Aug. 12, 1930. G. H. WHELDON 1,772,850

PROTECTOR FOR ROLLS OF PAPER

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Fig. 5

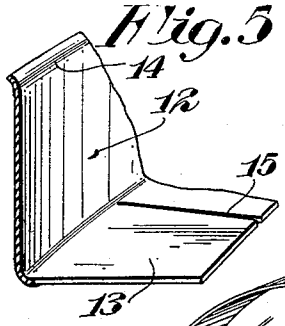


Fig. 2

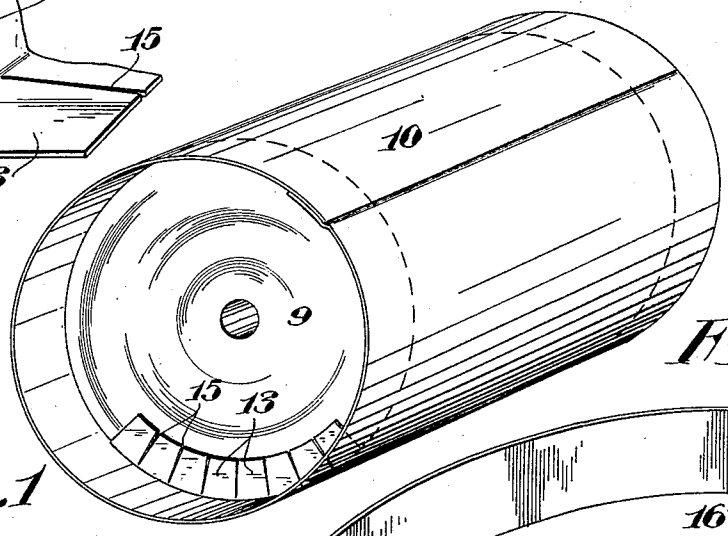


Fig. 1

Fig. 6

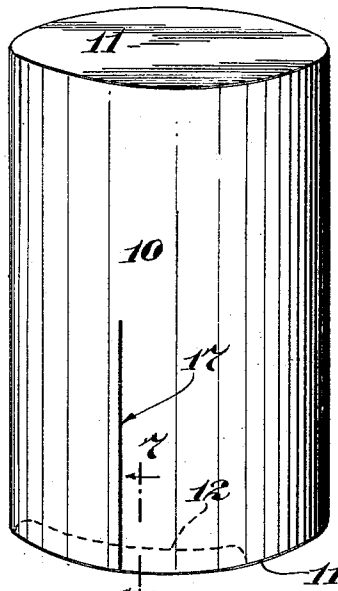


Fig. 3

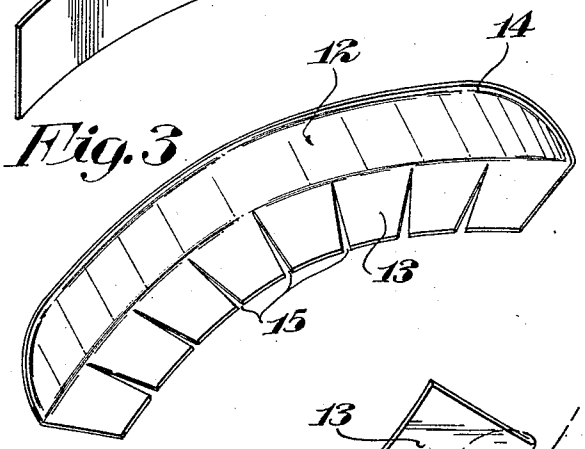
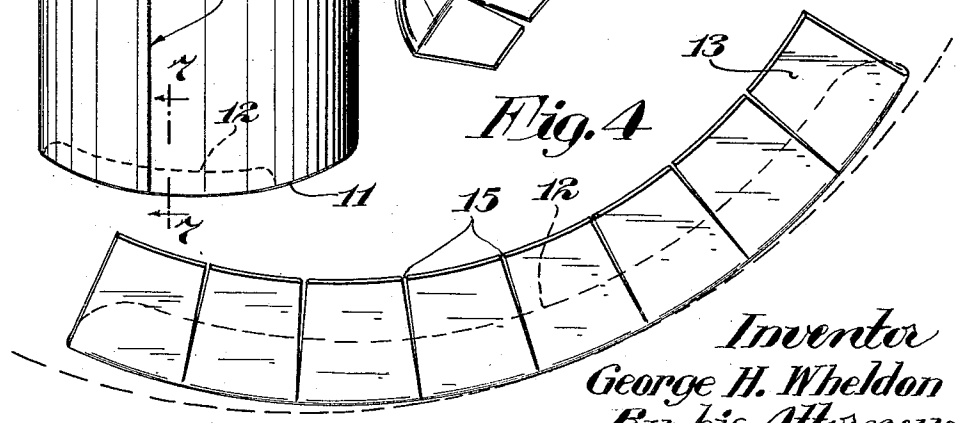


