No. 830,285. PATENTED SEPT. 4, 1906.

H. F. BECHMAN.

MEANS FOR SUPPORTING WEB ROLLS WHILE BEING UNWOUND.

APPLICATION FILED AUG. 7, 1906.

Fig. 1.

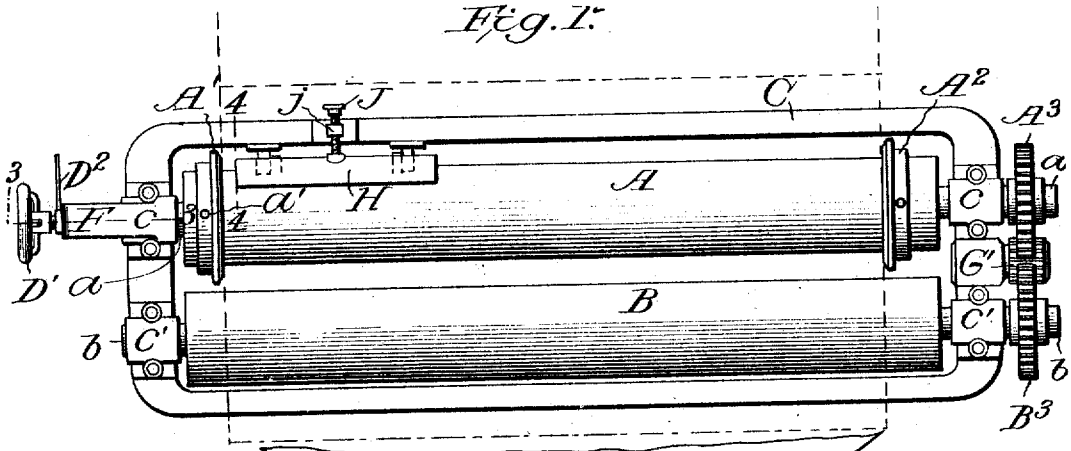


Fig. 2.

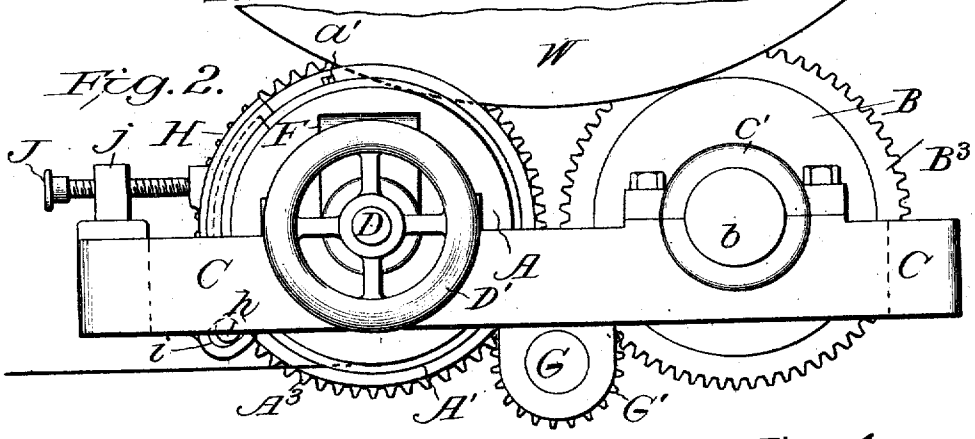


Fig. 3.

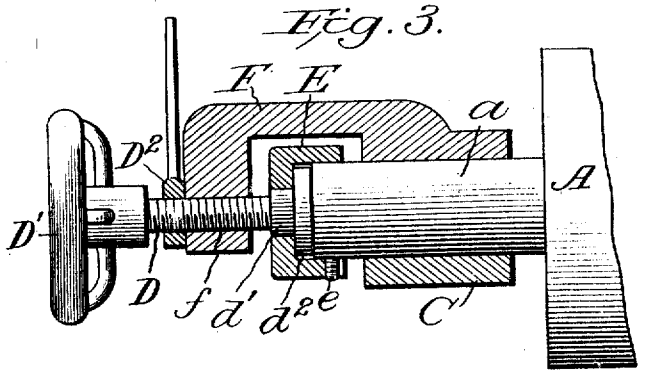
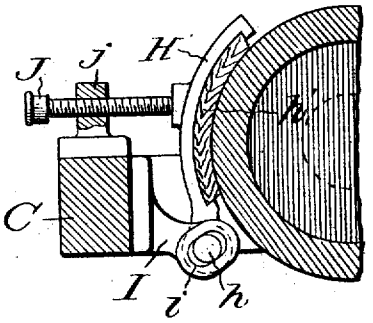


Fig. 4.



