Aug. 13, 1940.

J. C. ADAMS

2,211,360

MATTRESS FILLING MACHINE

Filed Aug. 8, 1939

4 Sheets-Sheet 1

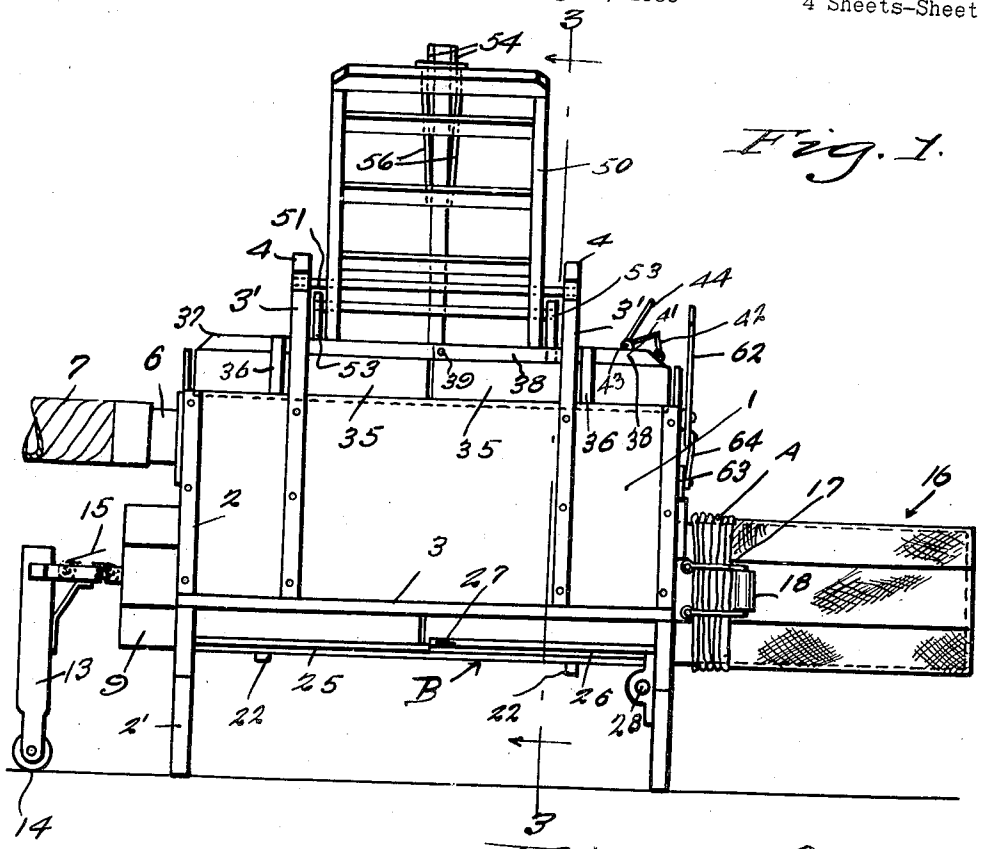


Fig. 1.

Fig. 13

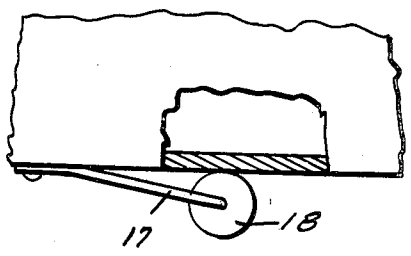


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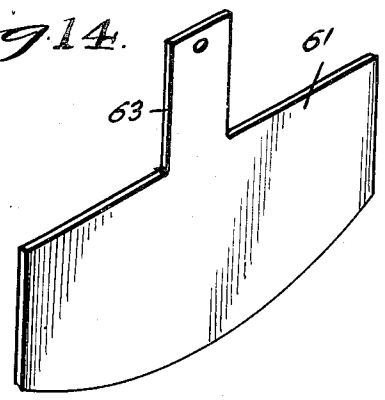
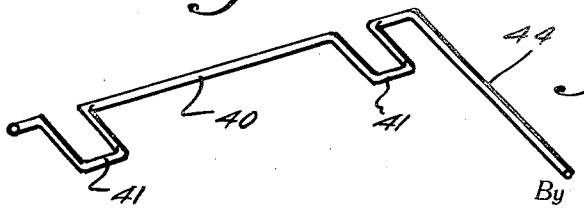


