No. 629,783. Patented Aug. 1, 1899.

E. FANNING.

BOX MACHINE.

(Application filed Mar. 4, 1899.)

(No Model.)

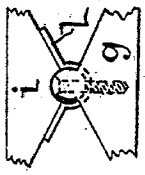


FIG. 5.

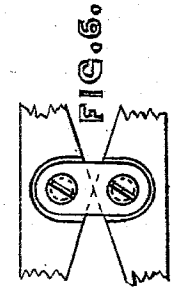


FIG. 6.



FIG. 7.

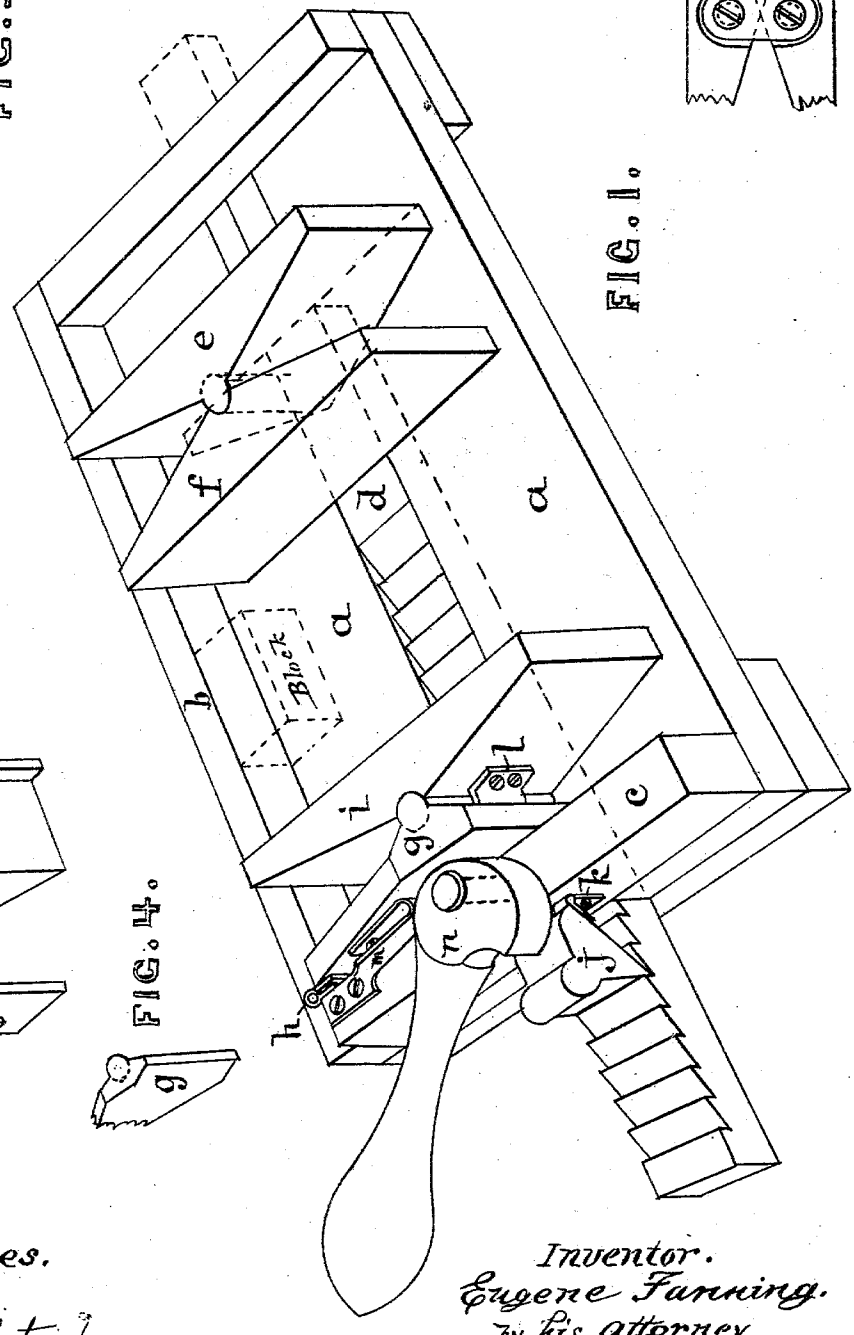


FIG. 1.

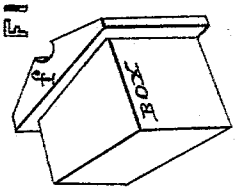


FIG. 3.

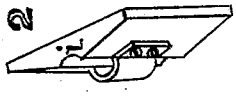


FIG. 2.

FIG. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

EUGENE FANNING, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND FRANK FANNING, OF SAME PLACE, AND THOMAS H. KEENAN, OF BOSTON, MASSACHUSETTS.

BOX-MACHINE.

SPECIFICATION forming part of Letters Patent No. 629,783, dated August 1, 1899.

Application filed March 4, 1899. Serial No. 707,815. (No model.)

