Jan. 13, 1953 S. M. JENSEN 2,624,936

CARTON OPENER

Filed Aug. 21, 1950 2 SHEETS—SHEET 1

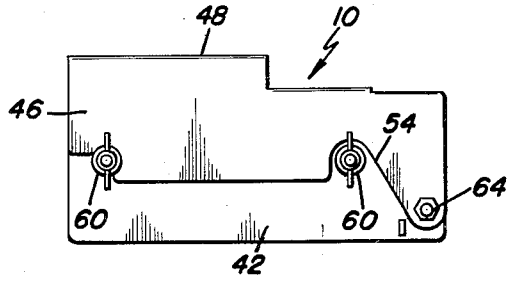


Fig. 1

Fig. 2

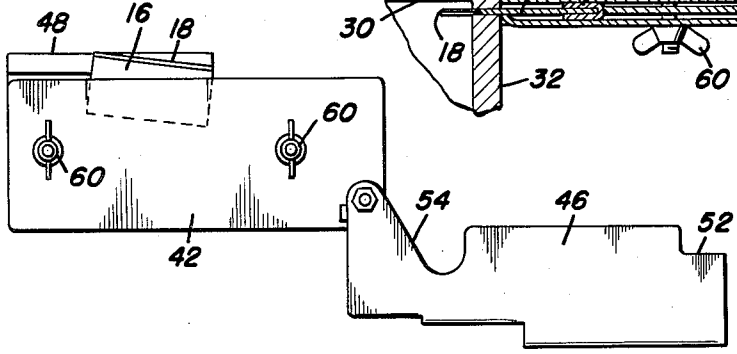


Fig. 3

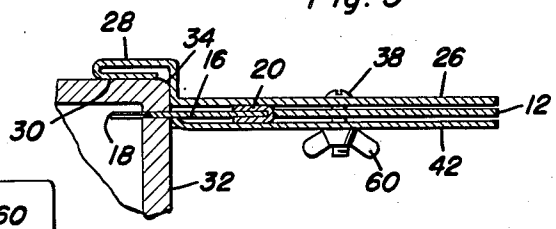
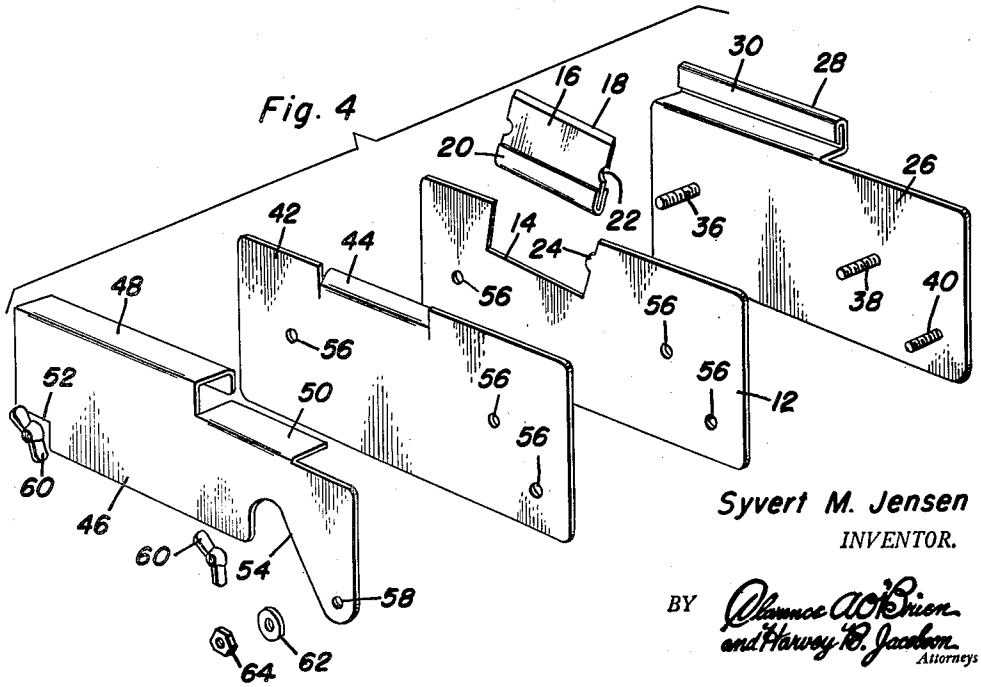