Fig. 15



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MATTRESS FILLING MACHINE

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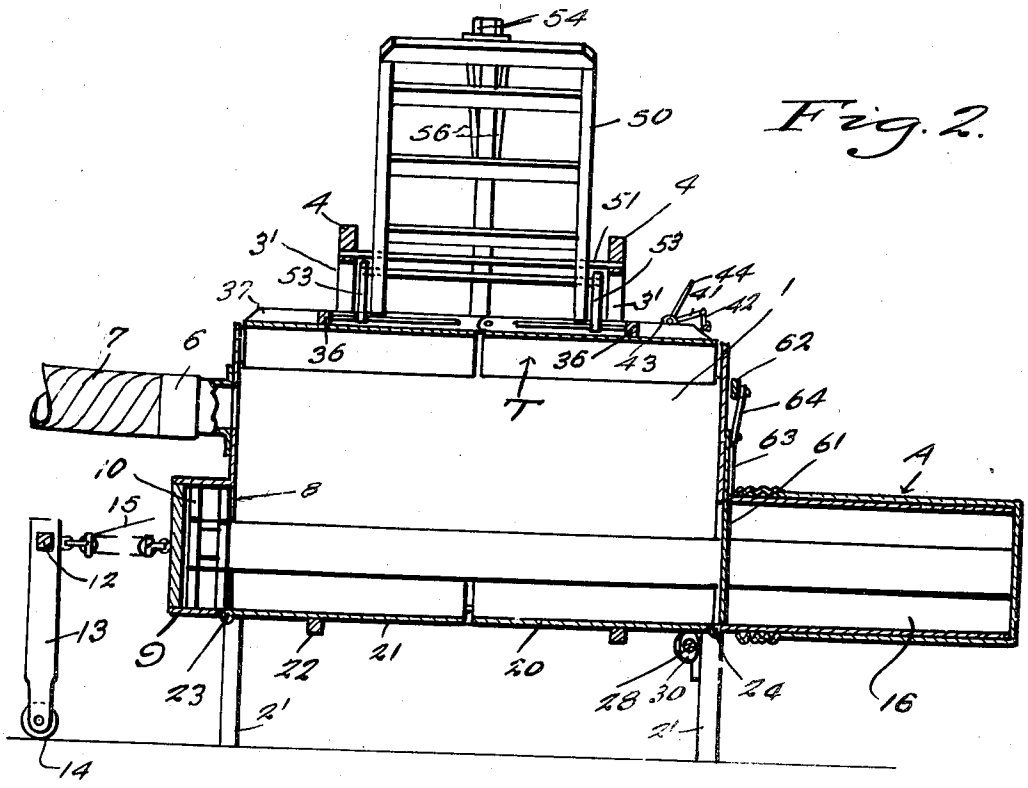


Fig. 2.

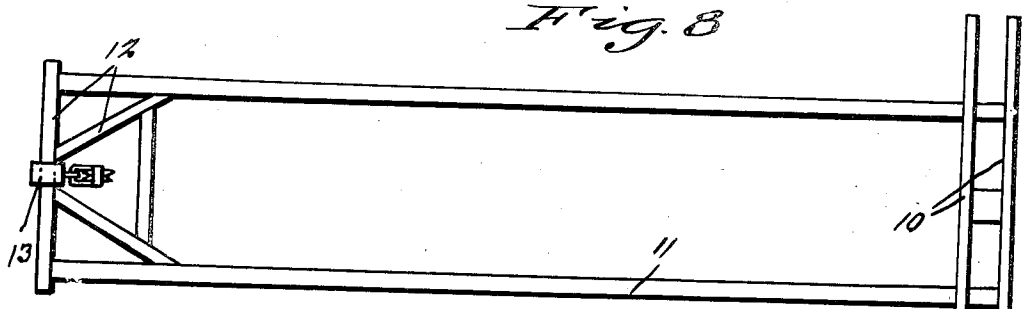


Fig. 8

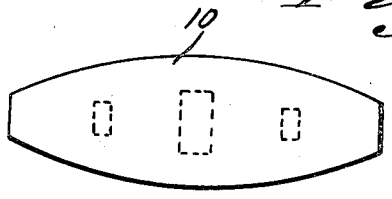


Fig. 9.

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Fig. 6.

