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ROLL CHOCKING DEVICE

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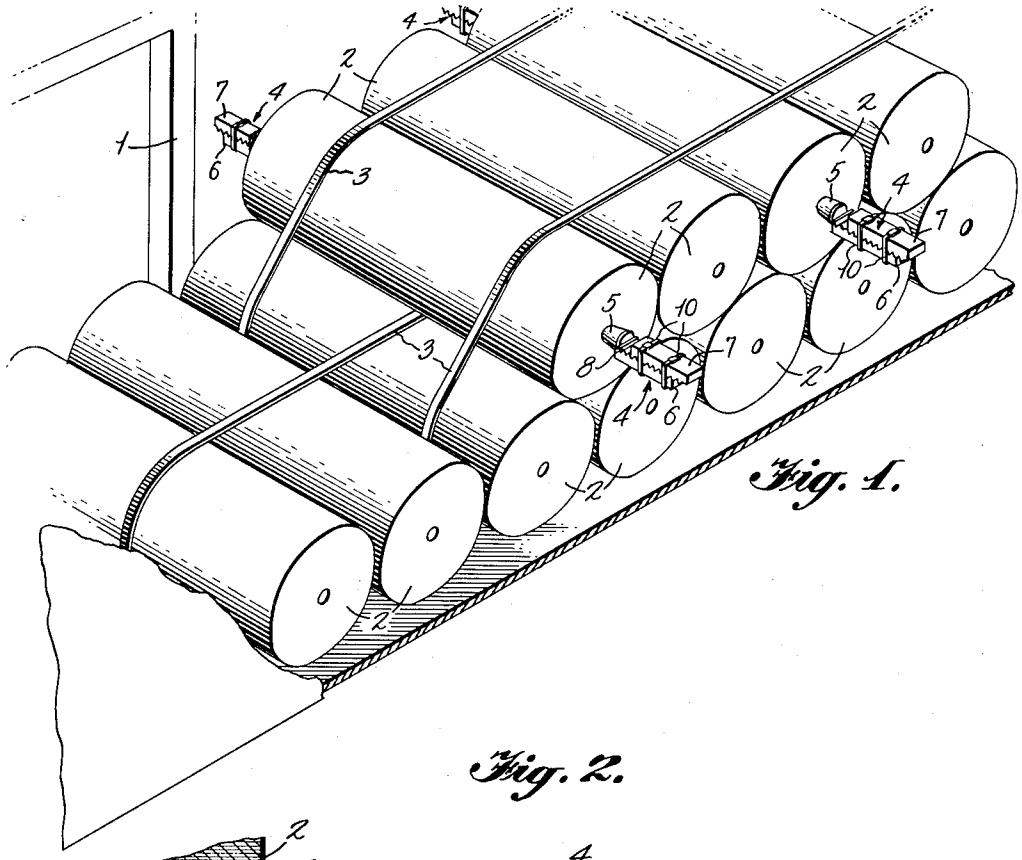


Fig. 1.

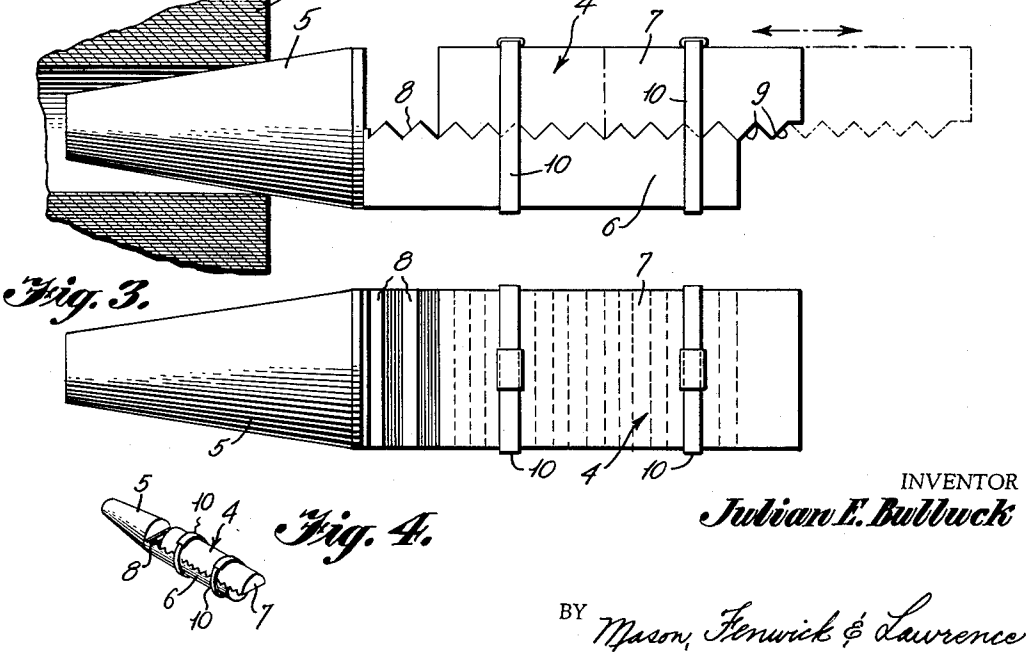


Fig. 2.

Fig. 3.

Fig. 4.

INVENTOR

Julian E. Bulluck

BY Mason, Fenwick & Lawrence

ATTORNEYS

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ROLL CHOCKING DEVICE

Julian E. Bulluck, Richmond, Va., assignor to The Albemarle Paper Manufacturing Company, Richmond, Va., a corporation of Virginia

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This invention relates to chocking devices, and particularly to chocks which are suitable for use in bracing roll material against end-wise movement during transportation in railroad cars, trailer trucks, and the like.

