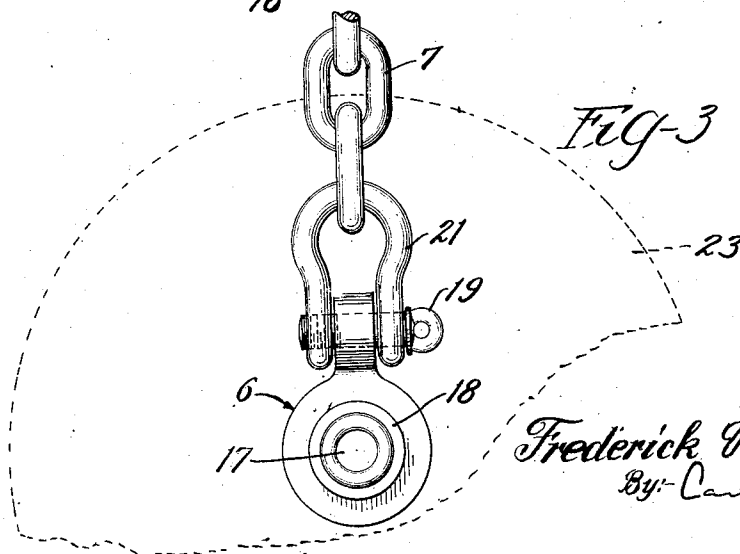
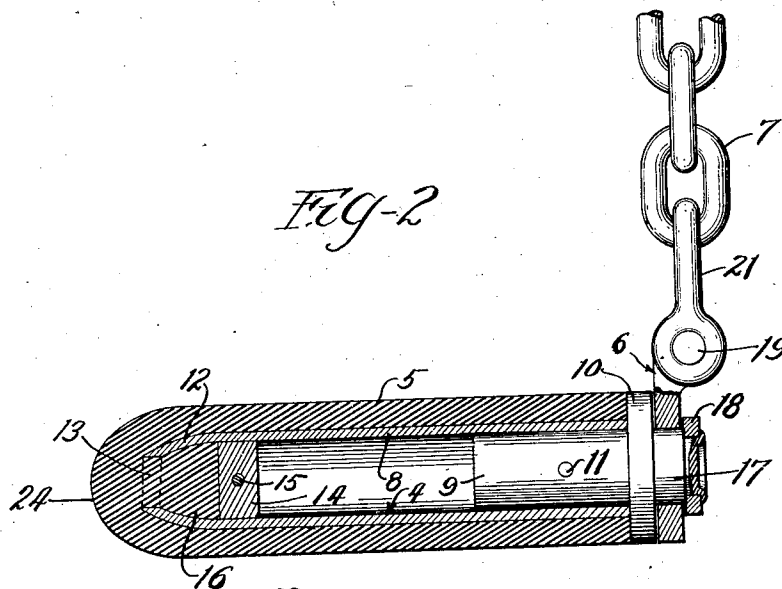
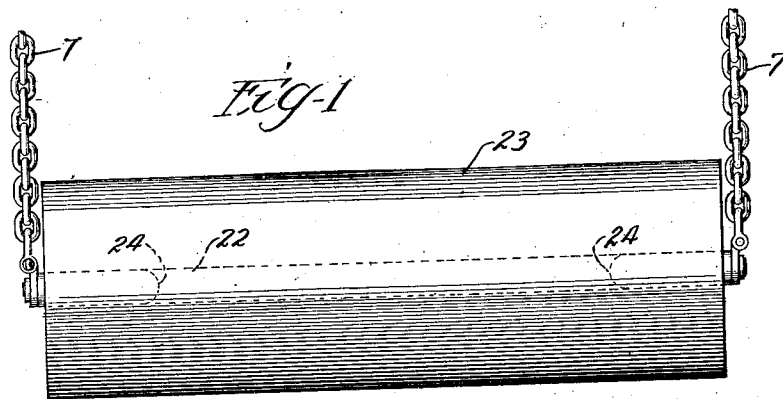


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F. VON DER HORST
PAPER ROLL HOISTING PLUG

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Inventor:
Frederick Von der Horst.
By: Carl S. Lloyd

Atty.

UNITED STATES PATENT OFFICE

FREDERICK VON DER HORST, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE TRIBUNE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

PAPER ROLL HOISTING PLUG

Application filed July 23, 1931. Serial No. 552,775.

This invention relates to an improved form of hoisting plug adapted for use in the removal of paper rolls from storage pits.

At the present time it is the common practice to use steel plugs to effect removal of paper rolls from the hold of a ship or other storage pit. The use of steel plugs for this purpose is unsatisfactory for the reason that they have a tendency to slip out of the roll core unless the roll is maintained in a perfectly horizontal position while being lifted. Furthermore, in using steel plugs there is danger of damaging the paper when they are being dropped into the hold preparatory to making a lift. It has been proposed to use a plug having a tip made of some material such as wood or rubber which would have less tendency to damage the paper. While such plugs are not as likely to damage the paper as are the plugs made entirely of steel, they, nevertheless, are objectionable because of the tendency to slip from the core of the roll.

