Dec. 10, 1929. G. D. PARKER 1,739,085

CARDED ARTICLE STRAP

Filed May 24, 1927 2 Sheets-Sheet 1

Fig. 1.

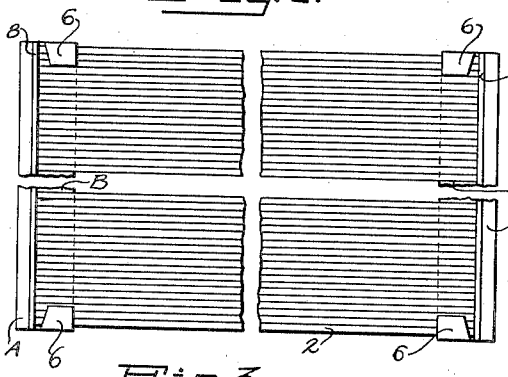


Fig. 2.

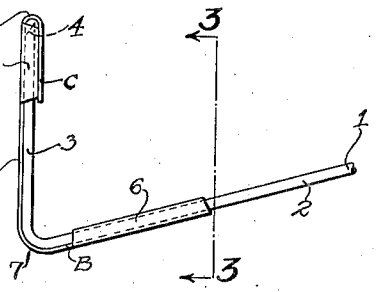


Fig. 3.

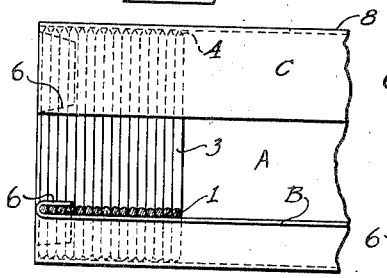


Fig. 4.

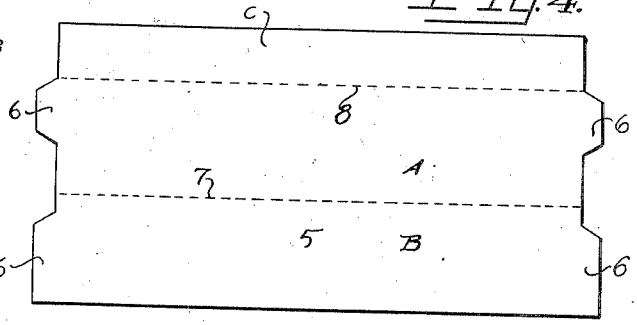
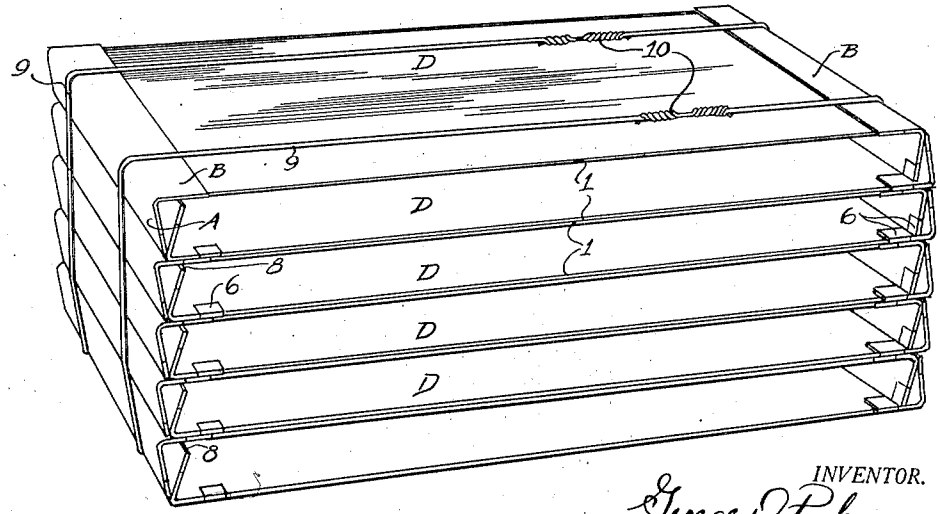


Fig. 5.



