

No. 672,484.

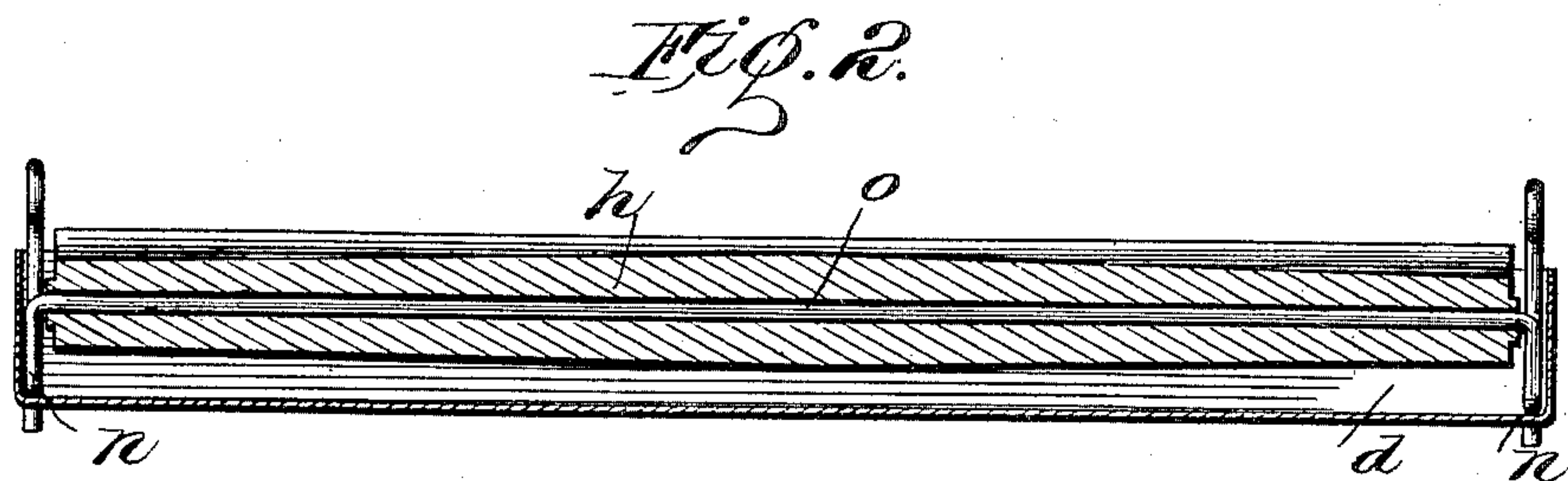
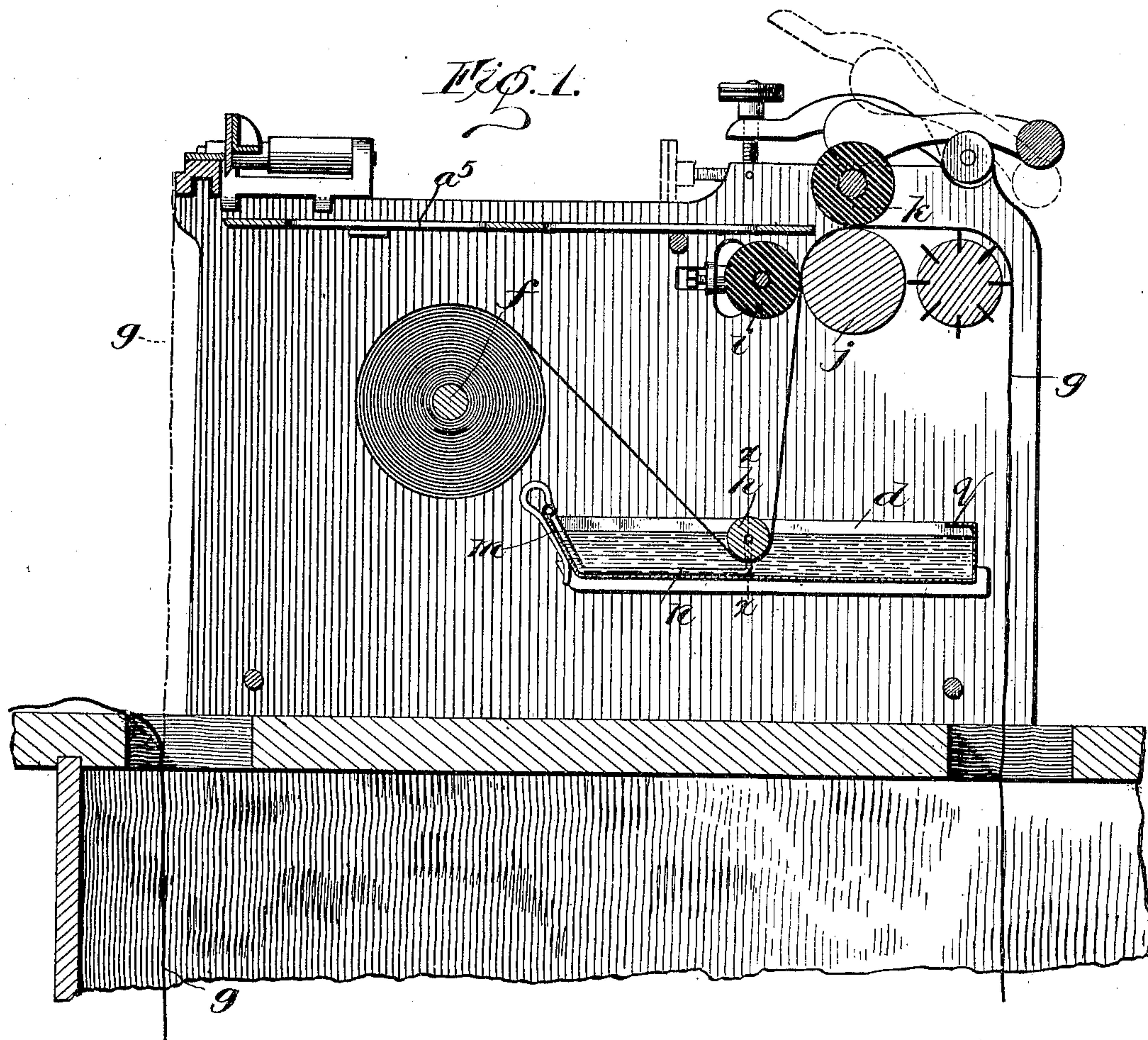
Patented Apr. 23, 1901.

