No. 642,729. Patented Feb. 6, 1900.

I. N. STEWART.

MATTRESS MAKING MACHINE.

(Application filed Apr. 17, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

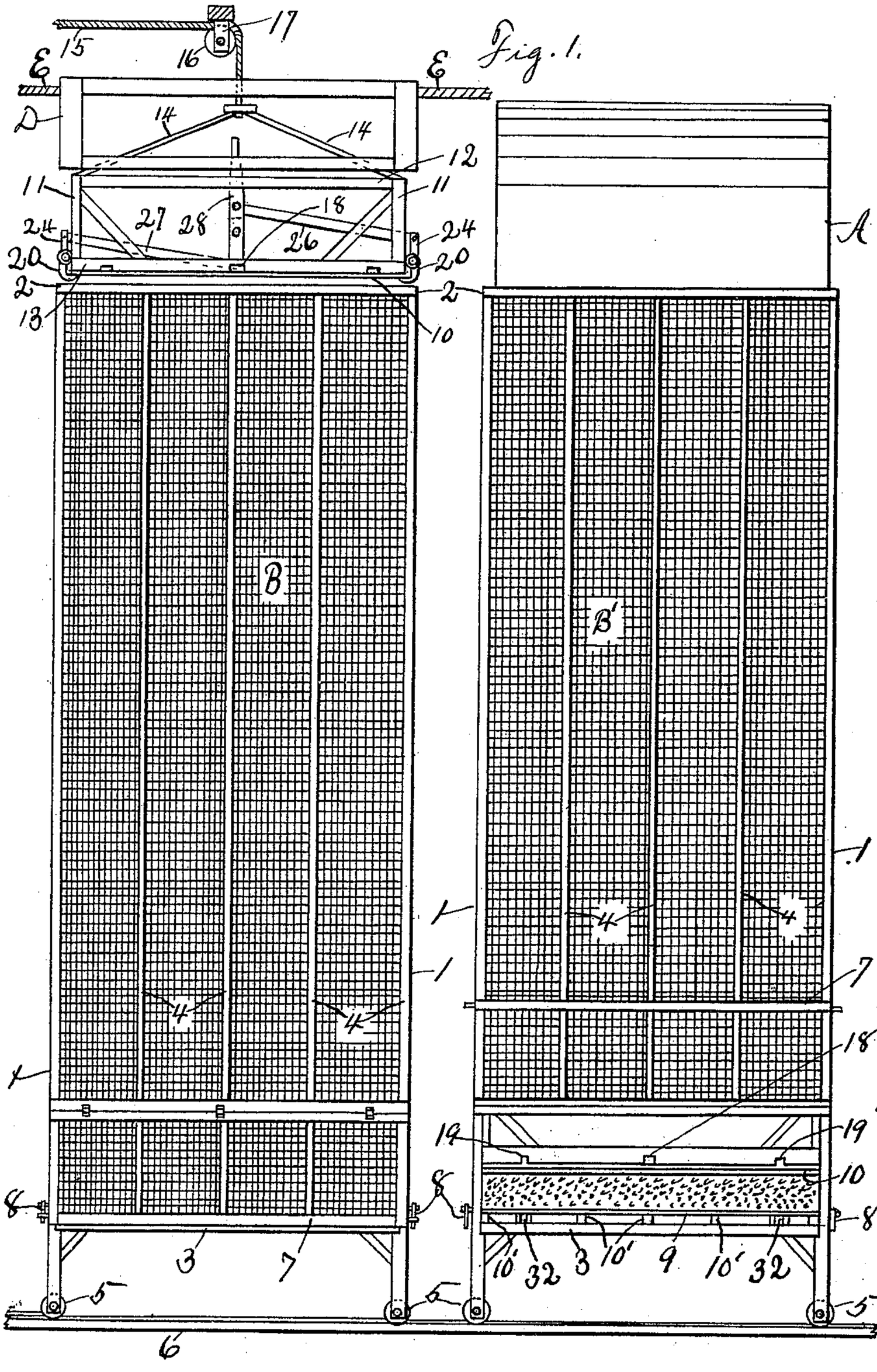

Fig. 5.