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UNITED STATES PATENT OFFICE.

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MEANS FOR SUPPORTING WEB-ROLLS WHILE BEING UNWOUND.

No. 830,285. Specification of Letters Patent. Patented Sept. 4, 1906.

Application filed August 7, 1905. Serial No. 273,005.

To all whom it may concern:

Be it known that I, HENRY F. BECHMAN, of Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Means for Supporting Web-Rolls While Being Unwound; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to means for regulating the unwinding of webs from rolls, particularly large heavy rolls of paper, such as are used in printing newspapers; and the objects of the invention are to provide a support for the web-roll, so that no core or shaft need be placed therein or attached thereto, and which can be located on the floor-level, so that the roll of web can be rolled into position thereon without the assistance of tackle, and whereby the speed at which the web is unwound from the roll and the tension on the web can be regulated to a nicety and whereby the web-roll can be easily shifted longitudinally, so that the web taken therefrom will enter the press or other receptive device in proper position to be operated on therein.

The invention consists in the novel construction and combinations of parts set forth in the claims following the detailed description of the device, which is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the complete device with a web-roll W shown by dotted lines in position thereon. Fig. 2 is an end view thereof. Fig. 3 is an enlarged detailed section of the roll-adjusting devices on line 3 3. Fig. 1, and Fig. 4 is an enlarged detail section on line 4 4, Fig. 1.

Two parallel rollers A B, which may be of like length and size, are provided with gudgeons or journals *a b* at their ends by which they are mounted in journal-bearings *c c'* in the ends of an oblong frame or base casting C, which should be supported on a proper foundation over a shallow pit adjacent to the press or other machine to which the web is to be fed and preferably so that the upper parts of rolls A B project slightly above the floor-level in order that the web-roll W may be easily rolled onto said rolls without lifting-tackle, said web-roll being supported thereon and therebetween, as shown in the drawings.

The rolls A B should be slightly longer than the width of the widest web the machine is intended to handle.

In order to keep the web-roll in position on the rolls A B, roll A is provided with annular collars A' A^2, the former of which is preferably loose, but secured by a set-screw a'. These collars A' A^2 are fitted against the ends of the web-roll W, as indicated in the drawings, after the latter is in place thereon and keep the web-roll in position longitudinally of the rolls while it is being unwound.

In order to shift the web-roll longitudinally of the frame, so as to adjust the feed of the web laterally to the machine, one of the gudgeons *a* of roll A is extended through its bearing *c*, and to its outer end is fastened a cap E by means of a screw *e* or other suitable device. Said cap incloses the head d^2 of a screw bolt D, tapped through a bearing *f* in the outer end of a bracket F, attached to the cap-plate of the adjacent journal-bearing *c* of the roll A. The said screw has a hand-wheel D' on its outer end by which it can be manipulated and it also has a hand jam-nut D^2 on it by which it can be locked after it is adjusted. Bolt D also has a cylindric portion d' passing through the aperture in the end of the cap E. As screw D is in alinement with roll A it is obvious that by rotating said screw the roll A can be shifted longitudinally of the frame C, and by reason of collars A' A^2 on roll A the web-roll W will be shifted longitudinally with roll A.

