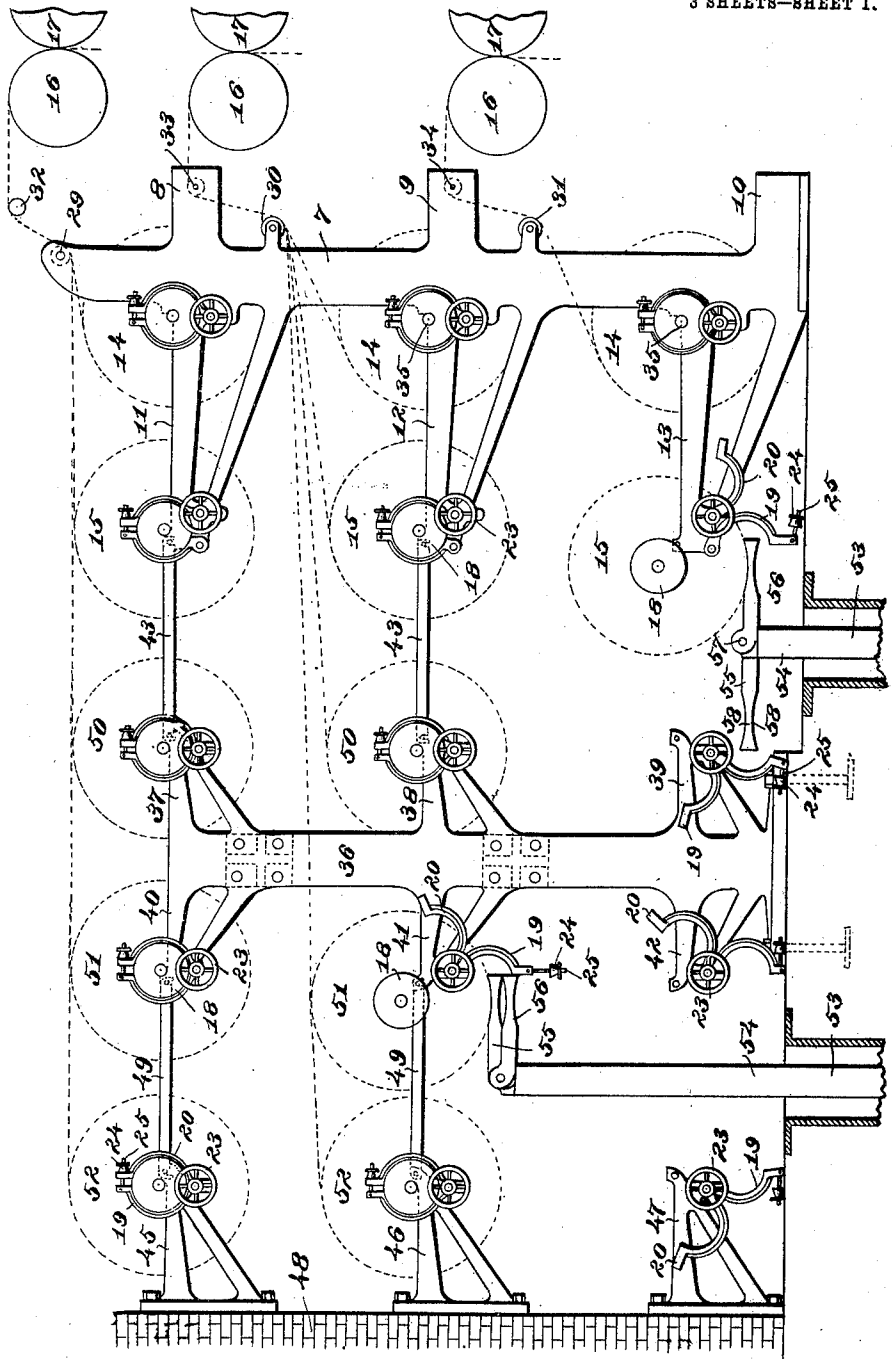
No. 732,066. PATENTED JUNE 30, 1903.

S. G. GOSS.

PRINTING PRESS.

APPLICATION FILED APR. 16, 1900.

NO MODEL. 3 SHEETS—SHEET 1.



