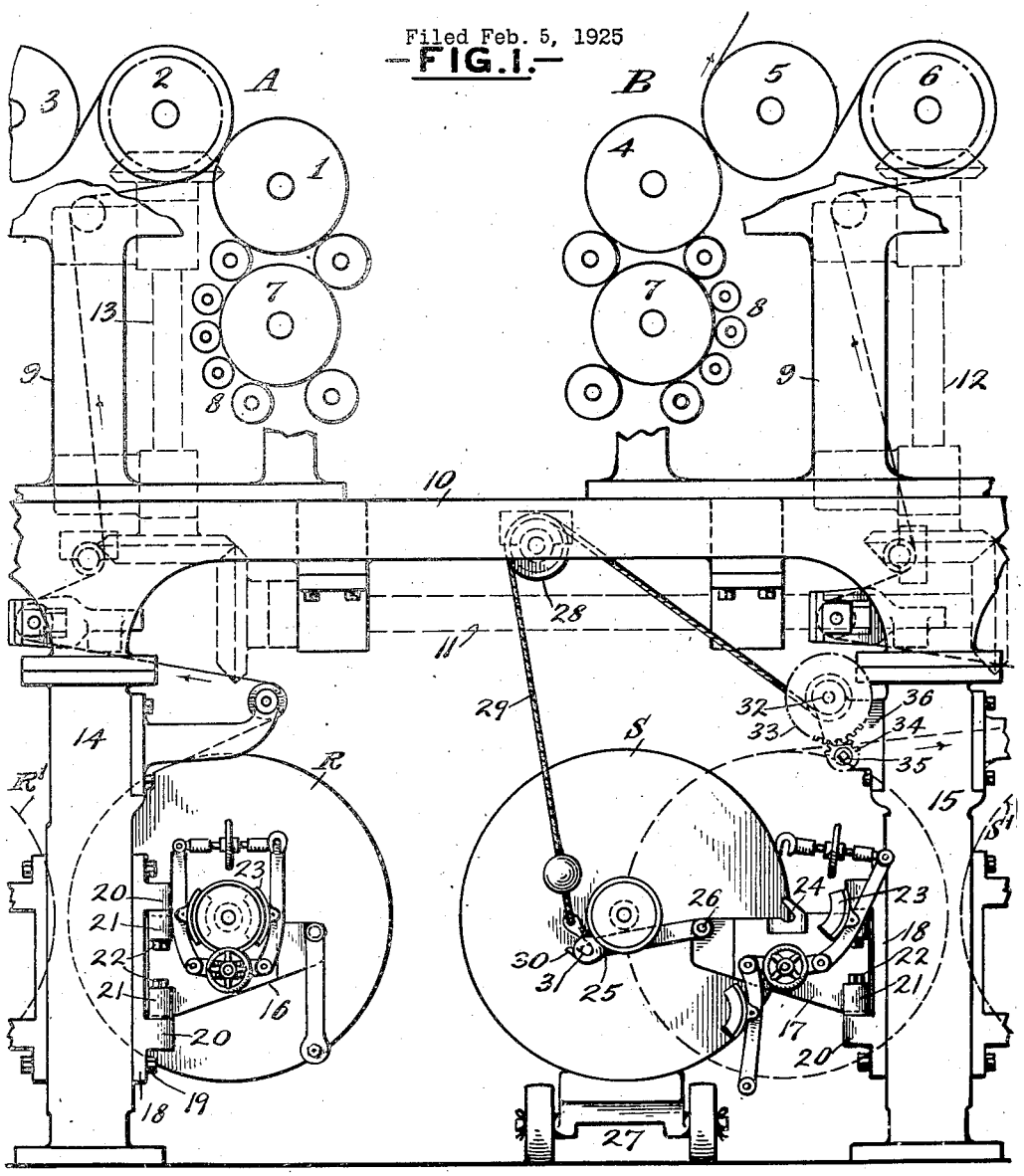
July 17, 1928. 1,677,561

F. LAMATSCH

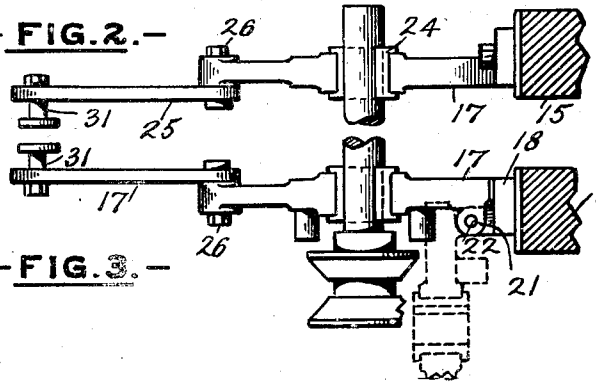
WEB ROLL RELOADING MECHANISM

Filed Feb. 5, 1925

-FIG.1.-



-FIG.2.-



-FIG.3.-

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Patented July 17, 1928. 1,677,561

UNITED STATES PATENT OFFICE.

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WEB-ROLL RELOADING MECHANISM.

Application filed February 5, 1925. Serial No. 6,937.

This invention relates to certain improvements in devices for handling and loading web rolls in printing machines.

In certain types of printing presses, such as the large multi-couple machines used in printing newspapers and the like, serious problems arise in accommodating these machines in the pressroom space which can be afforded them, and where, as is frequently the case, this space is cramped the printing units of the machines have to be placed very close together. These machines use a large number of rolls and a spare roll supply must always be ready for use to take the place of the running rolls as these are exhausted. Where the pressroom space is small and the couples have to be placed close together, difficulty is experienced in positioning the spare rolls for use while the press is using the running rolls. Furthermore, these rolls are very heavy and are difficult to handle and place in position.

A special object of the present invention is to provide an improved mounting or support for the rolls so that spare rolls may be placed in position without interfering with the running rolls where the space for the running and spare rolls is very small or confined.

A further object of the invention is to provide an improved mechanism for positioning the rolls in their bearings, particularly in narrow and confined areas.

With these and other objects not specifically referred to, the invention consists in certain novel parts, arrangements and combinations which will be described in connection with the accompanying drawings and the novel features pointed out in the claims hereunto annexed.

In these drawings,—

Figure 1 is a side elevation of a multi-couple printing machine which illustrates the invention;

Figure 2 is a detail plan view, partly in section, of one of the roll supports in operative or running position, and

Figure 3 is a similar view showing in dotted lines the support moved to permit the loading of a roll.

