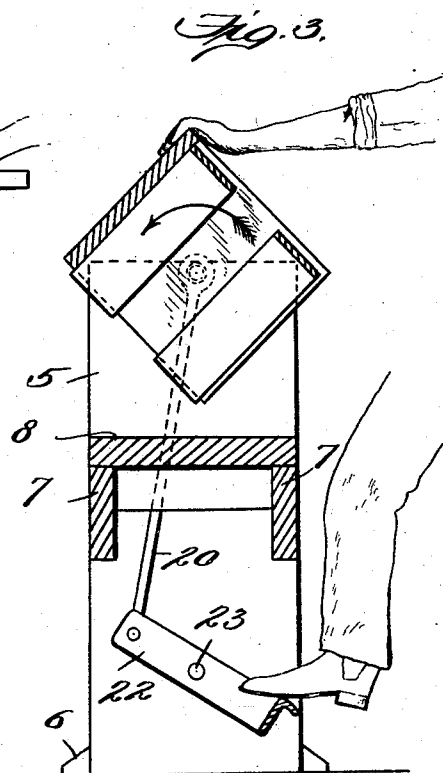
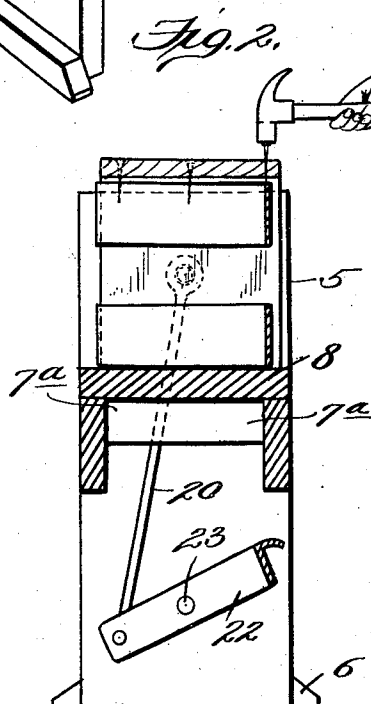


992,580.

2 SHEETS--SHEET 1.



Witnesses:
E. H. Kessler.
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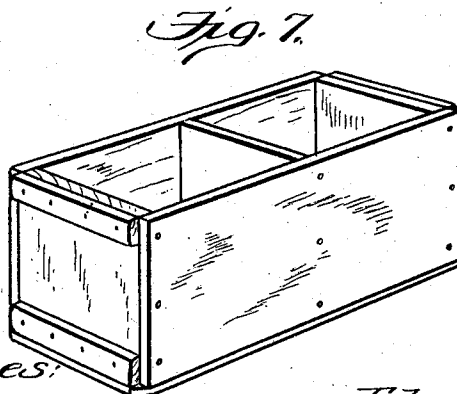
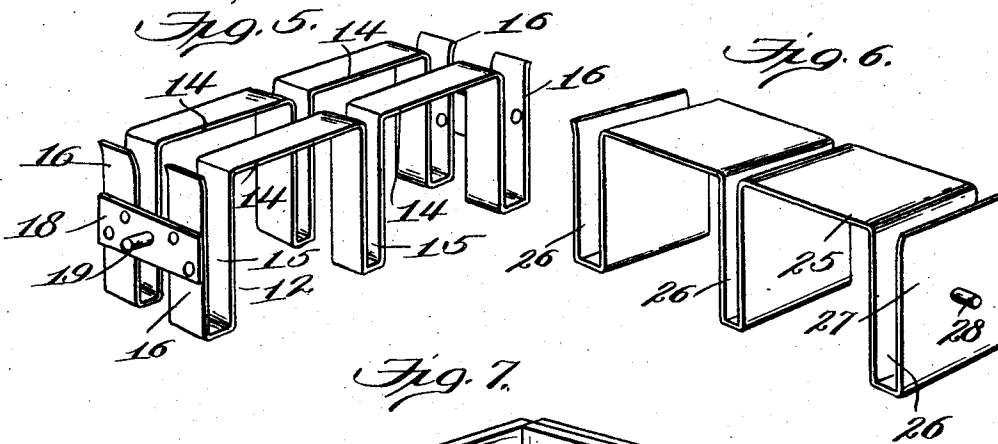
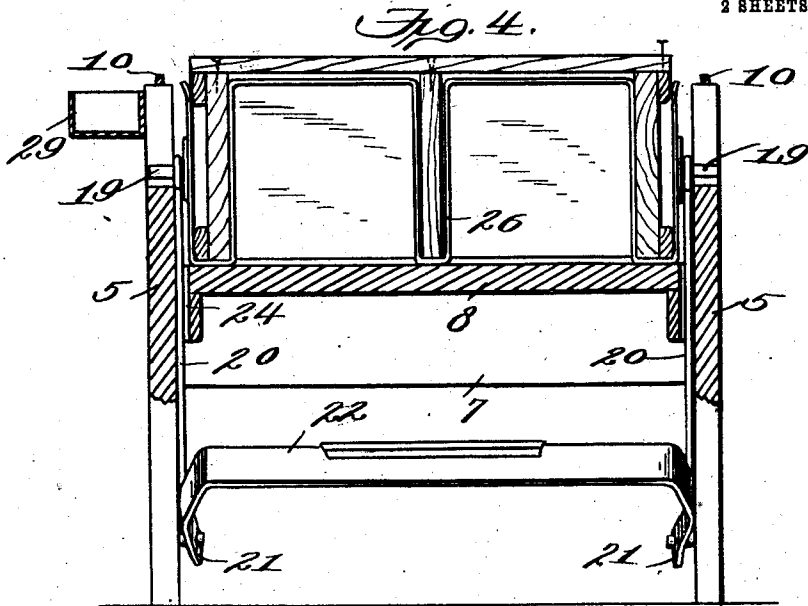
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CRATE OR BOX FORMING MACHINE.
APPLICATION FILED JULY 26, 1910.

