C. W. BUTTERFIELD.

MACHINE FOR FACILITATING THE SEALING OF PACKAGE CASES.

APPLICATION FILED JUNE 7, 1910. RENEWED APR. 27, 1911.

996,563. Patented June 27, 1911.

Fig. 1.

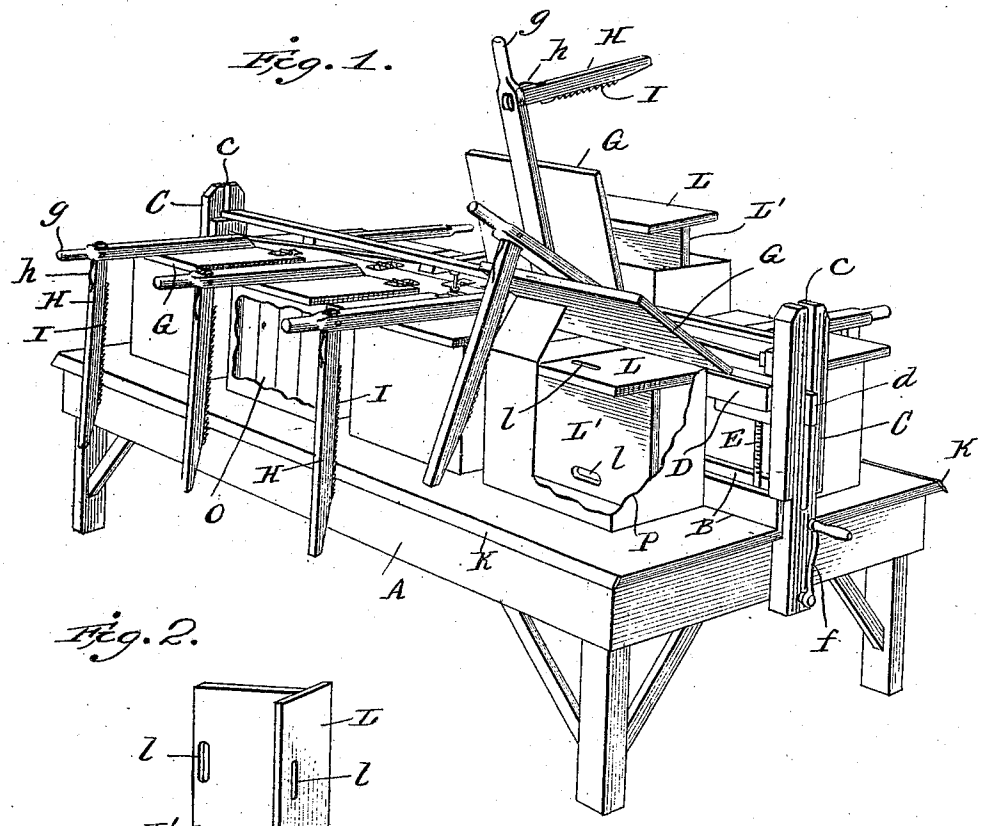


Fig. 2.

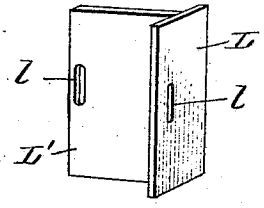
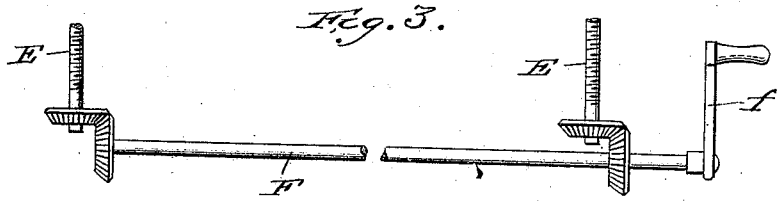


Fig. 3.



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MACHINE FOR FACILITATING THE SEALING OF PACKAGE-CASES.

996,563. Specification of Letters Patent. Patented June 27, 1911.

Application filed June 7, 1910, Serial No. 565,522. Renewed April 27, 1911. Serial No. 623,642.

To all whom it may concern:

Be it known that I, CHARLES W. BUTTERFIELD, a citizen of the United States, residing at Bellows Falls, Windham county, in the State of Vermont, have invented certain new and useful Improvements in Machines for Facilitating the Sealing of Package-Cases; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

The object of the present invention is to provide an apparatus for facilitating the sealing of the bottom and top flaps of corrugated and fiber cases such as are employed for containing package goods, such as bottles or cans of olive oil, or other commodities.

A further object of the invention is to provide an apparatus which may be readily adjusted and adapted for use in sealing cases of varying size and shape.

The invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described and pointed out particularly in the appended claims.

Referring to the accompanying drawings—Figure 1 is a perspective view of an apparatus embodying the present improvements, portions of some of the cases shown in connection therewith, being broken away to illustrate more clearly the operation of the apparatus. Fig. 2 is a detail perspective view of one of the internal forms employed for supporting the flaps while being sealed. Fig. 3 is a diagrammatic detail, illustrating the means for adjusting the clamping members for coöperation with package cases of different sizes.