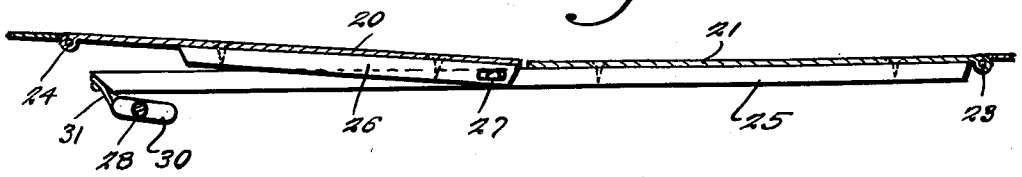


Fig. 3.

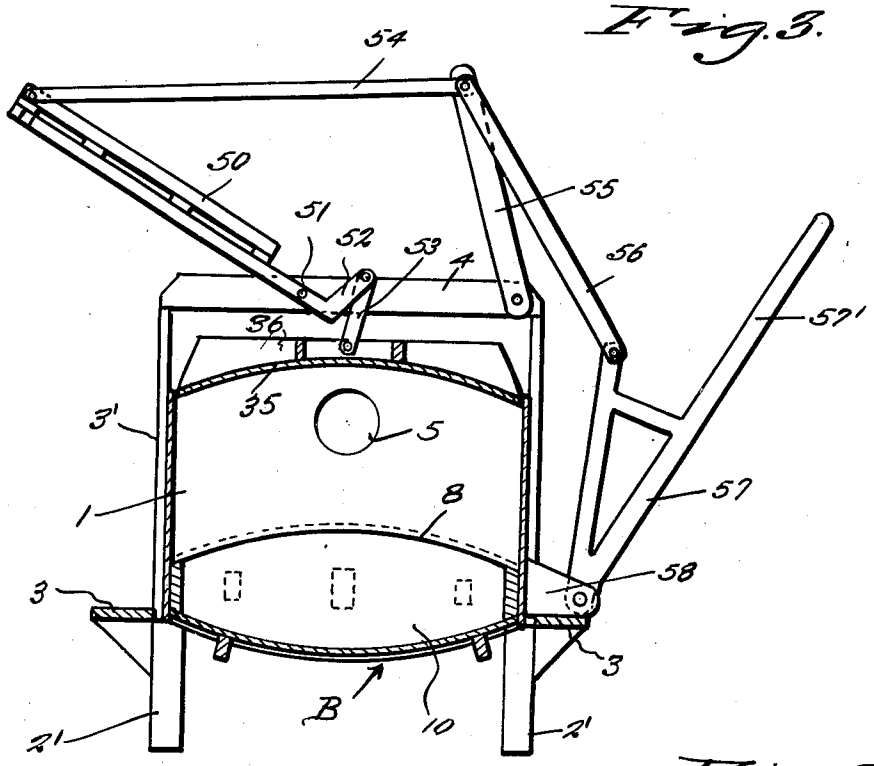
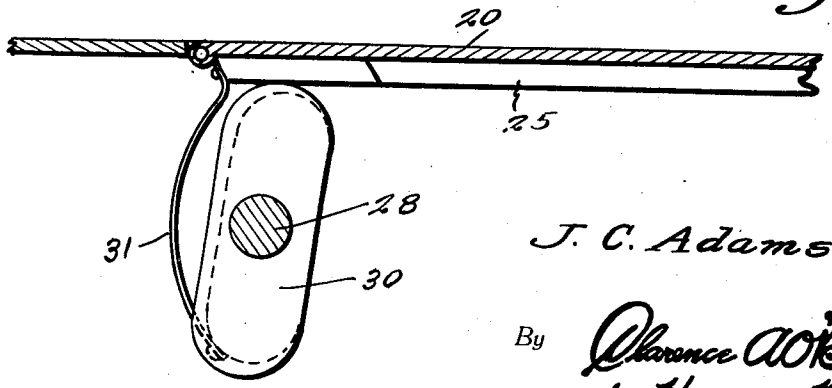


Fig. 7.



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MATTRESS FILLING MACHINE

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Fig. 10.

