

(No Model.)

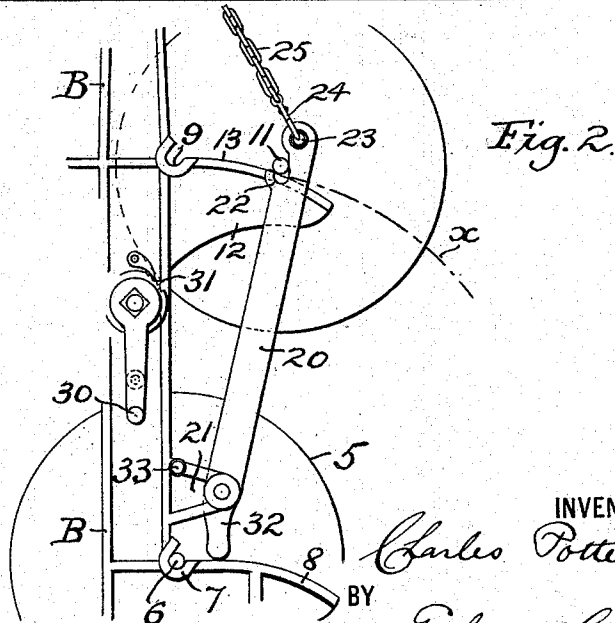
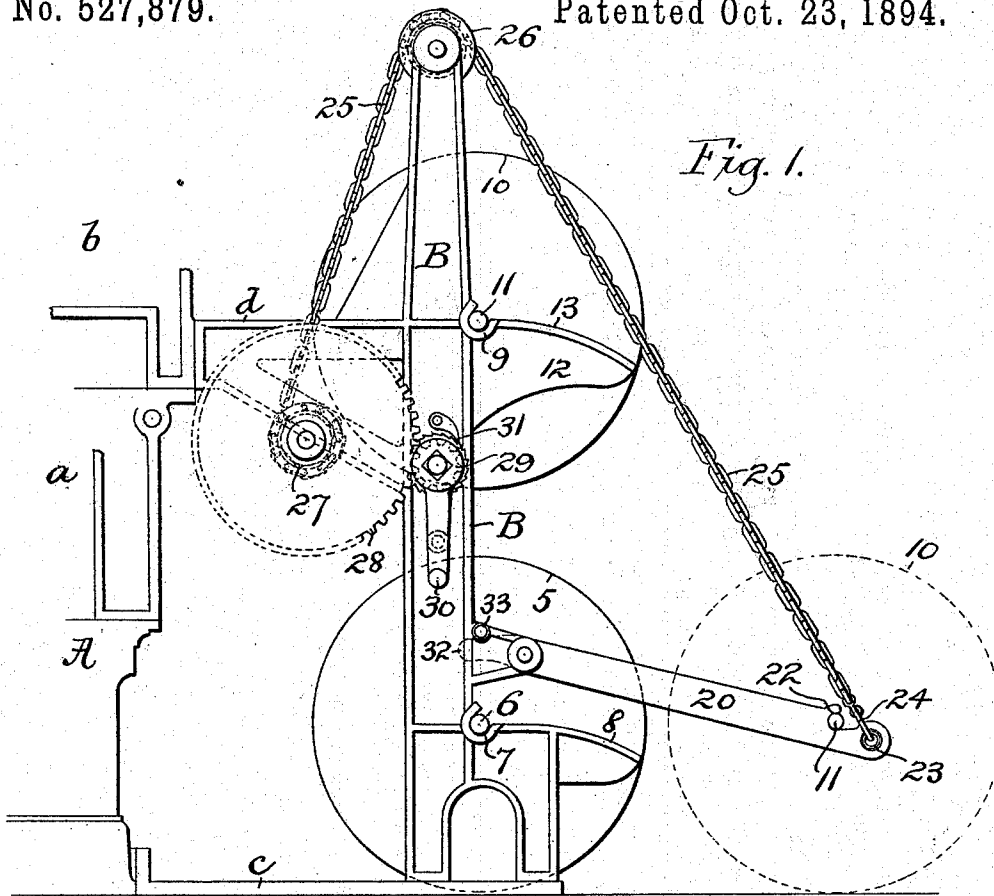
2 Sheets—Sheet 1.

