July 25, 1933. O. R. WOLF 1,919,456

ROLL STAND FOR PRINTING PRESSES

Filed July 8, 1929 4 Sheets-Sheet 1

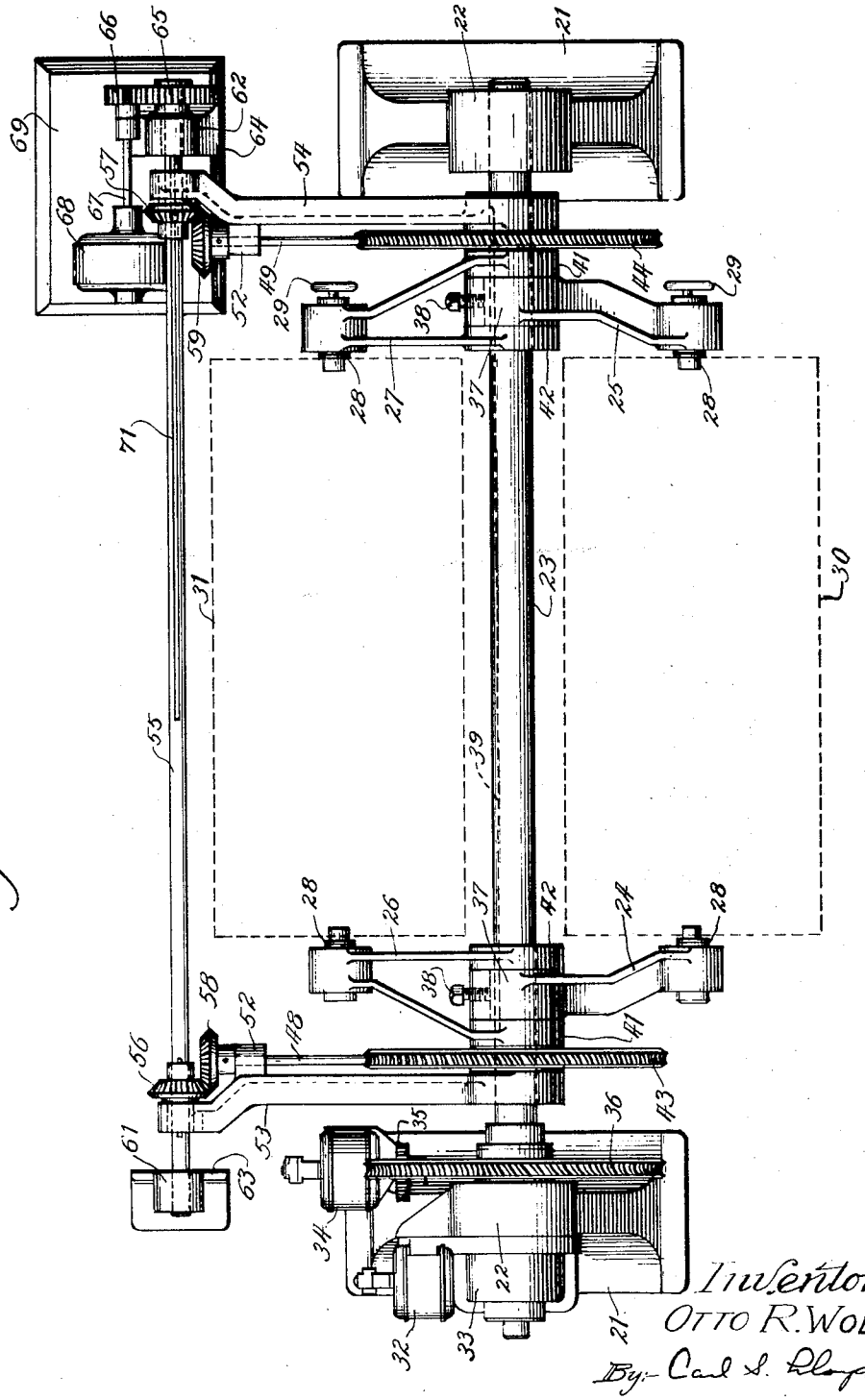


Fig. 1

Inventor
OTTO R. WOLF
By: Carl L. Lloyd
Atty.