Like letters of reference indicate the same parts in all of the figures.

The apparatus of the present invention embodies a relatively low table or bench-like support A for the package cases and in the preferred form of machine illustrated in Fig. 1 the said table or support is made double or of sufficient width to support two rows of cases, one row being located on each side of a central division having upright case positioning walls B and end standards C. The end standards C form guideways for a truss frame or clamp carrier D, said clamp carrier being guided by end tongues *d* working in vertical slots or ways *c* in the standards. The frame or carrier D is adapted to be held in its adjusted position vertically of the standards by any suitable means of well-known character and the retaining means may conveniently be the means whereby it may be adjusted in parallelism with the table or bench. As shown, it is mounted on vertically arranged adjusting screws E located at each end of the table and adapted to be simultaneously rotated by beveled gear connection with a horizontal shaft F, to one end of which a crank handle *f* may be applied as shown in Figs. 1 and 3.

A series of clamping members G are pivotally attached at one edge to the frame or carrier D, preferably by hinge connections which will permit of their being separated for the substitution of different sized or shaped clamping members and each clamping member embodies a handle or projecting part *g*, whereby the clamp may be raised or lowered, as desired. In addition, each clamp embodies a means whereby it may be held down in its operative or clamping position, such means conveniently embodying a downwardly extending latch H adapted to be advanced by a spring *h* and having on its inner face a toothed edge or bar I, the teeth of which coöperate with a catch or tooth on the edge of the table or bench. The tooth or catch member with which the latch on the clamp engages may be conveniently formed by a metal bar K secured in slightly inclined position along the edge of the table or bench, thus serving as the means for retaining the latches of all the clamps on one side of the apparatus.

It will be understood, of course, that where the machine is made double or adapted to handle two rows of cases the parts will be duplicated on opposite sides and the number of clamping members employed is preferably sufficient to enable an operator to work continuously without having to wait for the sealing medium to dry, as will be presently explained.

For the purpose of supporting the end flaps of the cases before the packages are placed therein, internal forms are provided, preferably of the shape and construction illustrated in Fig. 2 wherein it will be seen that each form embodies a platen like face L upon which the end flaps may rest and a web L′ which is of a proper width to correspond to the internal depth of the case being

sealed. This form is conveniently provided with hand holes 7 to facilitate its insertion and removal in the operation of the apparatus. The package cases which are primarily intended to be handled by the apparatus are of the knock-down type and are formed of corrugated or plain fiber, each case having end flaps which fold in and overlap when the case is set up for use.

In operating with the apparatus, the end flaps at one end of the case are first folded in and the case set on the table or bench with the unfolded flaps uppermost. A form such as is shown in Fig. 2 is then inserted and as shown in Fig. 1 the end flaps folded in. Sealing material such as silicate of soda is then applied to the proximate overlapping faces of the flaps and the clamps are brought down to hold the flaps with the desired pressure until the sealing material sets. The operator proceeding in the manner described and having sealed the flaps of the cases along both sides of the apparatus then releases the clamp of the case first sealed, inverts the case on the table, opens the unsealed flaps, removes the form from the case and inserts the packages to be held by the case. The cases are of proper size to be just filled by the packages and said packages will, therefore, support the end flaps when the latter are folded in and sealing material applied to the overlapping faces. With the packages in place and the flaps folded in, the clamp is then brought down with the desired degree of pressure and the same order of procedure is followed in connection with the next case.

In Fig. 1 at the point indicated by the letter O one of the cases has its side wall broken away to illustrate the position of the packages therein thus, showing the operation of the clamp in sealing the end flaps which are closed after the packages are inserted, while at the point indicated by the letter P one of the packages is shown broken away to illustrate the position of the internal form for supporting the end flaps which are closed and sealed before the packages are inserted.

The provision of a toothed bar or rack on the latches permits of the regulation of the pressure on the end flaps to suit the particular requirements of the case being sealed and, furthermore, does not require any adjustment to properly coöperate with its catch when the supporting bar or frame is adjusted vertically to suit the height of different sized cases.

Obviously, the apparatus may be made to handle corrugated or fiber cases of practically any dimensions, in the particular machine illustrated fiber cases from 4 to 15 inches high and 18 inches long may be conveniently sealed with the greatest facility and cases of greater length may be readily handled by making use of two of the clamps for each case or by substituting longer clamps for those illustrated.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is—

1. In an apparatus for facilitating the sealing of end flaps of package cases, the combination with the case supporting table having a case positioning rear wall and a clamp supporting frame above said wall, of a plurality of clamps pivotally connected with said frame, individual toothed latches for the clamps and means for temporarily supporting the end flaps of the cases while being held by the clamps.

2. In an apparatus such as described, the combination of a table having the end standards thereon, the clamp supporting frame movable vertically in said standards, means for holding said frame in adjusted position, clamps pivotally connected with said frame and extending on opposite sides thereof, and individual latches for holding said clamps in clamping position.

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