Witnesses
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Samuel G. Goss
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Their Attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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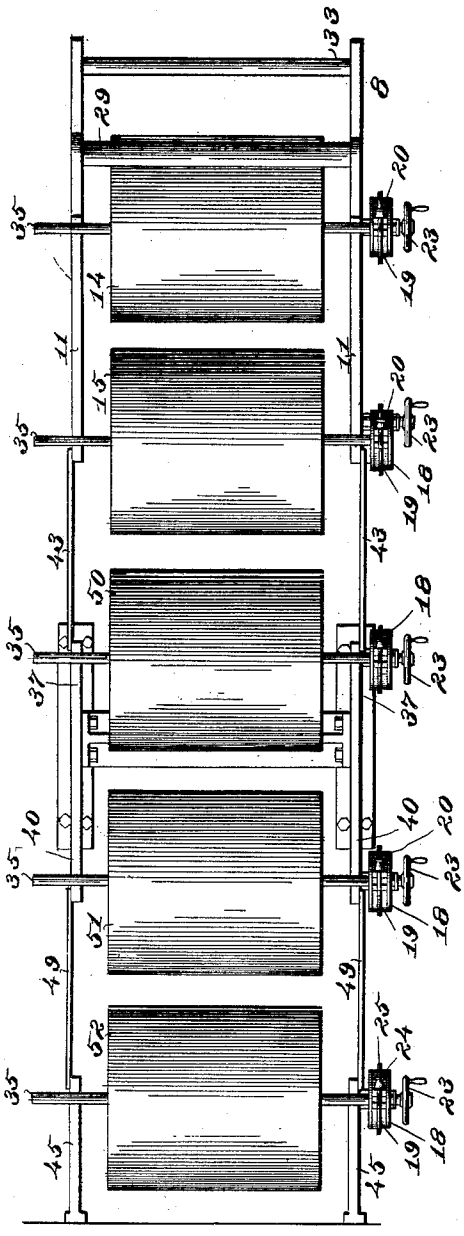


Fig. 2.

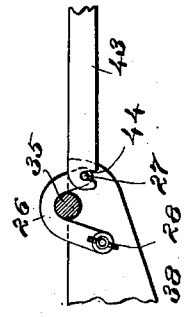


Fig. 5.

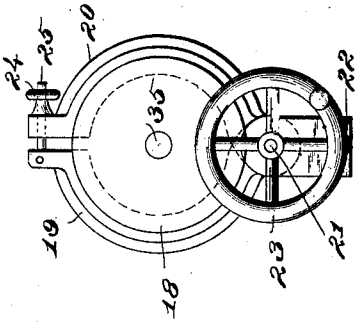


Fig. 4.

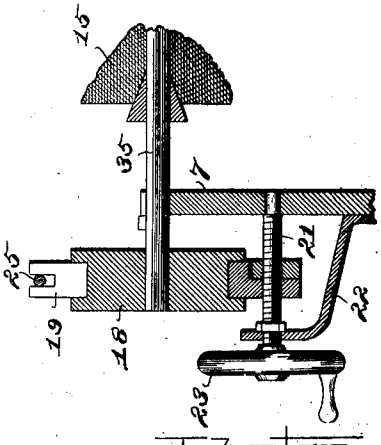


Fig. 3.

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NO MODEL. 3 SHEETS—SHEET 3.