July 25, 1933. O. R. WOLF 1,919,456

ROLL STAND FOR PRINTING PRESSES

Filed July 8, 1929 4 Sheets-Sheet 2

Fig-2

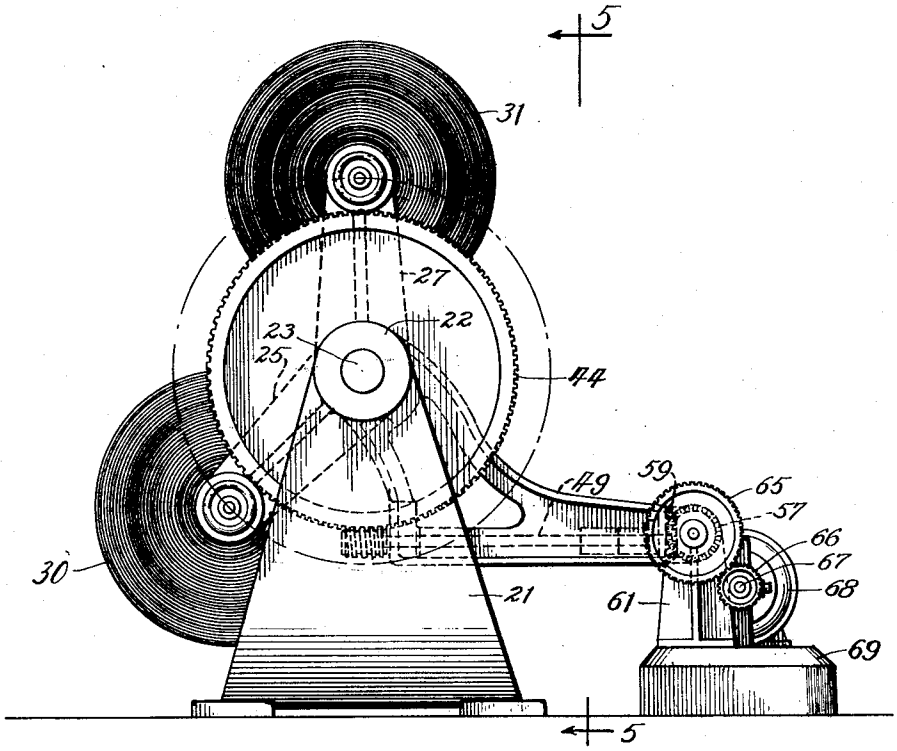


Fig-3

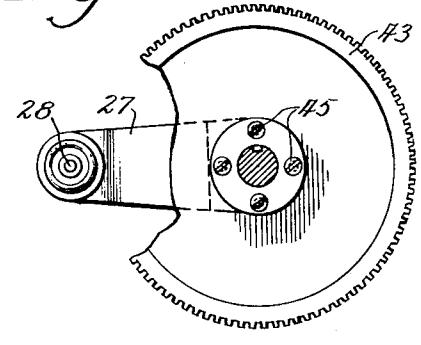
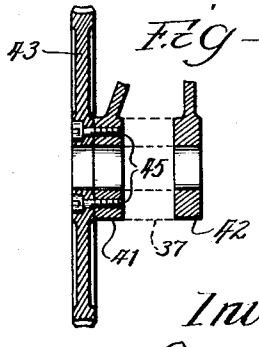


Fig-4



Inventor:-
OTTO R. WOLF
By:- Carl S. Lloyd
Atty.