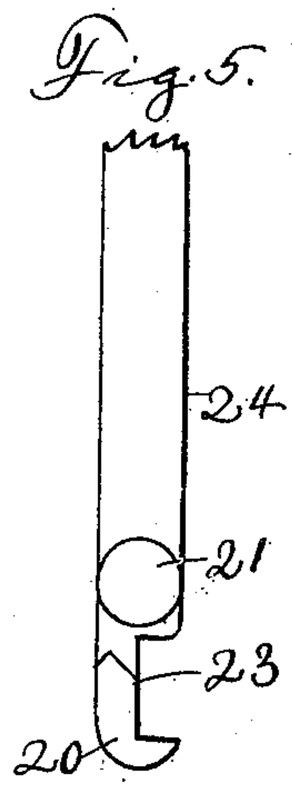

Fig. 6.

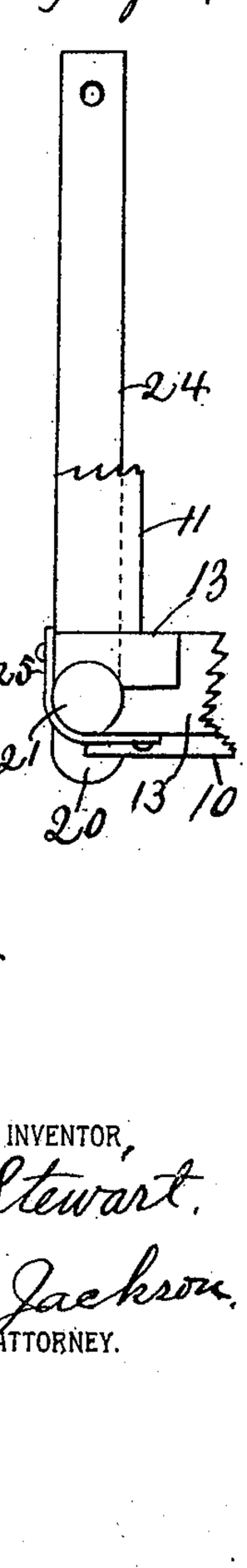

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Fig. 2.