Referring now to these drawings, the invention has been illustrated as employed in a multi-couple rotary printing machine in which the couples are arranged closely together, as is necessary in many instances on account of lack of space in the pressroom, and two adjacent printing couples of such a machine have been shown. It will be understood, however, that the invention may be used in other relations than in the particular machine illustrated.

In the press shown, there is provided a printing unit A, including a form cylinder 1, an impression cylinder 2 and the impression cylinder 3 of a perfecting couple. Closely adjacent this couple is a second printing couple B having a form cylinder 4, an impression cylinder 5 of a perfecting couple and the impression cylinder 6 of a printing couple. The couples are inked in the usual manner from distributing cylinders 7 with their trains of ink rolls 8, these parts being supported in suitable side-frames 9 rising from a base in the form of a frame 10. These parts of the press are driven in any usual desired manner, as from a power shaft 11 and driving shafts 12, 13.

The paper rolls in these presses are supported in brackets which extend outwardly from suitable supporting frames, the rolls being lifted from trucks and positioned in these brackets. Where, because of cramped space, the printing couples and the rolls that feed them have to be placed closely adjacent, difficulty has been found in enabling a spare roll to be passed by a running roll to get it into position, the brackets interfering with the passage of the rolls. In accordance with the invention, therefore, a construction is provided whereby the brackets are displaceable so that they can be moved to such a position that space is provided for a roll to be moved into position past a running roll without interfering with the latter. While this may be accomplished in various ways, in the particular construction illustrated, the roll supply is carried beneath the presses, this construction being adopted so that the rolls will have to be lifted at minimum height to get them in position. As shown, therefore, the base frame 10, before referred to, is supported on upright frames 14, 15, which in turn serve as supports for the roll holding brackets 16, 17, these brackets being arranged in pairs on opposite sides of the machine, those at the front side of the machine only being illustrated. One of these sets of brackets, as the bracket 16, supports a roll, shown as the running roll R, which feeds couple A, and a similar set of brackets

on the other side support a spare roll R'. The bracket 17 supports a roll for supplying couple B, this roll being shown as exhausted, and a spare roll S being shown as about to be raised into position, the couple B being fed at this time from a roll S', shown in dotted lines in Fig. 1.

