June 4, 1929. J. A. TAYLOR ET AL 1,716,249

DEVICE FOR PROTECTING ROLLS OF PAPER

Filed Dec. 21, 1927 2 Sheets-Sheet 1

Fig. 1.

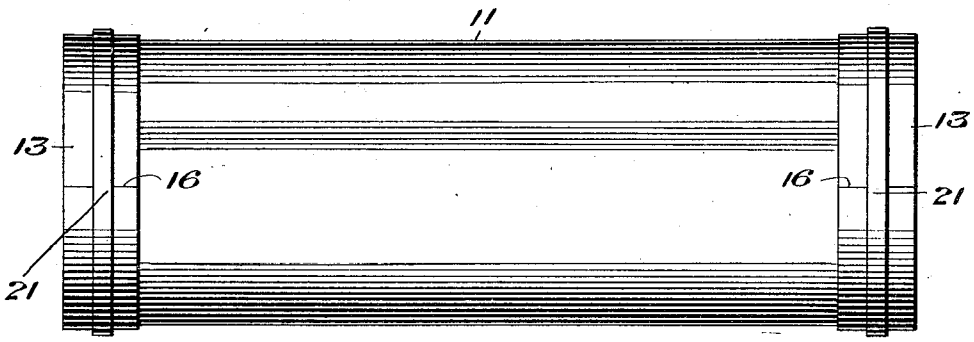


Fig. 2.

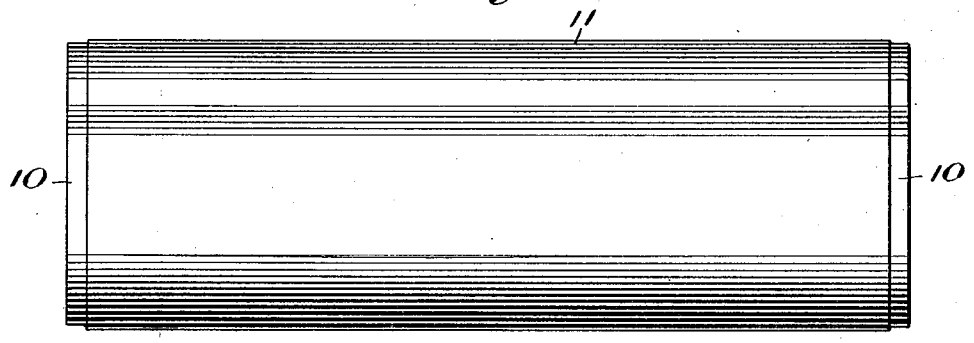


Fig. 3.

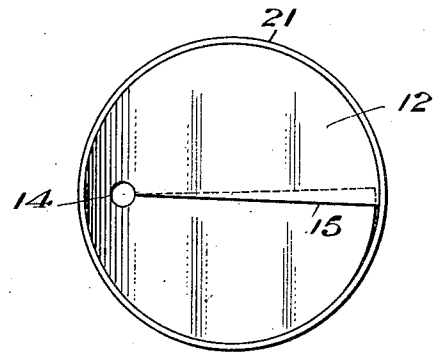
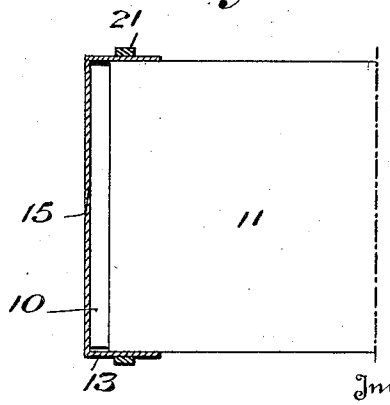


Fig. 4.



Inventor

James A. Taylor
Horace A. Sheesley
Fred W. Mears

By Wilkinson & Giusta

Attorneys.

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DEVICE FOR PROTECTING ROLLS OF PAPER

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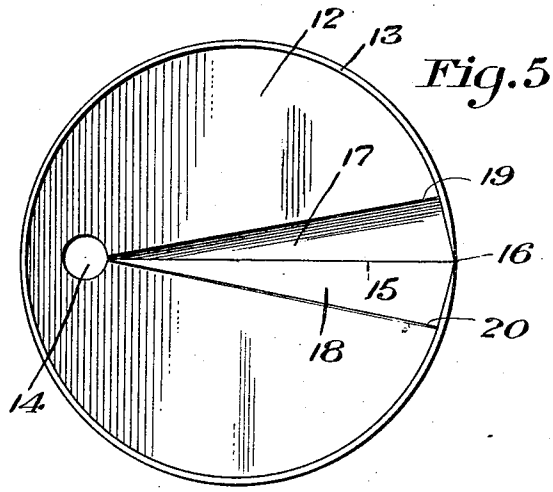


Fig.5.