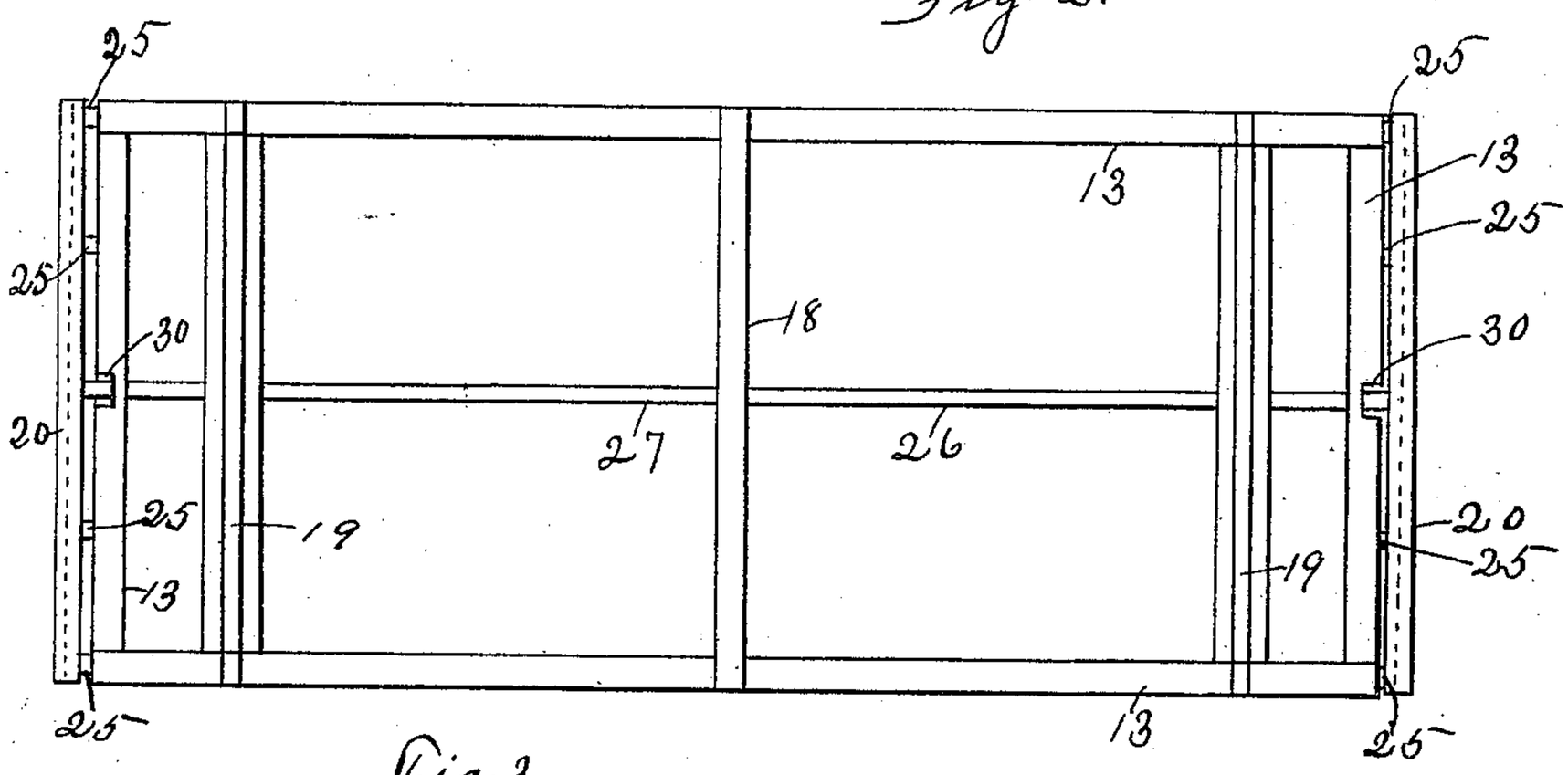
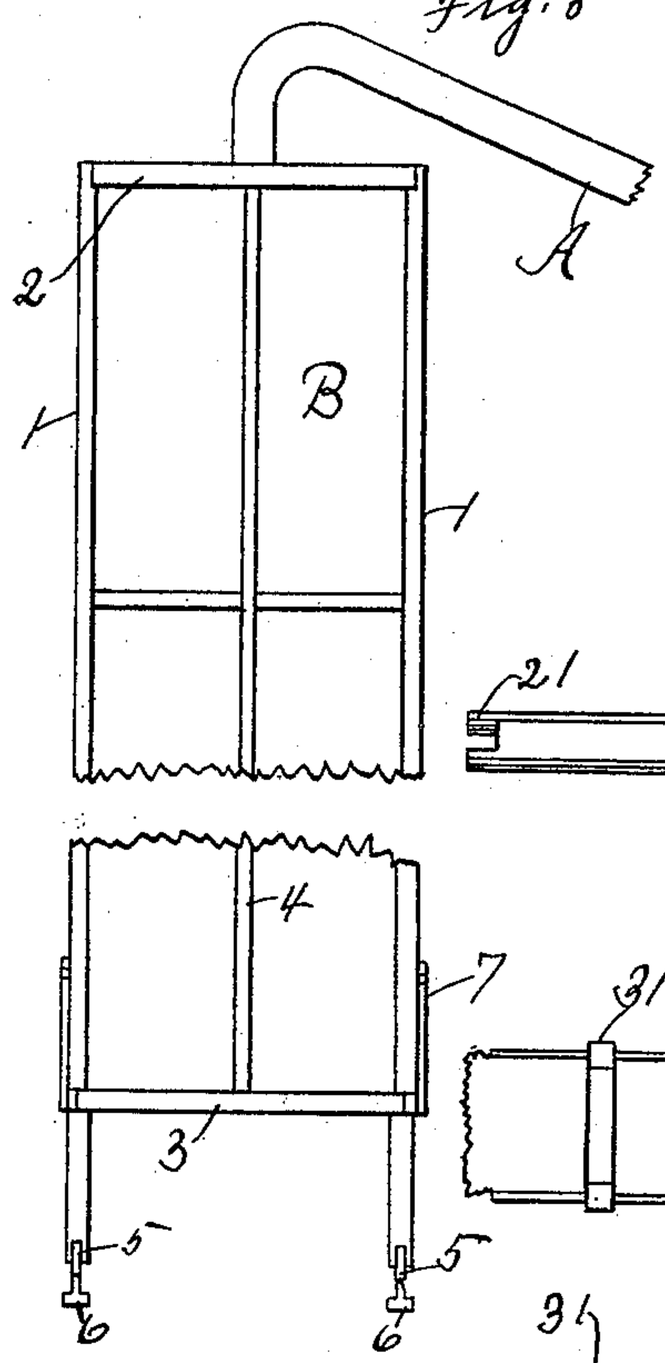


