(No Model.) 3 Sheets—Sheet 1.

C. W. WHITE.

COTTON CLEANING AND MATTRESS STUFFING MACHINE.

No. 599,049. Patented Feb. 15, 1898.

Fig. 1.

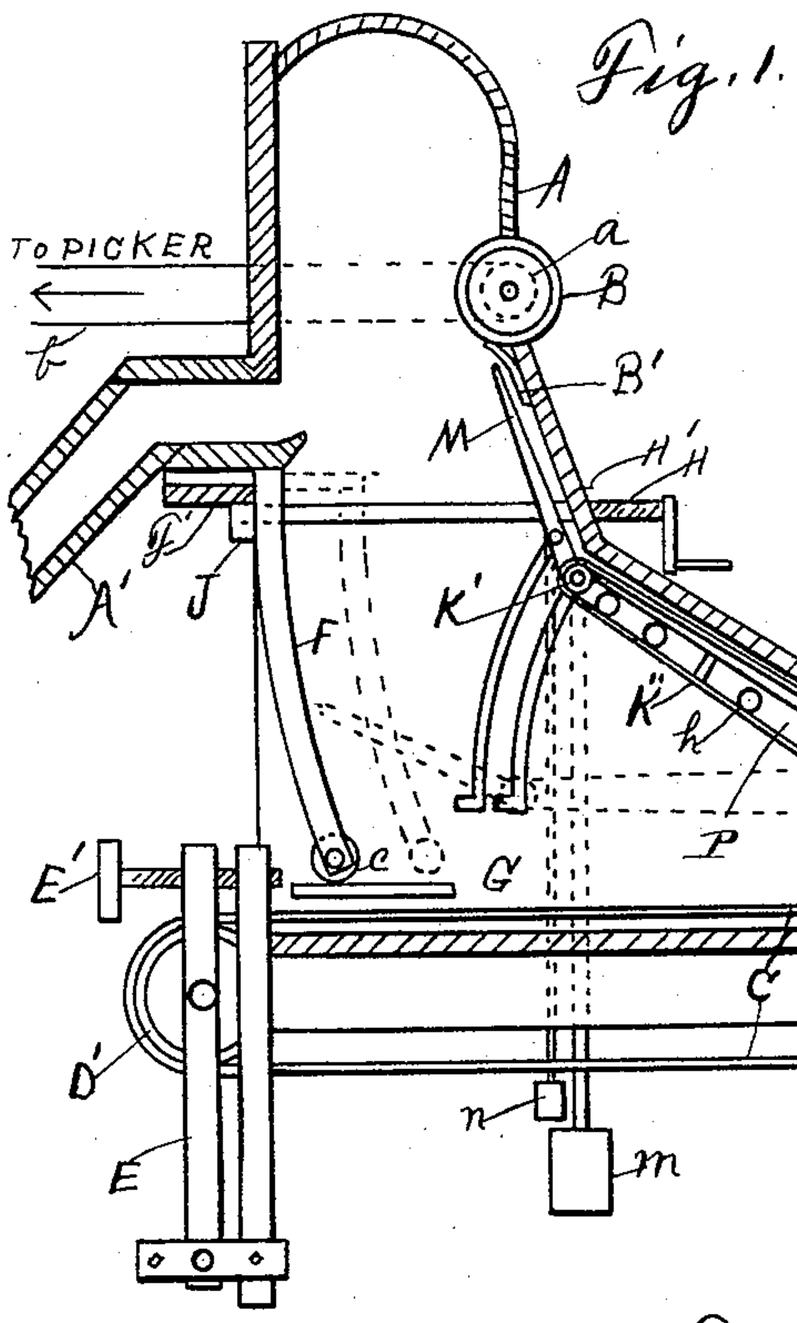


Fig. 2.

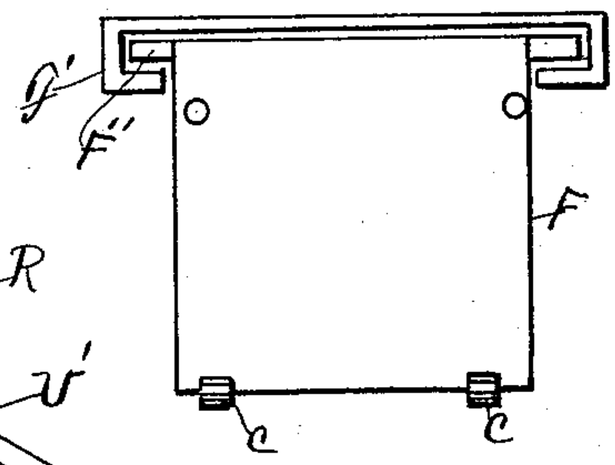


Fig. 3.

