

June 23, 1953

T. W. GOODRICH
BEADING ROLLER FOR CARTONS

2,642,783

Filed Dec. 6, 1951

2 Sheets-Sheet 1

Fig 1

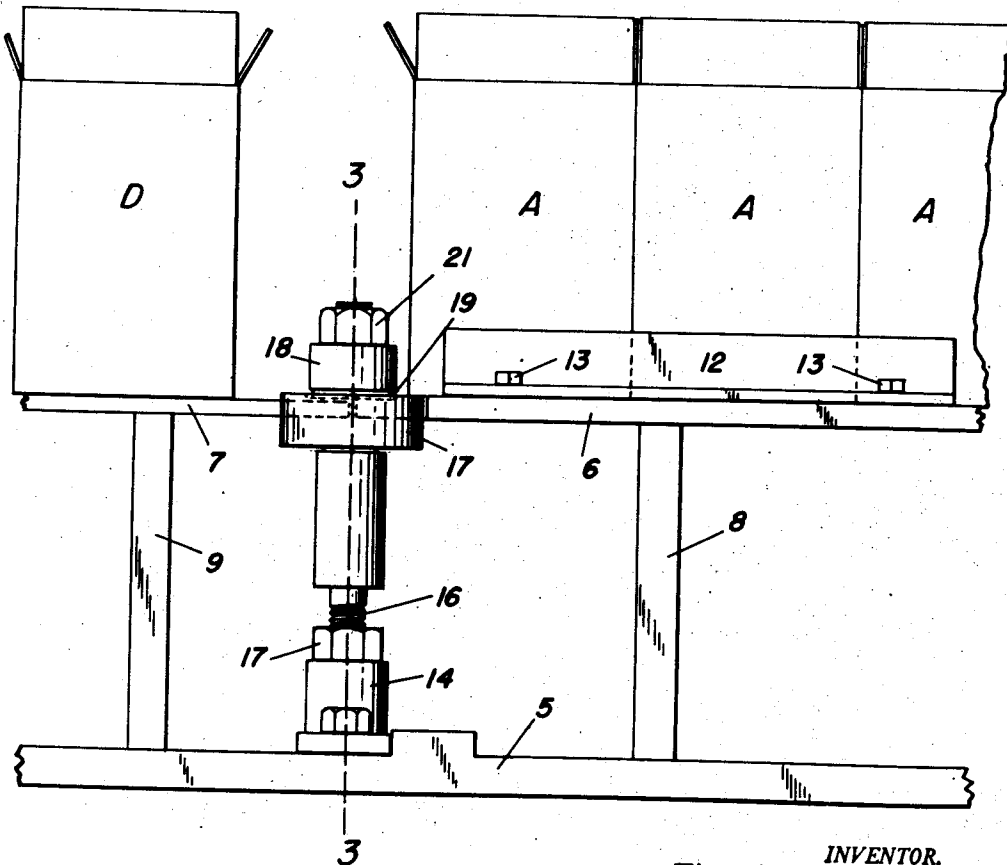
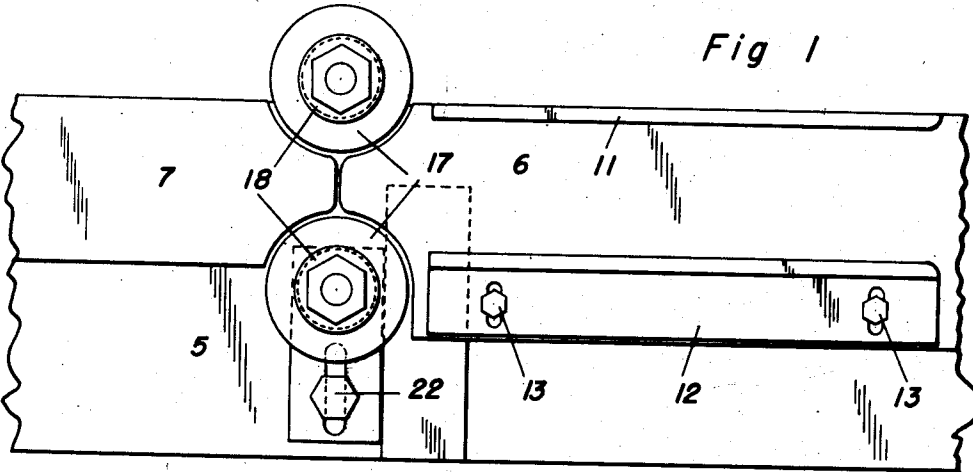