Fig. 3



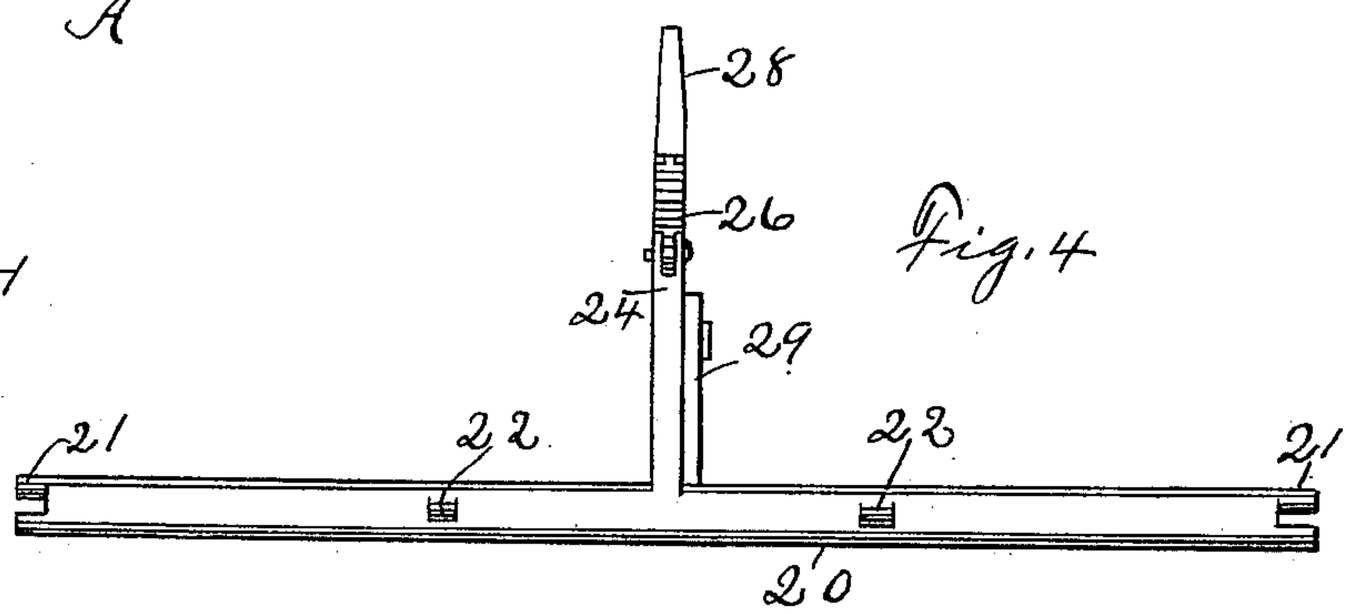


Fig. 4

Fig. 7.

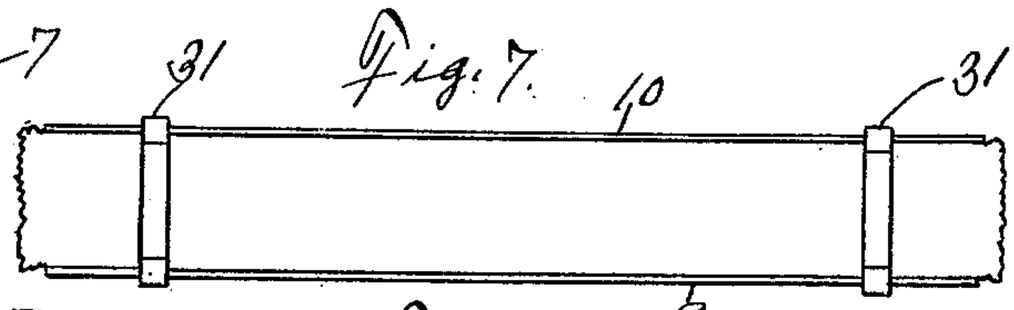
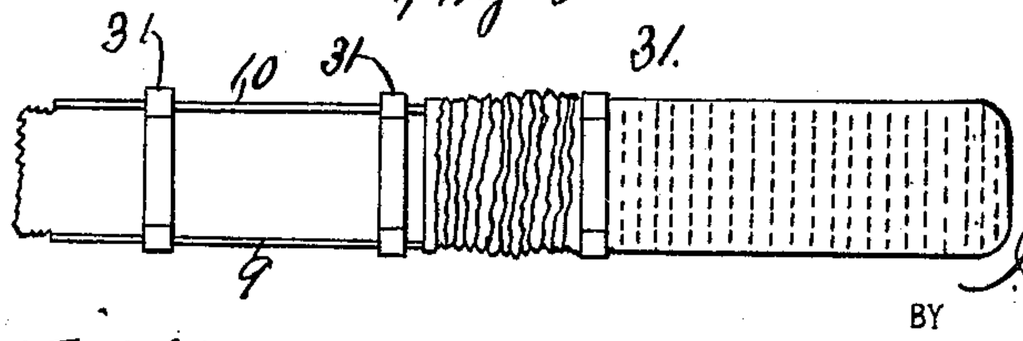