The object of my invention is to provide a hoisting plug which is so constructed as to minimize the tendency toward slipping from the core of the roll and which will not damage the paper in case it is accidentally dropped onto the roll when being lowered preparatory to making a lift.

The invention will be fully understood from the following detailed description taken in connection with the accompanying drawings wherein I have shown a preferred embodiment thereof.

Referring to the drawings:

Fig. 1 is a view showing the manner of application of the lifting plugs to the core of a paper roll which is to be lifted;

Fig. 2 is a longitudinal sectional view of the improved lifting plug; and

Fig. 3 is an end view of the plug as viewed from the right in Fig. 2.

The plug, in its preferred form, comprises: a metal shank or core, indicated generally by the numeral 4; a rubber covering 5 disposed over the portion of the shank adapted to lie within the core of the roll; and a fixture 6 affording a connection between the exposed end of the plug and a lifting arm or chain 7.

The core 4 consists of a cylindrical shell 8 which telescopes over an end plug 9, and which is provided with a peripheral flange 10 which serves as an abutment for the layer of rubber covering 5. The end plug 9 is secured in shell 8 by an anchor pin 11. The opposite or forward end of shell 8 is reduced or tapered inwardly, as indicated at 12, the tapered wall portions being joined by a tie member 13 which extends transversely across the open end of the shell. A partitioning member 14 is secured in the shell 8 slightly to the rear of the tapered portion 12 and may be anchored in the shell by a rivet 15. The rubber covering 5 may be applied to the foundation shank 4 by any approved molding operation, the rubber at the forward end of the plug being compressed into the open end of shell 8 to provide an anchoring body of rubber in the forward end of said shell, as indicated at 16.

The fixture 6, in the embodiment shown, consists of a collar which is supported on the free end portion 17 of end plug 9. The exposed end of end portion 17 is swaged over a washer 18 which serves to hold fixture 6 in permanent position on end portion 17. The fixture 6 is removably connected with chain 7 by means of a bolt 19 and a U-link 21. The pivotal connection between the plug and chain 7 afforded by bolt 19 allows the plug to assume a vertical position when suspended in inactive position on the lower end of said chain.

The manner of use of the device will be apparent from Fig. 1. A pair of chains 7, the upper ends of which are suitably attached to the lifting cable, are spread to permit insertion of one of the plugs in each end of a core 22 extending centrally through a paper roll 23. The diameter of the lifting plug, as defined by the rubber covering 5, is slightly less than the diameter of core 22, and the free end of the plug is tapered or rounded as indicated at 24 to facilitate insertion in the roll core. The plugs being thus positioned, the roll is readily lifted by pulling upwardly on chains 7. On the upward pull there is little tendency for the plugs to slip from the roll core, since the frictional

contact between the rubber covering 5 and the core walls is sufficient to prevent slipping even though the roll be tilted slightly from the horizontal position. When the plugs are
5 lowered into the hold or pit there is very little danger of damaging the paper by impact with the ends of the plugs since the rubber covering 5 completely shields the metal portions of the plug against contact with the
10 paper.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims
15 should be construed as broadly as permissible in view of the prior art.

What I regard as new and desire to secure by Letters Patent is:

- 20 1. A hoisting device for paper rolls or the like comprising a rubber covered plug adapted to be inserted in the end of the roll core and provided at its projecting end with means affording connection with a lifting member.
- 25 2. A hoisting plug for paper rolls or the like comprising a metal shank provided at one end with means affording connection with a lifting member, and a rubber covering for the portion of said shank adapted to lie with-
30 in the roll core.
3. A hoisting plug for paper rolls or the like comprising a metal shank provided at one end with means affording connection with a lifting member, and a rubber covering for
35 the portion of said shank adapted to lie within the roll core, the free end portion of said covering being tapered inwardly to facilitate insertion of the plug in the roll core.
4. A hoisting plug for paper rolls or the
40 like comprising a metal shank provided near one end with a retaining flange, and a rubber covering abutting said flange and extending over the portion of the shank adapted to lie within the core of the roll.
- 45 5. A hoisting plug for paper rolls or the like comprising a metal shank provided near one end with a retaining flange, a rubber covering abutting said flange and extending
50 over the portion of the shank adapted to lie within the core of the roll, a lifting collar positioned on the exposed end of said shank adjacent said retaining flange, and means affording pivotal connection between said collar and a lifting member.

55 In witness whereof, I hereunto subscribe my name to this specification.
FREDERICK VON DER HORST.