G. C. HOFFMAN.

DAMPENER FOR ROLLER COPYING PRESSES.

(Application filed Feb. 14, 1900.)

(No Model.)



Witnesses:

Walter B. Payne.

Guilland Rich.

Inventor:
Georgel Hoffman
by Christ Church
his Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE C. HOFFMAN, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE
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DAMPENER FOR ROLLER COPYING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 672,484, dated April 23, 1901.

Application filed February 14, 1900. Serial No. 5,180. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. HOFFMAN, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Dampeners for Roller Copying-Presses; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference characters marked thereon.

My present invention relates to roller copying-presses of that class in which a paper-web is moistened with water or other suitable liquid and then is passed, together with the letter or manuscript to be copied, between feeding and pressing rollers, such a machine being shown in Letters Patent No. 416,628, granted December 3, 1889, on an invention of M. R. Jewell; and it has for its object to improve the construction and operation of the roller around which the web of paper is drawn while being moistened, so that said web will run straight and will not be liable to wrinkle or become creased longitudinally, this feature, however, being applicable to other paper-dampening mechanism, all as will be hereinafter fully described and the novel features pointed out in the claims at the end of this specification.

In the drawings, Figure 1 is a sectional view of a copying-press containing my invention; Fig. 2, a sectional view on the line xx of Fig. 1.