992,580.

Patented May 16, 1911.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

EDUARD NITSCHMANN, OF FLATONIA, TEXAS.

CRATE OR BOX FORMING MACHINE.

992,580.

Specification of Letters Patent.

Patented May 16, 1911.

Application filed July 26, 1910. Serial No. 573,871.

To all whom it may concern:

Be it known that I, EDUARD NITSCHMANN, a citizen of the United States, residing at Flatonia, in the county of Fayette and State of Texas, have invented new and useful Improvements in Crate or Box Forming Machines, of which the following is a specification.

This invention relates to crate or box forming machines, and the primary object of the same is to provide a simple and effective machine for assembling and holding the ends, or the ends and intermediate partition of crates or boxes in convenient and reliable position for expeditious application thereto of the side and bottom members of the crate or box in a true and positive manner.

With these and other objects and advantages in view, the invention consists in the construction and arrangement of the several parts which will be more fully hereinafter described and claimed.

In the drawings: Figure 1 is a perspective view of a machine embodying the features of the invention. Fig. 2 is a transverse vertical section showing the manner of applying one side of the crate or box to the ends and intermediate partition held by a part of the machine. Fig. 3 is a view similar to Fig. 2 showing the partially completed crate or box being turned to bring the bottom portion in position for application of the bottom thereto. Fig. 4 is a sectional elevation of the machine. Fig. 5 is a detail perspective view of one form of holder for the box members. Fig. 6 is a detail perspective view of a modified form of holder. Fig. 7 is a perspective view of a crate or box of one form that may be made on the machine.

The numeral 5 designates end uprights having strips or feet 6 secured to the outer portions of the lower ends thereof, the uprights being connected by side strips or ties 7 on which is mounted and secured a bed plate 8. Between the ends of the strips 7, cross-supports 7^a are interposed and secured and serve as auxiliaries for firmly and rigidly holding the bed plate 8 in unyielding position. The strips or ties 7, cross-supports 7^a and bed plate 8 form a strong and durable supporting structure against which portions of the crate or box being formed are brought to bear during the operation of securing the several members of the crate or box, as for instance, by nails or analogous

fastenings. The uprights 5 extend a considerable distance above the bed plate 8 and at the center of the upper extremity of each upright a vertical slot 9 is formed which opens outwardly through the upper end of the upright, and to strengthen the said upper end of the upright and also to provide a stop means a staple or analogous device 10 is driven into the upper end edge 11 of each upright over the slot 9.

Between the uprights 5 above the bed plate 8 a holder 12 is movably mounted, and as shown by Figs. 1, 2, 3, 4 and 5 said holder consists of metal strips 13 alternately bent to form loops 14 and recesses or seats 15, the extremities 16 of the strips providing the outer walls of the outermost seats and flared outwardly at their ends as at 17 to permit ready insertion of the crate or box ends in the outermost seats. The extremities 16 at the ends of each strip are connected by cross-strips 18 at the transverse centers, said cross-strips being preferably riveted to the extremities 16 of the two strips of which the holder is composed. Projecting outwardly from the centers of the cross-strips 18 are trunnions 19, one at each end of the holder, the said trunnions 19 being movably mounted in the slots 9 and having a rising and falling movement imparted thereto through the medium of connecting rods or links 20 loosely engaging the same and also attached to the rear portions or rearwardly directed ends 21 of a treadle 22 fulcrumed as at 23 between the lower portions of the uprights 5. The connecting rods or links 20 are freely movable through openings or slots 24 formed in the supports 7^a and ends of the bed plate 8. When the holder 12 rests on the bed plate 8 the rear portion of the treadle 22 is depressed and the front portion of said treadle is elevated, and by depressing the front portion of the treadle the rods or links 20 are forced upwardly and correspondingly move or elevate the holder 12, a full depression of the front portion of the treadle causing the holder to be elevated above the bed plate 8 to clear the latter during turning movements of the holder and parts of the crate or box carried thereby.

