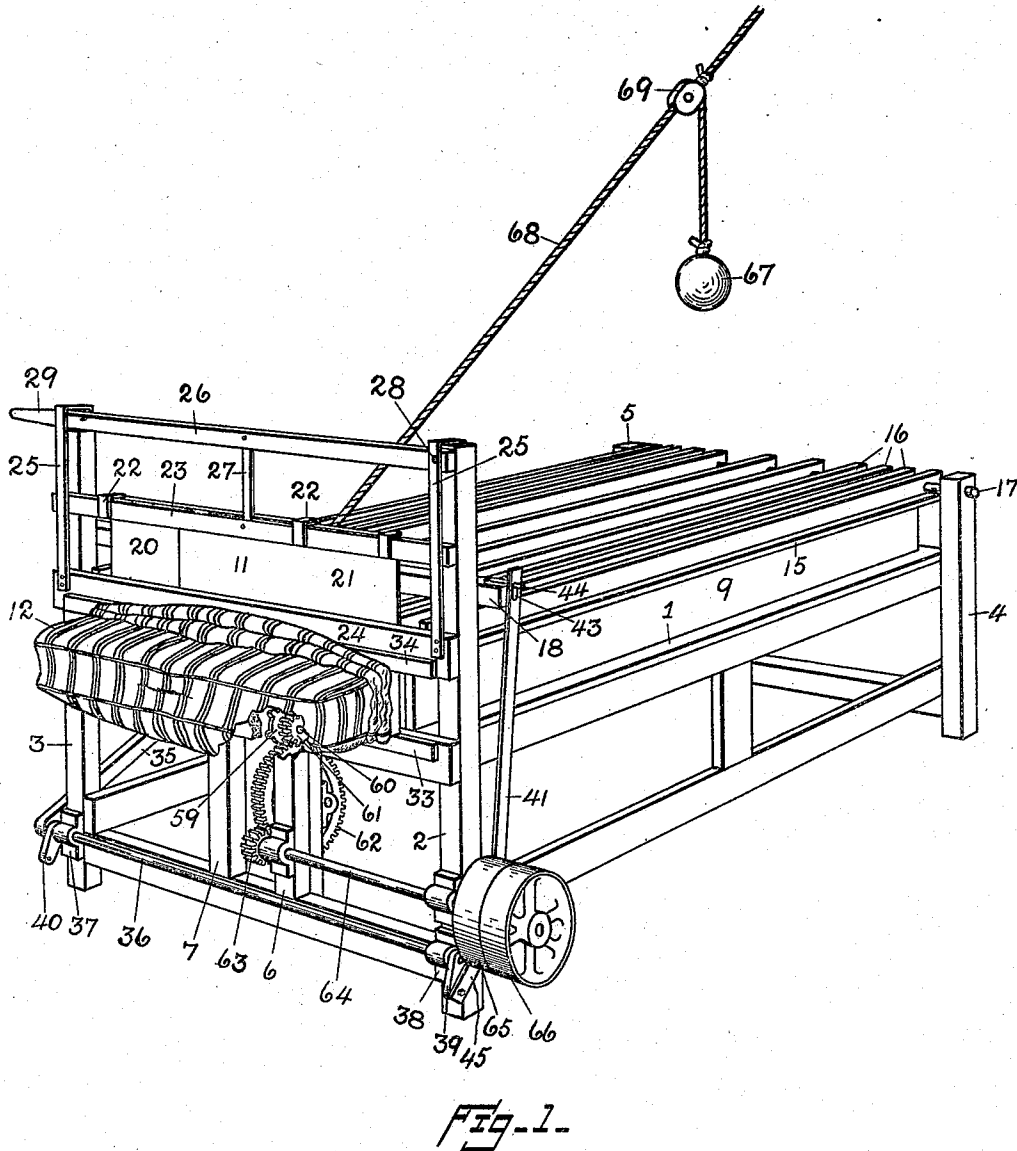


F. FRANKE.
MATTRESS STUFFER.
APPLICATION FILED MAR. 8, 1909.

932,693.

Patented Aug. 31, 1909.
2 SHEETS—SHEET 1.



WITNESSES:

John E. Heller.
Maria K. Beynroth

INVENTOR.

Ferdinand Franke,
BY
Abraham Knobel,
ATTORNEY.

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2 SHEETS—SHEET 2.

