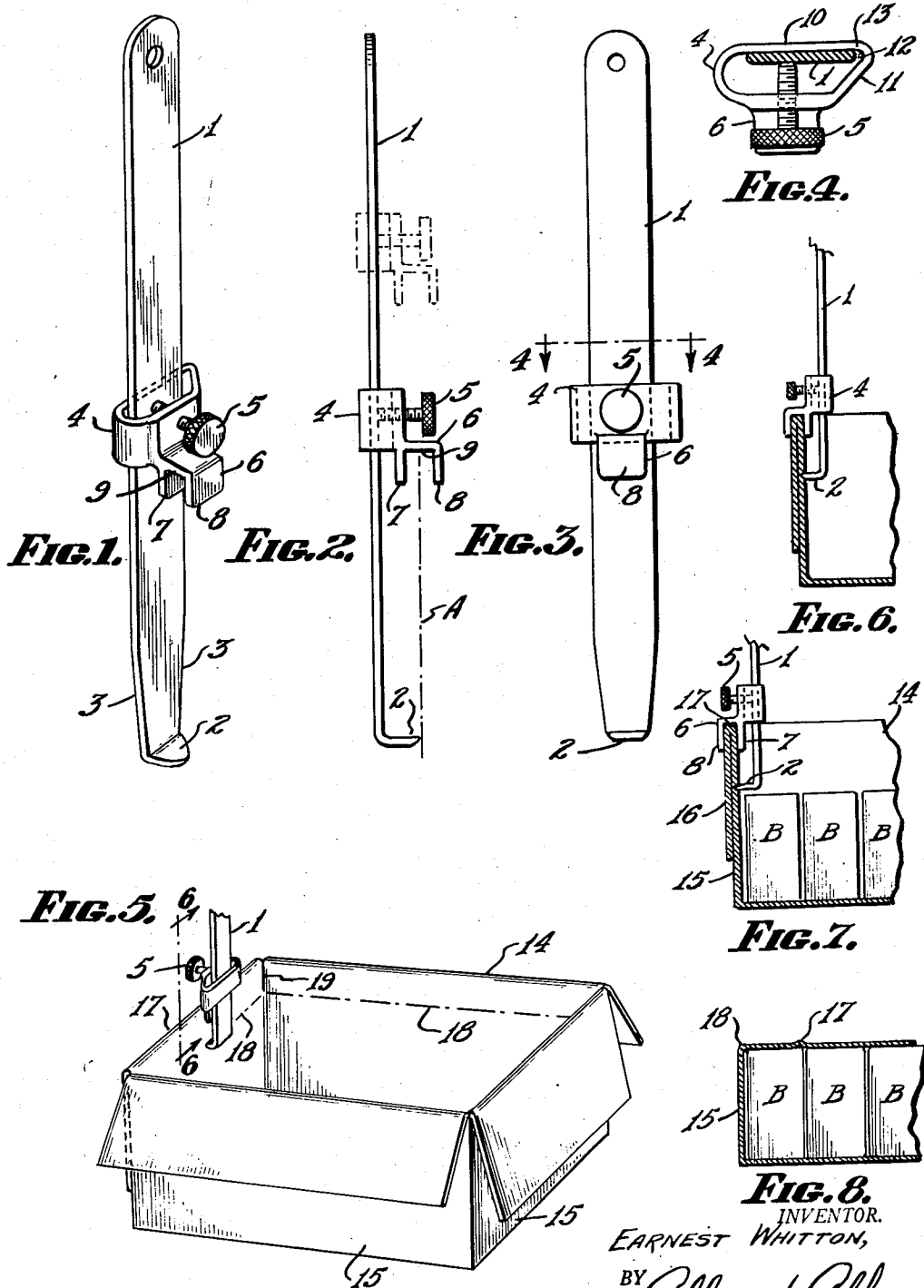


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BOX SCORING DEVICE
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BOX SCORING DEVICE

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My invention relates to a box scoring device and more particularly to an adjustable scoring device whereby corrugated cartons and the like may be quickly and conveniently scored so that the height of their wall panels may be made to conform exactly to the height of the contents placed therein.

Packers in shipping rooms are constantly confronted with the problems of packing diverse articles in shipping containers and the like which are over-sized with respect to the articles packed therein, so that it becomes necessary to fill the unoccupied portion of the container with crumpled paper, excelsior or similar packing material in order to prevent the contents from moving about in the package. Not only does this require additional time and expense in the packing of the articles, but in addition it may materially increase the size and weight of the package being shipped, thereby adding to the shipping cost.

It is, therefore, a principal object of my invention to provide a scoring device which will enable the packer to quickly and effectively cut down the size of a shipping container so that it will conform to the size of the articles packed therein, thereby eliminating the necessity for additional padding or packing and also reducing the size of the resultant package to an absolute minimum.

It is a further object of my invention to provide a scoring rule which is of simple and inexpensive construction and which can be readily adjustable to provide a score line at any desired distance from an edge of the carton being scored.

It is still a further object of my invention to provide a box scoring device including an adjustable guide means adapted to engage an edge of a carton to be scored and to be guided along the said edge to provide a score line spaced from and paralleling the edge engaged by the device.

These and other objects of my invention which will appear hereinafter or which will be apparent to the skilled worker in the art upon reading these specifications, I accomplish by that construction and arrangement of parts of which I shall now describe an exemplary embodiment.

Reference is now made to the accompanying drawings wherein:

Figure 1 is a perspective view of my box scoring device.

Figure 2 is a side elevational view of my device, with an alternative position of the guide member shown in dotted lines.

Figure 3 is a front elevational view of my device.

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Figure 4 is a sectional view taken along the line 4-4 of Figure 3.