C. POTTER.

WEB SUPPORTING DEVICE FOR PRINTING PRESSES.

No. 527,879.

Patented Oct. 23, 1894.



WITNESSES:

H. Graham.
E. L. Todd.

INVENTOR

Charles Potter

BY Graham & Low

ATTORNEYS

(No Model.)

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2 Sheets—Sheet 2.

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Fig. 3.

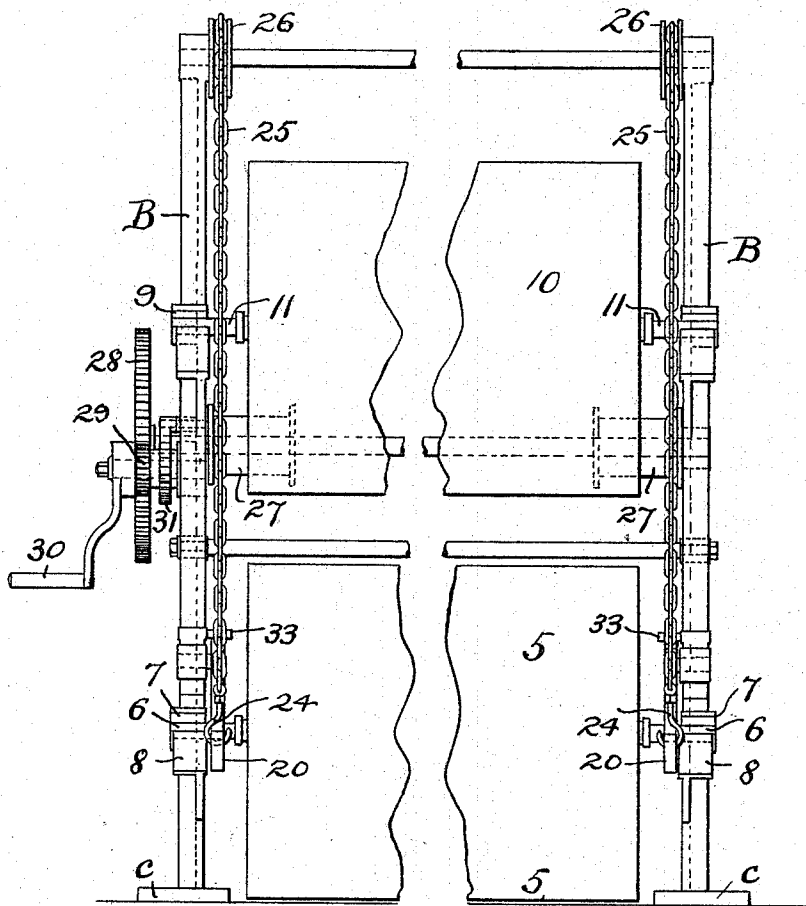
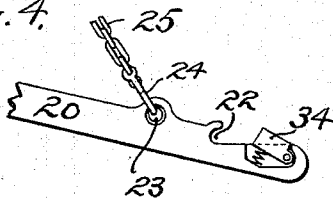


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES POTTER, OF PLAINFIELD, NEW JERSEY, ASSIGNOR TO THE POTTER
PRINTING PRESS COMPANY, OF SAME PLACE.

WEB-SUPPORTING DEVICE FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 527,879, dated October 23, 1894.

Application filed January 26, 1894. Serial No. 498,076. (No model.)

To all whom it may concern:

Be it known that I, CHARLES POTTER, a citizen of the United States of America, residing at Plainfield, Union county, and State of New Jersey, have invented certain new and useful Improvements in Web-Supporting Devices for Printing-Presses, of which the following is a specification.