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Fig.6.

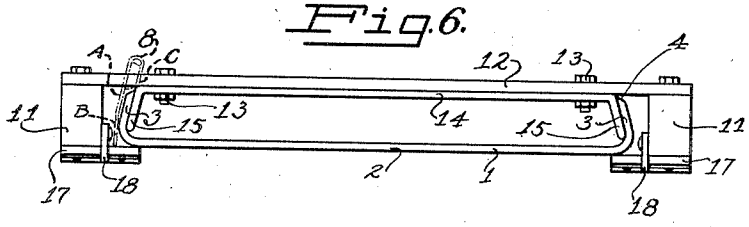


Fig.7

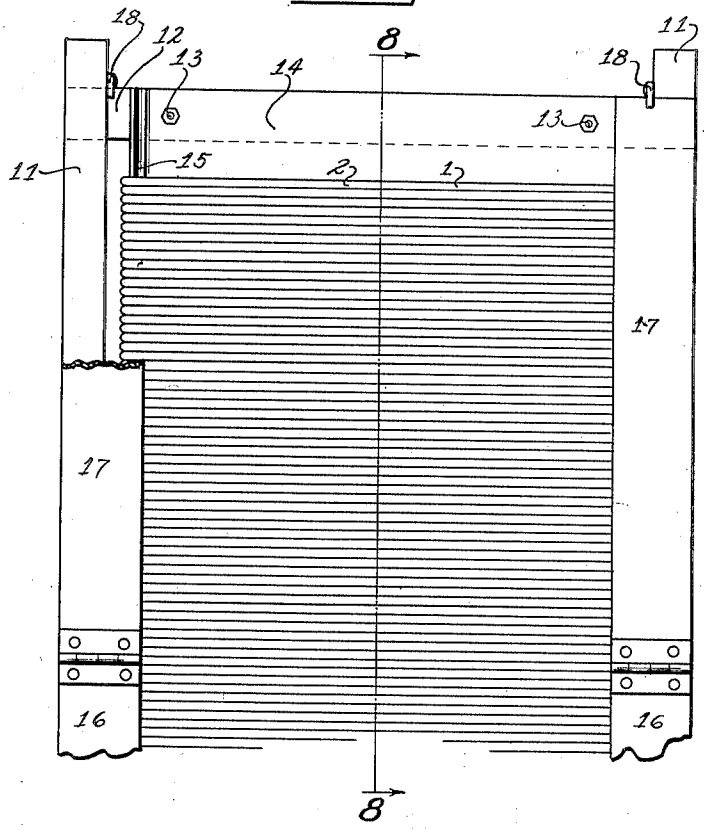
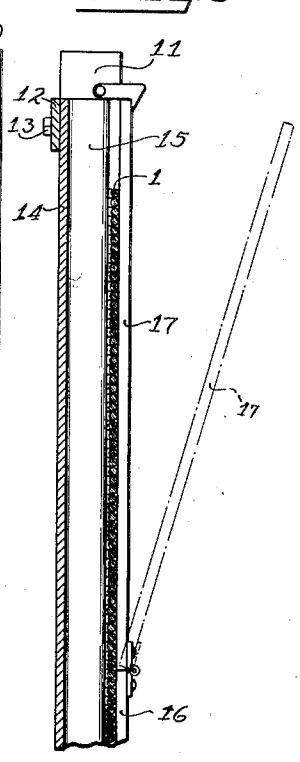


Fig.8.



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UNITED STATES PATENT OFFICE

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CARDED ARTICLE STRAP

Application filed May 24, 1927. Serial No. 193,868.