July 25, 1933. O. R. WOLF 1,919,456

ROLL STAND FOR PRINTING PRESSES

Filed July 8, 1929 4 Sheets-Sheet 3

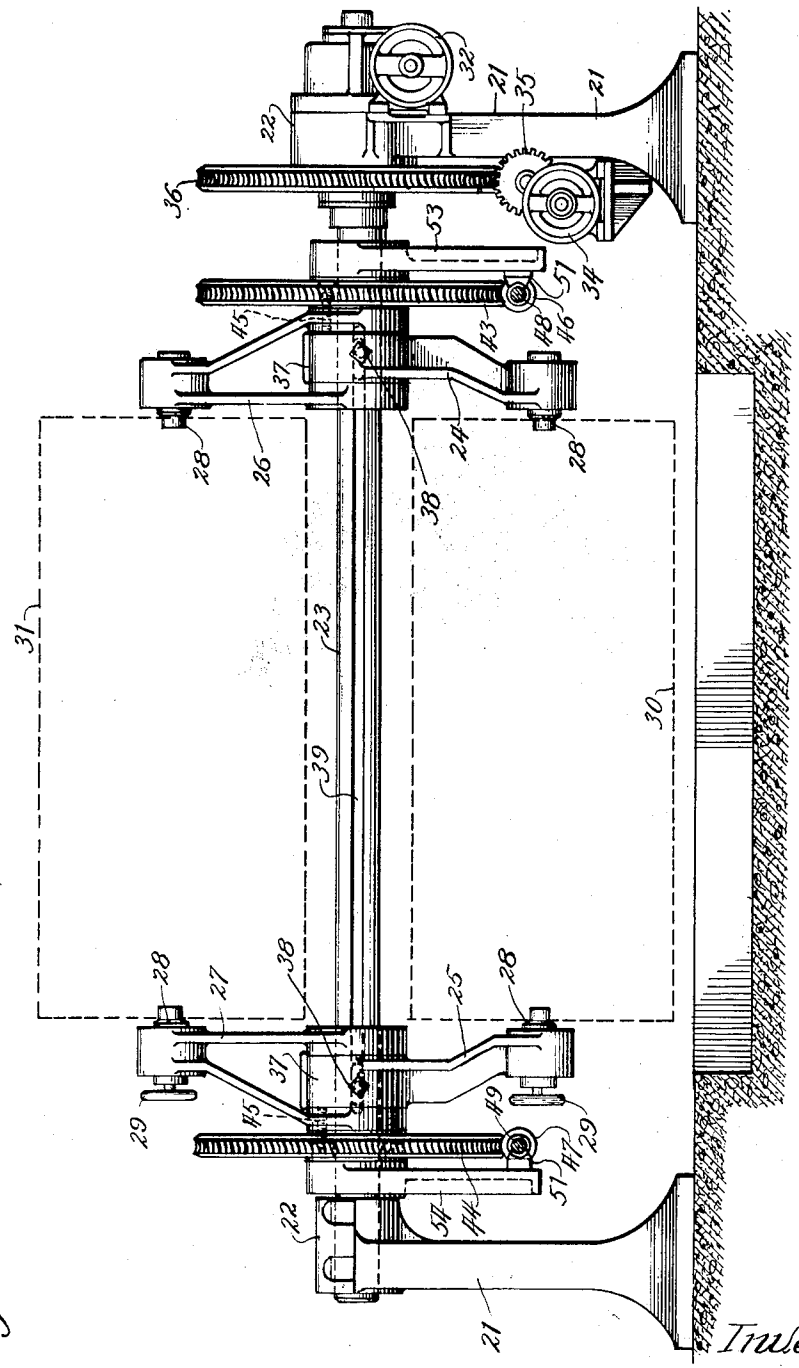


Fig. 5

Inventor:-
OTTO R. WOLF
By:- Carl L. Lloyd
Atty.

