(No Model.)

# A. A. HOUGHTLIN.

## ATTACHMENT FOR ROLL CARRYING SPINDLES FOR WEB PRINTING PRESSES.

No. 480,499. Patented Aug. 9, 1892.

Fig. 2.

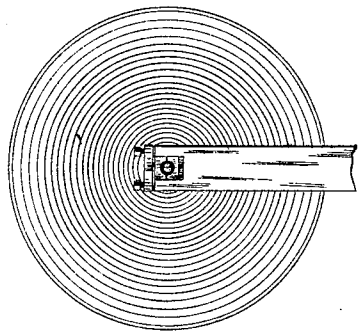


Fig. 5.

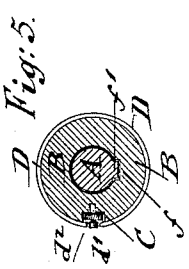


Fig. 6.

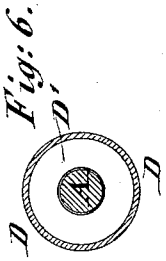


Fig. 1.

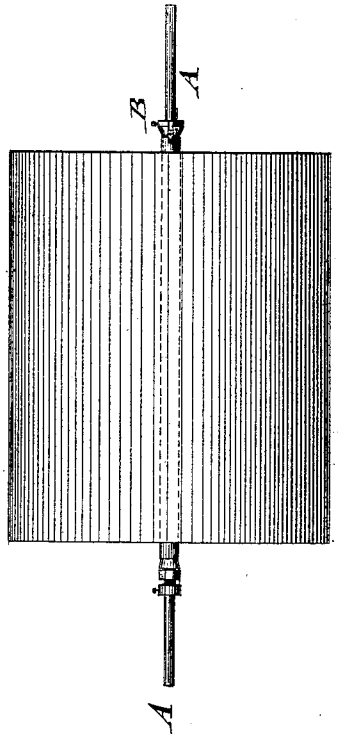


Fig. 3.

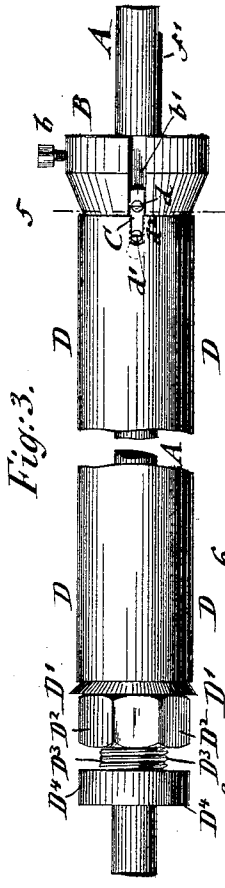
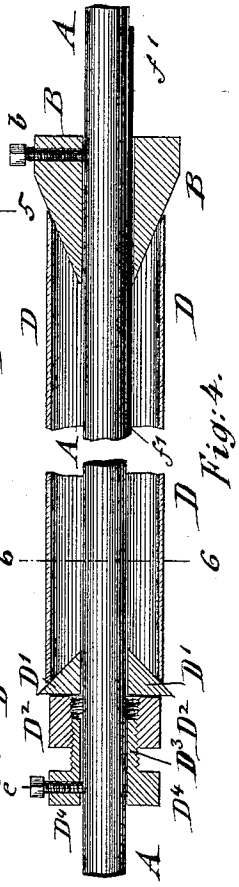


Fig. 4.



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# UNITED STATES PATENT OFFICE.

ALFRED A. HOUGHTLIN, OF BROOKLYN, NEW YORK.

## ATTACHMENT TO ROLL-CARRYING SPINDLES FOR WEB-PRINTING PRESSES.

SPECIFICATION forming part of Letters Patent No. 480,499, dated August 9, 1892.

Application filed April 8, 1892. Serial No. 428,310. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED A. HOUGHTLIN, a citizen of the United States, and a resident of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Attachments to Roll-Carrying Spindles for Web-Printing Presses, of which the following is a specification.

The usual method of printing newspapers upon the rapid web-presses was to dampen the paper before running it through the press. This was done by running the paper off from the shell or core upon which it was wound at the paper-mill and winding it upon a shell or core which was fitted perfectly to the spindle of the press on which the paper was to be used. This rewinding of the paper was very expensive and troublesome and led to the adoption of the present method by which the paper is printed from the roll just as it comes from the paper-mill without moistening or rewinding it. To do this requires that the roll of paper shall be centered perfectly, so that the paper shall run off evenly and true and under a proper tension. If the roll be not centered exactly, the paper is run off in a jerky manner and the proper feeding of the press is impossible. Besides the paper often breaks by reason of the jerky uneven strain on the same, so that much time is lost and paper wasted, as the press has to be "threaded" again before starting. The immense editions of the morning papers require that all operations be accomplished quickly, and that a new roll of paper be put in place and adjusted within a minute or two at most, so as to be held firmly and run off true, and, as is often the case, changed on its spindle for the margin once or twice for each roll. As the rolls with their cores or shells are supplied from different paper-mills, and as the cores are of different sizes and lengths and only alike in having a recess in each end, the spindle that carries them in the press must be so made that the centering and adjusting of the roll can be quickly and perfectly done with any core or shell.

