

Aug. 23, 1938.

W. S. CLOUD

2,128,076

FOLDING APPARATUS

Filed July 16, 1937

2 Sheets-Sheet 1

Fig. 1.

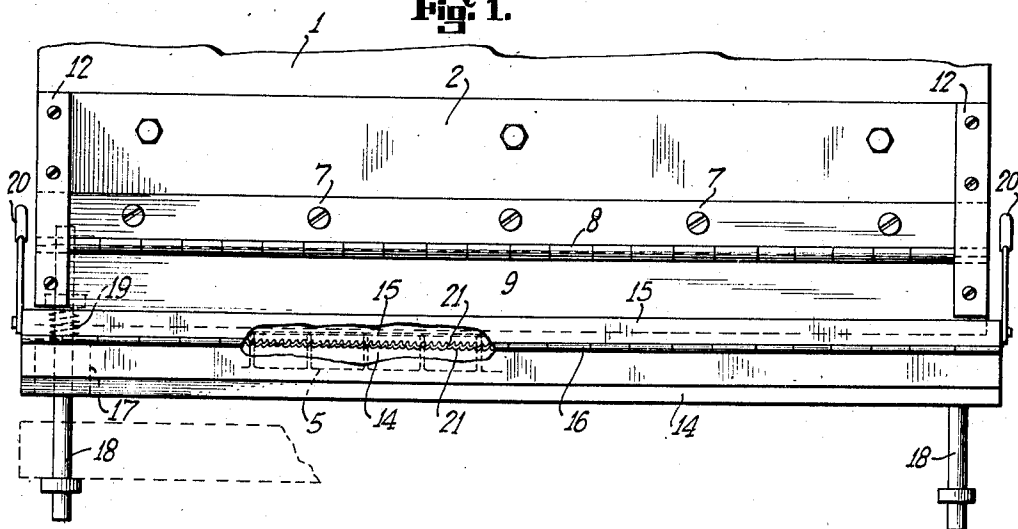
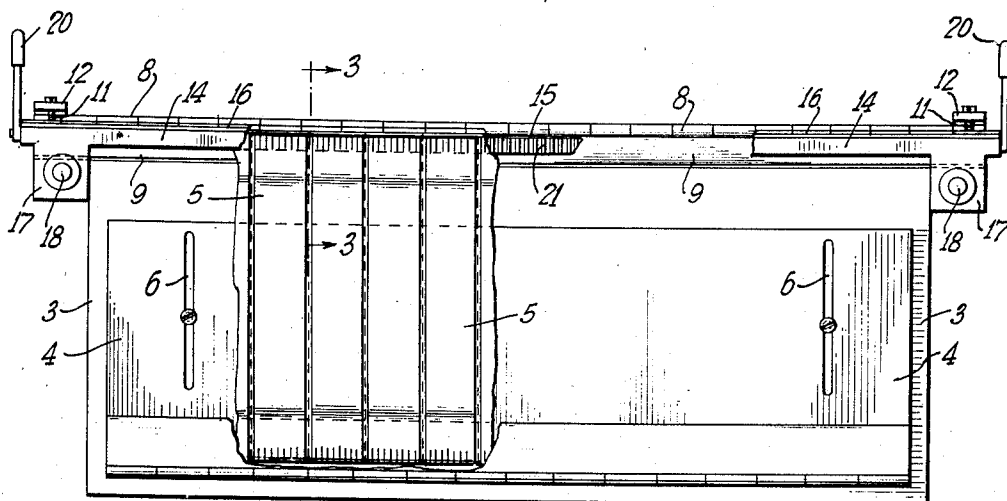


Fig. 2.



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2 Sheets-Sheet 2

Fig. 3.