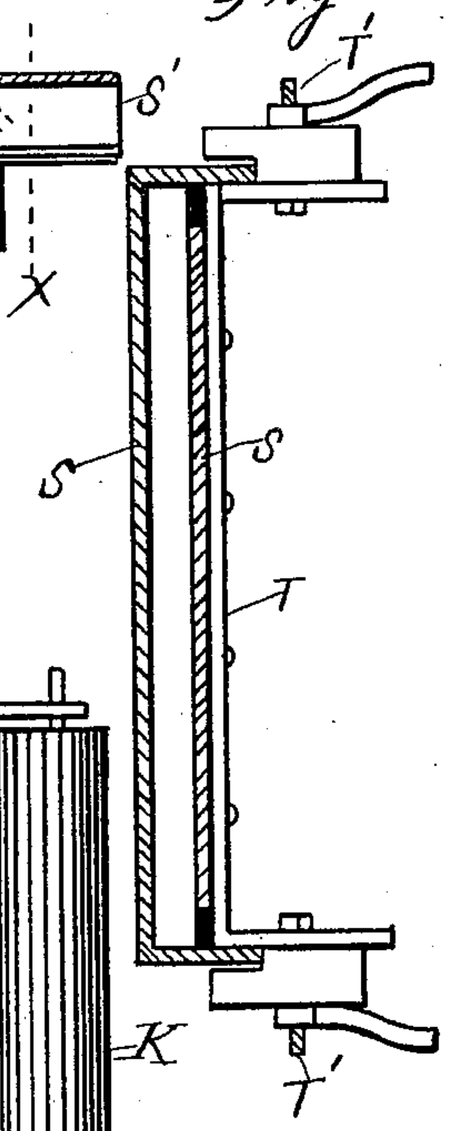
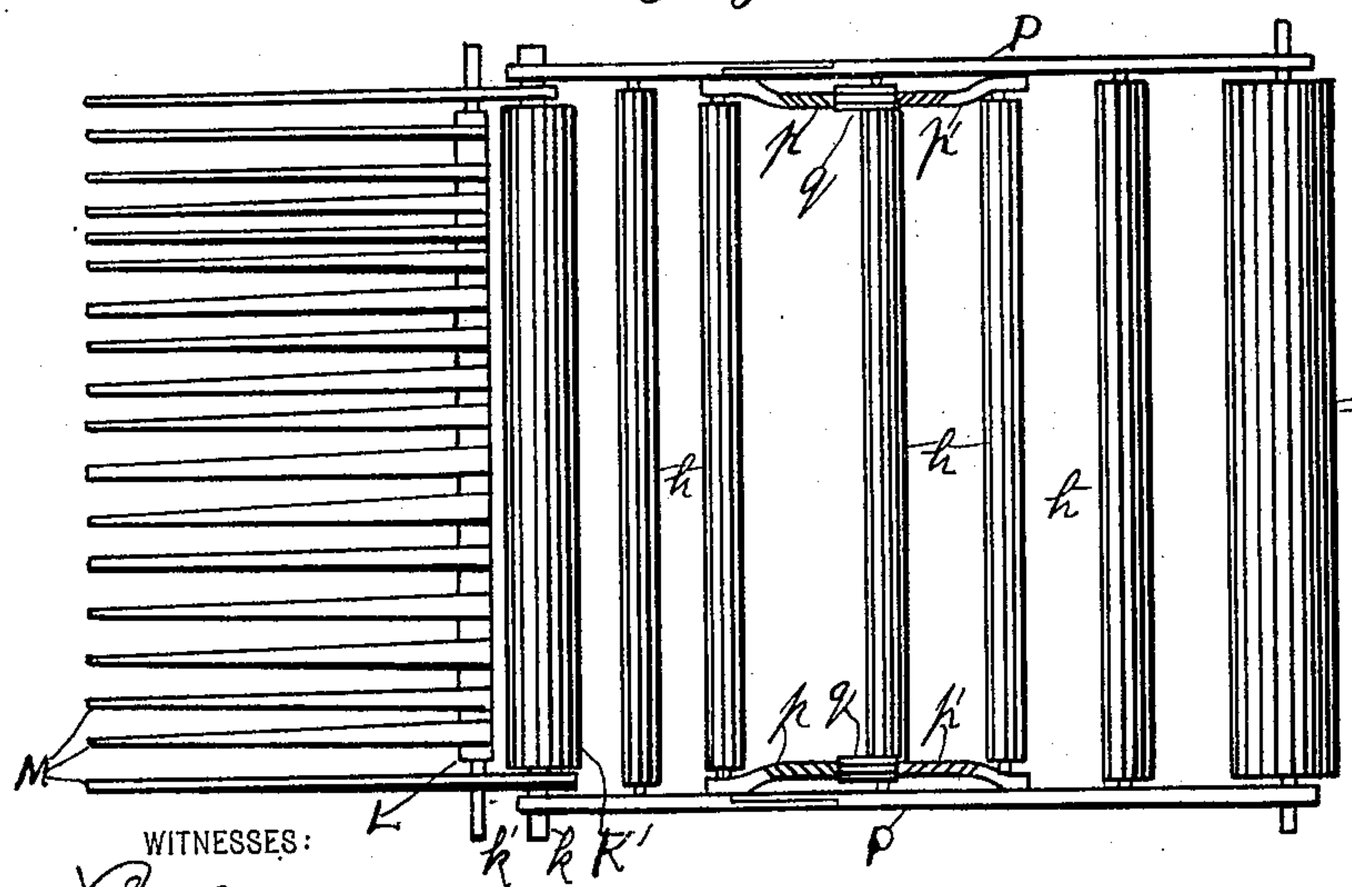


