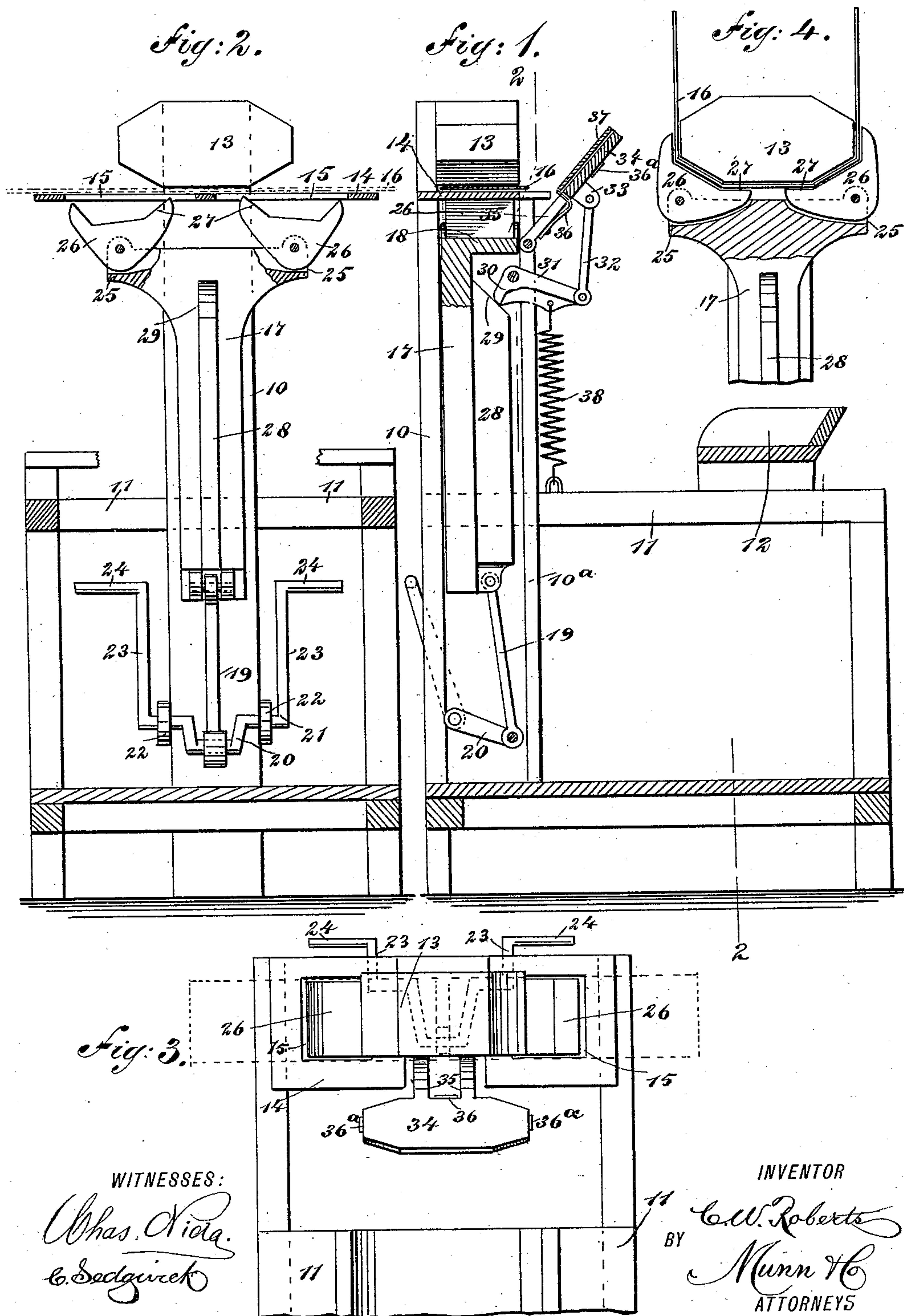


(No Model.)

C. W. ROBERTS.
BOX MACHINE.

No. 487,967.

Patented Dec. 13, 1892.



WITNESSES:

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CHARLES W. ROBERTS, OF LAWRENCE, KANSAS.

BOX-MACHINE.

SPECIFICATION forming part of Letters Patent No. 487,967, dated December 13, 1892.

Application filed August 4, 1891. Serial No. 401,669. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. ROBERTS, of Lawrence, in the county of Douglas and State of Kansas, have invented a new and Improved Box-Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in machines which are adapted to make light boxes, such as berry-boxes, which are usually formed of wood veneers, paper-board, or similar light material.

The object of my invention is to produce a simple machine by means of which the box-blanks may be rapidly and accurately shaped and held in place until they are fastened by nails or otherwise.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a vertical side elevation of the machine partly in section. Fig. 2 is a sectional elevation on the line 2 2 in Fig. 1. Fig. 3 is a broken plan view of the machine, and Fig. 4 is a broken detail view showing the position of the jaws when the box-blank is folded around the form.

