

Oct. 9, 1928.

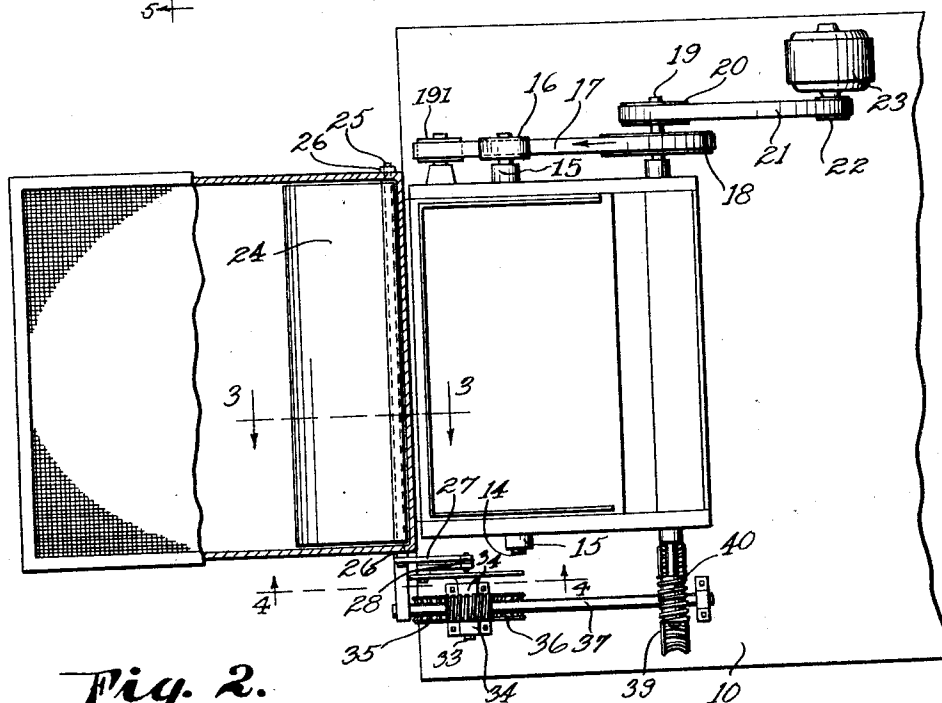
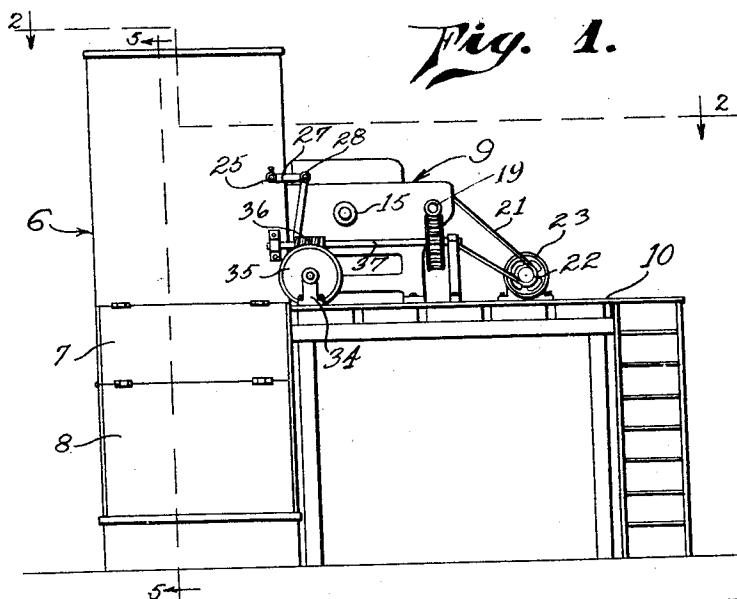
1,687,002

J. W. BOWERSOX

MATTRESS MAKING APPARATUS

Filed Sept. 1, 1927

2 Sheets-Sheet 1



UNITED STATES PATENT OFFICE.

JOSEPH W. BOWERSOX, OF LOS ANGELES, CALIFORNIA.

MATTRESS-MAKING APPARATUS.

Application filed September 1, 1927. Serial No. 216,831.

This invention relates to apparatus for making mattresses and an object of the invention is uniformity in thickness of the mattress.