To all whom it may concern:

Be it known that I, EUGENE FANNING, a citizen of the United States, residing in the city of Newton, county of Middlesex, and State of Massachusetts, have invented a new and useful Box-Machine, of which the following is a full and exact description, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

My invention relates to improvements in machines for pressing the cemented or pasted seams or joints in paper and other boxes and holding them in proper form while the paste or other adhesive substance is setting or becoming fixed, the objects in view being to render the pressing-plates freely self-adjusting with reference to the required form of the box operated upon whether the surfaces are required to be parallel or convergent in taper form, to render the parts easily adjustable in other respects, and to make the machine convenient for operating expeditiously, inexpensively, and effectively.

The mechanism for accomplishing the objects stated is illustrated in the accompanying drawings.

Figure 1 is a perspective view of the complete machine. Fig. 2, on a smaller scale, is also a perspective view of part *i* of one of the pivoted or hinged compression-plates; Fig. 3, a similar view of an opposing similar plate and a box in operative relation; Fig. 4, similarly the hinged pressure plate or head *g*, to which pressure-plate *i* is hinged or pivoted. Fig. 5 shows in part plan both parts *g* and *i* and hinge part Z. Fig. 6 illustrates one of the many forms which may be used in the hinging or pivoting of the pressure plates and heads. Fig. 7 is an elevation of hinged pressure-head *g* inverted.

Like letters refer to the same or corresponding parts in all the figures.

The base of the machine is marked *a a* and on the left is provided with the side guide *b*. When this side guide needs to act nearer the middle of the machine, a loose block may be used, as indicated by the dotted lines marked "Block." A head-block *c* at the left provides support for cam *n* and for hinge *h*, retracting-spring *m*, and pawl *j*, hinged at *k*. An open slot or race is provided lengthwise in the middle of the base, which contains and forms a guide for the ratchet-slide *d*. To the end of this slide is firmly fixed the abutment or pressure head *e*, and to this is pivoted the pressure-plate *f*. A pawl *j* is provided to mesh in the ratchet-slide *d*. This pawl is hinged or pivoted to head-block *c*. The slide may be elongated for a guide. (See dotted lines.) Opposed to pressure-plate *f* and pivoted to pressure-head *g* is the pressure-plate *i*.

The pressure-head *g* is hinged or freely jointed at *h* to the head-block *c*. A spring *m* of any suitable construction is applied between pressure-head *g* and the head-block *c* and operates to keep the pressure-head *g* in contact with cam *n*, so that when the cam is operated on its return stroke the head *g* and plate *i* will return simultaneously. Any other suitable connection to the cam may be used to cause this return of the pressure-plate *i* coincidently with the return movement of the cam after pressure is relieved. The cam *n* is journaled to the head-block *c*, so that when the cam-handle is drawn forward it throws forward the pressure-head *g* and the plate *i*, so as to apply the requisite pressure upon a box placed between the pressure-plates *i* and *f*, and these plates, by reason of their central pivots, will readily adjust themselves to the different angles which may be adopted for different boxes. An illustration appears in Figs. 2 and 3. A former-block having the required angles for the box is usually placed inside the box when the pressure is applied and insures the proper angles required being formed by the self-adjusting pressure-plates *i* and *f*.

The ratchet-slide *d* and intermeshing pawl *j* serve to adjust plates *i* and *f* to any required distance apart for different sizes of boxes.

In operating the improved machine the box to be given its final form has the cement or paste applied to the laps or seams and is adjusted upon a form-block and placed between the plates *i* and *f*. Then the plate *f* and slide *d* are brought backward till the plates and

box are in contact, when the pawl *j* engages and holds the slide *d* and thereby the head *e* and plate *f*. Then on drawing forward the cam-arm the required compression is produced and retained until the cam is thrown in reverse direction. The parts may be mostly of wood, or the whole may be of metal, if preferred. The preferred form of pivot for the plates is shown in Figs. 1 and 5, but various others may be used.

What I claim, and desire to secure by Letters Patent, is as follows:

1. The improved box-machine constructed with a bed carrying a detent-pawl and in a guiding "way" the slide-ratchet having the pivoted-together angular-backed and flat-faced press-plates, the opposed similar press-plates hinged to the bed and provided with the impelling-cam and retractor-spring substantially as shown and described.

2. In a box-machine the flat-faced double-angle back pivoted-together pairs of pressure-plates in combination with the slide-ratchet and pawl for one, and the hinged extension, cam and spring for the other, substantially as shown and described.

3. In a box-machine the combination of a bed, a ratchet-slide guided therein, its detent-pawl, said slide having a double-plate pressure-head formed of two flat-faced double-angle-backed press-plates pivoted together at the ridge formed by the intersection of said back angles and a similar double head swinging by a hinge on said bed, and an operating-cam and retractor-spring for said head, substantially as shown and described.

4. In a box-machine a bed, its side guide, slide-ratchet having the described double head and detent-pawl in combination with the similar double head swinging from a hinge on said bed, its operating-cam and retractor-spring, substantially as shown and described.

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