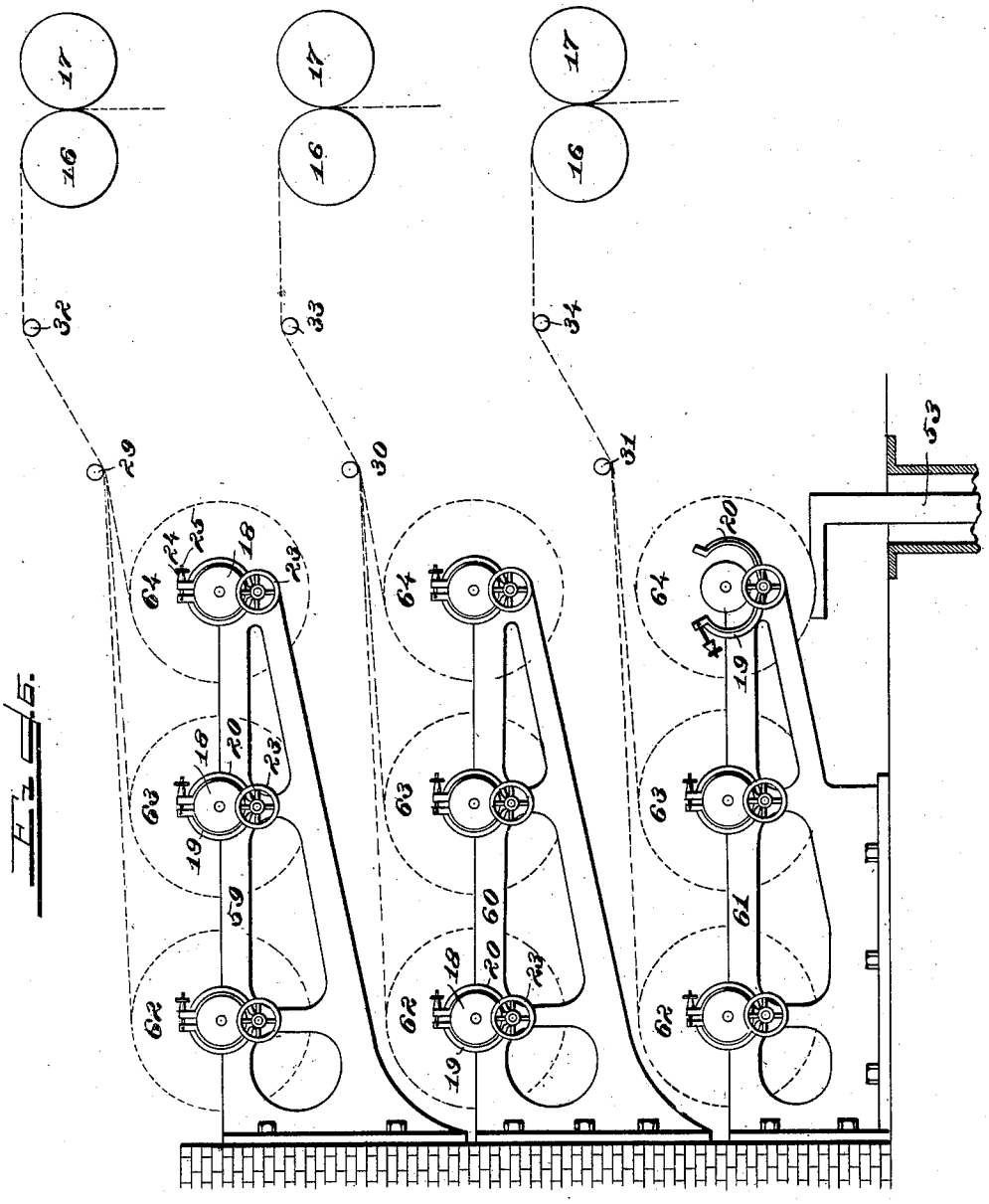


Fig. 5.

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No. 732,066. Patented June 30, 1903.

UNITED STATES PATENT OFFICE.

SAMUEL G. GOSS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE GOSS PRINTING PRESS COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 732,066, dated June 30, 1903.

Application filed April 16, 1900. Serial No. 13,060. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL G. GOSS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Printing-Presses, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to perfecting-presses, and has for its object to provide means by which the run of the press may be made practically continuous, little or no time being consumed in removing the spools of exhausted rolls and replacing them with fresh rolls.

To this end my invention consists in providing a printing-press with auxiliary web-supporting devices, so that a considerable number of rolls of web may be placed in position to be used in the press before the press is started, the webs carried by the auxiliary supporting devices being used as required without the delay incident to prior constructions, in which not more than two rolls have been mounted on the press at the same time.

My invention further consists in providing means for adjusting the position of the different rolls and for mounting the rolls of webs in position on the machine.

I accomplish these objects as hereinafter specified and as illustrated in the drawings.

That which I regard as new will be pointed out in the claims.

In the drawings, Figure 1 is a side elevation illustrating my improvements. Fig. 2 is a plan view. Fig. 3 is a sectional view illustrating the tension devices and the devices for longitudinally adjusting the roll-shafts. Fig. 4 is an end view of the same. Fig. 5 is an enlarged detail illustrating the connecting devices for connecting the auxiliary web-supports with the press proper, and Fig. 6 is a side elevation illustrating a modification.

Referring to the drawings, 7 indicates the rear portion of the frame of a press, which is provided with horizontal arms 8 9 10, by which it is connected with the remainder of the frame of the press, and with oppositely-extending arms 11 12 13, which are adapted to carry rolls 14 15. The arms 11 12 13 are provided at their inner and outer ends with bearings adapted to receive roll-shafts 35, as shown in the drawings.