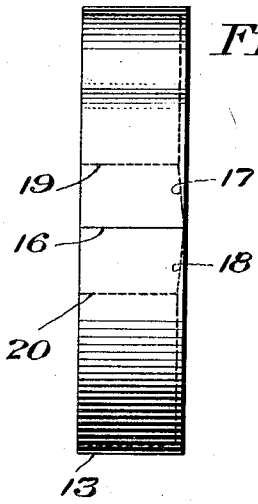


Fig.6.

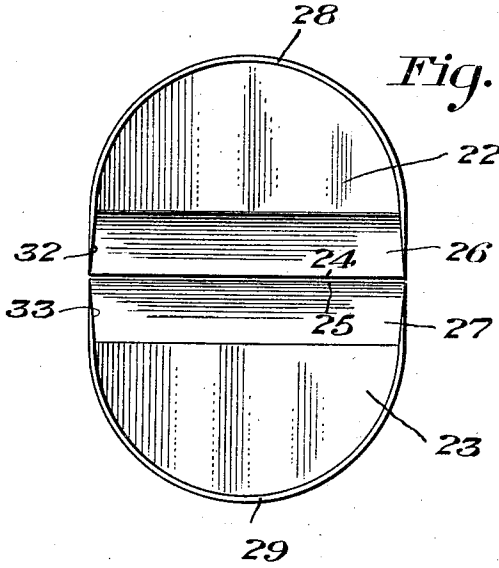


Fig.7.

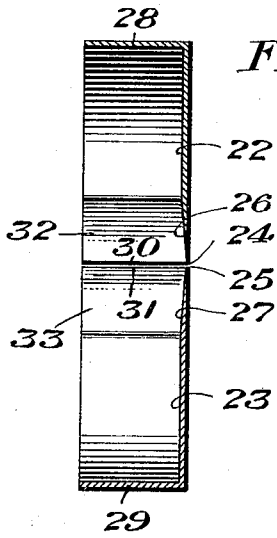


Fig.8.

Inventor

James A. Taylor
Horace A. Sheesley
Fred W. Mears

By Wilkinson & Gusta

Attorneys.

Patented June 4, 1929. 1,716,249

UNITED STATES PATENT OFFICE.

JAMES ARMAND TAYLOR AND HORACE A. SHEESLEY, OF PORTLAND, AND FREDERICK WOEHLER MEARS, OF EAST MILLINOCKET, MAINE.

DEVICE FOR PROTECTING ROLLS OF PAPER.

Application filed December 21, 1927. Serial No. 241,635.

The present invention relates to a device for protecting rolls of paper, and has for an object to protect large rolls of easily damaged paper, such as newsprint paper, which now requires the use of padding and wrapping paper to protect the ends and sides.

This present practice involves the occupation of considerable floor space, excessive manual labor for which no mechanical substitute has as yet been successfully devised, and is inadequate to prevent damage from handling rolls on trucks and while in transit and storage.

It is an object of the present invention to provide, in connection with a wrapper over the body of the roll, end caps or heads, the nature and construction of which renders the same readily applicable to rolls of varying or definite sizes.

Other objects of the invention are to provide an improved head or cap for the ends of the rolls which will protect the rolls while the same are being transported, will afford less opportunity to chafe as the thickness of the heads will hold the rolls apart, will exclude moisture, avoid cracks or splits in the paper and will impart to the roll a neater appearance and finish.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views.

Figure 1 is a side elevation of a roll of paper with the improved end caps or thimbles applied thereto.

Figure 2 is a similar view of the roll prior to the application of the end caps.

Figure 3 is an end view of one of the caps.

Figure 4 is a cross section taken through one of the caps in position as applied to the roll.

Figure 5 is an enlarged interior view of one of the caps in the expanded condition prior to its application to the roll end.

Figure 6 is an edge view of the same.

Figure 7 is a plan view of a modified form of cap, and

Figure 8 is a sectional view of the same.

Referring more particularly to the drawings 10, in Figure 2, represents a roll of paper, such as newsprint paper and 11 designates the wrapper of paper or other material which is wound about the same.

In accordance with the invention the wrapper 11 is preferably of less width than the roll 10 leaving the unwrapped exposed end portion, shown in Figure 2.

Over both ends of the roll are adapted to be placed the caps or thimbles which are shown more particularly in Figures 3 to 6.

