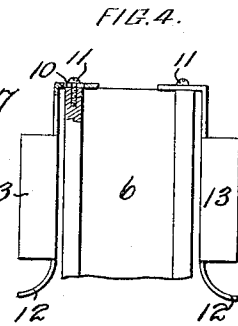
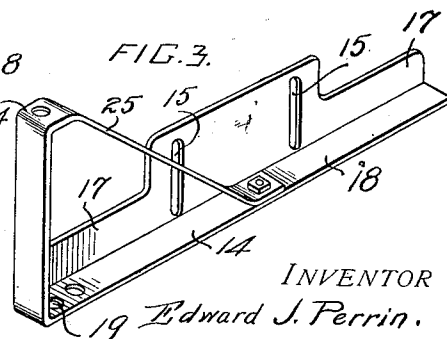
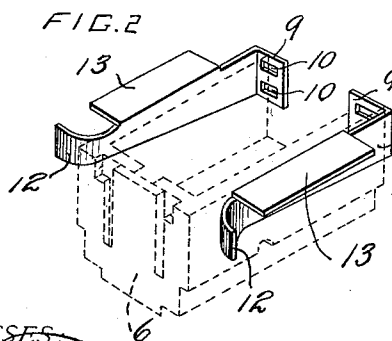
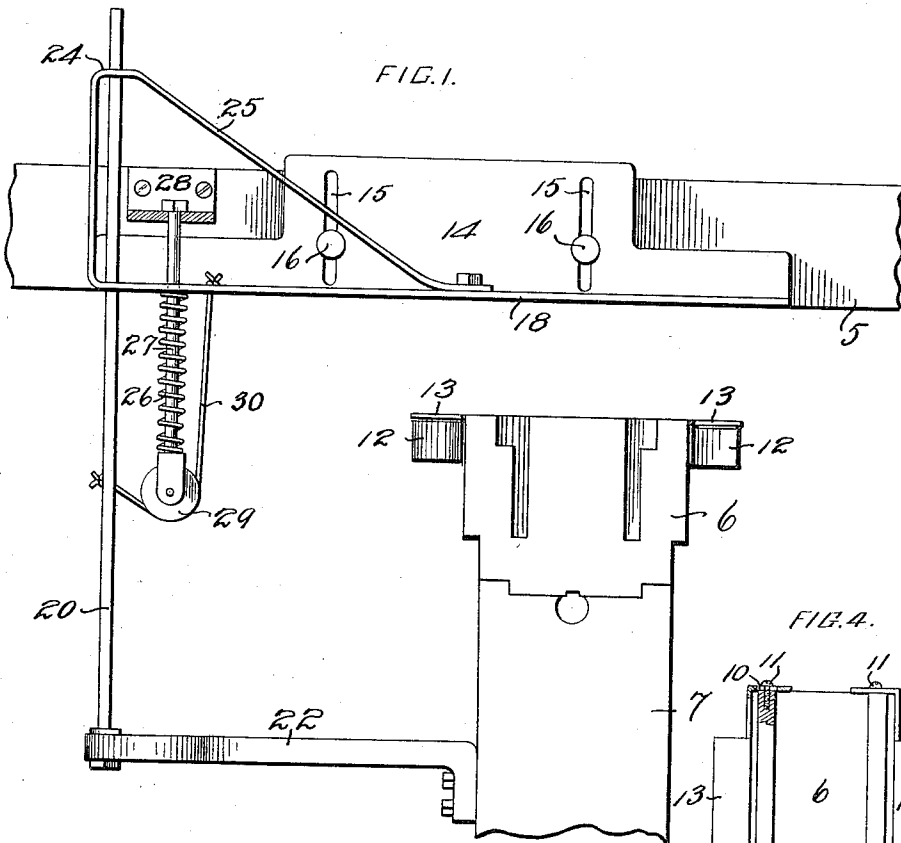


E. J. PERRIN.
 GUARD ATTACHMENT FOR BOX ENDING MACHINES.
 APPLICATION FILED JUNE 15, 1911.

1,009,171.

Patented Nov. 21, 1911.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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GUARD ATTACHMENT FOR BOX-ENDING MACHINES.

1,009,171.

Specification of Letters Patent.

Patented Nov. 21, 1911.

Application filed June 15, 1911. Serial No. 633,365.

To all whom it may concern:

Be it known that I, EDWARD J. PERRIN, a citizen of the United States, residing at Newburyport, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Guard Attachments for Box-Ending Machines, of which the following is a specification.

This invention relates to paper box making machines, and the principal object of the same is to provide a simple safety attachment for protecting the operator's fingers against injury by the box making mechanism.