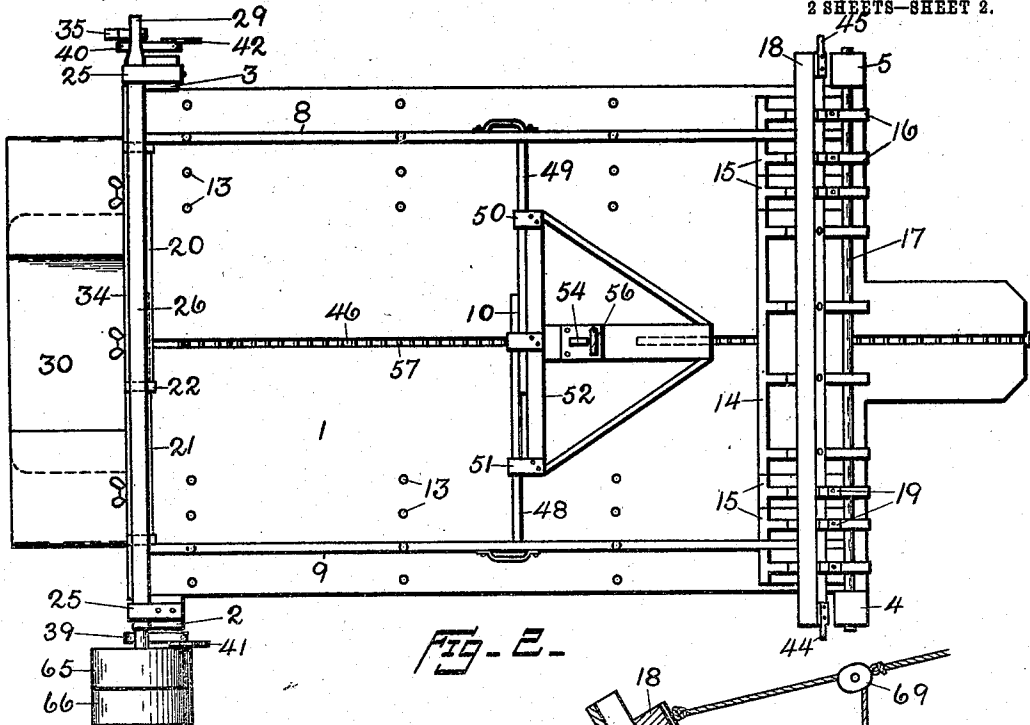


Fig. 2.

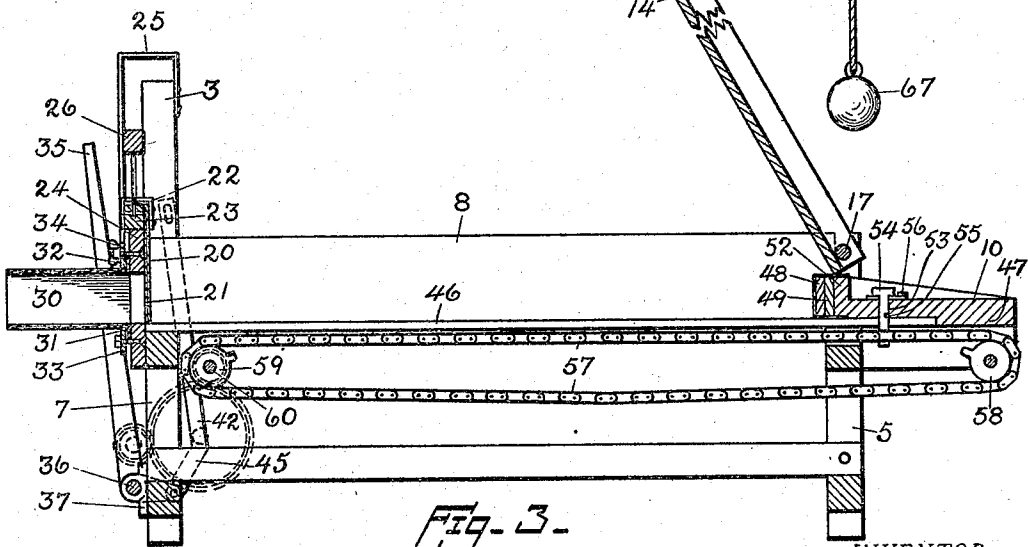


Fig. 3.

WITNESSES:

John E. Heller
Maria K. Beynroth.

INVENTOR.

Ferdinand Franke,
BY
Abraham Knobel,
ATTORNEY

UNITED STATES PATENT OFFICE.

FERDINAND FRANKE, OF LOUISVILLE, KENTUCKY.

MATTRESS-STUFFER.

932,693.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FERDINAND FRANKE, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Mattress-Stuffers, of which the following is a specification.