5 It is at present customary in the manufacture of mattresses to run bale cotton through a cotton gin and to discharge the cotton, as it comes from the gin, into a compressor box where the cotton is compressed into a bat. 10 In the movement of the cotton into the compressor box, it is not uniformly distributed and, accordingly, the resulting bat is not of uniform thickness. It is an object of this invention to distribute the cotton, as it comes 15 from the gin, uniformly over the entire area of the compressor box.

Another object is to effect this by a comparatively simple construction.

Further objects and advantages will appear in the subjoined detailed description.

The accompanying drawings illustrate the invention.

Figure 1 is a side elevation of a mattress-making apparatus constructed in accordance 25 with the provisions of this invention.

Figure 2 is a plan view, partly in section on the line indicated by 2—2, Figure 1.

Figure 3 is an enlarged sectional detail on the line indicated by 3—3, Figure 2.

30 Figure 4 is an enlarged fragmental elevation, partly in section, from the line indicated by 4—4, Figure 2.

Figure 5 is a vertical section on the line indicated by 5—5, Figure 1, the sides of the 35 compressor box being indicated in one position in solid lines and in another position in broken lines.

Figure 6 is a sectional view taken on the line 6—6 of Figure 4.

40 A compressor box is indicated in general by the character 6, and is of the usual construction, the side walls having hinged sections 7, 8 so that the lower portion of the box may be contracted for producing mattresses 45 of different width. The top wall has a perforate portion, as shown in Fig. 2, to permit of the exhaust of air from the box.

A cotton gin, indicated in general by the character 9, is mounted adjacent to the compressor box upon a suitable support 10. The cotton gin is of the usual construction and some of the interior thereof is shown in the drawings. In Figure 3 may be seen one of the 50 saws 11 and the rotary brush 12 that brushes the cotton off of the saws. The brush 12 moves past a passage 13 that communicates

with the compressor box through one wall thereof. The brush 12 is mounted on a shaft 14 supported at its ends in bearings 15. The shaft 14 is provided with a pulley 16 driven 60 by a belt 17 from a pulley 18 mounted on a shaft 19. The upper run of the belt 17 engages the under side of the pulley 16 and passes around an idler pulley 191 so as to effect driving of the brush 12 clockwise so 65 that said brush will operate properly to brush fibers from the teeth of the saws 11 which rotate counterclockwise. This is the usual construction of cotton gins. The shaft 19 is provided with a pulley 20 driven by a belt 21 70 from a pulley 22 which is mounted on the shaft of the motor 23. Thus, operation of the shaft 19 effects operation of the gin.

Movably mounted within the compressor box adjacent to the discharge end of the passage 13 is a cotton-distributing shield or deflector 24 which, in this instance, is concave on the face turned toward the passage 13. The deflector 24 is fixed to a rock shaft 25 that turns in bearings 26 mounted on the sides of 80 the compressor box. Fixed to the shaft 25 is an arm 27 to which is pivoted at 28 a pitman 29. The pitman 29 is pivotally connected at 30 to a rotary member that is in the form of a disc 31. The stroke of the pitman 85 29 may be lengthened or shortened by reason of the pivot 30 being adjustably mounted in a radial slot 32 in the disc 31. Lengthening and shortening of the stroke of the pitman 29 produces lengthening and shortening, 90 respectively, of the stroke of the deflector 24. The deflector 24 swings in an arc toward and from the discharge end of the passage 13 and, in Figure 3, said deflector is shown in an intermediate position in solid lines and is indicated 95 in broken lines in two other positions, one below and one above the intermediate position.

The disc 31 is fixed to a shaft 33 rotating in bearings 34. The bearings 34 are mounted 100 on the support 10. Fixed to the shaft 33 is a worm gear 35 in mesh with a worm 36 on a worm shaft 37. The shaft 37 is driven by a worm gear 39 in mesh with a worm 40 that is mounted on and driven by the shaft 19. 105 Thus, the rock shaft 25 is rocked at a speed that is slow compared with the speed of the brush 12.