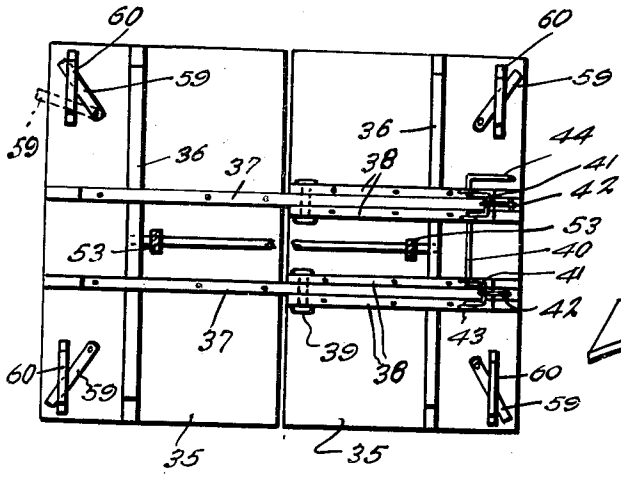


Fig. 12.

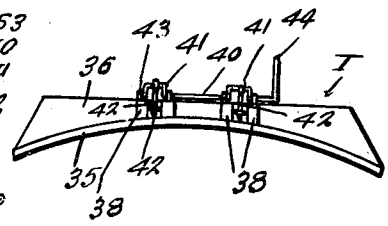


Fig. 5.

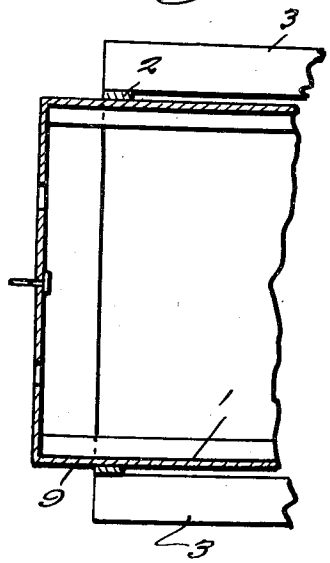


Fig. 11.

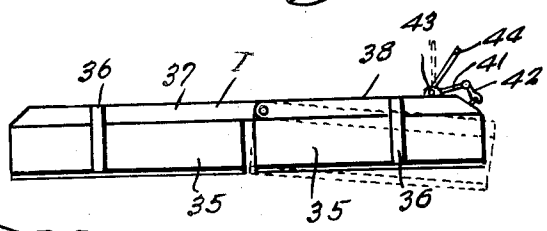
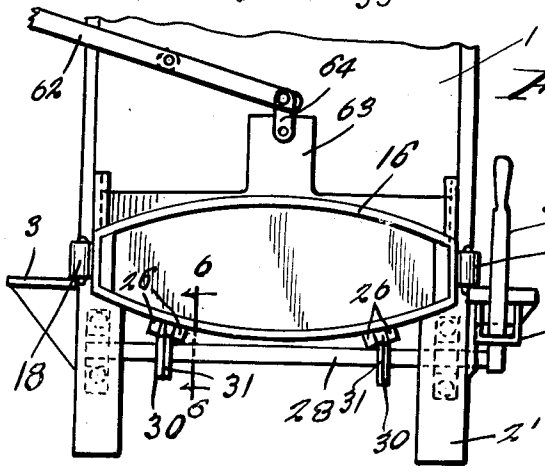


Fig. 4.



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Patented Aug. 13, 1940 2,211,360

UNITED STATES PATENT OFFICE

2,211,360

MATTRESS FILLING MACHINE

Joe Calvin Adams, Center, Tex., assignor of one-half to Charles Edwards De Witt, Center, Tex.

Application August 8, 1939, Serial No. 289,039

3 Claims. (Cl. 226—46)

This invention relates to a mattress filling machine, the general object of the invention being to provide a box-like body for receiving the filling material with a spout connected with the body over which the tick of the mattress is placed with plunger means for forcing the filling material from the body, after the same has been compressed, into and through the spout which directs the material into the tick which has been placed over the spout and as the tick is being filled it is forced from the spout.

Another object of the invention is to provide improved means for compressing the material placed in the body.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a side elevation of the invention.

Figure 2 is a longitudinal sectional view thereof.

Figure 3 is a section on the line 3—3 of Figure 1.

Figure 4 is a view looking toward the front or spout end of the invention.

Figure 5 is a fragmentary horizontal sectional view through the opposite end.

Figure 6 is a section on the line 6—6 of Figure 4 showing the bottom member of the box-like body.

Figure 7 is a sectional detail view showing the cam means for operating said bottom member.

Figure 8 is a plan view of the plunger mechanism.

Figure 9 is a view of the plunger head.

