July 4, 1933. E. T. STREET 1,917,164

PRESS ROLL REMOVING APPARATUS

Filed July 18, 1932 2 Sheets-Sheet 1

Fig. 1.

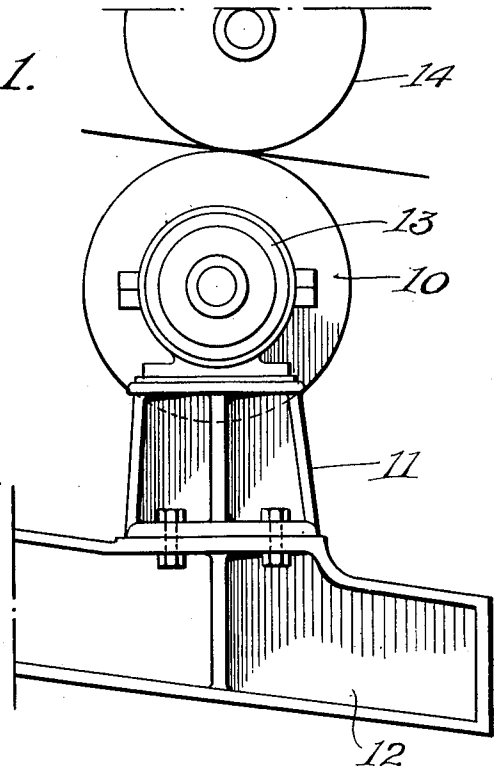
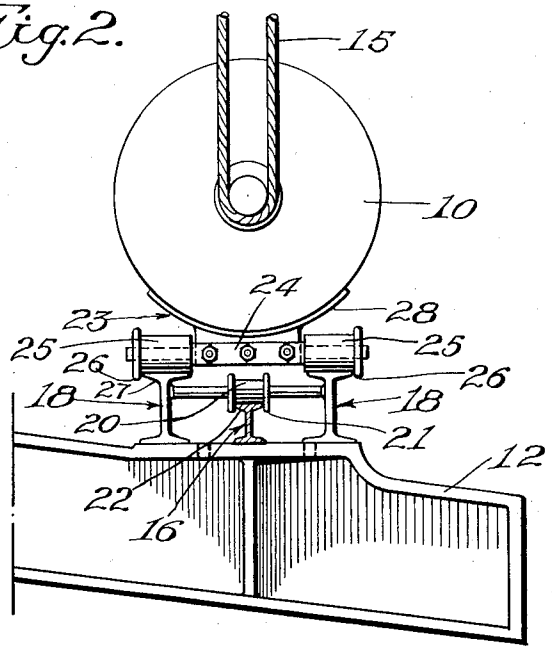


Fig. 2.



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PRESS ROLL REMOVING APPARATUS

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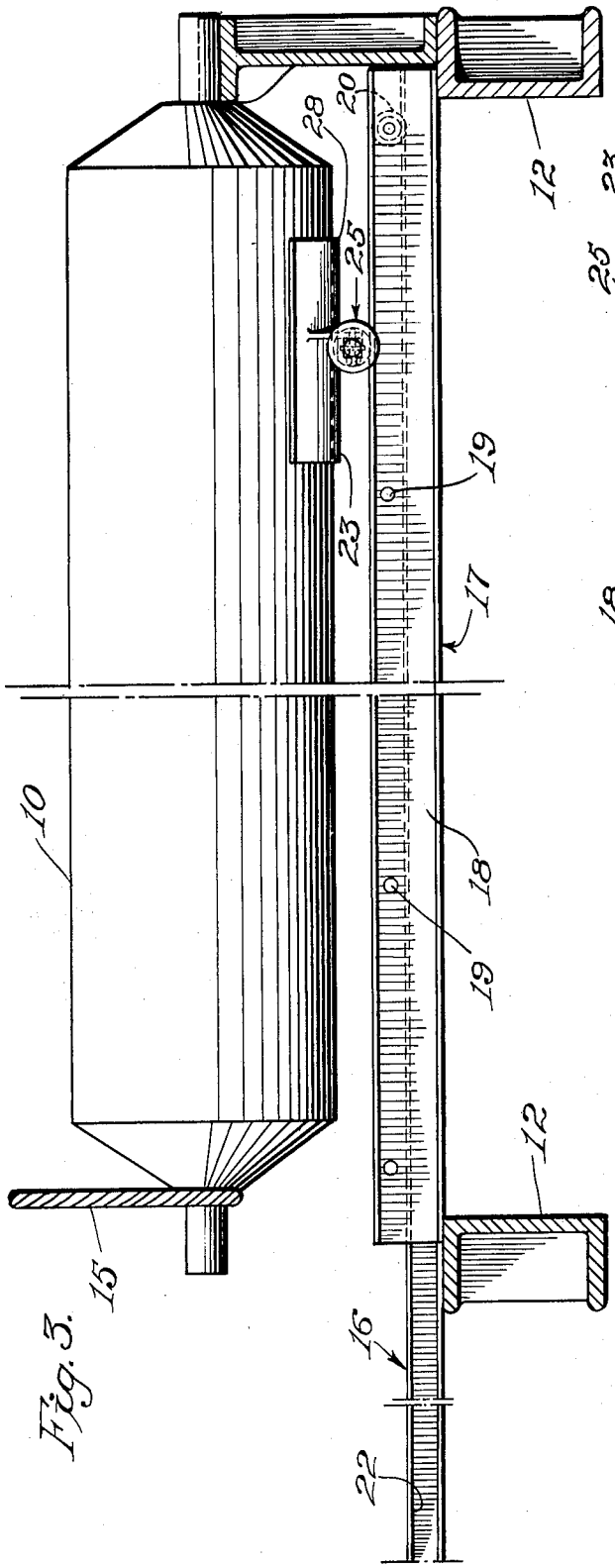