Fig. 4.



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(No Model.) 3 Sheets—Sheet 2.

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COTTON CLEANING AND MATTRESS STUFFING MACHINE.

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Fig. 5

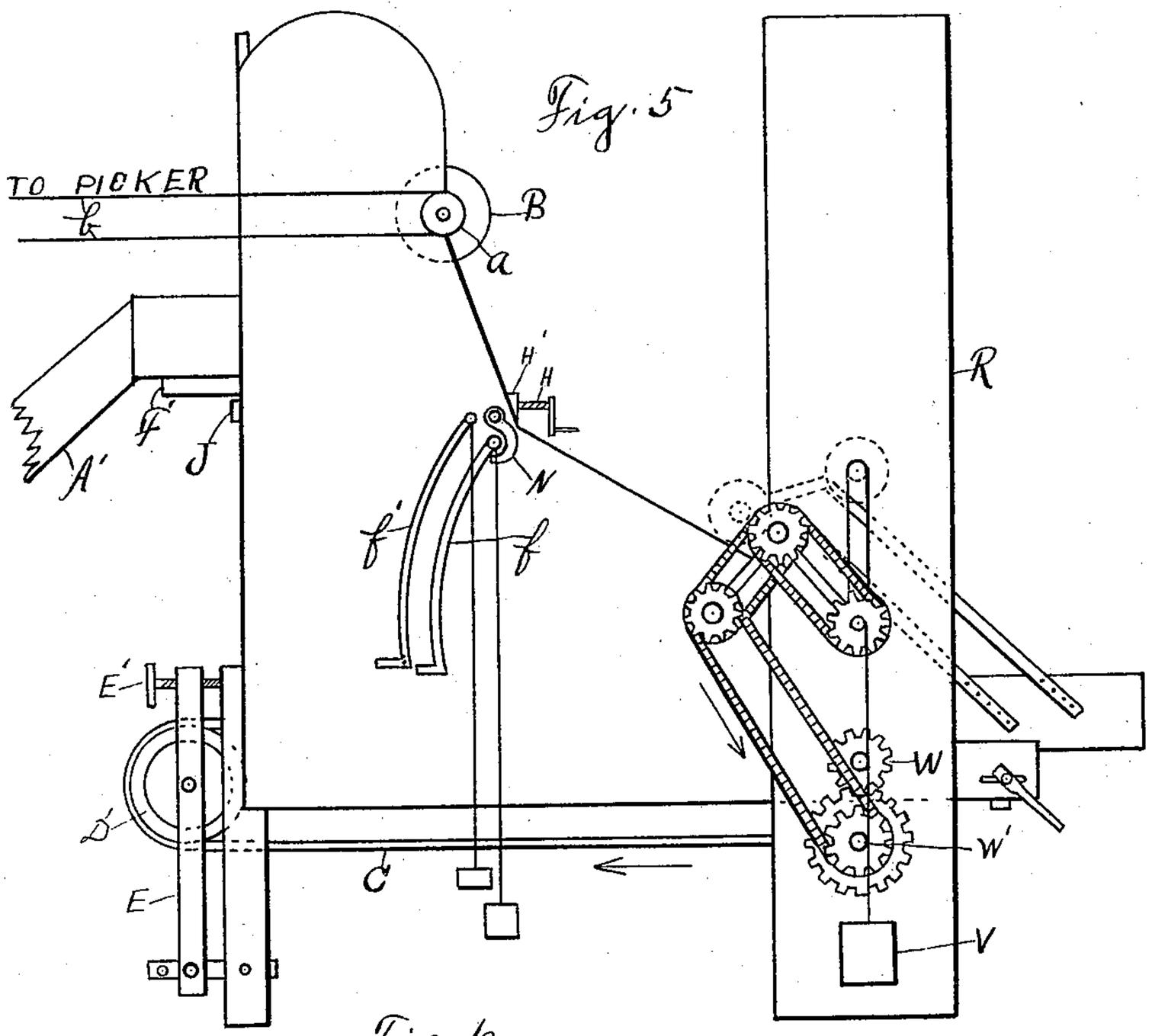


Fig. 6.