Instead of forming the holder 12 of two strips of metal, one piece of sheet metal may be bent similarly to the strips to provide loops 25, seats 26 and extremities 27 forming the outer walls of the outer seats 26. The free ends of the extremities 27 are

flared or bent outwardly similarly to the ends of the strips shown by Fig. 5 and for a like purpose, and projecting centrally from each extremity 27 is a trunnion 28, as clearly shown by Fig. 6. A nail or staple holding box or tray 29 is secured to the upper outer portion of one upright 5 for convenience of the operator in reaching nails or staples for fastening the members of the crate or box.

Either of the holders shown in detail by Figs. 5 and 6 may be used in the machine, and a box with closed sides and bottom or with slatted sides and bottom may be formed on the machine. It will also be understood that the dimensions of the holder may be varied to form crates or boxes either of small sizes or of large dimensions. In some instances, crates or boxes may be formed on the machine without the intermediate partition as shown by Fig. 7, though for general shipping purposes it is preferred that the partitioned crate or box be constructed.

In the operation of the machine the ends of the crate or box are inserted in the outermost seats of the holder, as 15 or 26, and when the partition is used the same is inserted in the intermediate seat, the holder preferably being in the position shown by Fig. 1 when the ends and partition are placed therein. The operator then applies the one side of the crate or box as shown by Fig. 2 by nailing or otherwise securing the same to the ends and partition, and the front portion of the treadle is then depressed to raise the holder with the parts of the crate or box sufficiently to turn the said holder to bring the bottom portion of the box uppermost, and when the holder has thus been positioned it is again lowered so as to rest on the bed plate 8 and the bottom is secured in place. After the bottom is secured as just explained, the holder with the parts of the box thus far assembled is again raised by operating the treadle 22 and the holder overturned so as to bring the remaining uncovered side portion of the box uppermost for the application of the side which is nailed to the ends and partition, and finally the holder is elevated and turned preferably to bring the bottom of the box uppermost to permit the completed box to be lifted or withdrawn from the holder.

The foregoing operation has been found convenient in expeditiously constructing crates or boxes on the machine, but it will be understood that this precise operation need not be carried out as different operators may select various methods or prefer to adopt movements of the holder other than those hereinbefore described.

The machine will be found exceptionally advantageous in the assemblage of the parts of crates or boxes and as the parts thereof are comparatively simple and few in number the cost of manufacture of the same is reduced to a minimum.

What is claimed is:

1. In a machine of the class described, the combination of a fixed bed, a rotatable holder for the parts of crates or boxes of integral structure from end to end and provided with reversely projecting members with spaces therebetween to serve as supporting means for the sides, ends, and partition of a crate or box, and means for elevating said holder relatively to the bed to bring the different portions of the holder and the parts of crates or boxes carried thereby in uppermost position.

2. In a machine of the class described, the combination of a fixed bed, a rotatable holder having seats to receive parts of crates or boxes and normally resting on the bed, the said holder consisting of a continuous piece of metal bent in reverse directions to form supports for the sides, ends and partitions of crates or boxes, and means for elevating the holder to clear the bed during rotary movements thereof.

3. In a machine of the class described, the combination of uprights, a bed fixed to said uprights, a holder to receive parts of crates or boxes and consisting of a bent strip of metal provided with end and intermediate seats and end trunnions vertically movable and rotatable in the upper portions of the uprights, the free extremities of the opposite end members of the holder being flared outwardly, and means for elevating the holder relatively to the bed.

4. In a machine of the class described, the combination with end uprights, of a bed rigidly held by the uprights below the upper ends of the latter, a rotatable holder for receiving parts of the crates or boxes and consisting of a continuous strip of metal bent in reverse directions to form supports and seats for the sides, ends and partitions of crates or boxes, the spaces between the bends for the seats being narrower than the bends for the supports, the said holder disposed between the upper extremities of the uprights and normally resting on the bed, and means for elevating the holder relatively to the bed to permit the holder to be rotated.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EDUARD NITSCHMANN.

Witnesses:

WM. STEIN,

E. F. KUBALA.