Fig. 4



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Fig. 5

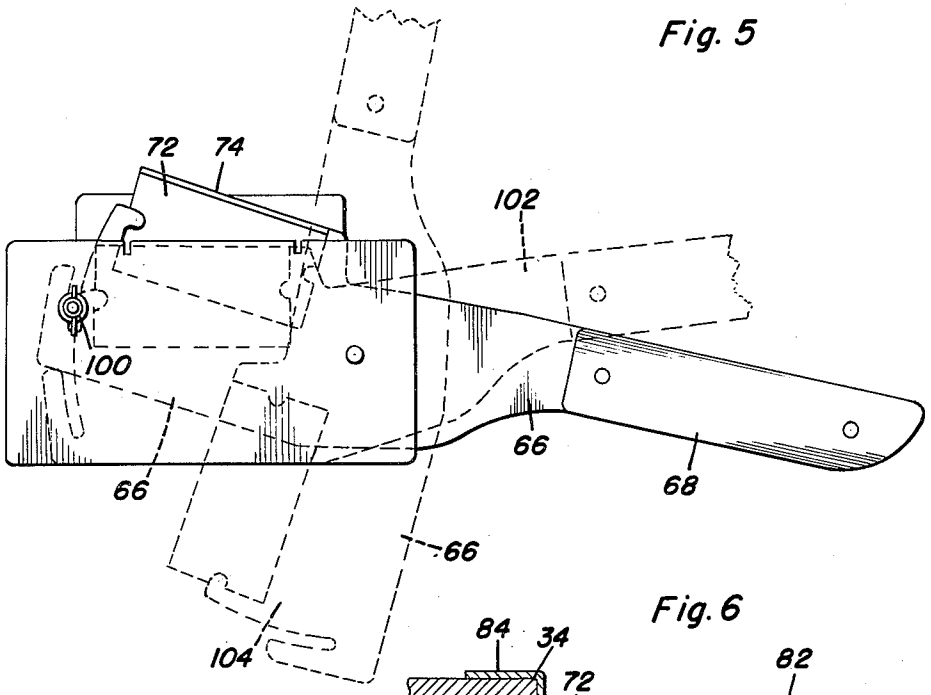


Fig. 6

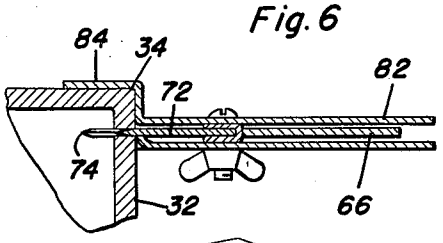
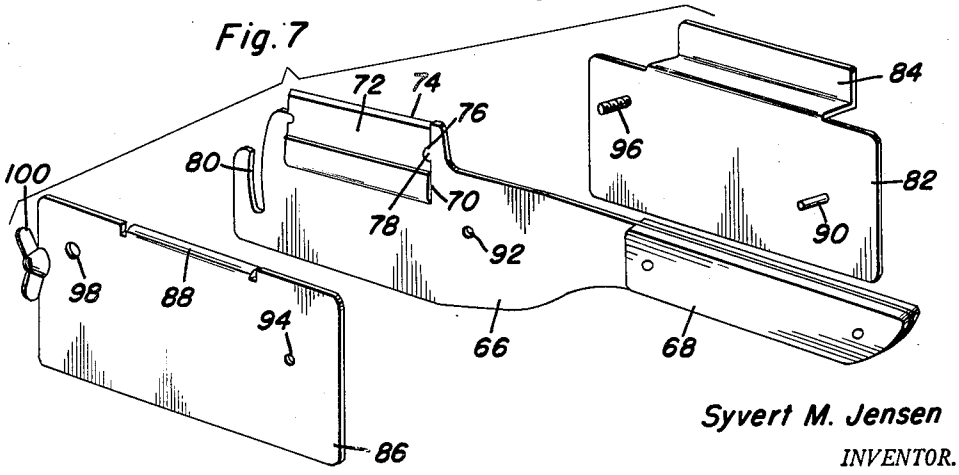


Fig. 7



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CARTON OPENER

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8 Claims. (Cl. 30—2)

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This invention relates to a simple, safe and effective tool for quickly cutting open cartons.