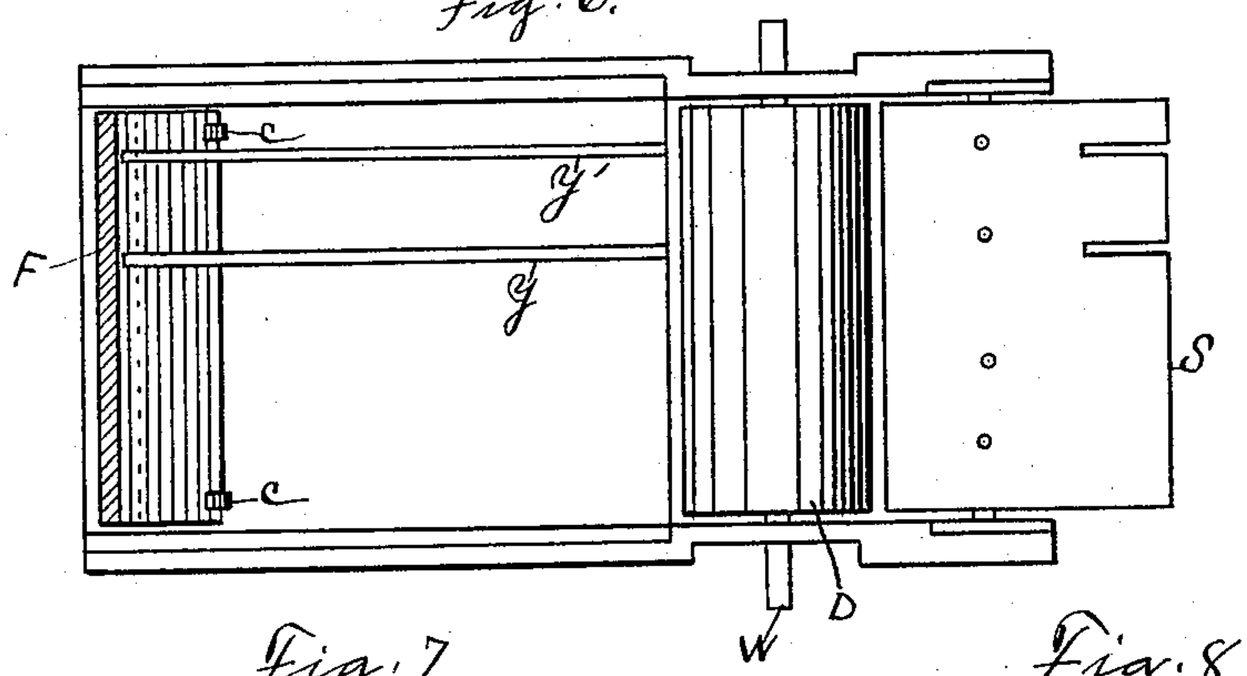


Fig. 7

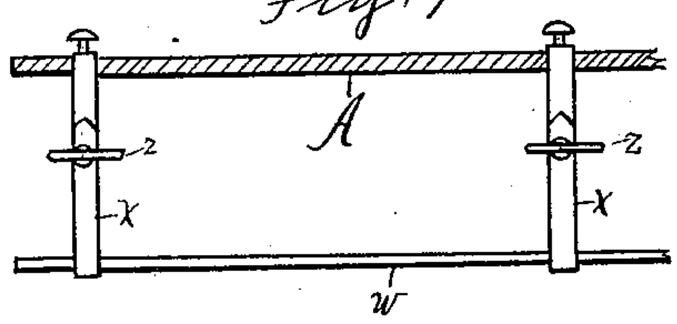
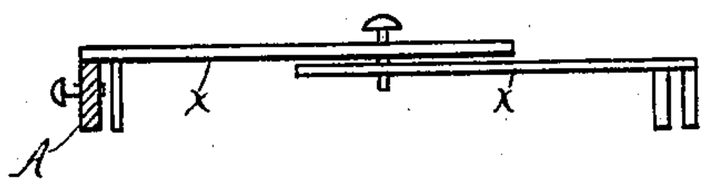


Fig. 8.



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(No Model.) 3 Sheets—Sheet 3.