This invention is therefore designed for the purpose of providing the roll-carrying spindles of newspaper printing-presses with an adjustable attachment by which any size of core or shell can be quickly attached to its supporting-spindle, and by which the roll can also be readily adjusted and centered to the required position on the spindle with great facility.

The invention consists of the combination, with the roll-carrying spindle, of a collar having a tapering inner portion attached near one end of the spindle, said collar being provided with a sliding or adjustable key that is guided in a longitudinal recess of the collar and adapted to engage the ordinary recess in the end of the core or shell and a second tapering collar which is arranged near the other end of the spindle and clamped firmly to the opposite end of the core or shell by a screw-nut that turns on a threaded sleeve which is attached by a set-screw to the spindle, so that the collar clamps the core rigidly in connection with the tapering collar at the opposite end, as will be fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of the roll of paper as applied to the spindle of a printing-press. Fig. 2 is a side elevation of Fig. 1. Fig. 3 is a side elevation of the roll-carrying spindle and its connection with the core or shell of the roll, this figure being drawn on a larger scale. Fig. 4 is a vertical longitudinal section of Fig. 3; and Figs. 5 and 6 are vertical transverse sections, respectively, on lines 5 5 and 6 6 of Figs. 3 and 4.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the roll-carrying spindle of a web-printing press such as are used in large newspaper printing-offices. The spindle A is provided at one end with a collar B, that is attached thereto by a suitable set-screw *b*, said collar being made of conically-tapering shape and provided with a longitudinal recess *b'*, in which an adjustable key C is arranged which is provided with a set-screw *d* and with a second screw or pin *d'*, the head of which engages a recess $d^2$ in the end of the core or shell D of the roll of paper, as shown clearly in Figs. 3 and 4. The opposite end of the core or shell D is supported on a conical collar D', that is loosely applied to the spindle A and clamped firmly to the opposite end of the core or shell D by an

adjustable screw-nut $D^2$, that may be readily adjusted on the threaded sleeve $D^3$ of an enlarged collar $D^4$, which is attached by a set-screw *e* to the spindle A, as shown in Fig. 4. When a new roll of paper has to be placed on the spindle, the collar D′ and the collar $D^4$, with the screw-nut $D^2$, are removed and this end of the spindle passed through the core or shell of the roll until the collar B abuts against the opposite end of the core or shell. The key C is then adjusted so as to engage the recess in the core or shell D. The core is then firmly secured in position by slipping the loose collar D′ over the opposite end of the spindle, also the collar $D^4$, with its screw-nut $D^2$, and attaching the collar $D^4$ by its set-screw *e* to the spindle. The screw-nut $D^2$ is next moved forward on the threaded sleeve $D^2$ and the conical collar D′ tightly moved up against the end of the core, so that the roll is thereby centered and firmly secured in position on the spindle. In case the roll should not be in proper position to give the proper margin on each side of the printed sheet, it can be readily shifted on the spindle by loosening the set-screws of the collar B and $D^2$, so that the entire roll with its core and the attaching devices of the latter can be readily shifted on the spindle until the roll is in the position required for use, when the collar B as well as the collar $D^4$ are clamped again to the spindle and the screw-nut moved up, so as to tighten the collar D′ to the core. The collar B is connected with the spindle A by a groove *f* in the collar, which moves along a spline *f′* on the spindle, as shown in Figs. 3 and 5, so that the collar B can be adjusted longitudinally on the spindle but not shifted axially thereon.

The advantages of my fastening device for the cores or shells of paper rolls are that cores of different sizes can be quickly and conveniently secured to the spindle of the printing-press; secondly, that they can be readily adjusted on the spindle for the proper margin after being placed in position thereon; thirdly, that the core with the roll is reliably centered, so that the paper is delivered evenly and without jerks, and, lastly, that the core or shell can be removed with great facility after the paper is unwound from the same.

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

1. The combination, with the roll-carrying spindle of a web-printing press, of a tapering collar secured to one end of the spindle, a locking-key guided in a longitudinal recess of said collar and adapted to engage a recess at the end of the core or shell of the roll of paper, a loose conical collar adapted to engage the opposite end of the core or shell, and means for clamping said collar to the end of the core or shell, substantially as set forth.

2. The combination, with a roll-carrying spindle of a web-printing press, of a tapering collar secured to one end of the spindle, said collar being provided with a longitudinal recess, an adjustable key carrying a projecting pin or screw guided in said recess and adapted to engage a recess in the end of the core or shell, a tapering collar placed loosely on the other end of the spindle, a threaded sleeve attached to the shaft near said collar, and a screw-nut applied to the threaded sleeve, so as to clamp the tapering collar to the other end of the core or shell, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ALFRED A. HOUGHTLIN.

Witnesses:
PAUL GOEPEL,
CHARLES SCHROEDER.