Figure 5 is a perspective view illustrating the use of my device in providing supplementary score lines in a boxboard carton.

Figure 6 is a sectional view taken along the line 6-6 of Figure 5.

Figure 7 is a sectional view similar to Figure 6 illustrating the manner in which a box would be scored to accommodate the contents thereof.

Figure 8 is a sectional view similar to Figure 7 illustrating the carton folded along the supplementary score lines formed by my device.

Briefly, in the practice of my invention, I provide a scoring device in the form of an elongated bar or handle having an inturned scoring tip at one end thereof. An adjustable guiding or positioning member adapted to engage edge portions of the carton to be scored is slidably mounted on the elongated bar, as by means of a collar surrounding the bar, and the collar is provided with a clamping means, such as a set screw, to fix the guide member in predetermined position relative to the scoring tip.

Referring now to Figures 1, 2 and 3 of the drawings, my scoring device comprises an elongated bar or handle 1 which is preferably flat and provided at one end with an inturned scoring tip 2. I prefer to taper the lower end of the elongated bar, as at 3, and form the scoring tip 2 integrally therewith by a bending operation. It will be understood, however, that the scoring tip may be formed in other ways. The scoring tip will be blunt to the extent that it will crease or score the boxboard without severing it.

A collar or band 4 surrounds the bar 1 and is slidable therealong. The collar is provided with a clamping means, such as the set screw 5, for selectively fixing the position of the collar along the length of the bar 1. A guide member 6 for contact with an edge of a carton to be scored is secured to the collar 4 and will be preferably in the form of a downwardly extending channel or U-shaped member having opposed side portions 7 and 8 and an upper surface 9. The guide member 6 will be preferably spaced from the bar 1 in the manner best seen in Figure 2 so that the sides 7 and 8 thereof will lie substantially equally spaced on opposite sides of the vertical projection of the scoring edge of the scoring tip 2, as indicated by the line A.

As best seen in Figure 4, the collar or band 4 is preferably provided with a flat side portion 10 having a length which is at least equal to the width of the bar 1 so that the bar may be pressed

thereagainst by the set screw 5 in the manner illustrated. At one end of the collar 4 is provided with a reversely bent portion 11 defining, with the flat side portion 10, an acute angle 12 adapted to receive and position the side edge 13 of the bar 1. The relationship of the parts is such that when the side edge 13 of the bar is fitted in the angle 12, the upper portion 9 of the guide member will lie parallel to the inturned scoring tip 2 and the side portions 7 and 8 will lie at right angles thereto, thereby assuring the provision of a supplementary score line which parallels the edge of the container used as a guide.

The operation of my device will be best understood by reference to Figures 5 through 8 of the drawings. As seen therein, where the articles B (Figure 7) are to be packed in a corrugated or similar paperboard container 14, the walls 15 of which are of a height greater than that of the articles B, I first outfold the closure flaps 16 so as to juxtapose them to the wall panels and then fit the guide member 6 of my scoring device over the folded upper edge of the carton, as indicated at 17. In this position the opposed sides 7 and 8 engage about marginal edge portions of the panels; and the distance between the sides 7 and 8 is so chosen that the panels of a conventional shipping container may be just nicely received therebetween. The set screw 5 is then backed off and the scoring bar lowered relative to the collar until the tip 2 thereof lies just above the articles B packed in the container, whereupon the set screw is tightened to fix the position of the scoring tip. Thereafter the packer has but to draw the scoring bar along the edge 17 of the carton to effect the scoring thereof along the supplementary line 18, as shown in Figure 5. To this end, the portion of the bar 1 extending above the collar and guide member may be utilized as a handle and the packer's palm may be conveniently rested against the inclined side portion 11 of the collar to afford a firm grip on the device. By exerting pressure on the device in the direction of the wall to be scored, a supplementary score line may be made in the wall panel of the box with a single stroke. It will be evident that all four walls may be scored with one adjustment of the device; and the relationship of the parts i. e., the relative positions of the guide member and the scoring tip is such that a neat and accurate supplementary score line will be provided.

Subsequent to the supplementary scoring of the carton, the corners of the carton will be cut along the lines 19 extending downwardly from the upper edges thereof to the supplementary

score lines and the parts thereafter infolded over the contents in the manner illustrated in Figure 8.

By the procedure just described, an oversize carton has been quickly and conveniently converted into one which is the exact size to accommodate the contents placed therein. It will be apparent that where the infolded closure flaps, including those portions of the side wall panels lying above the supplementary score lines, overlap in the closed carton, they may be cut off as desired, thereby further decreasing the weight of the package.

While in the preceding description I have set forth an exemplary use of my device, it will be apparent that it will find utility for numerous other scoring operations on various types of box-board or similar structures. Modifications may, of course, be made in my invention without departing from the spirit of it.

Having, however, described my invention in an exemplary embodiment, what I desire to secure and protect by Letters Patent is:

1. A adjustable carton scoring device comprising an elongated flat-sided bar having an inturned scoring tip at one end thereof, a collar surrounding said bar and slidable therealong, said collar having a flat side portion adapted to contact a flat surface of said elongated bar, a downwardly depending, generally U-shaped guide member fixed to the side of said collar opposite the flat side thereof, said guide member being adapted to engage an edge of a carton to be scored, said collar including a set screw for contact with the side of said bar opposite the side thereof contacted by the flat portion of said collar, whereby to maintain said collar in fixed position on said bar.

2. The structure claimed in claim 1 wherein the flat side of said collar terminates in a reversely bent portion defining an acute angle adapted to receive a side edge portion of said bar.

3. The structure claimed in claim 2 wherein said inturned scoring tip is formed integrally with said elongated bar, and wherein said bar is tapered inwardly adjacent said scoring tip.

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