This invention relates to machines for forming mattresses, and some of the objects of my improvement are, to provide, in a machine of this class, strength, durability, comparative inexpensiveness of manufacture, efficiency, facile means for adjustment for forming mattresses of different sizes, and automaticity. These objects I attain by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view; Fig. 2, a plan view; and, Fig. 3 is a longitudinal sectional view.

Similar reference numerals refer to similar parts throughout the several views of the drawings.

A bed-platen or table, 1, is supported upon posts, 2, 3, 4, 5, and in front receives additional support from studs, 6 and 7.

Longitudinal bars, 8 and 9, are placed upon bed-platen 1 and form the side walls of a rectangular box on the bed-platen. The end walls of the box are supplied by a movable plunger, 10, at the rear, and a vertically movable slide or gate, 11, at the front. In this rectangular box is placed the filling material, for filling a mattress, preparatory to injecting it into a tick, 12.

The bed-platen 1 is provided in its surface with longitudinal rows of holes, 13, on each side thereof. The side-bars 8 and 9 are provided in their lower edges with corresponding dowel-pins, which are adapted to enter holes 13, when the side bars are placed in position upon the platen. By this means, the side bars 8 and 9 are secured at different distances apart to provide for making mattresses of various widths. Since both side bars are thus adjustable, the mattress-filling bat may always be arranged substantially symmetrically, with relation to the plunger 10.

Immediately above the box formed upon platen 1 is pivotally mounted a follower-platen, 14, adapted to be lowered upon the filling-material in the box and drawn down by suitable mechanism, to produce a uniformly compressed filling bat. Follower 14 is made up of comparatively narrow boards,

15, placed side by side, having bracing-bars, 16, secured on top edgewise along their median line. The bars 16 are pivoted, at their rear ends, on a round bar, 17, which extends across the rear end of the machine and is mounted in the upper ends of posts 4 and 5. The forward ends of boards 15 and bars 16 are held in alinement by a cross-bar, 18. The bracing-bars 16 are slidably mounted on bars 17 and cross-bar 18, in order that they may be adjusted laterally for various widths of mattresses. They are secured at their forward ends to bar 18, by means of Z-brackets, 19, of strap-iron, which are firmly secured to bars 16 and pass upward and across the top of bar 18. It will be understood, that thus mounted, the bars 16 may be slid along under bar 18 for the purpose of adjustment.

When the largest sized mattress is to be formed, the side bars 8 and 9 are placed at the extreme sides of the platen 1, their dowel-pins fitting in the outmost row of holes 13, and all the boards 15 comprising the follower 14 are between the side bars 8 and 9. But when a narrower mattress is to be formed, the side-bars are placed closer together (Fig. 2), and the outer boards 15 are pushed outward beyond the side-bars, so that they are outside of the box and do not come in contact with the filling material.

The sheet metal slide 11, which provides the front wall against which the filling material is placed when filling up the box, comprises two plates, 20 and 21, of thin sheet metal, placed so as to overlap each other. The sheets 20 and 21 are secured to rectangular collars, 22, which are slidably mounted upon a bar, 23. By sliding the collars 22 upon the bar, the slide 11 may be adjusted as to width, so as to just fill the opening between the forward ends of side bars 8 and 9. A timber, 24, is secured across the front of posts 2 and 3 and forms an abutment for slide 11, which is vertically movable behind the timber. The ends of bar 23 are confined against the front of the upper part of posts 2 and 3, by means of cleats, 25, loosely, so as to permit the bar 23 to slide vertically. The middle of bar 23 is connected with a lever, 26, above it, by means of a link, 27. The lever 26 is pivoted at 28 on post 2 and is provided at its opposite end with a handle, 29. Thus the lever 26 provides means for raising and lowering slide 11.

In front of the machine, beyond slide 11,

is placed an adjustable spout, 30. This consists of two mutually telescoping U-shaped plates, having their edges 31 and 32, adjacent timber 24, turned vertically at a right angle. The vertical portions 31 and 32 of the plates are slidably secured behind bars 33 and 34. This construction enables the short side walls of the spout to be adjusted to such a position as to register with the side bars 8 and 9 of the box. Over the spout 30 is placed the tick 12, preparatory to filling.

When the box has been filled the follower 14 is finally drawn down, so that its under surface registers with the surface of the upper side of spout 30, by means of a lever, 35, through the instrumentality of a crank shaft, 36, extending across the lower part of the front of the machine and journaled in boxes, 37 and 38, secured to posts 2 and 3, cranks 39 and 40, and connecting-rods, 41 and 42. The connecting-rods 41 and 42 are provided at their upper ends, with eyes, 43, adapted to engage pins, 44 and 45, which are secured upon the ends of cross-bar 18 of the follower. Their lower ends are pivoted on cranks 39 and 40 and are curved at 45, so that when lever 35 is pushed downward cranks 39 and 40 may pass slightly beyond their dead point before the advancing edges of the connecting rods come into contact with crank-shaft 36. By these means the follower is drawn down with great power and locked automatically.