The prevention of shifting of roll material during transportation presents a major problem. This is particularly true with respect to rolls of paper, paper board, etc. Such rolls are quite large and extremely heavy, and if permitted to shift during transportation will disturb the equilibrium of the carrier which may result in serious accident. Carriers, justifiably, refuse to accept cars at transfer points when the load has shifted. The car will be returned to the shipper for repacking, or the shipper must pay the carrier to repack the car. Naturally, this results in great expense to the shipper and considerable loss of time in shipment. Many expedients have been resorted to to correct the situation, but those which thus far have been successful have added too much to shipping costs to be practical.

The primary object of the present invention is to provide a practical and efficient chock which is adaptable to brace rolls of different sizes and hold them rigidly in position during transportation.

Another object of the invention is to provide such chocks which may be made from various materials, either very cheap so that the chocks may be thrown away after a single use, or of more expensive materials to provide reusable chocks, and which may be installed by unskilled labor at low cost.

Other objects of the invention will become apparent from the following description of practical embodiments thereof when taken in conjunction with the drawings which accompany, and form part of, this specification.

In the drawings:

Figure 1 is a perspective view of a plurality of rolls of material in place within a railroad car, with the chocks of the present invention in place to prevent end-wise movement, the car being broken away in section to more clearly show the rolls and chocks;

Figure 2 is a side view of the chock in position in a roll, the roll being broken in section to show the manner in which the chock engages the roll;

Figure 3 is a top plan view of the chock; and,

Figure 4 is a perspective view of a chock having a slightly different shape.

Referring to the drawings in detail, and first adverting to Figure 1, there is shown the interior of a railroad car **1** with a plurality of rolls **2** of paper, or other material, packed for transportation. As is customary, the rolls are piled in two layers or superposed rows within the car. Steel straps, or tapes, **3** are securely fastened about the stacked rolls to prevent movement longitudinally of the car. The binding effect of the tapes to some extent hold the rolls against axial movement relative to one another, but, due to the great weight of the rolls and the fact that the cylindrical rolls have but line contact with the tapes, the rolls will shift axially under the centrifugal force created by the car in going around

curves. The shifting of the rolls changes the weight distribution in the car, creating an unbalanced load.

To prevent axial shifting, the present invention provides chocks to fit into the hub of the rolls to bridge the space between the roll ends and the sidewalls of the car. The chock is adjustable as to length and will fit roll hubs of various diameters.

The chock comprises an elongated device having a body portion **4** of adjustable length and a shank **5** for engaging in the hub or opening at the center of the roll. The shank is tapered so that it may be inserted into hubs of different sizes and will find a tight seat in the hub. The body portion may be of rectilinear cross-section, as shown in Figures 1 to 3, or of circular cross-section, as shown in Figure 4. The sole difference between the two modifications illustrated is in the cross-sectional shape. The body portion is divided longitudinally along a horizontal plane to form a lower section **6**, which is integral with the shank, and a separate upper section **7**. It will be seen that the entire unit may be made from a single piece of stock with the upper section being cut from the remaining portion to form a separate element. It is obvious that the two sections may also be made as separate units. The line of severance between the two sections shown is along an undulating or zig-zag line to form a plurality of teeth **8** on the upper surface of the lower section of the body and a companion set of teeth **9** on the lower face of the upper section **7** of the body portion. By reason of this arrangement, the upper section of the body may be moved longitudinally with respect to the other portion, and, when the teeth are engaged, the two sections will be held against relative movement. To hold the teeth in tight engagement, one or more steel straps **10** may be placed around the two sections and securely fastened by means of the conventional fastening element commonly used with this type of strip binder.

The two sections of the chock may be made with flat meeting surfaces and abrasive used to prevent relative longitudinal movement between the sections. The sections may be held together by nails, bolts, or other means in lieu of the straps described above.

These chocks may be made very inexpensively, as it is only necessary where rectangular wooden stock is used to turn the tapered shank **5** and sever the two body sections along a line forming the matching teeth. Small logs may also be used by simply turning the shank and severing the body sections from one another. In this latter case the cross section of the body section will be substantially round, as shown in Figure 4. Wood is not the only material from which the chocks may be made, but plastics, metal, paper, etc. may be used.

In using the devices, the rolls of paper, or other material, are stacked in the car, as shown in Figure 1, and the tapes **3** put around the rolls to hold them against movement longitudinally of the car. The chocks of the present invention are then inserted in the ends of the rolls or the ends of certain of the rolls, depending upon circumstances, until the tapered shanks are firmly seated within the central openings of the rolls. The upper section of the body portion will then be adjusted until its outer end is closely adjacent the car wall and the straps **10** will then be fastened in place to hold the two sections of the body portions firmly against relative movement. As chocks are put in both ends of the rolls they will serve effectively to prevent end-wise movement of the rolls. It will be obvious that straps **10** may be removed and the chocks re-used in other shipments, but due to their relative cheapness, they may be discarded.

While in the above, practical embodiments of the invention have been shown and described, it will be

apparent that specific details disclosed are merely by way of illustration and that various changes may be made within the scope of the appended claims.

What is claimed is:

1. A chock for rolls having axially hollow cores to hold said rolls against end movement relative to the walls of a transporting vehicle comprising, a frusto-conical shank to seat in the end of the hollow core of said rolls, and a body portion in axial alignment with said core and divided along a longitudinal plane into a section fixed to said shank and a section longitudinally movable relative to said fixed section whereby the movable section may be moved into end abutment with a wall of said vehicle, means on the confronting surfaces of the sections to resist relative longitudinal movement of the sections when in surface contact, and means to bind the sections together when adjusted.

2. In a device as claimed in claim 1, the means to prevent relative longitudinal movement of the sections comprising transverse serrations on the confronting surfaces of the sections.

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