Fig. 4



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Fig. 7

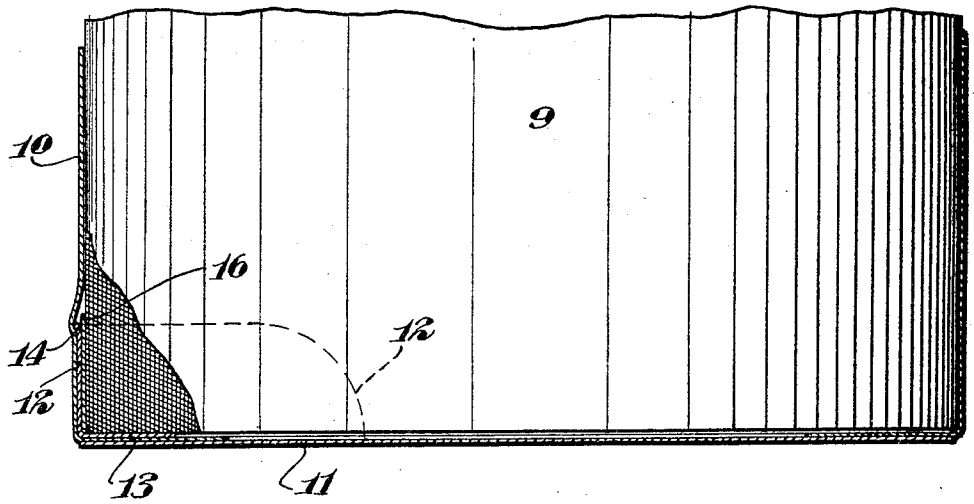
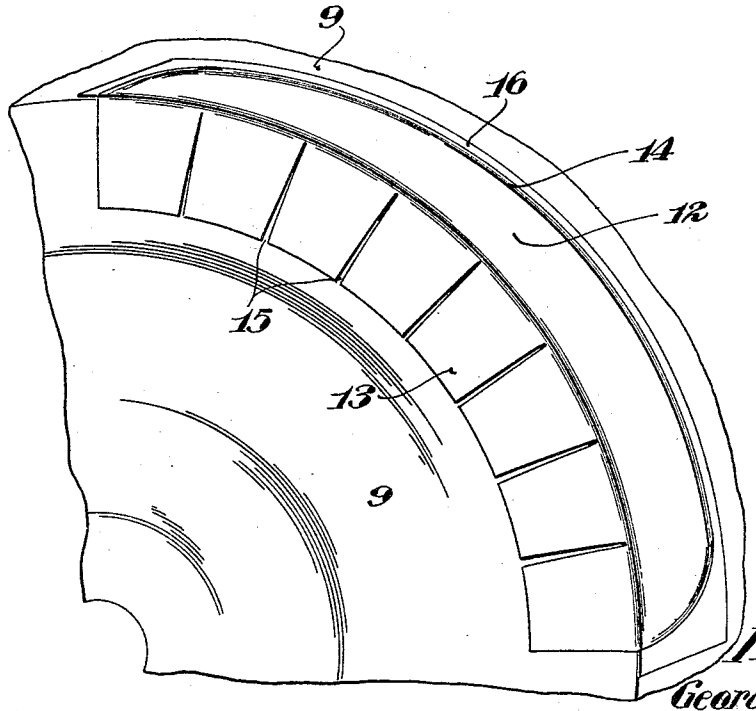


Fig. 8



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UNITED STATES PATENT OFFICE

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PROTECTOR FOR ROLLS OF PAPER

Application filed November 25, 1927. Serial No. 235,532.

My present invention has for its object the provision of a simple and highly efficient protector for rolls of paper such as are used in connection with newspaper printing presses. Such rolls of paper are very heavy and during the handling thereof it is necessary to upend the same at the mill prior to moving the rolls by truck to a car where said rolls are stored on end for transportation, and in turning said rolls onto their sides in the car at the end of their destination in order that the rolls may be loaded on a truck and conveyed to a printing shop or elsewhere.

During the upending of the rolls of paper at the mill and the turning of the same on their sides in the car, the entire weight of the rolls comes on the lower edges thereof where said rolls come in contact with the floor of the mill or the car thus causing the outer convolutions of the rolls for a considerable thickness to buckle longitudinally of the rolls and often split thus causing considerable damage. Before the paper in the rolls can be fed to a printing press, the damaged portion thereof must be removed which often results in a waste of a goodly number of pounds for each roll. The damaged portions of the rolls of paper after being removed therefrom must be baled and returned to the mill as waste, resulting in a considerable loss of both money and time.