Fig. 5.

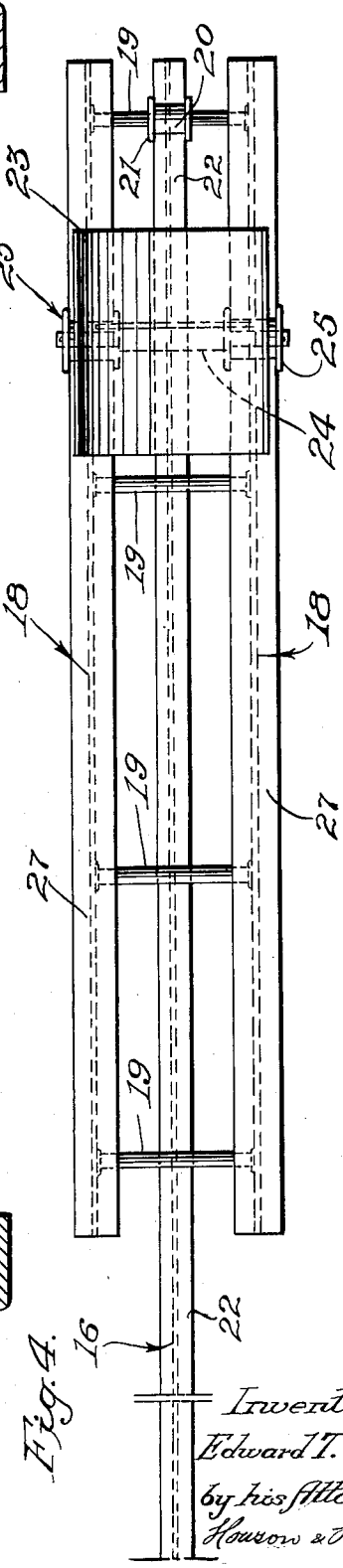


Fig. 4.

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Patented July 4, 1933 1,917,164

UNITED STATES PATENT OFFICE

EDWARD T. STREET, OF DOWNINGTOWN, PENNSYLVANIA, ASSIGNOR TO DOWNINGTOWN MANUFACTURING COMPANY, OF DOWNINGTOWN, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA

PRESS ROLL REMOVING APPARATUS

Application filed July 18, 1932. Serial No. 623,279.

This invention relates to apparatus for removing the lower rolls of the presses of paper machinery, and more particularly to an apparatus primarily intended for use in the removal of the lower rolls of primary presses.

In the ordinary method of removing such rolls it is necessary that the upper roll of the press be first removed. This occupation is time-consuming and, accordingly, very costly both from the labor and loss of production standpoints.

The primary object of this invention is the production of an apparatus permitting the roll to be removed in the direction of its axis, which apparatus is of such character that it may be very readily installed and removed.

These and other objects I attain by the construction shown in the accompanying drawings wherein, for the purpose of illustration, I have shown a preferred embodiment of my invention and wherein:

Fig. 1 is a side elevation of the lower portion of a primary press;

Fig. 2 is a longitudinal sectional view through the press illustrating the method of installing the removal apparatus;

Fig. 3 is an end elevation showing the removal apparatus in position; and

Fig. 4 is a plan view of the dolly track frame.