The machine is provided with a vertical post 10, which is mounted on one side of a suitable framework 11, and this framework supports a seat 12, which is arranged in front of and adjacent to the post, so that the operator may sit thereon to operate the machine. At the upper end of the post 10 and on the front side thereof is secured a form 13, which gives shape to the box-blank and which is made to correspond with the shape of the box to be formed. Beneath the form is a shelf 14, having slots 15 therein to permit the passage of the forming-jaws, and the shelf is adapted to support the blank 16, which forms the sides of the box. The shelf is supported partly on the post and partly on a supplementary post 10^a, and this latter post is parallel with the main post and serves as a guide for the sliding head 17, which moves on the front side of the post 10 and which is widened at its top, as shown at 18. This sliding head

has pivoted to its lower end a downwardly-extending connecting-rod 19, the lower end of which is mounted on a crank 20, produced centrally on the shaft 21, which shaft is mounted in suitable bearings and has upwardly and rearwardly extending cranks 23 at the ends, and the cranks terminate in pedals 24, upon which the operator places his feet when working the machine, and it will be noticed that the cranks 23, the shaft 21, and the crank 20 form practically a double bell-crank, and by pushing outward on the pedals 24 the crank 20 and the sliding head 17 connected therewith are raised.

The sliding head 17 is widened at the top, as described, and pivoted in recesses 25 on opposite sides of this widened portion are the jaws 26, which are of an approximately-triangular shape and which are recessed on the upper side, so that when raised they will fit the ends of the form 13, and that they may be certain to come to place they have flattened faces 27, which are adapted to strike against the bottom portion of the form and thus guide the jaws.

On the front side of the sliding head 17 is a block 28, which is inclined at its upper end, as shown at 29, and this inclined portion bears against a toe 30 on the lever 31, which lever projects forward and connects by means of a connecting-rod 32 with ears 33 on the front side of the swinging bottom plate 34, which plate is shaped to fit the bottom of the box, is supported on the pivoted arms 35, and is provided with a spring guide-latch 36 at the bottom, which is adapted to support the box-bottom 37. The bottom plate 34 is hung in such a manner that it will swing against the front of the form 13, and it is provided with end guides 36^a, substantially like the guide 36 described above; but in lieu of these guides any suitable guide may be used which will hold the bottom 37 in place. A spiral spring 38 connects the lever 31 with the frame 11 beneath, and serves to return the parts to their normal position after the machine has been operated.

To operate the machine, the blank from which the box is to be formed is placed upon the shelf 14, and to facilitate the easy working of the blank it may be scored at the corners. The box-bottom 37 is placed upon the

bottom plate 34 and the operator presses outward with one or both feet on one or both pedals 24, thus raising the sliding head 17 in the manner described, and when this head 5 moves upward the faces 27 of the jaws 26 strike against the bottom portion of the form 13, or rather against that portion of the box-blank which is immediately beneath the form, and the outer portions of the jaws swing upward and clamp the box-blank around the 10 bottom and end portions of the form, as shown in Fig. 4. When the sliding head moves up to take the sides of the box, as described, the inclined face 29 of the block 28 strikes the 15 toe 30 of the lever 31, thus raising the outer end of the lever, and by means of the rod 32 swinging the plate 34 against the front of the form 13, thus bringing the bottom 37 into the correct position. The operator then folds 20 down the upper end of the blank 16 and nails the box. He then removes his feet from the pedals and the spring 28 returns the parts to to their normal position.

Having thus fully described my invention, 25 I claim as new and desire to secure by Letters Patent—

1. In a box-machine, the combination, with a suitable support, of a stationary form on the same, vertically movable and pivoted jaws 30 below the form, a pivoted bottom plate, and means for simultaneously operating the bottom plate and jaws, substantially as set forth.

2. In a box-machine, the combination, with a frame and a stationary form on the frame, of a reciprocating head below the form, jaws 35 adapted to embrace the form pivoted to the head, a bottom plate pivoted to the frame and adapted to swing against the form, and means for operating the bottom plate from the reciprocating head, substantially as described. 40

3. In a box-machine, the combination, with a frame and a stationary form on the frame, of vertically movable and pivoted jaws below the form and shaped to embrace the same, a 45 bottom plate pivoted to the frame, a lever pivoted to the frame and adapted to be engaged by the support of the jaws, and a rod or link pivoted to the plate and lever, substantially as described.

4. In a box-machine, the combination, with 50 a frame and a stationary form on the frame, of a reciprocating head below the form and provided with a block having a beveled upper end, jaws shaped to embrace the form pivoted to the head, a lever pivoted to the frame 55 and having one end engaging the beveled end of said block, a rod or link pivoted to the bottom plate and lever, and a spring secured to the frame and lever, substantially as herein shown and described.

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Witnesses:

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