March 14, 1933. F. VON DER HORST 1,901,482

ROLL HANDLING DEVICE

Filed Dec. 1, 1930

Fig-1

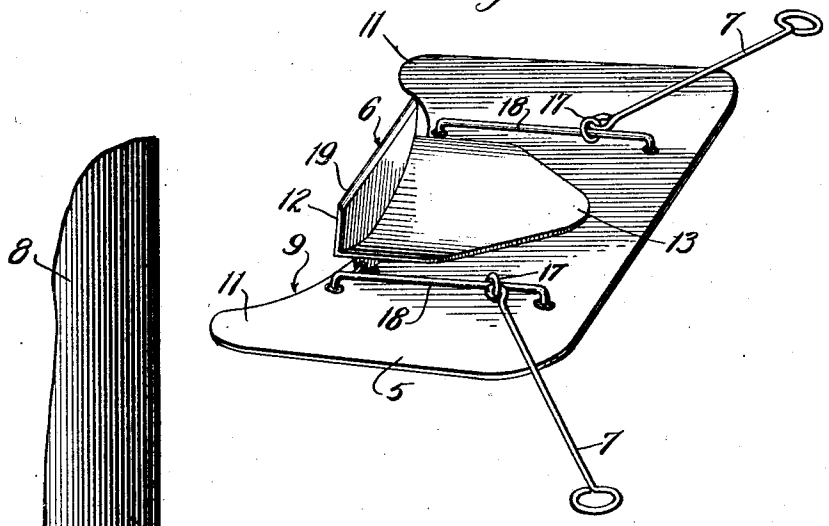


Fig-2

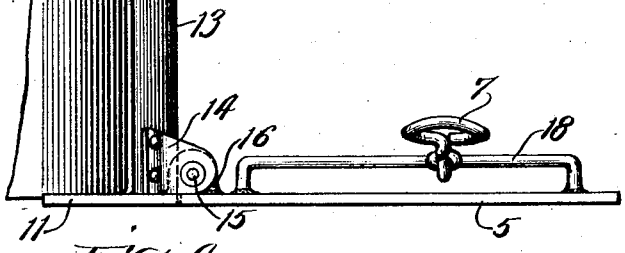


Fig-3

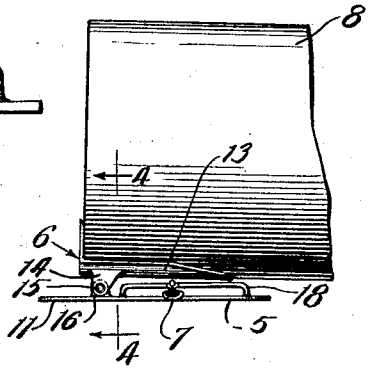
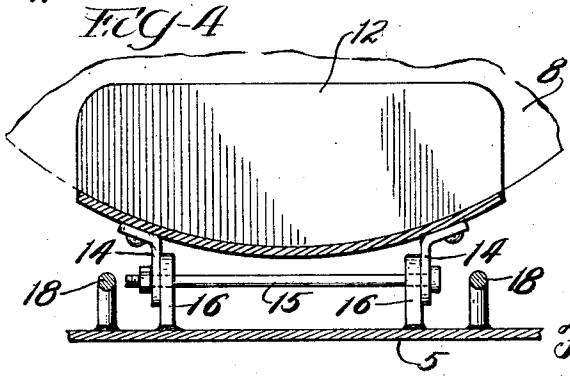


Fig-4



Inventor,
Frederick Von der Horst
By- Carl S. Lloyd
Atty.

Patented Mar. 14, 1933 1,901,482

UNITED STATES PATENT OFFICE

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

ROLL HANDLING DEVICE

Application filed December 1, 1930. Serial No. 499,242.

This invention relates to a device for facilitating the handling of paper rolls, such, for example, as the large rolls used in modern newspaper plants. In shipment the rolls are frequently loaded in upright position and when being unloaded the edges of the paper are often damaged when the roll is turned from vertical to horizontal position.

The object of this invention is to provide a device which can be easily and quickly operated to lower a paper roll from vertical to horizontal position without danger of crushing the edges of the paper.

The invention will be understood from the following detailed description, which, taken in conjunction with the accompanying drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Fig. 1 is a perspective view of the roll handling device;

Fig. 2 is an elevational view of the device showing the position assumed by the parts relative to a vertically disposed roll;

Fig. 3 is a view similar to Fig. 2 showing the position assumed by the parts after the roll has been tilted to horizontal position; and

Fig. 4 is a detail section taken on the line 4—4 of Fig. 3.

The device comprises: a base plate 5; a cradle pivotally supported on the base 5 and indicated generally by the numeral 6; and a pair of movable handles 7 for shifting the device into position for engaging a roll of paper 8.

The base 5 is cut away along one side to provide an arc-shaped space 9 for receiving the end of the roll of paper. The cut-away portion extends a considerable distance into the body of the plate 5, the end portions 11 formed thereby affording bearings for preventing tilting of the base 5 forwardly when a roll is being lowered into horizontal position on the cradle 6.