July 25, 1933. O. R. WOLF 1,919,456

ROLL STAND FOR PRINTING PRESSES

Filed July 8, 1929 4 Sheets-Sheet 4

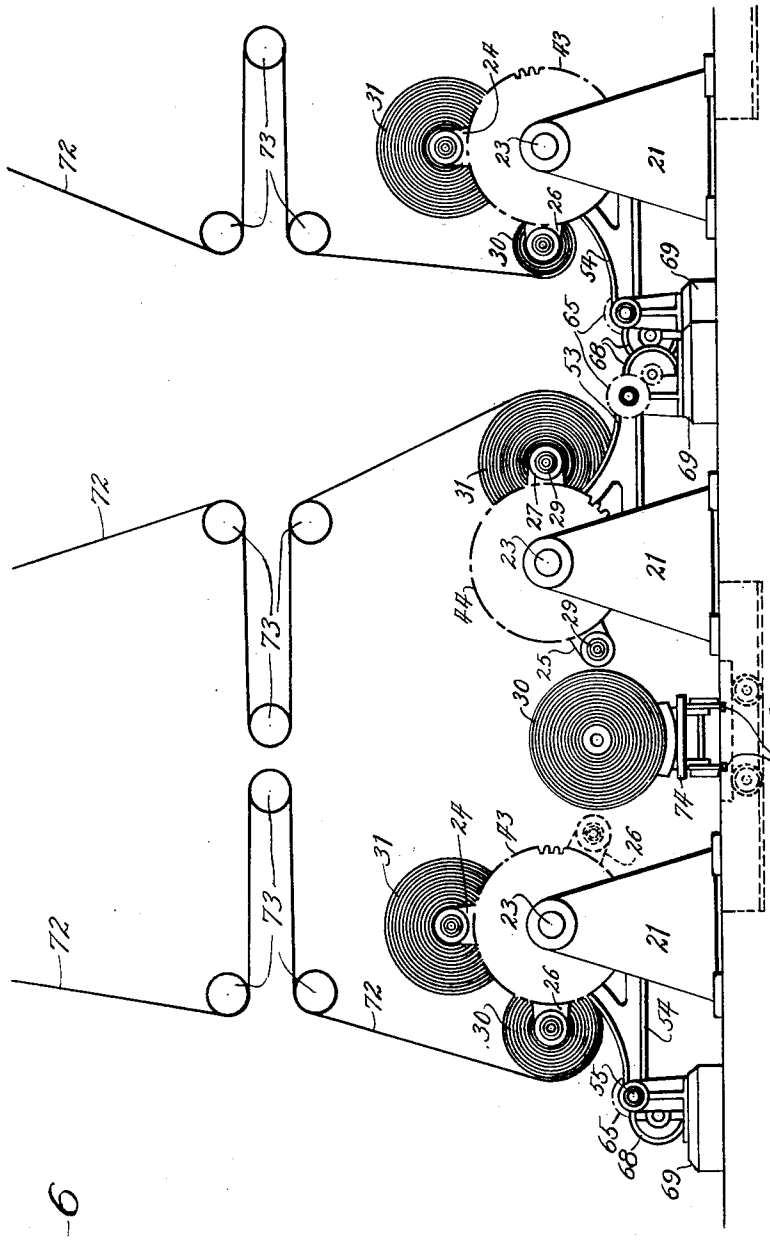


Fig. 6

Inventor:
OTTO R. WOLF
By: Carl L. Lloyd
Atty

Patented July 25, 1933

1,919,456

UNITED STATES PATENT OFFICE

OTTO R. WOLF, OF RIVER FOREST, ILLINOIS, ASSIGNOR TO THE TRIBUNE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

ROLL STAND FOR PRINTING PRESSES

Application filed July 8, 1929. Serial No. 376,569.

This invention relates to roll-stands adapted to be used in connection with printing presses for supporting the web-rolls from which the paper is drawn to the press, such stands being ordinarily located in the basement or, in any event, at a lower level than the presses and the web being drawn upwardly through the floor and between the rollers of the press.

The principal object of the invention is to provide a roll stand requiring less space for operation in conjunction with other stands placed adjacent thereto than has been necessary with roll stands of the type used in the past.

A further aim of the invention is to improve roll stand equipment of this character both with respect to efficiency of operation and economy in loading the same with the web-rolls, which, as is well known, are heavy and cumbersome to handle.

Other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings:

Fig. 1 is a top plan view of a web-roll stand in which my invention is embodied.

Fig. 2 is an end view thereof, looking toward the left in Fig. 1;

Figs. 3 and 4 are detail views showing the manner in which the roll supporting arms which are loose on the shaft are secured to the gears by which the same are rotated;

Fig. 5 is a side elevation of the apparatus, taken from the point of view indicated by the line 5—5 in Fig. 2; and

Fig. 6 is a diagrammatic illustration of a number of roll stand equipments, showing their relative position and the manner in which the rolls are handled in normal operation.

The apparatus shown in said drawings as a preferred exemplification of the invention comprises two spaced pedestals or supporting frames 21, having bearings 22 in the top thereof for a roll supporting shaft 23 which is equipped with two pairs of roll supporting arms, the arms of one pair being indicated by the reference numerals 24 and 25 and those of the other pair being identified by the numerals 26 and 27, means being provided to operate said pairs of arms independently as will later appear.

Said arms are provided with roll chucks 28, and the chuck for one arm of each pair is adapted to be moved in and out with respect to the roll position by means of a hand wheel 29 in order that the rolls 30 and 31, which are indicated in dash lines in Fig. 1 and which are provided with hollow cores, may be engaged and supported by said chucks in manner which will be well understood.

The shaft 23 is adapted to be moved lengthwise for purposes of margin adjustment of the web by means of a motor 32 and gearing contained in a housing 33, said gearing not being shown in detail since this mechanism is not a part of the present invention.

The shaft 23 is adapted to be rotated by means of a motor 34 which is connected by gearing indicated at 35 with a gear or worm wheel 36 rigidly secured to said shaft 23 whereby said shaft may be rotated to the extent desired in either direction by operation of said motor 34 through controls which are not shown and are well understood in the art.

The arms 24 and 25 are formed at their inner ends with collar portions 37 which are mounted upon the shaft 23 and adapted to be rigidly secured thereto by means of screws 38 extending through the collars and taking into a spline groove 39 in said shaft 23. It will thus be apparent that rotation of the shaft 23 serves to rotate said arms 24 and 25 carrying the roll 30 which may thus be located in any desired position about the axis of said shaft 23.