Similar reference characters indicate similar parts.

The press as a whole to which my invention is to be applied is not essentially different from that shown in the Jewell patent, f indicating the cross-roll on which is wound a long sheet or web of copying-paper g , said paper passing from the roll downward through the water in the pan or tank d beneath the horizontal roller h therein, from whence it ascends between a squeezing or drying roll i and a pressure or copying roll j , their joint effect being to remove the surplus moisture from the paper and leave it in proper condition for copying purposes. The paper is continued over the top of the pressure-roll j between it and the overlying pressure-roll k , after which it is passed over a longitudinally-

ribbed roll revolving at a relatively high speed and adapted to draw the paper constantly forward with a gentle strain. Above the paper-roll and approximately on a horizontal line extending between the pressure-rolls j and k is a support a^5 , upon which the letter or manuscript to be copied is laid and adjusted preparatory to feeding it between the said pressure-roller and upon the dampened paper to produce the copy. All of these parts generally are of the same construction as that shown in the Jewell patent before mentioned.

The water pan or receptacle d is preferably constructed of sheet metal, with the overhanging forward edge q and the rear edge m inclined somewhat, as shown, and the roller h , mounted in the receptacle and underneath which the paper extends, is preferably composed of metal and crowned or somewhat higher at the center, as shown in Fig. 2, so that the paper as it is dampened and expands is maintained in contact with the surface of the roller, which is freely revoluble, and it is prevented from wrinkling or overlapping or drawing to the center when it is wound forward and between the drying and pressing rolls, thereby preventing the irregular winding and the formation of the longitudinal folds in the web, which have been a source of annoyance in devices of this description. The roller is preferably supported upon a journal or axis at the ends of the supporting-arms n , the latter being preferably formed of spring-wire and resting upon the bottom of the receptacle, the outer ends of each of said arms having a portion engaging the inclined end m of the pan, as shown, then formed into a loop and extending down upon the outer side of the pan to embrace the latter between them and the inclined portions of the arms, thereby forming a spring-clip for holding the roller-support in place and preventing accidental removal, although permitting the intentional removal of the roller-support and roller when desired. By arranging the edge of the pan with which the arms cooperate at an angle, as shown, the strain upon the roller is not in a direction to draw the holding-clips from the pan edge, but will enable them to remain in engagement

during the use of the device, though permitting the ready and intentional removal of the roller when desired.

In practice it is preferable to make both supporting-arms of a single piece of wire and form the journal for the roller upon the portion *o*, extending between said arms and through a central aperture formed in the roller, as shown in Fig. 2.

10 I claim as my invention—

1. In a paper-dampening device, the combination with a pan or receptacle, a freely-movable immersing-roller mounted therein, having its surface crowning and beneath
15 which the paper moves, of means for drawing the paper around said roller.

2. In a roller copying-press, the combination with the pressure-roll, and the squeezing or drying roll cooperating therewith, of a water-receptacle, and a freely-movable paper-immersion roller mounted therein around
20 which the paper is drawn having a crowning surface.

3. In a paper-dampening device, the combination with a water-receptacle, of an immersion-roller mounted therein having the

crowning surface, the supporting-arms on which the roller is journaled, having spring-clips at the ends for engaging the edge of the pan and preventing movement thereon. 30

4. In a paper-dampening device, the combination with paper-web supply and winding devices, and a liquid-receptacle, a freely-movable immersing-roller in the receptacle beneath which the paper passes, having its surface crowning at the center, and a support for the roller embodying the spring-clips detachably engaged with a suitable support and movable for disengagement at an angle relative to the line of draft of the paper. 40

5. In a roller copying-press, the combination with the paper-roll, the pressure-rollers between which the paper and letter are adapted to pass, of a liquid-receptacle, a freely-movable roller mounted therein beneath which the paper is drawn and having the crowning surface. 45

GEORGE C. HOFFMAN.

Witnesses:

GUSTAV ERBE,
MORITZ WIESNER.