Each cap is made from metal or other suitable material and comprises generally an end disc 12 and an annular flange 13 extending from the edge of the disc at substantially right angles to the plane of the disc or concentric with the axis of the disc. In the disc near one edge thereof is made an opening or perforation 14. From the inner portion of this perforation 14, the disc is slit along a line 15, which passes completely to the opposite far edge of the disc. The slit is continued as shown at 16 to and through the entire width of the flange 13. The severed edges all along the slits are sharpened or reduced in thickness as indicated by the areas 17 and 18 in Figure 5.

Similar areas extend into the flange 13, as indicated by the dotted lines 19 and 20 in Figure 6. The sharpened edges permit such edges to easily pass one another when the areas of reduced thickness 17 and 18 are to be overlapped and such wedge-shaped portions reduce the thickness of both overlapped parts and thus avoid the presentation of unduly bulky overlapped parts which would also interfere with the free compression of the end caps into smaller compass, which is the object of slitting the disc and flange as aforesaid.

The end caps may be made of a standard comparatively large size, so that they will fit in their normal expanded condition, which condition is shown in Figure 5, over the end of the largest conceivable roll of paper or other material. In manufacture and practice the diameter of the rolls will not all be uniform and for those rolls of smaller size, the end caps may be made smaller simply by compressing the same and overlapping the portions 17 and 18 and the edges. Due to the perforation 14, the entire disc may be thus condensed while still retaining the substantially circular condition of the same, so that the flange 13 will

closely hug the end of the roll and the appearance of the ends of the rolls will not be impaired.

Bands or wires 21, of metal or other appropriate material, are secured about the applied heads or rather upon the flanges 13 of the heads to secure same in place.

In accordance with the modified form of the invention shown in Figures 7 and 8, the device is made in two substantially semi-circular sections. The disc or end wall is made in two sections 22 and 23 having the sharpened edges 24 and 25 adapted to be brought together and overlapped. These disc sections are also provided with the areas of reduced thickness 26 and 27 and the discs may be overlapped to this extent, more or less without involving bulky thicknesses of material. In a similar way the flange sections are indicated at 28 and 29, and these sections are provided with the sharpened edges 30 and 31 and the wedge-shaped areas 32 and 33 adjoining the edges.

The two sections may be brought together from diametrically opposite points upon the roll end and pushed together until hugging the roll snugly, whereupon the bands 21 are affixed; or the sections may be assembled first and then pushed over the roll ends. The devices shown in Figures 3, 4, 7 and 8 may with advantage be made from pulp or paper as it will be more suitable to press the pulp or paper in this form over a die or the end of the roll itself.

In some cases it may prove feasible to manufacture and use caps of definite size and of a non-flexible type. Again the cover caps or thimbles may be formed on molds, dies or on the roll itself, and may be made from pulp, paper, or other suitable material.

It is obvious that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims.

What is claimed is:—

1. A device for protecting the ends of paper rolls comprising a wrapper secured over the body of the rolls and extending short of the ends thereof, and end caps composed of end discs and relatively short flanges integral with the discs, both said discs and flanges being jointly subject to compression and expansion whereby to facilitate application and to hug the ends of the rolls tightly.

2. A cap for protecting rolls and the like comprising an integral disc and flange, said disc having a perforation near one edge thereof, said disc having a slit made diametrically there-across from said perforation to the far edge of the disc, said disc further having sharpened edges at said slit and areas of reduced thickness adjoining said slit, said flange also having a slit extending throughout its width in line with the slit in the disc and having sharpened edges at the slit and areas of reduced thickness adjoining the slit.

3. A cap for protecting the ends of rolls and the like comprising two separable sections composed of disc sections, and flange sections having sharpened meeting edges and wedge-shaped areas adjoining the meeting edges.

4. A device for the protection of the ends of paper rolls, comprising a resilient material end disc having a slot and tapering areas at opposite sides of the slot for overlapping engagement, and an integral flange carried by the disc and being slotted in alinement with the slot of the disc and having tapered areas in alinement with the tapered areas of the disc for overlapping engagement.

5. A device for the protection of the ends of paper rolls, comprising a resilient material end disc having a slot and tapering areas at opposite sides of the slot for overlapping engagement, an integral flange carried by the disc and being slotted in alinement with the slot of the disc and having tapered areas in alinement with the tapered areas of the disc for overlapping engagement, and a band extending about said flange for binding both the flange and the disc in compressed condition.

JAMES ARMAND TAYLOR.
HORACE A. SHEESLEY.
FREDERICK WOEHLER MEARS.