An important object of this invention is to provide a carton opener which is relatively simple in design and construction, inexpensive, and very easy to operate.

A further important object of this invention is to provide a carton opener of the character described which is provided with a means for shielding the blade when not in use as well as a means for removably retaining the blade so that the latter can be quickly changed when dulled.

A further object of this invention is to provide a carton opener of the character described including a guide means adapted to engage a corner or longitudinal edge of a carton so that the cutting blade can be moved properly along one face of the carton to cut the same open quickly and expeditiously.

These, together with various ancillary objects and features of the invention which will later become apparent as the following description proceeds, are attained by the device, a preferred embodiment of which has been illustrated by way of example only in the accompanying drawings, wherein:

Figure 1 is an end elevational view of one modification of the invention;

Figure 2 is an end elevational view of the invention with the guard plate pivoted to an open position;

Figure 3 is a longitudinal sectional view through the device shown in use in cutting a carton, the guard being omitted;

Figure 4 is a group perspective view showing the details of construction of the device;

Figure 5 is a side elevational view of another modification of the invention;

Figure 6 is a longitudinal sectional view through the device shown in use in cutting a carton; and

Figure 7 is a group perspective view of the device showing the details of construction thereof.

Specific reference is now made to the drawings. In the several views in the accompanying drawings and in the following specifications similar reference characters indicate corresponding elements throughout.

Referring first to the modification shown in Figures 1 to 4, the device is generally indicated at 10 and includes a first plate 12 which is preferably substantially rectangular and includes a recess 14 cut through the top edge thereof, the bottom edge of this recess being inclined, as shown clearly in the drawings, for holding the

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blade 16 and the cutting edge 18 thereof at a proper angle. The blade 16 is the conventional single-edge blade having a conventional U-shaped retaining band 20 and a notch 22 through one or both of the edges thereof for engaging a detent 24 carried by the first plate and extending into the recess 14.

A second plate 26 is provided which is generally of the shape and dimensions as the first plate 12 but which includes at its top edge an offset, substantially L-shaped extension 28 having an inturned edge 30 adapted to guidingly engage the top or side of a carton 32 at the corner or edge 34 thereof. The second plate 26 also includes longitudinally spaced threaded pins 36, 38 and 40 for a purpose soon to appear.

A third plate 42 is provided of substantially the same shape and dimensions as the other plate and includes at its upper edge an inturned longitudinal portion 44 adapted to engage the blade 16 and apply proper pressure thereon.

A fourth plate 46 is provided which is of the same length as the other plate but which is generally narrower and includes at its upper edge an L-shaped extension 48 adapted to overlie and guard the cutting edge 18 of the razor blade and a further laterally extending portion 50 serving as a stop. Adjacent one edge of the plate 46 is a cut-out portion 52 and adjacent the other edge of the plate is an arcuate open ended slot 54 for a purpose soon to appear.

It will be noted that the first and third plates 12 and 42 include longitudinally spaced, aligned apertures 56 for receiving the threaded pins 36, 38 and 40, the threaded pin 40 also extending through a suitable aperture 58 in the fourth plate 46 adjacent the open end of the slot 54. Internally threaded wing nuts 60 are received on the free ends of the lugs 36 and 38 at the recesses 52 and 54. Received on the free end of the threaded pin 40 is a suitable washer 62 and internally threaded hex nut 64 so that the guard plate 46 is horizontally pivotal on the plates 42, 12 and 26 as shown clearly in Figure 2.