16 17 indicate the form and impression cylinders of the press.

The roll-shafts 35 are each provided at one end with a tension-cylinder 18, which is engaged by tension-straps 19 20, pivoted to the frame, as shown in Fig. 1. The straps 19 20 are mounted upon an adjusting-screw 21, carried in a bracket 22 and provided with a hand-wheel 23, as shown in Fig. 3, so that the roll-shafts may be longitudinally adjusted. The ends of the tension-straps 19 20 are connected by nuts 24, mounted on pivoted screws 25, as shown in Figs. 1 and 4. The roll-shafts 35 are secured in position in their bearings by clips 26, pivoted upon pins 27 and secured by thumb-screws 28, as shown in Fig. 5.

29 30 31 and 32 33 34 indicate guide-rollers, from which the webs are conducted to the cylinders 16 17, as shown in Fig. 1. The rollers 29 30 31 are placed somewhat higher than the upper portion of the rolls 14, as shown in Fig. 1.

36 indicates an auxiliary frame, consisting of standards having arms 37 38 39, which extend toward and are in the same horizontal plane as the arms 11 12 13, respectively. Said standards also carry arms 40 41 42, which are in the same plane as the arms 37 38 39, respectively, and extend oppositely thereto, as shown in Fig. 1. The several arms 37 38 39 40 41 42 are provided near their ends with suitable bearings adapted to receive roll-shafts 35, as illustrated in Fig. 1, said shafts being secured by clips 26, as already described. Said arms are also provided with the tension devices already described.

43 indicates connecting-bars, which are adapted to connect opposite arms, such as the arms 11 37 or 12 38 or 13 39, as illustrated in Fig. 1. Said bars 43 are provided with notches 44, adapted to fit over the pins 27, as shown in Figs. 1 and 5, to form continuations of the arms between which they are placed. For example, as shown in Fig. 1, the uppermost bars 43 connect the arms 11 37 and form rails on which the roll-shafts may run, so that rolls carried by the arms 37 may be transferred to the arms 11, or vice versa. Similarly by this

means rolls carried by the arms 38 may be transferred to the arms 12 and those carried by the arms 39 may be transferred to the arms 13. The bars 43 may be removed at pleasure, since they rest on the pins 27, as shown.

45 46 47 indicate other roll-supporting arms, which are secured to the wall 48, forming wall-brackets, as shown. Said arms 45 46 are arranged in line with the arms 40 41 42, respectively, and are provided with the roll-shaft bearings and pins 27, already described. Said arms 45 46 47 may be connected with the arms 40 41 42, respectively, by bars 49, which are similar to the bars 43. With the construction described it will be noted that each of the roll-supporting arms may carry a roll and that the web from such rolls may be used without removing them from their original position, since the different roll-supporting arms are provided with the necessary tension and adjusting devices. By placing the rollers 29 30 31 above the rolls 14, as shown in Fig. 1, the web from the farthest rolls may be conducted to the printing mechanism without regard to the rolls between such farthest rolls and the printing mechanism, as indicated by dotted lines in Fig. 1. Under some circumstances, however, it is desirable to place the roll in use as near the printing mechanism as possible—as, for example, it may be desirable to place the roll 50 (shown in Fig. 1) in the position of roll 14. This may be accomplished by removing the rolls 14 15 and then placing in position the connecting-arms 43, when the roll 50 may be advanced to the place formerly occupied by the roll 14. In the same way the rolls marked 52 in Fig. 1 may be placed in the position of those marked 51, or, if desired, the uppermost roll 52 may be advanced to the position of roll 14 over the connecting-bars 42 43 and the intermediate arms 40 and 37.

In order to mount the rolls on their respective arms, lifting devices 53 are provided, said lifting devices consisting of suitable hydraulic mechanism operating a piston-rod 54, moving vertically, as shown in Fig. 1. Said piston is provided at its upper end with laterally-projecting arms 55 56, said arms being pivoted at 57, so as to fold over one upon the other, as illustrated at the left in Fig. 1. Said arms are provided with concavities 58 to properly receive the rolls, as shown.