Fig. 8



WITNESSES:-

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BY

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ATTORNEY.

UNITED STATES PATENT OFFICE.

ISAAC N. STEWART, OF FORT WORTH, TEXAS.

MATTRESS-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 642,729, dated February 6, 1900.

Original application filed March 8, 1898, Serial No. 673,133. Divided and this application filed April 17, 1899. Serial No. 713,230. (No model.)

To all whom it may concern:

Be it known that I, ISAAC N. STEWART, a citizen of the United States, residing at Fort Worth, Texas, have invented certain new and useful Improvements in Mattress-Making Machines, of which the following is a specification.

This invention relates to felters for making mattresses and also to felters for making mattresses of single bats of cotton or other material.

This application is a division of my application filed March 8, 1898, Serial No. 673,133, and now pending before the Commissioner of Patents.

Reference is had to the accompanying drawings, which form a part of this application.

Figure 1 is a side elevation of a pair of felters. Fig. 2 is a view of the bottom of the follower or plunger. Fig. 3 is a broken end elevation of a felter, showing a portion of the chute for delivering material to the felter. Fig. 4 is a side elevation of a slat-holder and means for operating the same. Fig. 5 is an end elevation of the slat-holder, the upright piece for operating the same being broken. Fig. 6 is an end elevation of a slat-holder and portions of the slats and the follower, showing how the slat-holders are attached to the follower. Fig. 7 is an edge view of a mattress-section held between the slats ready for the tick. Fig. 8 is a similar view illustrating the manner of putting on the tick.

Similar characters of reference indicate the same parts throughout the several views.

Material for making mattresses is first run through a picking and cleaning machine, in which the material is thoroughly disintegrated and is delivered from the cleaning-machine through a chute A to the felters. The fibers of the material are separated, so that dust and dirt will fall out and so that the material is in condition to be formed into a composite mass or bat. Material thus prepared is free and will remain free of disease germs, and as the mattresses need no tucking there are no creases formed by tucking, in which dust or filth will accumulate.

Two felters B and B′ are provided, so that work may be continuous. The material is felted in the boxes B and B′, and as these boxes are the principal parts of the machine for felting the material they are called "felters." As soon as one felter has enough material to form a mattress-section it may be moved from under the chute and placed under a suitable follower and the other felter placed under the chute to receive material for another mattress-section. Each felter consists of a rectangular frame having a bed and the side walls composed of wire screens attached to suitable braces. Each felter has four corner-uprights 1, top frame-pieces 2, bottom frame-pieces 3, and side-wall braces 4, to which the screens are attached. The felters are provided with rollers 5 and mounted on tracks 6. Each felter is provided with a door 7 for taking out the completed mattress-bat. The door of felter B′ is shown open in Fig. 1. The doors are held closed by suitable latches 8. In felter B′ the slats 9, on which the bat is formed, are shown resting on sleepers 10′. It will be seen that the felters are so constructed that dust and dirt will escape from the material through the sides of the felter from the top, all along the side walls, to the bottom.

In Fig. 1 one follower is illustrated. There may be a follower on each side of the chute A. If there is a follower for each of the felters B and B′—one on each side of the chute A—it would not be necessary to switch the felters from the tracks. It would be necessary only to move the felters to and fro on the tracks, as shown in Fig. 1, in order to move them alternately beneath the chute therein shown and each felter under its follower. A guide D for the follower is attached to a suitable support, as to the floor E of the second story of a building. The follower is a rectangular frame having a bottom frame adapted to press on slats 10, that may be placed beneath it, and upon the top of the material in the felter or frame. The follower is composed of uprights 11, top frame-pieces 12, bottom frame-pieces 13, and braces 14 for attaching a suitable cable 15, which runs over a pulley 16, mounted in a hanger 17. Fig. 2 illustrates the bottom of the follower. A cross-piece 18 is attached to the bottom of the follower for pressing on the slats, and there may as many of such slats as may be practicable. The slats are very thin and are used to aid