In practical operation, when the guard plate 46 is pivoted into the closed position as shown in Figure 1, it is retained in this position by having the wings of the wing nuts 60 engage the lower edge of the guard plate as shown clearly in the drawings. When the wing nuts are loosened, the guard plate may be pivoted to expose the cutting edge of the blade 18 as shown in Figure 2 and the device is positioned on the corner or edge 34 of a carton in such a manner that the inturned edge 30 of the extension 28 guidingly

bears against one side or face of the carton while the blade is inserted through the other face or side of the carton. Moving the device longitudinally of the carton will consequently form an incision therein and open the same.

The modification shown in Figures 5 to 7 is constructed along the same lines as the previously described modification but is simpler in construction and somewhat easier to operate. It consists of a first plate 66 having a handle 68 at the end thereof. Cut through the upper edge of the plate 66 is a substantially rectangular recess 70 for removably receiving a razor blade 72 of conventional construction having an upper cutting edge 74. The blade is removably retained in the recess by being provided with notches 76 through the edges thereof for receiving detents 78 carried by the plate 66 and extending into the recess 70. The edge of the plate 66 adjacent the blade includes an arcuate open ended recess 80 for a purpose later to appear.

A second plate 82 is provided which is substantially rectangular in shape and which includes at its upper edge an L-shaped extension 84 adapted to guidingly engage one face of a carton 32 at the corner or edge 34 thereof as shown clearly in Figure 6.

A third plate 86 is provided which is also preferably rectangular in shape and includes at its upper edge an inturned portion 88 adapted to abut the blade 72 to apply proper pressure thereof. The plate 82 includes a laterally extending pin 90 which extends loosely through an aperture 92 in the plate 66 and an aligned aperture 94 in the plate 86 so that the plate 66 carrying the blade is pivoted for vertical movement between the second plate 82 and the third plate 86. To retain the blade-carrying plate in adjusted pivotal position between the outer plates 82 and 86, a threaded lug or pin 96 is provided which is carried by the plate 82 and extends through the open ended arcuate slot 89 and through a suitable aperture 98 in the blade 86, the free end of the threaded pin 96 receiving a suitable internally threaded wing nut 100.

In practical operation, when the blade-carrying plate 66 is pivoted to assume the dotted line position 102 shown in Figure 5, the safety position is obtained inasmuch as the cutting edge of the blade 74 is below the upper edges of the outer plates 82 and 86. When the blade carrying plate 66 is pivoted into the solid line position shown in Figure 5, the device is ready to be employed to cut the carton and is assembled upon the carton for cutting the same in the manner clearly shown in Figure 6. When the blade carrying plate 66 is pivoted to the position shown in dotted lines in Figure 5 as at 104, the blade 72 is sufficiently exposed so that it can be readily removed and replaced when necessary.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A carton opener comprising a first plate having an edge recess therein, a blade, means for retaining said blade in said recess coplanar with said plate with the cutting edge exposed, a second plate having an offset edge adapted to engage the corner of a carton, and means for securing said second plate on said first plate.

2. The combination of claim 1, said first plate including a detent extending into said recess, and said blade fitting into said recess edgewise and including a notch receiving said detent.

3. The combination of claim 2 wherein said securing means includes a third plate, threaded pins carried by said second plate extending through said first and third plates, and closure nuts received on the free ends of said pins.

4. The combination of claim 3 and a fourth plate having a laterally extending blade guard at one of its edges and pivoted at one of its ends to said third plate.

5. A carton opener comprising a first plate, a blade, means for removably retaining said blade on said first plate, a second plate having an offset edge adapted to engage the corner of a carton, a third plate, means for pivoting said first plate between said second and third plates, and further means for retaining said first plate in adjusted position between said second and third plates.

6. The combination of claim 5 wherein said first plate includes a recess extending through one edge thereof, said plate including a detent extending into said recess, and said blade fitting into said recess and including a notch receiving said detent.

7. The combination of claim 5 wherein said second named means includes a pin carried by said second plate and extending loosely through aligned apertures provided in said first and third plates.

8. The combination of claim 7 wherein said last-named means includes an arcuate open-ended slot in said first plate, a threaded pin carried by said second plate extending through said slot and said third plate, and a closure nut received on said threaded pin.

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