It will be observed that if the brackets 16, 17 were, as is usual, fixed brackets the roll S could not have been moved by the roll R, as it would interfere with the bracket 17 or with the roll. To overcome this difficulty, one of the brackets of each set is mounted so that it is displaceable, that is, so that it may be moved out of the path of a roll being moved into position. While various expedients for preventing this may be provided, in the particular construction illustrated, this is effected by pivoting the brackets so that the brackets may be swung sidewise in their supports at an angle to their normal position, with the result that an additional space, the width of a bracket, is provided which is sufficient to permit the ready handling of the rolls.

The construction of the brackets is identical and the description of one will suffice for all. As shown and referring to bracket 16, this bracket is supported in a plate 18 suitably secured, as by bolts 19, to the upright frame 14, before referred to. This plate and the bracket are provided with knuckles 20, 21 which receive hinge pins 22, on which the bracket can be swung from the position shown in full lines in Fig. 3 to the position shown in dotted lines, that is, at right angles thereto, so that sufficient space is provided for permitting the passage of a spare roll past the running roll and past the supporting brackets. These brackets carry the usual brake mechanism for breaking the rolls, indicated at 23, and a socket, shown at 24, in which the roll runs.

The front end of the bracket is also provided with an arm 25 pivoted at 26 thereto, this arm being lifted to raise the roll from a truck 27 so that the roll may be moved into running position in the bearings 24. In accordance with the invention, means are provided whereby this arm 25 may be lifted without the necessity of an operator getting between the rolls to lift the arm, thus further economizing space, the means for lifting this arm being located above or to one side of the bracket. While these means may be of various characters, in the particular construction illustrated, there is provided a sheave 28 secured in a convenient position to the frame 10, before referred to, this construction being duplicated at the back of the machine. This sheave supports lifting cables 29 which are provided with hooked ends 30 which hook over pins 31 in the ends of the arms 25. These cables at their other ends are secured to a shaft 32, on one end of which is a gear 33 which meshes with a pinion 34 on a stud having a squared end 35 which will receive a wrench handle by which the pinion may be rotated, this shaft 32 and the pinion 35 being mounted in a bracket 36 suitably secured to one of the uprights, as the upright 15, before referred to. It will be understood that as many of these lifting cables as are necessary will be provided for manipulating the rolls of any given press.

While the invention has been shown and described in its preferred form, it will be understood that certain changes may be made in the specific structure shown and described without departing from the invention as defined in the claims hereunto appended.

What I claim is:

1. In a printing machine, the combination of a plurality of printing couples, of spaced framing supporting the couples, web roll supports secured on adjacent sides of the framing and extending outwardly therefrom facing each other with a clear space between them, and means for swinging the supports at an angle to the framing to form a clear path for the roll so that a roll may be entirely moved past the support for positioning therein without interfering with a roll running in the opposite support.

2. In a printing machine, the combination of a plurality of printing couples, spaced frames below the couples and supporting them, pivoted brackets secured to adjacent sides of opposite frames and extending outwardly therefrom facing each other with a clear space between them, said brackets having a swinging movement angularly to the frames to form a clear path for the roll so that a roll may be entirely moved past the bracket for positioning therein without interfering with a roll running in the opposite bracket.

3. In a printing machine, the combination of a plurality of printing couples, of spaced framing below the couples and supporting them, web roll supports mounted on adjacent sides of the framing and extending outwardly therefrom facing each other with a clear space between them, means for swinging the supports at an angle to the framing to form a clear path for the roll, so that a roll may be entirely moved past the support for positioning therein without interfering with a roll running in the opposite support, a roll hoisting mechanism, and means located above and between the roll supports for hoisting a roll onto the support.

In testimony whereof, I have hereunto set my hand.

FREDERICK LAMATSCH.