This invention relates generally to printing machines and more particularly to the means for supporting and raising the webs to proper position in what may be termed multi-web machines.

In a certain type of this class of printing machine the presses are arranged one above the other with the entrance for the several webs of paper at one end of the machine, and hence it is desirable to provide means so that the placing and renewal of the web for one press shall not interfere with the placing and renewal of the web of the other or one of the other presses of the same machine; and to this end the journals for the spindle of the web for the lower press have been arranged near the floor, while the other journals for the spindle of the web for the upper press or presses have been arranged at some distance above the floor requiring a crane or hoist to lift the web to a suitable height to get its spindle properly seated in the journals therefor; and means have heretofore been devised for the ready handling of the web for the upper press.

The present invention has for its object to materially simplify the construction heretofore employed, to render the apparatus less cumbersome and bulky and thus save floor space and to provide for a more simple mode of operation.

With these ends in view the invention consists in the novel constructions and details of parts hereinafter fully set forth.

In order to make the invention more clearly understood there is shown in the accompanying drawings means for carrying it into practical effect, without, however, limiting it in its useful applications to the particular construction which, for the sake of illustration, has been chosen for delineation.

In said drawings:—Figure 1 is a side elevation of a portion of a multi-web printing

press embodying my invention, so much of the frame-work of the machine being shown as is necessary to an understanding of the improvements. Fig. 2 is a view of some of the parts shown in Fig. 1, illustrating, however, the roll being raised into position. Fig. 3 is an end view, the parts being broken away and foreshortened to get on the sheet. Fig. 4 is a detail of a modified form.

Referring to the drawings, Fig. 1, the side frame A may represent a portion of a multi-web printing machine in which at *a* may be mounted the lower printing press and at *b* the upper printing press, no part of either of which is shown. The webs for these two presses are preferably arranged to be supported and held in suitable journals by a substantially vertical standard B, which, as shown in Fig. 3 consists of two side frames of like formation bolted at proper distances apart on a base plate *c* connected to the base of the side frame A of the machine proper, and also connected to said side frame and braced by an inwardly extending bracket *d*.

Each of the side frames forming the standard B is provided near its lower portion with a bearing 7 for the journals of the spindle 6 of the lower web roll 5, into which bearings 7 the journals of the spindle 6 may be rolled over ways 8 which are in the form of curved or inclined brackets projecting outwardly from the standard and terminating at their inner ends in said bearings 7. The outer ends of these ways are sufficiently low to engage beneath the journals of the lower web spindle 6 when the roll of paper of the usual diameter is resting on the floor, so that the web may be rolled along the floor until its spindle journals strike the curved ways 8 and in rolling thereon elevate the roll slightly until said journals pass into the bearings 7 ready to have the leading end of the web led into the lower press in the usual manner. The standard B is also provided with a second set of bearings 9 at some distance above the floor for the journals of the spindle 11 of the roll 10 for the upper press. These bearings 9 are formed at the upper ends of downwardly inclined ways 13 which are provided by outwardly extending brackets 12 of the standard B.

As the bearings 9 for the spindle of the upper rolled web are at a considerable distance above the floor means are necessary for conveniently raising said web into position; and here it may be stated that the provision of a simple hoist extending from the top of the standard B would be inexpedient and impracticable in practice for the reason that it is essential that the web for the upper bearings shall be raised without interference in any manner with the lower web which may then be in place and in course of being unrolled by the continued operation of the press. These means consist of a pair of movable and outwardly bearing arms 20, each pivoted to brackets 21 projecting from the standard near its lower portion. The outer ends of the arms each have a recess or bearing 22 for the reception of the journals of a web spindle 11 that is to be elevated to the bearings 9. The extreme ends of the arms 20 have eyes 23 for engagement with hooks 24 at the free ends of a pair of hoisting ropes or chains 25 that lead upward around grooved pulleys 26, and thence to the winding drums 27 of a winch; the shaft of which drums is mounted in bearings in the standard B and carries a gear 28 for mesh with a pinion 29 that is rotated by a handle 30; a suitable pawl and ratchet 31 being provided to hold the winch in any position and also the arms 20.