Rolls A B are preferably intergeared at one end by means of gears B^2 A^2, meshing with an intermediate G', mounted on a shaft G, attached to the frame C. The web may be unwound from roll W by pulling the web therefrom, the web being led down between the rolls A B and then out to the press or other machine. (Not shown.) Ordinarily the pull on the web, caused by the machine operating thereon, will be sufficient to unwind it; but if in any case it is desired to positively actuate the rolls A B to unwind the web power could be applied to shaft G in any desired manner, preferably by gearing it to the press by which the web is printed. In order to prevent the web unwinding by momentum

and to maintain any desired tension thereon, I provide a braking device comprising a concave plate or shoe H, having pintles *h* at its lower corners, which loosely engage with elongated eyes or slots *i* in brackets I, fastened to the side of frame C, adjacent roll A', against the surface of which shoe H bears, said shoe being preferably faced with wood or other frictional material, as shown at *h'*. The shoe is held against roll A with the desired pressure, regulable at will, by means of a hand-screw J, tapped through a bracket *j*, attached to the frame C, the inner end of said bolt impinging against the shoe H, as shown. The inclination of slots *i* is calculated to permit the shoe H to adjust itself to the surface of roll A and automatically compensate for any unequal wear of its frictional surface *h'*.

The operation of the device in unwinding paper is sufficiently evident from the foregoing description and drawings. While the device is particularly designed for unwinding purposes, it is obvious that it may be also used for rewinding webs by simply applying power to shaft G to drive the rolls in the desired direction. When the rolls are driven by gearing, they should be rotated at a slightly less peripheral speed than the plate-cylinders, so as to maintain a proper tension on the web.

Having thus described my invention, what I therefore claim as new, and desire to secure by Letters Patent thereon, is—

1. In combination, a pair of rolls adapted to support a web-roll resting freely on and between them; with means for adjusting one of said rolls longitudinally, and means thereby for keeping the web-roll in position on and adjusting it with the adjustable roll.

2. In combination, a pair of rolls adapted to support a web-roll placed loosely on and between them and to be rotated by the pull on the web; with an adjustable brake-shoe bearing against the surface of one of said rolls to regulate the unwinding and tension of the web by retarding the rotation of the roll.

3. In combination, a pair of rolls adapted to support a web-roll placed loosely on and between them; with an adjustable brake-shoe bearing against the surface of one of said rolls, means for adjusting one of the rolls longitudinally, and means for keeping the web-roll in position on and adjusting it with the adjustable roll.

4. In combination, a frame, a pair of rolls journaled therein, adapted to support a web-roll placed loosely on and between them, a hand-screw mounted on the frame, and a rotatable connection between said screw and the adjacent roll whereby the roll can be adjusted longitudinally, and means for keeping the web-roll in position on and adjusting it with the adjustable roll.

5. In combination, a pair of rolls adapted to support a web-roll placed loosely on and between them, means for keeping the web-roll in position longitudinally of the rolls, means for adjusting one of the rolls longitudinally, means for braking one of the rolls, and means for keeping the web-roll in position on and adjusting it with the adjustable roll, substantially as described.

6. In combination, a frame, a pair of rolls mounted thereon, an adjusting-screw mounted on the frame opposite the end of one roll, a rotatable connection between said screw and the adjacent roll, collars on said roll, a brake-shoe beside one of the rolls, and means for adjusting its pressure against the periphery of said roll, substantially as described.

7. In combination, a frame, a pair of parallel intergeared rolls journaled therein, adapted to support a web-roll placed loosely on and between them, a hand-screw mounted on the frame opposite the end of the roll, and a rotatable connection between said screw and the gudgeon of the adjacent roll, for the purpose specified.

8. In combination, a pair of parallel intergeared rolls, adapted to support a web-roll placed loosely on and between them, collars on one roll for keeping the web-roll in position longitudinally of the rolls, means for adjusting the collared roll longitudinally, and an adjustable brake-shoe controlling one of the rolls, substantially as described.

9. In combination, a frame, a pair of parallel rolls mounted thereon, gearing between said rolls, an adjusting-screw mounted on the frame opposite the end of one roll, rotatable connections between said screw and the adjacent roll, collars on said roll, an adjustable brake-plate beside one of the rolls, and means for adjusting its pressure against the periphery of said roll, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HENRY F. BECHMAN.

In presence of—
CHAS. A. GRAMES,
FRANK W. DUNNING.