The present invention relates to improvements in box straps, the retaining thereof in what may be termed carded groups or fillers, and the arrangement or nesting of the carded groups or fillers in bundles for shipping, storage and like purposes, and is a continuation in part of my pending application for Letters Patent of the United States, filed December 15th, 1926, Serial Number 154,938, and entitled Box straps and methods and means for applying the same to containers.

An important feature of the invention is to provide a pre-formed strap having driving ends, which may be forced or driven on an upward inclination into a box side wall with the body of the strap disposed transversely under tension across its cover to secure to the box; another feature of the invention is in the assembling of a number of straps in relatively flat carded groups or fillers and the retaining of the straps in this formation by removable means which encloses and protects the angularly disposed pointed ends of the straps, and which means may be easily and quickly removed therefrom when it is desired to release the straps either before or after the card or filler has been placed in a magazine; a further feature or object is the novel arrangement or nesting of a number of fillers or cards in stacked formation, and the novel manner of holding or binding the same together to form a relatively rigid self sustaining bundle of fillers or cards, the bundle being without an enveloping cover or protection, and capable of being easily handled in shipment.

With the above mentioned and other objects in view, the invention consists in the novel construction and combination of parts hereinafter described, illustrated in the accompanying drawings, and set forth in the claim hereto appended, it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claim may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

To more fully comprehend the invention, reference is directed to the accompanying drawings forming a part of this application, and disclosing the preferred embodiment thereof, and in which

Fig. 1 is a view in bottom plan of a card or filler of box straps illustrating the envelopes enclosing the pointed ends of the straps and releasably retaining a predetermined number of straps together in card or filler formation.

Fig. 2 is a view in end elevation of one end portion of a filler card of straps illustrating the manner of securing the straps in assembled relation.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2.

Fig. 4 is a view in plan of one of the sheet metal envelopes for folding over the corresponding ends of a plurality of straps in the formation of the card or filler.

Fig. 5 is a view in elevation of a plurality of cards or fillers of straps in nested formation, illustrating the bundling or retaining bands for holding the same in superimposed assembled relation.

Fig. 6 is a view in top plan of the magazine illustrating a card or filler of straps therein, the dotted lines illustrating the path of travel of the end protecting envelopes when removed from the card after the same have been positioned in the magazine.

Fig. 7 is a view in front elevation of the magazine, and

Fig. 8 is a vertical sectional view taken on line 8—8 of Fig. 7.

Referring to the drawings, 1 indicates one of the straps consisting of a suitable length of metallic material, preferably wire, circular in cross section, and formed with an elongated central portion 2. The opposite ends of the length of material 1 are bent at an acute angle in the same direction from the portion 2 to form a driving end 3, the terminal end of each driving end being sharpened or outwardly bevelled at 4 to provide a driving point. The straps are formed by any suitable mechanism or in any suitable manner, which is not a part of the

present invention, and after formation are grouped by any suitable mechanism in contacting parallel relation, as in Fig. 1,—100 straps being my preferred number to form the desired card or filler. In their formation, corresponding ends of adjacent straps are disposed in the same relation, as in the drawings.

The means for retaining the arranged straps in carded or filler formation consists of a sheet metal blank 5 of substantially elongated rectangular formation and provided with a pair of projections or ears 6 at opposite ends thereof. The sheet metal blank is first bent along the longitudinal line 7 intermediate the projections or ears 6, into angularly disposed portions A and B to conform to the contour of the end portions of the straps 1.

In positioning the blank 5 to unite the bent ends of the parallel disposed strips 1 and to protect the points 4 thereof, the portion B is disposed, as indicated in Fig. 2, beneath the end of the central portion 2 and with the portion A lying adjacent to the driving ends 3. When in this position, the ears 6 at the opposite ends of the portion A of the blank are bent inwardly, as in Fig. 2, confining the driving ends of the aligned straps between the ends of the portion A of the blank. The longitudinal edge C of the blank is thereafter bent downwardly on the line 8 to overlie the ears 6 and to protect and hold the pointed ends 4 of the straps. The ears 6 of the portion B of the blank 5 are then bent inwardly to overlie the central portion 2 of the straps 1, as in Fig. 1.