In the construction of primary presses, the lower press roll 10 usually has its bearings mounted upon a removable block designated at 11 inserted between the frame 12 and the roll bearings 13. These blocks are removable when the lower press roll is swung from the upper press roll 14 by means of the usual links fragmentarily shown and designated at 15. The removable blocks illustrated are those illustrated in a copending application of Albert H. Standley, Jacob Edge and Edward T. Street, filed July 18, 1932, Serial No. 623,278, for Primary press section for paper machines, since the ordinary removable blocks do not afford sufficient space to enable convenient use of the apparatus now to be described. Such space could, however, be afforded with the ordinary removable block of the usual primary press construction by simply making these blocks of slightly greater depth than they are now made.

Assuming the press roll 10 to have been supported and the blocks 11 to have been removed, I first provide an extremely light beam 16 of greater length than the distance between the frame elements 12, and of such weight that it may be readily placed in position by a solitary workman. This beam may be conveniently constructed of aluminum and preferably is made in the standard structural I-beam form. This beam is placed in position directly under the roll with its inner end resting upon the frame at that side remote from the side at which it is desired to remove the roll. A track frame 17, more particularly shown in Fig. 4, is then installed in position. This track frame comprises spaced I beams 18, the spacing of which is maintained through spacers 19 arranged above the base of the frame a distance greater than the height of beam 16. This frame is of slightly greater length than the distance between the press frame elements 12 and the spacer 19 at the inner end of the frame has mounted thereon a flanged roller 20 of a diameter such that the bottom of frame 17 and the bottom of beam 16 are coplanar when the roller rests upon the I beam 16. Flanges 21 of this roller are spaced apart a distance such that they embrace the edges of the upper flange 22 of the I beam 16. This roller serves to support the inner end of the frame 17 as the frame is moved in position beneath the press roll 10 and until the ends of this frame are seated upon the press frame elements 12.

A dolly 23 is provided, comprising a transverse beam 24 mounting at its ends rollers 25 having at their outer ends flanges 26 to engage the outer edges of the flanges 27 of the I beams 18, and an arcuate plate 28 adapted to receive the roll and support the rear end thereof. It will be obvious that the forward end of the roll can then be placed in a sling and the roll thus supported may be shifted outwardly until slightly more than one-half its length projects beyond the frame 12 at that side of the machine from

which the roll is being removed. At this time the end of the roll may be supported by the usual tripod and the sling shifted to engage the roll at the center thereof.

Since the construction hereinbefore set forth is obviously capable of considerable modification without in any manner departing from the spirit of the invention, I do not wish to be understood as limiting myself thereto except as hereinafter claimed.

I claim:

1. In press-roll-removing apparatus, a beam to seat on the press frame in underlying relation to the roll to be removed, a frame including tracks and having a support to engage the beam whereby the track frame may be supported at its inner end as it is moved beneath the press roll, and a dolly having means to engage said tracks including means to support an end of the press roll.

2. In press-roll-removing apparatus, a track frame adapted to engage the press frame and be supported thereby, means to temporarily support said track frame during installation of the track frame and while the track frame is moving longitudinally of the roll, and a dolly having rollers to engage the tracks of the track frame including means to support an end of the press roll.

3. In press-roll-removing apparatus, a beam to seat on the press frame in underlying relation to the roll to be removed, a frame including tracks and having a support to engage the beam whereby the track frame may be supported at its inner end as it is moved beneath the press roll, and a dolly having means to engage said tracks including means to support an end of the press roll, said frame comprising spaced structural beams and spacers maintaining the spacing and assembly thereof, one of the spacers mounting a roller comprising said support.

4. In press-roll-removing apparatus, a beam to seat on the press frame in underlying relation to the roll to be removed, a frame including tracks and having a support to engage the beam whereby the track frame may be supported at its inner end as it is moved beneath the press roll, and a dolly having means to engage said tracks including means to support an end of the press roll, said frame comprising spaced structural beams having flanges forming said tracks.

5. In press-roll-removing apparatus, a beam to seat on the press frame in underlying relation to the roll to be removed, a frame including tracks and having a support to engage the beam whereby the track frame may be supported at its inner end as it is moved beneath the press roll, and a dolly having means to engage said tracks including means to support an end of the press roll, said frame comprising spaced structural beams having flanges forming said tracks, the track-engaging means of the dolly comprising flanged rollers.

6. Press-roll-removing means comprising a dolly to engage the press roll, a frame insertible in the press longitudinally of the press roll and of a length to seat on its ends on the press frame, a light beam manually supportable for insertion in the press to underlie the roll, said frame and beam including co-acting means whereby the entering end of the frame is supported and guided during insertion of the frame in the press.

EDWARD T. STREET.