Figure 10 is a top plan view of the top assembly.

Figure 11 is a side view of the top assembly.

Figure 12 is an end view of the top assembly.

Figure 13 is a fragmentary plan view with parts broken away of the spout and the roller for holding the tick thereon.

Figure 14 is a view of the sliding door.

Figure 15 is a view of the crank member for actuating a part of the top member.

In these drawings the numeral 1 indicates a box-like body which is open at its top and bottom and which is supported by the frame members 2 which include the step members 3 on which an operator stands during certain operations of the device, portions of the frame forming the legs 2'. The frame parts also include the uprights 3' connected with the side parts of the body and connected together at their upper ends by the top pieces 4. In the rear end of the body and adjacent the top thereof is a large hole 5 for receiving the coupling 6 which is attached to the hose 7 leading from a supply of cotton or other material used for filling the mattress, this material being forced through the hose under air pressure. Below the hole is an enlarged substantially oval-shaped opening 8 horizontally arranged and having flat ends and this opening is in communication with a short chamber forming part 9 which normally receives the double head 10 of the plunger which includes the long parallel rods 11 which pass through holes in the outer end of the chamber 9 and are connected together by the cross pieces 12, see Figure 8, from which depends a leg 13 having a roller 14 at its lower end for engaging the surface upon which the apparatus rests. The cable 15 of a block and tackle device is connected with the cross pieces 12 so that by pulling upon the cable manually or by power means the plunger can be moved from a position where the head is in the chamber 9 through the body and through a spout device 16 which is attached to the opposite end of the body and is of substantially the same shape as that of the opening 8, namely, of substantially horizontal oval shape with its ends flattened as shown more particularly in Figure 4. The plunger head 10 is of the same shape. This plunger, of course, forces the material from the body into the spout and into the tick or cover A of the mattress which is placed on the spout and snugly fitted thereon with one end open and this open end is gathered on the inner end of the spout as shown in Figure 1 so that the closed end of the cover will fit tightly over the open outer end of the spout. A pair of U-shaped members 17 are attached to the inner end of the spout one at each side thereof and these members are of spring material and carry the rollers 18 for engaging the cover or ticking at the sides of the spout. Thus as the filling material is forced from the body into the spout and then through the spout into the cover the cover is gradually forced from the spout and the rollers will keep the same in its tightened condition as it is forced from the spout and prevents wrinkles in the cover material so that the filling will snugly and tightly fill the cover member.

The bottom B of the body is bowed downwardly and is formed of metal sheets 20 and 21 which are slightly spaced apart at their inner ends, these sheets being reinforced by the strips 22 and the rear sheet is hingedly connected at

its rear end to the bottom of the chamber 9 as shown at 23 while the front sheet is hingedly connected at its front end to the bottom of the spout 16 as shown at 24. Long longitudinally extending bars 25 are connected to the rear sheet 21 adjacent the side edges thereof and extended forwardly under the front sheet, said front sheet having pairs of short bars 26 thereon between which the front ends of the bars 25 are located and the short bars are pivotally connected with the bars 25 by the pin and slot connection shown generally at 27 in Figure 6. A cross shaft 28 is journaled in the front legs 2' and carries the elongated cams 30 which engage the front ends of the long bars 25 and are connected to the said front ends of the long bars by the spring strips 31. A hand lever 32 is fastened to an end of the shaft 28 and is limited in its movement by the U-shaped member 33, this arrangement permitting the bottom assembly to assume a downwardly bowed shape longitudinally, as shown in Figure 6, as well as transversely as shown in Figure 3 but when the material is to be forced from the box into the spout by the plunger then the lever 32 is manipulated to rock the shaft 28 so as to cause the cams 30 to lift the front end of the bars 25 thereby causing the bottom members 20 and 21 to assume a straight position, as shown in Figure 2 so that the plunger can force the filling material from the box into the spout.

The top assembly T is made somewhat similar to the bottom member but this top member is composed of the two sheets 35 forming the front and rear portions of the top member and bowed upwardly as shown in Figure 3 and each sheet is reinforced by a transverse beam 36 and long bars 37 are fastened to the rear member 35 and short pairs of bars 38 are fastened to the front member 35 with the extended ends of the bars 37 passing between the pairs of bars 38 and pivoted thereto as shown at 39 so that the front member can hinge on the bars 37 of the rear member.