The arms 26 and 27 are bifurcated, as clearly shown in Figs. 1 and 5, and are provided with separate collar portions 41 and 42 which are adapted to be mounted on the shaft 23 on opposite sides of the collar portion 37 of the arms 24 and 25, said collars 41 and 42 being loose on the shaft and the

collars 41 being attached, respectively, to worm wheels 43 and 44 by means of screws 45 shown clearly in Figs. 3 and 4.

The worm wheels 43 and 44 are in mesh, respectively, with worms 46 and 47 carried upon shafts 48 and 49 which have bearings at 51 and 52 upon brackets 53 and 54 which are mounted at one end upon the shaft 23 and at the other end upon a shaft 55 which carries bevel gears 56 and 57 meshing with bevel gears 58 and 59 mounted upon the shafts 48 and 49, respectively. Said shaft 55 has bearings at 61 and 62 in uprights 63 and 64 and carries at one end thereof a gear 65 meshing with a pinion 66 on a shaft 67 of a motor 68 which is mounted upon a base 69 which also supports the upright 61. The shaft 55 is provided with a spline groove 71 and the gear 57 is splined to said shaft so that the same, together with the bracket 54 and the entire assembly on the shaft 23 at the right as shown in Fig. 1, may be moved lengthwise of said shaft 23 to accommodate web-rolls of different length.

It will be apparent from the foregoing description that the arms 26 and 27 may be rotated upon the shaft 23 independently of the arms 24 and 25 whereby the roll 31 may be handled independently of the roll 30 to thereby provide clearance between the rolls of adjacent roll stands and to facilitate the handling of the rolls in changing from one roll to another, as will be apparent from viewing Fig. 6.

As shown in said Fig. 6, the rolls 30 and 31 may be arranged as shown at the left in said figure when the web indicated by the reference character 72 is being drawn to the press (the course of said web being over a series of rolls, indicated by the reference character 73, in the usual manner), the roll 31 at this time being held vertically above the shaft 23 and being adapted to be moved toward the left, viewing Fig. 6, when the roll 30 becomes nearly depleted, the end of the web of said roll 31 being preferably provided with an adhesive adapted to adhere to the web 72 when brought into contact therewith. When the feed has thus been changed from the roll 30 to the roll 31, the arms 24 and 25 may be moved to the dotted line position shown at the left in said Fig. 6 in which they may be reloaded, as, for example, from a truck 74 mounted on a track 75 between two adjacent roll stands. It will be observed that the arms of either of two adjacent roll stands may be loaded from the same position, the roll after being chucked between the arms of one stand being moved out of the way and there being thus sufficient space to load the arms of the next adjacent stand.

The brackets 53 and 54 and the motor equipment for rotating the pair of arms identified by the reference characters 26 and 27 are arranged on opposite sides of adjacent roll stands so that an aisle is provided following every second roll stand and the stands may be placed substantially the same distance apart, it being understood that there is ordinarily a series of such stands corresponding to the number of press units employed and it being desirable that the roll stand for each unit be disposed substantially directly therebeneath so that the webs will not have to travel further than is necessary and the length of the row of roll stands will not be greater than the length of the row of press units. The roll from which the web is being drawn to the press is ordinarily arranged on the side of the roll stand opposite the aisle so that the aisle space will be free for loading, and, as has been previously stated, the roll after having been loaded may be lifted up out of aisle to provide space for loading the next adjacent stand when the occasion requires.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention, or sacrificing all of its material advantages, the construction hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A roll stand for printing presses, comprising a supporting frame, a shaft journaled therein, a pair of arms fixed to said shaft, a second pair of arms loose on said shaft, each pair of arms being adapted to support a web-roll, a motor for rotating the shaft, a separate motor for rotating said loosely mounted pair of arms relatively to the other pair, one arm of each of said pairs being adjustable with respect to the other, and adjustable driving connections between said last mentioned motor and the arms driven thereby for rotating the arms in any adjusted position thereof.

2. A roll stand for printing presses, comprising a supporting frame, a shaft journaled therein, a plurality of pairs of roll supporting arms carried by said shaft, the arms of each pair being arranged at opposite ends of the shaft, and means for rotating said pairs of arms independently, the arms at one end of the shaft being movable lengthwise of said shaft to vary the distance from the arms at the other end whereby said arms may accommodate rolls of different lengths and the means for rotating said arms including driving connections which are adjustable lengthwise of the roll stand to accommodate the drives to different adjusted positions of said arms.

OTTO R. WOLF.