The apparatus described above operates as follows:

Cotton is fed to the gin 9 in a manner well understood in this art and the cleaned cotton 110

is thrown by the brush 12 into and through the passage 13, the current of air set up by the whirling brush aiding materially in moving the cotton into the compressor box. Assuming that the deflector 24 is in the lowermost position, indicated in broken lines in Figure 3, the cotton will strike said deflector and be deflected downwardly along that side of the box that is nearest to the passage 13. As the cotton continues to discharge into the box, the arm 24 slowly moves forwardly and upwardly, thus causing the cotton that strikes the deflector to be spread uniformly in a layer of a given thickness extending away from the box wall that is nearest to the passage 13. Finally, the deflector 24 reaches such a position, its extreme upper position, that the cotton is deflected thereby to the farther side of the box. The deflector then begins to move on its return stroke, thus forming another layer of cotton. The cotton continues to discharge into the box and the deflector 24 continues to rock to form successive layers of the cotton in the box until the number of pounds of cotton that the mattress is to contain has been discharged into the box. The cotton bat thus formed is then compressed in a manner well understood in this art and, therefore, not necessary to describe, as it constitutes no part of this present invention which relates only to the distribution of the cotton in the compressor box.

I claim:

1. A mattress-making apparatus comprising a box, a passage for cotton communicating with the interior of the box through one wall thereof, a means to feed cotton through the passage, a movably mounted deflector in the box adjacent to the passage, and a means to move the deflector into different positions to distribute the cotton in the box as it leaves the passage, the deflector extending substantially to said box wall at a level higher than the discharge end of the passage so as to deflect the cotton downwardly.

2. A mattress-making apparatus comprising a box, a passage for cotton communicating with the interior of the box through one wall thereof, a means to feed cotton through the

passage, a deflector mounted to rock in the box adjacent to the passage, and a means to rock the deflector to distribute the cotton in the box as it leaves the passage, the deflector extending substantially to said box wall at a level higher than the discharge end of the passage so as to deflect the cotton downwardly.

3. A mattress-making apparatus comprising a box, a passage for cotton communicating with the interior of the box through one wall thereof, a means to feed cotton through the passage, a deflector mounted to rock in the box adjacent to the passage, said deflector having a concave face turned toward the passage, and a means to rock the deflector to distribute the cotton in the box as it leaves the passage, the deflector extending substantially to said box wall at a level higher than the discharge end of the passage so as to deflect the cotton downwardly.

4. A mattress-making apparatus comprising a box, a passage for cotton communicating with the interior of the box through one wall thereof, a means to feed cotton through the passage, a deflector mounted to rock in the box adjacent to the passage, and a means operably connected with the cotton-feeding means and including speed-reduction gearing for rocking the deflector to distribute the cotton in the box as it leaves the passage, the deflector extending substantially to said box wall at a level higher than the discharge end of the passage so as to deflect the cotton downwardly.

5. A mattress-making apparatus comprising a box, a passage for cotton communicating with the interior of the box through one wall thereof, a means to feed cotton through the passage, and a means extending from said box wall toward the opposite wall and downwardly to direct the cotton as it leaves said passage toward the bottom of said box, said last named means including a movable member, and a means operable to move the movable member into different angular positions to direct the cotton into different portions of the box.

Signed at Los Angeles, California, this 5th day of Aug., 1927.

JOSEPH W. BOWERSOX.

Certificate of Correction.

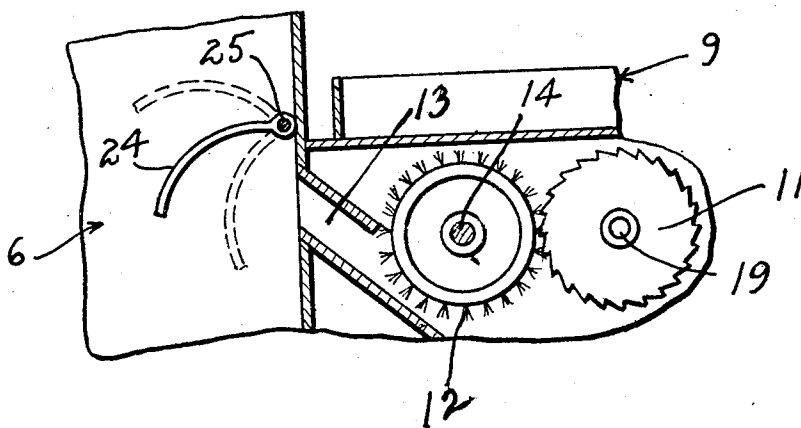
Patent No. 1,687,002.

Granted October 9, 1928, to

JOSEPH W. BOWERSOX.

It is hereby certified that error appears in the above numbered patent requiring correction as follows: In the drawings, sheet 2, Figure 3 should appear as shown below instead of as shown in the drawings:

Fig. 3.



and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.
Signed and sealed this 4th day of December, A. D. 1928.

[SEAL.]

M. J. MOORE,
Acting Commissioner of Patents.