With one of the envelopes or blanks uniting the opposite ends of the straps forming the cards of straps and applied in the above described manner, a relatively rigid flat card or filler of individual straps is provided.

When it is desired to ship a number of cards or fillers D of straps, the same are arranged in superimposed, stack formation, Fig. 5, with the driving ends of the straps of alternate fillers or cards D reversely overlapping at opposite ends providing a self supporting stack.

Longitudinally around the stack is passed one or more retaining members or wires 9 drawn under tension, with their ends united, preferably by twisting, at 10.

With the cards or fillers formed as previously described, the same are positioned in a magazine of the type described in my application Serial Number 154,938, conventionally illustrated in Figs. 6, 7 and 8 of the accompanying drawings, in the following manner:—

In the magazine disclosure, 11 indicates parallel spaced supporting standards united at their lower ends by means, not shown, and at their upper ends by a connecting strap 12.

To the strap is secured, at 13, the upper end of a guide plate 14 disposed between standards 11. The vertical side edges of plate 14 diverge forwardly from the face of the plate, providing guide flanges 15. Face plates 16 are provided on the standards 11, and the same are formed with downwardly swinging hinged sections 17, normally retained in their uppermost closed position by latches 18.

When it is desired to insert a filler or card of straps in the magazine above described, the wire 9 of the supporting stack of cards or fillers are first cut, enabling the removal of a card or filler of straps from the stack.

With the envelope in position, protecting the driving ends of the straps and uniting the same in card or filler formation, the operator disposes the driving ends of the card or filler above and in parallel alignment with the diverging side edges 15 of the guide plate 14, that is after the hinge section 17 of the magazine face plate has been lowered. With the driving ends of the straps of the card or filler disposed in alignment with the outer faces of the guide flanges 15, the filler or card is lowered over the edges of the guide plate in interlocking relation therewith.

The operator then grasps the inner edge of the portion B of each envelope and bends or pries the same upwardly away from the face of the card or filler until the ears 6 of the portion B release from the central portion 2 of their engaged straps 1, the lower portion B having been bent downwardly prior to the insertion of the same in the magazine. The operator then imparts a movement to the remainder of the envelopes, longitudinally of the driving portion 3 of the straps, forcing the envelopes rearwardly of the magazine, as indicated in dotted lines at the left hand end of the disclosure in Fig. 6 of the drawings, discharging the envelope through the rear of the magazine. The hinged sections 17 of the face plate 16 of the magazine are then moved to closed position, precluding any possibility of the straps 1 releasing from the guide plate by a forward movement.

By this construction, it will be observed that the straps are inserted in the magazine in carded formation and after being received therein are released for successive intermittent discharge or delivery therefrom. It will also be observed that the retaining envelopes maintain the cards or fillers in substantially rigid formation, protect the driving ends of the straps from injury and afford a means for stacking the cards or fillers in stack formation for shipment.

I claim:—

A filler for magazines of articles strapping machines, comprising a plurality of independent article straps, each comprising a body terminating at its opposite ends in angularly extended pointed terminals, said straps arranged in parallel contacting relation in a

common plane with their corresponding terminals disposed in the same direction, and envelopes, each extending longitudinally of the filler at each of the sides thereof, said envelopes having portions overlying the body portions of the straps and portions overlying the outer faces of the angular extensions on said straps, said last mentioned portions being extended around the pointed ends of the straps and over the inner faces of the angular strap extensions, end portions on the envelopes for engagement with the body portions of the end straps at points removed from the point of bend of the angular strap extensions, and other end portions on said envelopes extending around the terminal side edges of the pointed ends of the end straps of the filler and cooperating with the portions of the envelopes extending over the inner faces of the pointed ends of the straps.

In testimony whereof I have signed my name to this specification.

GEORGE D. PARKER.