The plunger 10, for pushing the bat of filling material into the tick, is slidably mounted in a longitudinal slot, 46, in platen 1, being provided with an extension, 47, which forms a guide therefor. The forward portion of the plunger is adjustable by means of boards, 48 and 49, which are slidably mounted in clips, 50 and 51, rigidly secured to the forward cross-bar 52 of the plunger. The longitudinally disposed portion of the plunger 10 is provided with a vertical aperture or socket, 53, adapted to receive a coupling-pin, 54, which is dropped therein and extends downward beyond the bottom of bed-platen 1. The coupling-pin 54 is provided with a notch, 55, adapted to receive a catch, 56, secured on the plunger, when the pin is raised in its socket.

Extending along and underneath slot 46 is mounted a sprocket-chain, 57, upon sprocket-wheels, 58 and 59. The sprocket-wheel 58 is journaled at the rear of the machine, and sprocket-wheel 59 at the front end just to the rear of posts 2 and 3. The sprocket-wheel 59 is mounted upon a shaft, 60, and upon the same shaft is mounted a pinion, 61, by means of which the shaft is driven. Pinion 61 is driven by an intermediate gear, 62, which is mounted upon a shaft journaled in boxes which are secured to studs 6 and 7 and which, in turn, is driven by a pinion, 63, mounted upon a driving-shaft, 64, upon the outer end of which are

mounted pulleys, 65 and 66. One of these pulleys may be tight and the other loose, and a suitable shipper, not shown, may be provided, to control the belt.

A counterweight, 67, is attached to follower 14 by means of a rope, 68, which passes over a suitable pulley, 69, in order to counterbalance the follower and hold it in elevated position while the box is being filled.

After the box has been filled with the mattress-filling material, and the follower 14 has been drawn into compressing position by the means described, the bat of material is pushed into the tick, by operating plunger 10. This is done by dropping pin 54 in its socket, so that its lower end drops into one of the links of chain 57 and thus couples the plunger with the chain. The power is now turned on, the upper line of the chain advances toward the front, carrying the plunger with it, and thus pushing the bat into the tick. When the plunger 10 reaches the forward limit of its travel, pin 54 is immediately over shaft 60. In this position, sprocket-wheel 59 has engaged the lower end of the pin and pushed it upward out of engagement with the chain, and the plunger rests. This provision for automatically stopping the plunger prevents its injuring the slide 11 and the front of the machine. It is therefore not necessary to turn off the power and stop chain 57 at the exact moment when plunger 10 has finished its operation.

The manner of raising the follower 14 and pushing back plunger 10, preparatory to filling the next mattress, is obvious and need not be described.

Having thus described my invention, so that any one skilled in the art pertaining thereto may construct it and understand its use, I claim—

1. A mattress stuffer, comprising a frame, a bed-platen, adjustable side walls on said bed-platen, a front slide, a plunger, a follower-platen, a sprocket-chain for actuating said plunger, a sprocket-wheel for driving said sprocket-chain, and a coupling-pin slidably passing through said plunger into said sprocket-chain for coupling said plunger to said sprocket-chain, said sprocket-wheel being so arranged with relation to said plunger and said coupling-pin that the teeth of said sprocket-wheel automatically lift said coupling-pin out of engagement with said sprocket-chain at the end of the stroke of said plunger.

2. A mattress stuffer, comprising a frame, a bed-platen, adjustable side walls on said bed-platen, a front slide, a spout, a plunger, a follower-platen, a sprocket-chain for actuating said plunger, a sprocket-wheel for driving said sprocket chain, a coupling-pin slidably passing through said plunger into said sprocket-chain for coupling said plun-

ger to said sprocket-chain, said sprocket-wheel being so arranged with relation to said plunger and said coupling-pin that the teeth of said sprocket wheel automatically lift said coupling-pin out of engagement with said sprocket-chain at the end of the stroke of said plunger, a crank shaft, cranks on said crank shaft, a lever secured on said crank shaft, detachable means for connecting said cranks with said follower-platen arranged and co-¹⁰ operating to draw down said follower-platen to compress the filling-material and lock said follower-platen in position.

FERDINAND FRANKE.

Witnesses:

S. D. CRUM,
EDW. C. KINKER.