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COTTON CLEANING AND MATTRESS STUFFING MACHINE.

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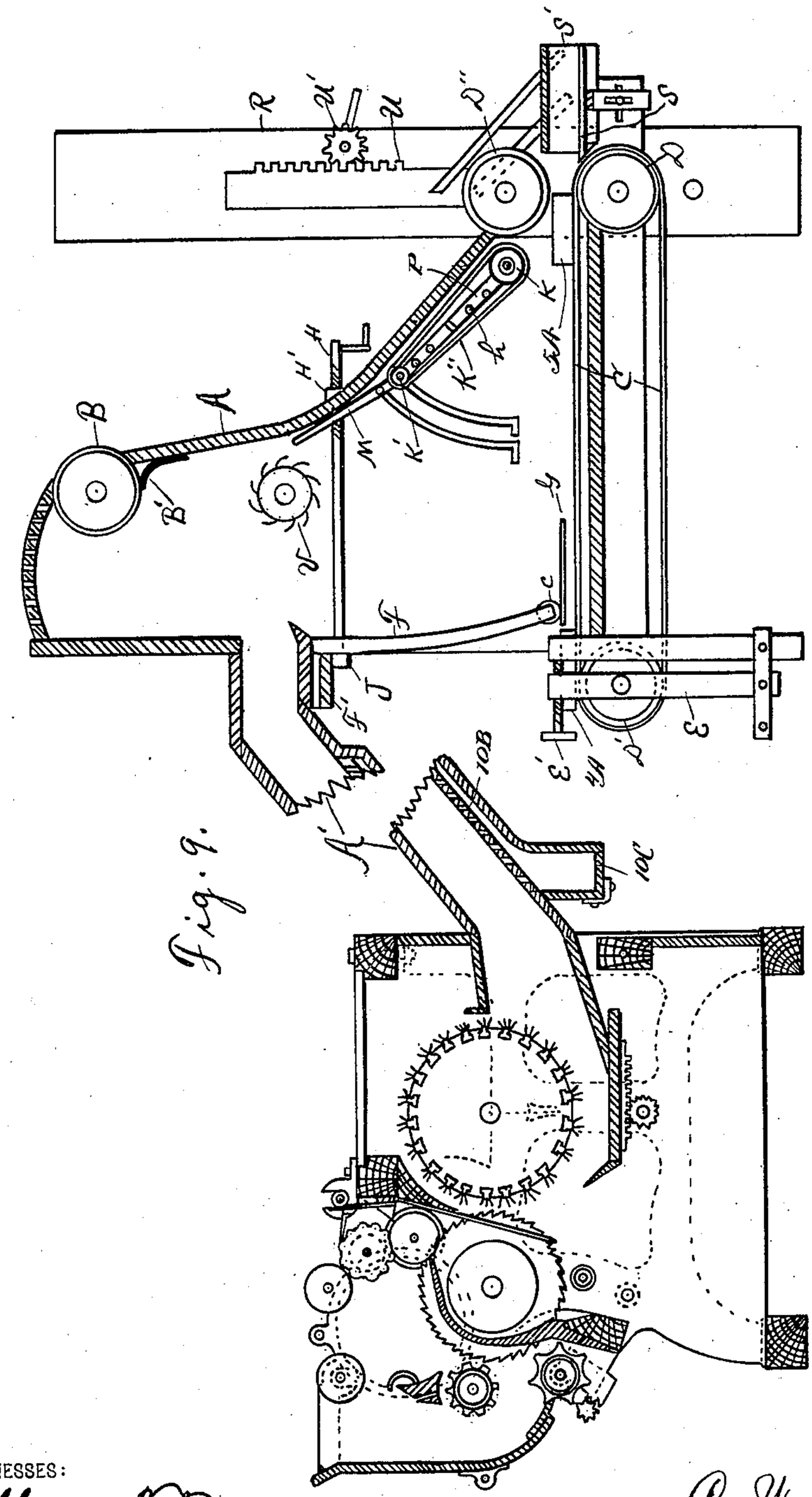