In mounting rolls on their supporting-arms the rolls are first supplied to the uppermost arms, then to the intermediate arms, and afterward to those which are lowermost. When one roll is to be mounted in position beside another already in position, as shown at the left in Fig. 1, the arm 55 or 56, which lies under the roll already in position, is folded over upon the other. For example, as shown at the left in Fig. 1, the roll 52 is in position on the arm 46 and the roll 51 is being placed in position. The arm 55 is therefore folded over upon the arm 56, so as to clear said roll 52. In this way if the rolls 51 are in position they do not interfere with the placing of the rolls 50, or vice versa. Neither do the rolls 51 if in position interfere with the placing of the rolls 52. It will be noted, therefore, that rolls may be removed and replaced readily and without interfering with the use of webs from other rolls. It is therefore made possible to run the press almost continuously without the loss of time so unavoidable in prior constructions.

In Fig. 6 I have illustrated a modification of the apparatus already described consisting in providing extending arms 59 60 61, which are secured at one end to the wall, projecting therefrom toward the printing mechanism, as shown. Said arms 59 60 61 are provided with a plurality of bearings for the roll-shafts and with the clips 26 and tension devices already described. The rollers 29 30 31 and 32 33 34 are also provided, so that webs from the innermost rolls 62 may be used without the removal of the intermediate rolls 63 or the outermost rolls 64, as illustrated in dotted lines in Fig. 6.

Obviously the number of roll-supporting arms arranged one above another may be varied at pleasure, and the machine may be arranged to carry any desired number of rolls in the same horizontal plane.

By spacing the main and auxiliary roll-supports apart the rolls may be raised vertically between the said roll-supports.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with the frame of a printing-press, of a roll-support, an auxiliary roll-support separated from said roll-support to provide a vertical passage between them, and means carried by said auxiliary roll-support for holding the web-roll, substantially as described.

2. The combination with the frame of a printing-press, of a roll-support, an auxiliary roll-support, said auxiliary roll-support being detached from the printing-press frame, and means for connecting said auxiliary roll-support with the first-mentioned roll-support, whereby rolls may be transferred from one roll-support to the other, substantially as described.

3. The combination with the frame of a printing-press, of an auxiliary roll-support, said roll-support being detached from the printing-press frame, means carried by said auxiliary support for suporting an extra web-roll, and removable connecting-bars for connecting said auxiliary roll-support with said printing-press frame, substantially as described.

4. The combination with the frame of a printing-press, of a roll-support carried by the press-frame, an auxiliary roll-supporting wall-bracket, means carried by said roll-supporting wall-bracket for supporting an extra web-roll, printing mechanism, means for guiding the web from said extra roll to the printing mechanism, and tension mechanism

for the roll carried by said auxiliary roll-supporting wall-bracket, substantially as described.

5. The combination with the frame of a printing-press, of an auxiliary roll-support, means carried by said auxiliary support for supporting an extra web-roll, and means between the printing-press frame and said auxiliary support for elevating rolls of web to said support, substantially as described.

6. The combination with the frame of a printing-press, of an auxiliary roll-support, means carried by said support for supporting an extra web-roll, a roll-elevator arranged between the printing-press frame and the roll-support, and means for operating said elevator, said elevator having arms adapted to carry the web-rolls, substantially as described.

7. The combination with the frame of a printing-press, of an auxiliary roll-support, means carried by said support for supporting an extra web-roll, a roll-elevator arranged between the printing-press frame and the roll-support, and means for operating said elevator, said elevator having folding arms adapted to carry the web-rolls, substantially as described.

8. The combination with the frame of a printing-press, of an auxiliary roll-supporting wall-bracket, means carried by said roll-supporting wall-bracket for supporting an extra web-roll, and means for connecting said wall-bracket with the frame of the press, substantially as described.

9. The combination with the frame of a printing-press, of a roll-support, an auxiliary roll-support separated from said roll-support to provide a vertical passage between them, and tension devices carried by said auxiliary roll-support.

10. The combination with the frame of a printing-press, of a roll-support, an auxiliary roll-support, said auxiliary roll-support being detached from the printing-press frame, tension devices carried by said auxiliary roll-support, and means for connecting said auxiliary roll-support with the first-mentioned roll-support, whereby rolls may be transferred from one roll-support to the other, substantially as described.

11. The combination with the frame of a printing-press, of a roll-support, an auxiliary roll-support separated from said roll-support to provide a vertical passage between them, and tension and adjusting devices carried by said auxiliary roll-support, substantially as described.

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HARRY O. MONSON.