The invention is particularly designed for use in connection with box enders wherein the operator holds the paper box body on a former block while the former and the header are finishing the ends of the box. In such instances the fingers of the operator hold the sides of the box to the side of the former block, and the thumbs hold the bottom of the box to the front of the block, and therefore the hands are necessarily exposed to the danger of being caught between the former block and the header. This invention aims to prevent this by providing the former block with guards that will guard the fingers, and in providing the header with simple guarding means that will push the thumbs away from the edge of the former block as the said block approaches the header.

A preferred and practical embodiment of the invention is shown in the accompanying drawings, wherein—

Figure 1 is a diagrammatic front view of parts of a paper box ending machine with which the guard attachments are associated.

Fig. 2 is a perspective view showing a former block in dotted lines and the side guards in full lines. Fig. 3 is a detail perspective view of the header guard. Fig. 4 is a detail plan view showing the mounting of the finger guard plates.

In the accompanying drawings enough of a box-ending machine has been shown to illustrate the use of this invention, said machine as shown including a frame that is equipped with the header 5 and with which the former block 6 coöperates, said former block being carried by the reciprocating member 7.

The former block 6, as shown, may be of the usual rectangular shape, and the longi-

tudinal sides thereof adjacent their upper edges, are fitted with the finger guard plates 8 the angular rear ends 9 of which are provided with slots 10 and overlap the vertical rear end edges of the said block and are adjustably fastened thereto by the screws 11. The plates 8 are adjustably fastened to the block 6 so that they can be spaced from the sides thereof far enough to permit the sides of the box to be passed between the block and said plates. The free ends of the plates 8 are outturned, as indicated at 12 to facilitate the placing of work between said plates and the block, and the upper longitudinal edges of said plate are provided with outwardly extending flanges 13.

It will be understood from the foregoing that the sides of the box pass between the plates 8 and the sides of the block 6, and that said plates are located at the upper edge of said block. It will therefore be apparent that to hold the box in the block 6, the fingers of the operator are necessarily below the plates 8 and the flanges 12 prevent the fingers being raised to such a position that would expose them to danger of being caught between the block and the header 5.

A thumb guard plate 14 is equipped with vertical slots 15 through which screws 16 extend to slidably attach said plate to the front edge of the header 5. As shown, the plate 14 has reduced end extensions 17 and the lower longitudinal portion of said plate and extensions are bent outward at right angles to provide a laterally projecting flange 18 having a guide opening 19. An operating rod 20 extends through the opening 19, and its lower end is connected to the free end of an arm 22 that is carried by the reciprocating member 7. The said rod 20 is also slidable through the end 24 of a bracket 25 carried by the plate 14, and the latter is arranged to be normally and yieldably suspended in an out of the way position by means of a retracting spring 26 coiled on an operating rod 27 that is suitably suspended in a fixed position from a bracket or equivalent supporting element 28 on the machine. The lower end of the operating rod 27 carries a guide-pulley 29 over which is arranged a pull cord or equivalent element 30 that is connected at its opposite ends respectively with the plate 14 and with the operating rod 20. By reason of this construction, it will be obvious that as the horn

7 rises, the operating rod 20 also moves upward with the result of exerting a pulling down action on the plate 14 thereby bringing the said plate into protective position over the thumbs of the operator. When the
5 horn with the former block recedes the spring 26 raises the thumb protector to an inoperative position.

While in the foregoing particular stress
10 has been laid on the value of this invention in connection with box-forming machine, it is to be understood that the same is not limited thereto, for it will be readily apparent that the invention can be used in connection
15 with various types of forming and other machines wherein it is advisable to provide means for preventing injury to the operators.

What I claim as my invention is:—

20 1. In a forming machine, the combination with a header and a movable former block, of adjustable finger guard plates carried by the block, a flanged thumb guard plate movably mounted on the header and coöperating with the finger guards to protect the
25 entire hand of the operator, and means for automatically moving the thumb guard plate downwardly.

2. In a forming machine, the combination with a frame, a header carried thereby, and a movable former block, of adjustable finger
30 protecting means carried by the sides of said block, thumb protecting means slidably carried by said header, and mechanism operated by a movement of said block in one
35 direction to impart a shifting movement in an opposite direction to said slidable thumb protecting means.

3. In a forming machine, the combination with a machine header and a movable
40 former block, of finger protecting means carried by said block, a vertically movable thumb protecting plate slidably mounted on the header, a spring arranged to normally hold the thumb protecting plate in an inop-
45 erative position, an operating rod movable with the former block, and a pull connection between the operating rod and said thumb protecting plate.

In testimony whereof I hereunto affix my
signature in the presence of two witnesses. 50

EDWARD J. PERRIN.

Witnesses:

FLORENCE E. WOODWELL,
CHARLES G. PRAY.