Fig. 9.

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UNITED STATES PATENT OFFICE.

CHARLES W. WHITE, OF WACO, TEXAS, ASSIGNOR TO MARY J. WHITE, OF SAME PLACE.

COTTON-CLEANING AND MATTRESS-STUFFING MACHINE.

SPECIFICATION forming part of Letters Patent No. 599,049, dated February 15, 1898.

Application filed November 3, 1896. Serial No. 610,962. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. WHITE, a citizen of the United States, residing at Waco, Texas, have invented certain new and useful Improvements in Cotton-Cleaning and Mattress-Stuffing Machines, of which the following is a specification.

This invention relates to improved machinery for cleaning cotton, forming it into bats, and discharging the bats into mattress-ticks; and the object is to perform all these different steps in one continuous operation from the time the cotton is put into a gin or picker till it is forced into ticks or formed into bales. I accomplish all this by the novel construction and combination of parts hereinafter fully described, and more particularly pointed out in the claims.

Reference is had to the accompanying drawings, forming a part of this specification.

Figure 1 is a side elevation of the invention, the nearer side being removed to show the interior arrangement. Fig. 2 is a detailed view showing the adjustable end for making different-sized bats. Fig. 3 is a cross-section through line X X of Fig. 1. Fig. 4 is a plan view of a frame for pressing the cotton as soon as there is cotton enough to form the bat, this frame being connected to another frame bearing a traveling apron constituting an auxiliary delivery to the compression-rollers. Fig. 5 is a side elevation of the cleaning and bat-forming machine. Fig. 6 is a plan view of a bottom for making different-sized mattresses, and also a plan of the lower piece of the tick-holder. Fig. 7 is a detailed view showing the manner of adjusting the false sides in an open-top box. Fig. 8 is a side elevation of means for adjusting the false sides. Fig. 9 is a vertical sectional view of a gin or picker and the stuffing-machine, showing the cleaning devices.

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

In carrying out the object of this invention I use a gin or picker for preparing material for mattresses. The gin or picker illustrated in Fig. 9 is adapted to gin lint-cotton. This gin is provided with a chute A′, leading to the cleaner and condenser-box. This chute has a perforated partition 10^B and a dirt-box 10^C, provided with a suitable door. The dirt will fall through the partition and go into the dirt-box, whence it can be removed. The material is partially cleaned and blown into a box to be more thoroughly cleansed and formed into batting ready to be compressed and stuffed into ticks. I have an improved cleaner-box A, mounted on suitable supports. The top of this box is perforated, as all boxes of the kind, to allow dust and the air to escape upward, leaving the cotton clean. This box is adjusted to the chute A′ of a gin or picker and is provided with a roller B, which is covered with the perforated material. Air escapes through this roller, and some cotton will cling to the surface of the roller. A piece of rubber B′ or other suitable material is nailed to the box A and is adapted to scrape off any cotton that may cling to the roller B. This roller is operated by a pulley *a* and a belt *b*, driven by a gin or picker motive power. The cotton falls in a box on a traveling belt or apron C, mounted on rollers D and D′, running through the lower part of box A. The tension of this belt is regulated by the pivoted support E, which is regulated by a hand-screw E′.