in putting the bat into the tick. Slats are placed in the bottom of the felter, and the material falls on the slats. Slats are placed under the follower to come down with the follower on top of the material. Tracks 19 are formed in the bottom for purposes hereinafter explained. Means are provided for attaching the slats 10 to the bottom of the follower. Slat-holders 20 are pivotally mounted in or on the lower end edges of the follower and held there by means of brackets 25, which may be nailed to the follower. The slat-holders are rabbeted to form journals 21 and 22, which turn in the brackets or metallic collars 25. The slat-holders have grooves 23, in which the ends of slats 10 rest and by which the slats are held adjacent to the bottom of the follower. Each slat-holder has an arm 24 projecting upward. Link rods 26 and 27 are pivotally connected to arms 24 and to a lever 28, which is fulcrumed on an upright or post-29. The bottom end pieces 13 of the follower are cut out at 30 to allow the arms 24 to rock the slat-holders 20.

The operation of the slat-holders can now be understood. Fig. 1 shows the slats held adjacent to the bottom of the follower. If the lever 28 is drawn to the right, the slats would be grasped only tighter than they are; but if the lever is drawn to the left at the top the slat-holders would be rocked and the slats released. The slats may be released as soon as the follower is let down on the material to be pressed, or they may be released when the follower has pressed the material to the proper size. The operation of the felter may now be understood. Material is combed or picked thoroughly and blown through chute A to the felter in position under the chute. Dust escapes from the material as it falls into the felter. When enough material has been picked to form a mattress or a mattress-section, the follower is let down on the material by means of a suitable cable. Weight may be added to the follower, if necessary. The material is pressed to the proper size, and the door 7 is opened. Cleats or clamps 31 are then run through grooves 19 in the bottom of the follower and through grooves 32 in the bottom of the felter, and the ends of the clamps are secured so that the bat or mattress-section is held securely between the slats. The clamps 31 consist of two narrow sticks or boards connected permanently at one end by a piece of flexible material and having the other ends detachably connected by similar material. After the clamps are secured on the mattress-section the section is taken out of the felter by hand. Each mattress-section is made in the felter, and each section is just one-third as large as a mattress. Three of the sections make a complete mattress. The ticks are then put on the mattress or mattress-section, as the case may be, before the slats are taken off, the clamps being pushed off as the tick is being pulled on. The slats are forced in the tick with the bat, the slats holding the bat so that it can be easily inserted in the tick. After the bat is securely placed in the tick the slats are withdrawn. A clamp is run over the tick, as shown in Fig. 8, to draw the tick firmly on and to remove wrinkles from the tick.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An apparatus for making mattresses provided with means for cleaning and forming the mattress material, said means comprising a felter formed of an upright rectangular frame having its four sides provided with wire screens, a follower movable in the rectangular frame, and an opening in the lower part of the frame for the removal of the formed material or mattress.

2. An apparatus for making mattresses, comprising a plurality of felters, each consisting of a rectangular frame having its sides formed of wire screen, followers movable vertically in said felters, rollers on which said felters are mounted, tracks for said rollers, and provisions in the lower part of the frames for the removal of the mattress.

3. In apparatus for making mattresses, the combination of a felter comprising an upright frame having provisions in the side thereof for removal of the mattress, a follower for said felter, said follower consisting of a rectangular frame movable in the felter, a series of slats, and means for detachably connecting the slats to the follower.

4. In an apparatus for making mattresses; a felter and a follower for the felter, releasing means for holding and means for releasing a series of slats consisting of two holders having grooves for receiving the ends of the slats pivotally attached to the lower end edges of the follower and having arms projecting therefrom, a lever and link rods connecting said lever and said arms for operating said holders.

5. In an apparatus for making mattresses; the combination of a felter and a follower for the felter, said felter having a bed and slats placed on said bed and grooves formed in said bed, said follower having coacting grooves formed in the bottom part thereof and coacting slats and means for holding said slats against the bottom thereof and means for releasing said slats.

In testimony whereof I set my hand, in the presence of two witnesses, this 13th day of April, 1899.

ISAAC N. STEWART.

Witnesses:
A. L. JACKSON,
JAMES GILFORD BROWNING.