Fig 2

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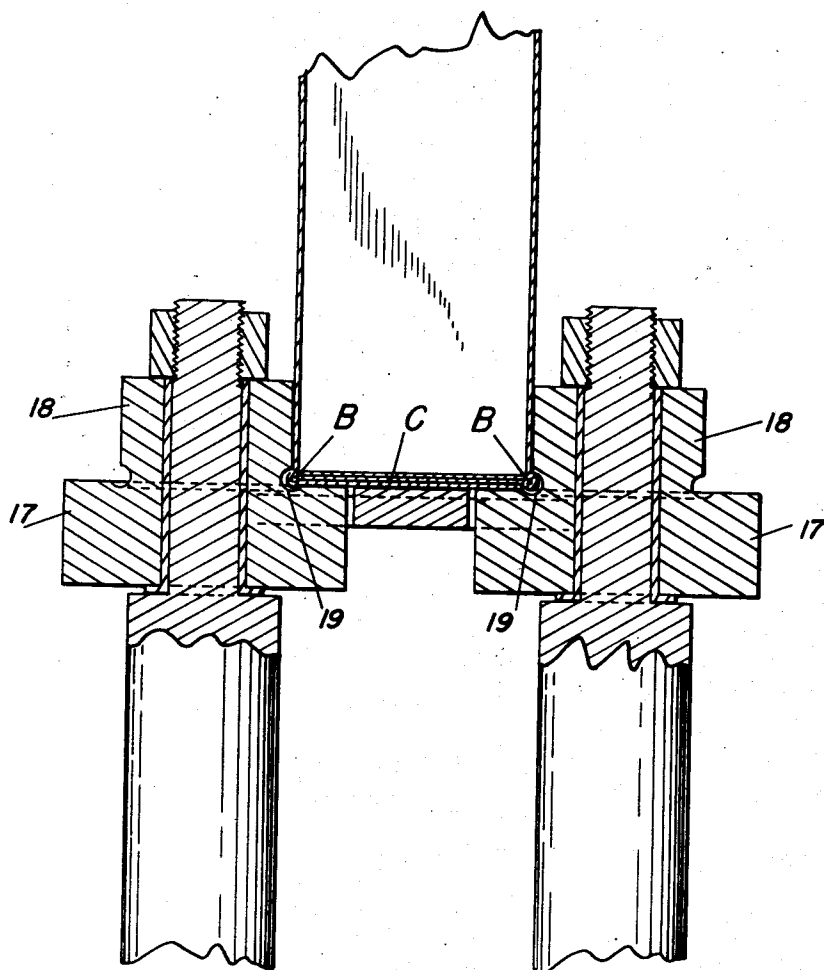


Fig 3

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UNITED STATES PATENT OFFICE

2,642,783

BEADING ROLLER FOR CARTONS

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Application December 6, 1951, Serial No. 260,181

2 Claims. (Cl. 93—36.5)

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This invention relates to improvements in beading rollers for cartons.

The principal object of this invention is to provide means whereby the flap portions of a carton are so formed that the natural springiness of the cardboard adjacent the scoring where the flaps are bent is eliminated.

A further object is to produce a device of this character which is economical to manufacture and easy to install.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numbers are employed to designate like parts throughout the same,

Fig. 1 is a top plan view of my device;

Fig. 2 is a side elevation of Fig. 1; and

Fig. 3 is a cross-sectional view taken on the line 3—3 of Fig. 1, and showing a box in cross section being beaded by the rollers.

Ordinary paper cartons are formed of a relatively stiff cardboard and are shipped by the manufacturer in a folded or flat condition, thus taking up the minimum amount of space.

It is therefore necessary for the user to feed the flat cartons or boxes into a machine which will pick up one carton at a time, open it, fold the flaps at one end of the box, apply glue thereto and move the flaps against each other so that they will become adhered one to the other. Due to the fact that the cardboard out of which the boxes are made has a considerable springiness, even though the flaps are scored so that they will fold along a definite line, many cartons tend to become unglued and consequently the box is not properly seated on its conveyor and tends to tip over, or the contents thereof will possibly be spilled therefrom.

Applicant has therefore devised a simple arrangement whereby the carton is fed between a pair of rollers in such a manner that the rollers press against the sides and the bottom of the box to form a slight bead upon the sides thereof, which breaks the spring effect of the flaps, thus taking away any strain against the glued contacts, with the result that when the box moves on to the conveyor, it will set flat, with the assurance that the flaps will all stay sealed.

In the accompanying drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, in Fig. 2 particularly I have shown a base plate 5, above which is supported a table comprising sections 6 and 7, supported from the base 5 by supports 8 and 9 respectively. Mounted upon the section 6 is a

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back guide 11 and an adjustable front guide 12, adjustable through the medium of slots and retaining bolts 13. At 14 I have shown a standard adapted to support a threaded stud 16, having lock nut 17. This stud rotatably supports a beading roller having a bottom engaging portion 17 and a side engaging portion 18, between which portions being formed a beading groove 19. A threaded nut 21 serves to hold the roller on the stud. It will be noted in Fig. 1 that there are two of these rollers spaced apart, one of which may be moved laterally through the medium of a securing nut 22, and a slot arrangement.

It will be noted that the vertical sides of the side-engaging portions 18 are a distance apart slightly less than the width between the guides 11 and 12.

The result of this construction is that when a box, for instance the boxes A (see Fig. 2), has had its lower flaps glued and folded inwardly and is pushed toward the beading roller, the side-engaging portions 18 will contact the side of the boxes as shown in Fig. 3, while the bottom-engaging portions 17 will underlie the bottom of the carton. The edges of the box B will fall within the beads 19 and at this time a decided beading action will take place, for the reason that the side-engaging portions 18 are enabled to offset inwardly a slight distance the sides of the box against the resistance of the folded, glued flaps, as shown at C.

This stiff resistance of the folded flaps is very important to the beading action, as it causes an outside scoring which breaks the natural tendency of the flaps to spring back into a straight line with the sides of the box.

As soon as the box reaches the position D, it will rest flat, ready to pass to the conveyor and to be filled with its contents.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A carton beader comprising a pair of offset beading rollers each having a portion for engaging the side wall of a carton and a portion for engaging the bottom of a carton, said rollers each having a recessed beading groove at the junction of the carton side and bottom-engaging portions and extending into the wall of the carton side-engaging portion.

2. A carton beader comprising a carton sup-

port, a pair of spaced guides mounted on said support, a pair of beading rollers, each having a carton bottom-engaging portion mounted flush with said support, each of said rollers having a carton side-engaging portion spaced apart a distance slightly less than the distance of the spaced faces of said guides, each of said rollers having a recessed groove formed at the junction of said side and bottom engaging portions of said rollers and extending into the wall of the carton side-engaging portion, whereby when a carton is moved between said rollers, the side-engaging portion will indent the sides of the carton to form

a bead between the sides and the bottom of the carton.

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