In order to regulate the length of the mattress, the lower back end F of the box is made adjustable. The top of this back has a piece F″ attached to it, which extends back and slides back and forth in a box F′. (See Fig. 2.) Antifriction-rollers *c c* are put on the bottom of the adjustable back end F. These rollers move back and forth on a platform G, mounted in the sides of the box just above apron C. This platform prevents the back piece from coming in contact with apron C. Rods H, operating in nuts H′ and having swivel connections J, are used to move back F to the desired position. The dotted lines in Fig. 1 indicate how far this back piece may be drawn in. The nuts H′ are mounted in the box A. In manufacturing mattresses an allowance must be made for shrinkage, and a greater allowance must be made on some material than others. Seven feet of material laid in the box will be condensed or shortened to six feet two or four inches by the time it passes through the roller-pass and is forced into the tick. Therefore an allowance must

be made and an adjustment is necessary. The thickness of the mattress is regulated by the amount of the material ginned into the condenser-box. An auxiliary pressing-frame is mounted in the box A. This frame prepares the bat for final compression. A roller K is journaled in the sides of box A. One end of this frame is mounted on the shaft of roller K. A roller K′ is mounted on the other end of this frame and a traveling apron K″ is mounted on these rollers. A cotton-collector is mounted on the shaft of roller K′. This collector consists of a cross-piece L, having ends extending through the sides of box A and having a number of fingers halved into it. These fingers aid in collecting the cotton into bats. Weights *m* and *n* are attached to the shaft *k* and cross-piece L to aid in pressing the cotton into bats. There are curved slots *f f′* in the sides of box A for lowering the shaft *k* and cross-piece L. While enough cotton is being ginned or picked to form a bat these frames are held against the front and upper part of box A in any suitable way, as by hooks N, which may catch under the shaft *k* and cross-piece L. In order to prevent belt K″ from being pressed up by the cotton-bat while being conveyed to the compression-rollers, small rollers *h* are journaled in the frame P, so that they will hold belt K″ down. In this way friction on the belt is avoided. The dotted lines indicate the lowest position to which this frame can be brought. The tension of belt K″ is regulated by the frame P. The sides of this frame are made in two pieces and the pieces are dovetailed or halved into each other and rods *p p′* are attached to the sections of the sides. These rods are coupled together by the doubling or coupling nuts *q*, which have right threads in one end and left threads in the other, the threads of the rods being made to mesh with the threads in the nuts. The belts C and K″ constitute the lower and upper parts of the compression-chamber. As the material is thrown from the gin or picker it comes in contact with a roller *v*, which is provided with iron rods curved back. This roller with the rods beats and disintegrates the material, the dust going out at the top of the condenser and the stuffing material falling in the condenser in a loose condition, forming an incomplete bat. Something is necessary to collect this incomplete batting. The belt C runs just above the floor of the box A. The bat has an exit-pass through or between and beyond the rollers D and D″. The sides of the box pass on the inside of and are halved into the uprights R. The bat is received from roller D on a scraper S, which is the bottom part of the former-box and tick-holder. This scraper is mounted on an L-shaped piece T, which is bolted to the side frame-pieces of box A. The legs of piece S and the ends of the side pieces have plates through which clamp-screws T′ work. The scraper can be adjusted so that it can be brought almost to roller D, which is mounted in stationary bearings. The upper part of the tick-holder and former-box S′ is mounted at the exit side of the roller-pass. The tick is stretched over the tick-holder, and the tick is drawn off by the filling which is forced into it. Any simple device may be used to prevent the too rapid paying off of the tick. This upper part of the tick is attached to the rack U, in which is mounted roller D″. This roller is raised and lowered by means of the racks U and the pinions U′. Pressure is exerted upon roller D″ by means of weights V. The rollers are operated in any suitable way, as by sprocket-gearing. (Illustrated in Fig. 5.) A drive-wheel may be mounted on a counter-shaft W′.

For making bats for pillows and narrow mattresses false sides or partitions *y y′* are put in the bat-forming box and slots are cut in the tick-holder, as illustrated in Fig. 6. Figs. 7 and 8 illustrate devices for holding false sides W in place and at any distance desired. The arms or cross-pieces X X are held in place by clamp-screws *z z*. The false sides have antifriction-rollers on the bottom edges to prevent friction on the carrier-bottom C. One end of the cross-piece X is attached to the false side, and the other end is attached to the side of the box A. By the means thus described the widths of the mattresses are controlled.

Two pads 4^A and 5^A are passed through the stuffing-machine, one of which is held between the compression-rollers and apron C while material is being ginned into the cleaner and condenser box to prevent loose material from escaping. The other pad is placed on belt C and acts as a follower to shove the material through the roller-pass into the tick. The pads are not attached to the apron, but are put in position by hand.