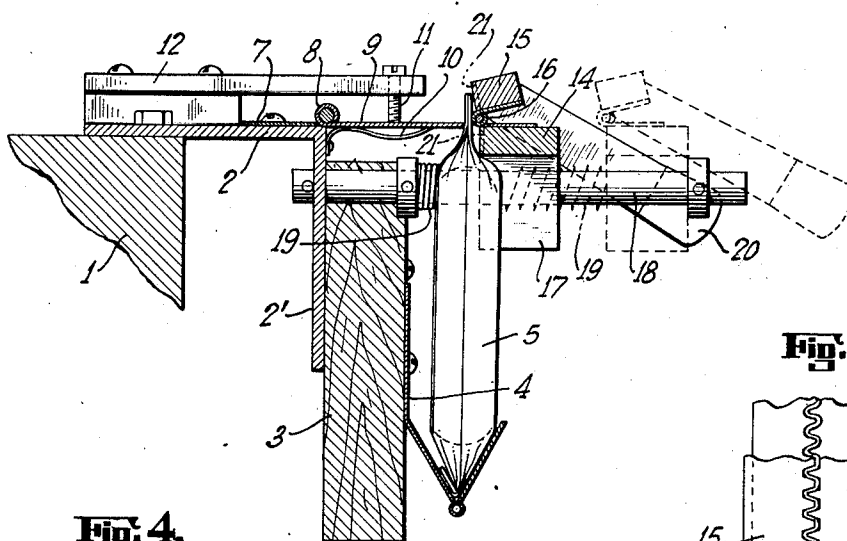


Fig. 4.

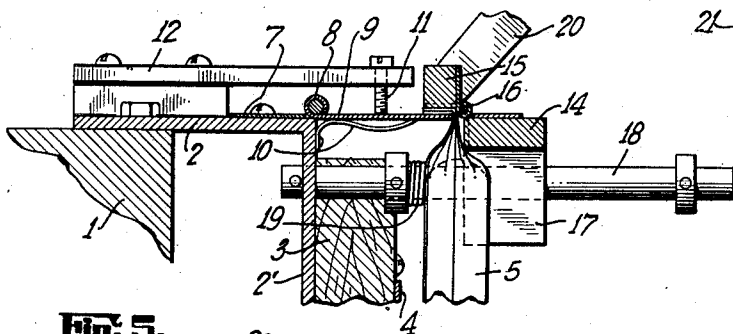


Fig. 5.

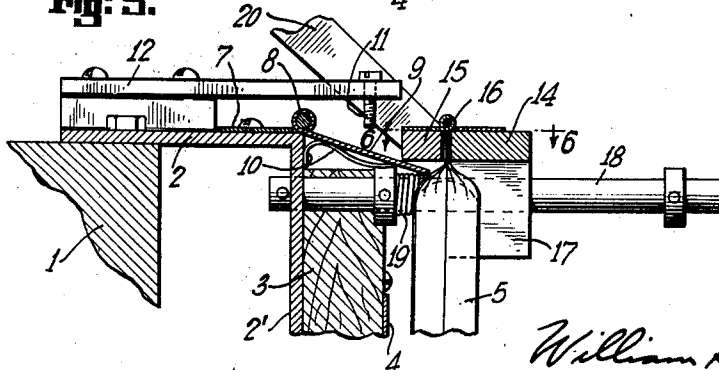
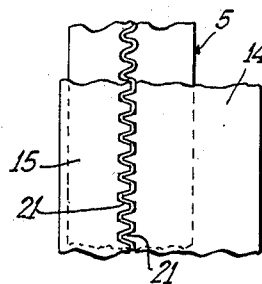


Fig. 6.



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UNITED STATES PATENT OFFICE

2,128,076

FOLDING APPARATUS

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Application July 16, 1937, Serial No. 153,897

4 Claims. (Cl. 226-56)

This invention relates to folding apparatus and particularly to apparatus for folding the ends of paper packages to form a closure therefor.

It is an object of the invention to provide a simple apparatus of inexpensive construction, and suitable for operating upon a plurality of packages simultaneously.

Other objects and advantages of the invention will appear hereinafter.