The cradle 6 consists of a sole plate 12, which engages against the end of the roll, and a cylindrically curved back wall 13 which extends approximately at right angles to the sole plate 12. The cradle is hingedly connected to the base 5 by means of a pair of bearing cleats 14 which are secured to the back wall 13, said cleats being apertured to receive a shaft 15 which in turn is journaled at its opposite ends in a pair of studs 16 carried by the base plate 5. The studs 16 are positioned fairly close to the edge of the cut-away portion of the plate 5, so that when the cradle is swung into the position shown in Fig. 2 the sole plate 12 will come to rest on the floor or other supporting surface. The back wall 13 is made fairly long as compared to the sole plate 12 to provide an extended support for the roll and also to over balance the sole plate thereby normally maintaining the cradle in the upturned position shown in Fig. 1. The handles 7 are movably secured to the plate 5 by links 17 which have sliding engagement with rods 18 carried by the plate 5. This arrangement of the handles provides ready means for pulling the device into proper position for engaging a roll.

The method of operation will be apparent from Figs. 2 and 3. The cradle 6 is swung into the vertical position shown in Fig. 2 and the sole plate 12 is placed under the end of the roll, the back wall 13 being at the same time moved into engagement with the vertical face of the roll. This may be readily accomplished by tilting the roll slightly to raise the edge adjacent plate 12 and then either pulling or shoving the device forwardly until the corner of the roll seats on the cradle. The front edge of the sole plate is bevelled as indicated at 19 to aid in forcing the plate under the roll. The roll as thus supported by the cradle 6 may then be pivoted about the shaft 15 until it is in horizontal position. A suitable pad may be provided to catch the roll as it approaches horizontal position. The entire weight of the roll is thus carried by the cradle 6 and there is no possibility of the edges of the paper being damaged.

The device is particularly well adapted to the unloading of paper rolls from the hold of a ship. The rolls are ordinarily loaded in the ship in upright position and are unloaded by being tipped into horizontal posi-

tion and gripped at the opposite ends of the core by grab hooks carried by the hoisting cable. A truck would be unsuitable for tipping the rolls of the upper tiers from vertical to horizontal position inasmuch as the wheels would fall into the open spaces between the rolls forming the tier immediately below. No difficulty of this nature is encountered in the use of my device inasmuch as the base plate 5 has a considerable bearing surface and may be easily slid across the upper ends of the next succeeding tier of rolls.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims 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:

1. A portable device for handling rolls of paper comprising a flat base plate adapted to be slid over a supporting surface into position adjacent the roll, and a cradle hingedly connected to said base plate adjacent one edge thereof, said cradle having a lip adapted to engage under the end of a roll with the latter standing on end and an arcuate portion at right angles to said lip adapted to engage the side of the roll and to support the latter as the same is being turned from vertical to horizontal position on the same level.

2. A device for handling rolls of paper comprising a flat base plate adapted to be slid over a supporting surface into position adjacent the roll, said plate having one side thereof cut away to provide an open space for receiving the end of the roll, and a roll supporting cradle pivotally mounted on said base plate adjacent the open side thereof, said cradle comprising a sole plate for engaging the end of the roll and adapted in the vertical position of the cradle to lie in said open portion of the base plate, and a cylindrically curved back wall extending at approximately right angles to the sole plate and cooperating therewith to protect the corner of the roll during the tilting of the latter from vertical to horizontal position.

3. A device for handling rolls of paper comprising a flat rectangular base plate adapted to be slid over a supporting surface into position adjacent the roll, said plate having an arc-shaped opening along one side to accommodate the end of the roll, bars extending transversely of said plate near the opposite ends thereof, handles movably connected with said bars, and a cradle hingedly connected to said base plate adjacent the open side thereof, said cradle comprising a sole plate for engaging the end of the roll and adapted in the vertical position of the cradle to lie in said open portion of the base plate, and a cylindrically curved back wall extending at approximately right angles to the sole plate and co-operating therewith to support and protect the corner of the roll when the latter is being lowered from vertical to horizontal position.

4. A device for tilting rolls of paper from vertical to horizontal position comprising a flat base plate adapted to be slid over a supporting surface into position adjacent the roll, said plate having one side thereof cut away to receive the peripheral end portion of the roll, the rear portions thereof at the opposite sides of said opening affording extended bearing surfaces for preventing tilting of the plate during the lowering of the roll, and a roll supporting cradle pivotally mounted on said base plate adjacent the open side thereof, said cradle comprising a sole plate for receiving the end of the roll and adapted in the vertical position of the cradle to lie in said open portion of the base plate, and a cylindrically curved back wall extending at approximately right angles to the sole plate and cooperating therewith to support and protect the corner of the roll during the tilting of the latter.

In witness whereof, I hereunto subscribe my name to this specification.

FREDERICK VON DER HORST.