The mattress is run through the stuffing-machine the second time to compress it, so that the material will fill the corners of the tick.

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

1. A mattress-stuffing machine having compression-rollers and traveling endless aprons, one being mounted above the other, adapted to convey incomplete batting to said rollers and means for applying pressure to the upper one of said aprons.

2. A mattress-stuffing machine having compression-rollers, means for collecting and forming the cotton into bats, traveling endless aprons, one being mounted above the other, adapted to convey the incomplete batting to said rollers, and rollers for applying pressure to the lower part of the upper one of said aprons, substantially as described.

3. A mattress-stuffing machine having compression-rollers, a cleaning and collecting box, traveling aprons one running within and the other running through said box, an auxiliary pressing-frame adapted to operate in connec-

tion with the upper one of said aprons, said aprons being adapted to convey the incomplete batting to said rollers.

4. A mattress-stuffing machine provided with means for cleaning and collecting material preparatory to forming bats, said means consisting of a box adapted to receive the batting material from a gin or picker, said box having perforations for the escape of air and dust, a pressing-frame pivoted in said box, and means for applying pressure to said frame.

5. A mattress-stuffing machine provided with means for pressing cotton into bats, and means for conveying cotton to be pressed, said means consisting of a box, an endless apron traveling through said box, a second apron mounted within said box, rollers journaled in said box for said second apron, rollers for applying pressure to the lower part of said second apron and means for driving said aprons.

6. A mattress-stuffing machine having compression-rollers, a box for cleaning and collecting the stuffing material, said box being provided with an adjustable back end whereby the length of the mattress may be determined, and means for conveying said material to said rollers.

7. A mattress-stuffing machine provided with a cleaning and collecting box, partitions in said box whereby batting material is collected into bats of different widths, traveling endless aprons, one of said aprons running within said box, adapted to convey the batting to be compressed, and an auxiliary frame adapted to start the stuffing between said aprons.

8. A mattress-stuffing machine having compression-rollers, a conveyer-apron suitably mounted and adapted to carry stuffing material to said rollers, and an auxiliary conveyer-apron mounted above said first-named apron and adapted to aid the same and means for applying pressure to the lower part of said upper apron.

9. A mattress-stuffing machine having compression-rollers, a traveling apron adapted to convey stuffing material to said rollers, a second traveling apron and rollers therefor, suitable supports for said rollers, said second apron having a pivoted mounting at one end, a frame mounted in said second apron and intermediate rollers in said frame whereby pressure is applied to the bottom part of said second apron, said aprons adapted at times to travel in parallel planes and in the same direction.

10. In a mattress-stuffing machine, the combination of a receiving and cleaning box, collecting and conveying devices mounted in said box, compression-rollers adapted to receive stuffing material from said conveying devices, suitable driving mechanism, and a tick-holder.

11. In a mattress-stuffing machine, the combination of a receiving and cleaning box, conveying-aprons running in said box, means for applying pressure to the lower part of one of said aprons, compression-rollers journaled in a suitable frame, and an exit-pass and tick-holder, whereby batting is prepared from raw material and stuffed into ticks in one continuous operation.

12. In a mattress-stuffing machine, the combination of a cleaning and collecting box, conveying-aprons running in said box, a back end adjustably mounted in said box adapted to determine the length of bats, compression-rollers, means for rotating and raising said rollers, and a tick-holder.

13. In a mattress-stuffing machine, the combination of a receiving and cleaning box, traveling endless aprons running in said box, false sides mounted in said box adapted to regulate the widths of batting, compression-rollers journaled in a suitable frame, means for rotating and raising said rollers, and a tick-holder having slots therethrough whereby ticks of different sizes are held.

14. In a mattress-stuffing machine, the combination of a cleaning and condensing box, endless aprons running in said box, devices mounted in said box adapted to determine the length and width of batting, compression-rollers journaled in a suitable frame, and a tick-holder adapted to hold ticks of different sizes.

15. A mattress-stuffing machine provided with a collecting and cleaning box, a frame pivotally mounted in said box for aiding in collecting material to form batting, an endless apron to convey batting to be compressed, an auxiliary apron running within said box, a frame having drums for said apron, said frame being extensible and pivotally mounted at one end, weights for applying pressure to said frame, and compression-rollers.

In testimony whereof I have hereunto subscribed my signature in the presence of witnesses.

CHARLES W. WHITE.

Witnesses:
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CHARLES M. ADGAT.