A preferred embodiment of the invention selected for purposes of illustration is shown in the accompanying drawings, in which,

Figure 1 is a top plan view.

Figure 2 is a front elevation.

Figures 3, 4 and 5 are enlarged sectional views on the line 3-3 of Figure 2, and

Figure 6 is a section on the line 6-6 of Figure 5.

Referring to the drawings, the apparatus may be mounted on any suitable supporting frame 1. Secured thereto is a bracket having a horizontal flange 2 and depending flange 2' to which is secured a transversely extending board 3. Mounted on said board is a holder 4 having a V-shaped bottom portion adapted to receive and support the packages 5 to be folded. Preferably the said holder is adjustable vertically, as by means of slots 6 formed therein, in order that the packages may be folded at the desired position.

Secured to the horizontal flange 2 of the bracket is one leaf 7 of a hinge 8, the other leaf 9 of which extends outwardly therefrom and is urged upwardly by a spring 10 against adjustable stops 11. The said stops 11 are carried on arms 12 secured to the frame.

The folding device proper comprises two horizontal bars 14 and 15 connected by a hinge 16. The bar 14 carries a block 17 at each end thereof of which said blocks are slidably mounted on horizontal rods 18. Coil springs 19 surrounding said rods normally urge said blocks and bars to the position shown in dotted lines in Figure 3.

The bar 15 has a pair of handles 20 secured to its ends by means of which the folding device may be operated as hereinafter explained.

In operation, a row of packages 5 to be folded are placed in the holder 4 in substantially vertical position as illustrated. In the drawings the packages are illustrated as having their lower ends prefolded, and are illustrated as filled ready for the final folding of the open ends, but it will be understood that the apparatus disclosed herein may also be used for making the initial fold if desired. It will also be understood that the packages may be filled, if desired, while supported in the holder 4, and before the final folding operation takes place.

Referring now to Figure 3, when it is desired

to make the fold, the operator grasps the handles 20 and pushes the bars forwardly on the rods 18 until the hinge 16 engages the hinge leaf 9, thus clamping the paper at the ends of the packages between the edge of the hinge leaf 9 and the hinge 16. At this point, the operator swings the handles upwardly, thus causing the bar 15 to swing on the hinge 16 from the position illustrated in Figure 3, through the position illustrated in Figure 4, to the final position illustrated in Figure 5. It will be noted that as the bar 15 swings from the Figure 3 position to the Figure 4 position the paper is held firmly, thus permitting the paper to be creased evenly at the desired position, but as the bar swings from the Figure 4 position to the Figure 5 position the hinge leaf 9 swings downwardly, thus releasing the paper, but not until it is seized between the faces of the bars 14 and 15.

If desired, the faces of the bars 14 and 15 may be provided with mating corrugations 21 which crimp the folded ends of the packages.

It will be understood that the invention may be variously modified and embodied within the scope of the subjoined claims.

I claim as my invention:

1. Folding apparatus comprising a pair of bars, a hinge connecting said bars, a yielding plate having an edge extending parallel to said hinge, means to support said bars for movement toward and away from said plate, and means for swinging one of said bars about said hinge to engage and displace said plate.

2. Folding apparatus comprising a pair of bars, a hinge connecting said bars, a hinged plate having an edge extending parallel to the hinge connecting said bars, an adjustable stop for said plate, a spring urging said plate against said stop, and means to support said bars for movement toward and away from said plate.

3. Folding apparatus comprising a pair of bars, a hinge connecting said bars, a hinged plate having an edge extending parallel to the hinge connecting said bars, an adjustable stop for said plate, a spring urging said plate against said stop, means to support said bars for movement toward and away from said plate, and means for swinging one of said bars about said hinge to engage and displace said plate.

4. Folding apparatus comprising a pair of bars, a hinge connecting said bars, a plate having an edge extending parallel to said hinge, and means for moving said hinge against the edge of said plate and swinging one of said bars into engagement with said plate, said plate being yieldable to permit continued swinging movement of said bar.

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