The inner end of each of the arms 20 is formed with an extension 32 arranged when the arms are in their lowered position to bear against the under side of a stop 33 that projects inward from the standard to limit the down position of rest of said arms as in Fig. 1. In this latter position, by removing the hooks of the chain 25 from the eyes 23 the bearings 22 are in position to receive the journals of a web spindle as the web is rolled over the floor, and as soon as the spindle is in position the hooks of the chains may be replaced and the web roll is ready to be raised by turning the handle 30. In raising the arms 20 with the web roll it will be noticed that the roll is supported and guided at such distance from the web roll 5 of the lower press that no danger of touching the same occurs.

The arc of movement α , Fig. 2, of the bearing 22, of the arms 20, with respect to the incline of the way 13 is such that the journals of the web spindle 11 are first brought over the extreme end of the ways 13 without touching the surface thereof, and as the arms continue to move the spindle 11 finally meets the ways 13, then rests thereon and in being forced along said ways is gradually lifted bodily out of the journals 22 so that by a slight further movement either of the arms 20 forcing the spindle among the ways 13 or by outside pressure against the web roll itself the journals of the spindle finally rest within the bearings 9 of the standard. In this manner it will be noticed that the arms 20 serve to guide the journals of the web spindle 11 onto

the ways 13 as the web is being raised, and that the ways during the continued movements of the arms serve to carry or lift the spindle out of the bearings, seats or sockets in which it rested in the arms 20 and guide the journals of the spindle into the bearings 9, all of which may be done entirely automatically by simply raising the arms as by the winch before described.

The construction is such that the roll may be raised by the arms into an upward position and held there by the pawl and ratchet 31, while the web is being unwound from a roll already in place with its spindle in the upper bearings 9, ready by a slight further movement of the arms to replace said unwinding web at the proper time.

While I have described the improvement in connection with a machine employing at least two rolled webs, it is obvious that it is applicable to a machine in which only one web is employed when such web needs to be raised some distance above the floor.

It is obvious that the location of attachment of the chains 25 with the arms 20 may be changed to a point on the inner side of the bearings 22, as in Fig. 4, in which case a suitable spring pressed latch 33 may be provided to guard the accidental dislodgment of the spindle as the arms are being raised.

While I have described a pair of arms independently pivoted to the standard B and each having a hoisting chain, it is obvious that the arms operate as a single guiding means for the web spindle as it is being raised, and that the chains also act as a single hoisting means, and hence it is to be understood that modified structures may be made in which the essentials of these improvements are embodied without necessarily embracing the particular construction herein described. It is also conceived that instead of actual bearings 9 for the web spindle in some structures the web may be received, held and supported in other ways than by a support for its spindle and hence the invention is not limited to such bearings *per se*.

What I claim is—

1. The combination with a frame having an elevated bearing for a web spindle, and a way extending from said bearing inclined to cross the path of movement of the web spindle being elevated, of a hoist for such spindle and a movable and outwardly bearing arm for guiding said spindle onto the inclined way while being raised, and for moving the spindle along the way into said elevated bearing substantially as described.

2. The combination with a frame having an elevated bearing for a web spindle and a way extending from said bearing inclined to cross the path of movement of the web spindle being elevated, of a pair of movable arms having bearings for a web spindle and a hoist for moving the arms to carry their bearings toward said elevated bearing with the web spindle onto the inclined way while being

raised and for moving the spindle along the way into the elevated bearing, substantially as described.

3. The combination with a frame having an elevated bearing for a web spindle and an inclined way extending from said bearing, of a pair of pivoted arms having bearings for a web spindle the arc of movement of the arms crossing the incline of the way, and means

or raising the arms to carry their bearings toward said elevated bearing, substantially as described.

In witness whereof I have hereunto signed my name in the presence of two witnesses.

CHARLES POTTER.

Witnesses:

GEO. H. GRAHAM,
H. POLLARD.