By the use of my protector, a roll of paper may be shipped and handled as above described without damage thereto.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a perspective view of a roll of paper completely incased in a wrapper and having one of the protectors applied thereto under the wrapper, as indicated by broken lines, with a positioning mark therefor on the outside of the wrapper;

Fig. 2 is a perspective view of the roll showing the protector before the ends of the wrapper are folded;

Fig. 3 is a perspective view of the protector;

Fig. 4 is a perspective view of the protector before the same is expanded and applied to the roll, said roll being diagrammatically illustrated by means of broken lines;

Fig. 5 is a fragmentary perspective view of the protector;

Fig. 6 is a perspective view of the cushion strip;

Fig. 7 is a fragmentary view partly in side elevation and partly in longitudinal central section taken on the line 7—7 of Fig. 1, on an enlarged scale; and

Fig. 8 is a fragmentary perspective view of the roll with the protector applied thereto and the cushion strip interposed between the protector and the roll.

The numeral 9 indicates a roll of paper to which is applied a wrapper 10 having a width considerably greater than that of said roll in order that the ends thereof may be folded onto the ends of said roll. End caps 11 are pasted to the inturned edge portions of the wrapper 10 and together with the wrapper 10 completely encase the roll 9.

The protector is in the form of a segmental angle comprising a face flange 12 and an end flange 13. Said face flange 12 is adapted to extend over the circumferential face of the roll 9 at one edge thereof and the end flange 13 is adapted to extend radially inward over the respective end of said roll. The ends of the face flange 12 are curved and the outer longitudinal edge of said flange and its curved ends are outwardly rolled at 14 to prevent said flange from scoring, cutting or otherwise damaging the roll. A multiplicity of transverse V-shaped notches or slits 15 are formed in the end flage 14 to permit expansion and contraction of the protector.

The protector is made from relatively heavy spring sheet metal and the normal diameter thereof is less than the external diameter of the roll 9. In Fig. 4, the protector is shown at its normal diameter and the external slurface of the roll 9 is indicated by broken lines. It will thus be seen that the protector must be sprung or expanded to fit the roll 9. As the weight of the different rolls of paper vary considerably, the external diameters thereof also vary and hence the formation of the protector on a diameter less

than that of the smaller roll is highly important in that it is necessary to expand the protector in its application to a roll and when released will contract and self-adjust itself to the roll.

This springing or expanding of the protector to fit the roll 9 also performs another important function in that when the protector is sprung onto a roll and released the tendency thereof to assume its normal diameter will cause the inner face of the flange 12 to frictionally engage the roll and thereby hold the protector in position on the roll during the application of the wrapper 10. This self-holding feature of the protector on the roll will also prevent the protector from shifting on the roll after the wrapper 10 and caps 11 have been applied thereto.

To further protect the roll 9 a strip of paper 16 or other relatively soft material is interposed between the protector and the roll 9 as a cushion, as best shown in Figs. 7 and 8.

After the wrapper 10 has been applied to the roll 9 and before the edge portions thereof are folded onto the ends of said roll a mark 17 or other position-indicating means is placed on the exterior of the wrapper 10 at the longitudinal center of the protector so that during the handling of the roll 9, the workmen will known the exact portion of the protector on the roll 9 so that the roll 9 may be tipped on its protector when upending said roll or when turning the same onto its side from an upright position.

The above described invention, while extremely simple and of comparatively small cost of manufacture, has in actual usage proven highly efficient for the purpose had in view. The protectors may be used over and over again and the cost of returning the same to the mill is nil for the reason that the cores on which the rolls of paper are wound must be returned to the mill and the load in the car in which they are shipped is always under weight.

What I claim is:

A protector of the class described comprising a segmental angle member, the flanges of which are smooth, said member being formed from a single sheet of spring metal, the length of the protector being materially less than a semi-circle, the end flange of the protector being transversely notched from its outer edge substantially to the face flange to permit expansion and contraction of the face flange, said notches dividing the end flange into a plurality of sections that lie edge to edge in the same plane, the corners of the face flange being rounded, the diameter of the face flange being less than the diameter of the roll of paper to which the protector is to be applied, whereby the face flange will be expanded during the application of the protector to a roll of paper and placed under tension and when released will contract and frictionally engage the roll and be held in place while a wrapper is being applied to the roll.

In testimony whereof I affix my signature.

GEORGE H. WHELDON.