A double crank member 40, see Figure 15, has its cranks 41 fastened by the links 42 to the front ends of the long bars 37 and the crank member 40 adjacent the cranks is fastened by the bearing members 43 to the short bars 38. One end of the member 40 is extended to form the handle 44 and as will be seen by rocking the crank member by the handle the front member can be raised to a position in alignment with the rear member 35 so that the two members will be straight, thus permitting the front end of the front member 35 to be arranged substantially on a level with the top of the spout when the top assembly is in lowered position.

A ladder-like lever 50 is pivoted adjacent its lower end to the cross members 4 as shown at 51 and this lever 50 has bent ends 52 which are connected by the links 53 with the top assembly T. A link 54 connects the upper end of the lever 50 with a lever 55 pivoted to a side part of the member 4 and a link 56 connects the point of junction of the link 54 with the lever 55 with the upper end of a V-shaped lever 57 pivoted at its lower end to a bracket 58 on a side part of the frame, the outer limb of the V-shaped lever 57 being elongated to provide a handle 57'. Thus by manipulating the lever 57 by its handle 57' the lever arrangement can be made to lift the top member T out of the box or to cause it to pass downwardly into the box to compress the material to a point where the plunger arrangement can be used for forcing the compressed material from the box into the spout.

Small levers 59 are pivoted to the corner portions of the top assembly T and are guided by the guides 60 so that by moving these levers 59 outwardly into engagement with the upper edges of the box body the top assembly will be supported at the top of the body.

Thus it will be seen that with this apparatus the ticking or cover of the mattress can be formed with one end left open and the cover member placed over the spout and held in position by the rollers 18 as shown in Figure 1. Then the filling material is blown into the body through the hose 7 and coupling 6 while the top member is in raised position and the head of the plunger is in the chamber 9. Then the top assembly is lowered by means of the lever arrangement to compress the filling material to a point where practically all the material is opposite the opening into the spout. Then the front sections of the top and bottom members are moved to positions where they will be substantially in alignment with the rear members so that the plunger can force the packed material into the spout and as it enters the spout and leaves the same it will force the cover member therefrom and, of course, the filling material will enter the cover member to fill the same.

I provide a sliding door supported for vertical movement for closing the inner end of the spout, said door being shown at 61 in Figure 14 and being raised and lowered by means of a hand lever 62 connected to a projection 63 on the door by a link 64, see Figure 4.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts provided that such changes fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A mattress filling machine comprising a box-like body, a downwardly bowed bottom member for the body, a vertically movable top member upwardly bowed, means for introducing filling material into the body, a spout connected with one end of the body adjacent the lower end thereof, said spout being of substantially oval-shape in cross section, plunger means for forcing the filling material from the body into the spout, said spout being adapted to have placed thereover a cover member having one end open, manually operated means for lowering the front portion of the top member and manually operated means for raising the front portion of the bottom member after the material has been compressed between the top and bottom members, to facilitate entrance of the pressed material into the spout, lever means for raising and lowering the top member and a door for controlling communication between the body and the spout.

2. A mattress filling machine comprising a box-like body, a downwardly bowed bottom member for the body, a vertically movable top member upwardly bowed, means for blowing filling material into the body, a spout connected with one end of the body adjacent the lower end thereof, said spout being of substantially oval-shape in cross section, plunger means for forcing the filling material from the body into the spout, said spout being adapted to have placed

thereover a cover member having one end open, lever means for raising and lowering the top member, a door for controlling communication between the body and the spout, a small chamber at that end of the body opposite the spout for receiving the plunger head while the body is being filled, each of the top and bottom members including transversely extending sections, means for hingedly supporting the front section of each member and lever means for raising and lowering each hinge section.

3. A mattress filling machine comprising a box-like body, a spout connected with one end thereof adjacent the lower end thereof, said spout being adapted to have a cover member placed over the same with one end open, a small chamber at the opposite end of the body, a plunger means including a head normally lying in the chamber, means for moving the plunger means through the body and to the spout to force filling material in the body through the spout into the cover member, means for blowing filling material into the body, a bottom member including front and rear portions transversely bowed downwardly, the front portion being hingedly connected for vertical swinging movement, means for adjusting said front member, a top member, lever means for raising and lowering the same and into and out of the body, said top member including front and rear sections, means for moving the front section vertically and said top member being bowed transversely upwardly and said spout member being of substantial oval shape in cross section.

JOE CALVIN ADAMS.