(No Model.)

J. H. VIVIAN.

ADJUSTABLE HOLDER FOR INKING ROLLERS OF PRINTING PRESSES.

No. 457,139. Patented Aug. 4, 1891.

Fig. 1.

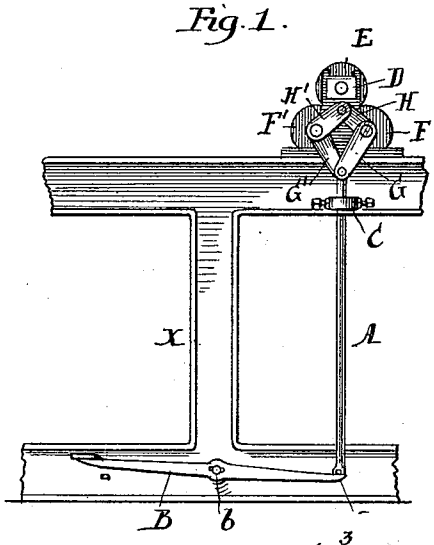


Fig. 5.

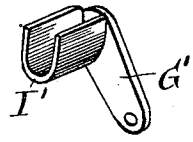


Fig. 2.

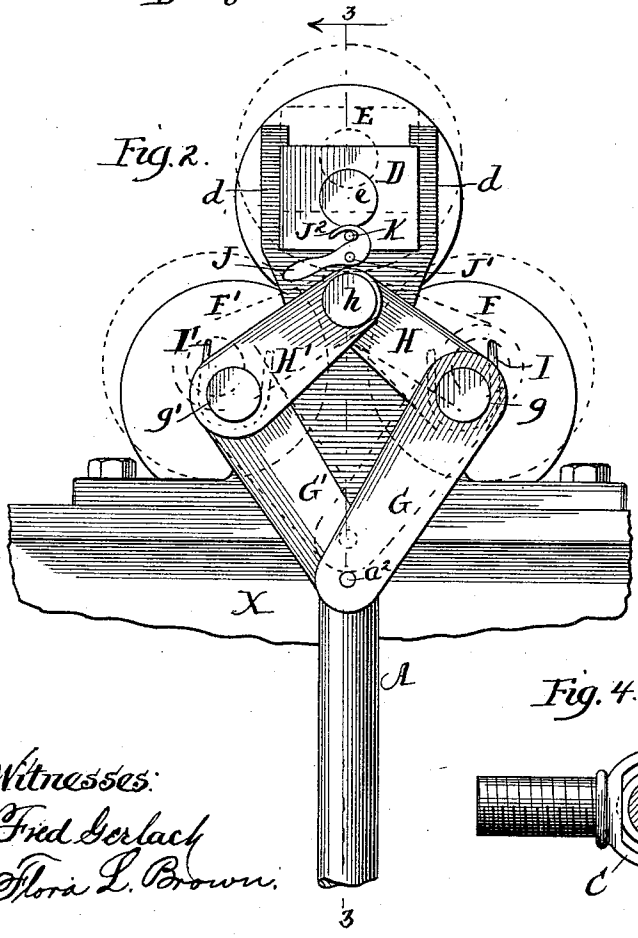


Fig. 3.

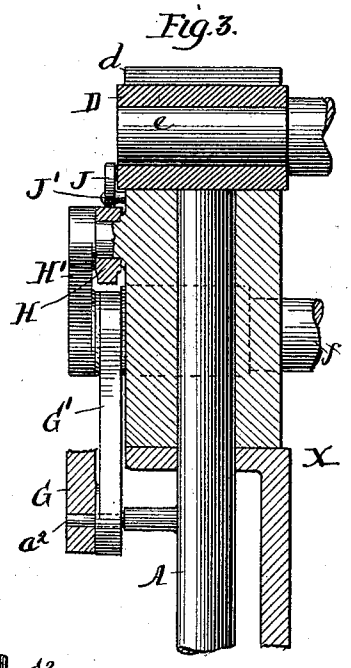


Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN H. VIVIAN, OF CHICAGO, ILLINOIS.

ADJUSTABLE HOLDER FOR INKING-ROLLERS OF PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 457,139, dated August 4, 1891.

Application filed December 18, 1890. Serial No. 375,116. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. VIVIAN, a subject of the Queen of Great Britain and Ireland, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Adjustable Holders for Inking-Rollers of Printing-Presses, of which the following is a specification.

This invention relates to printing-presses having a reciprocally-moving bed, upon which is placed the type-form to be printed from, such type-form being inked by rollers having ink supplied thereto and distributed thereon from a flat inking-plate or from other rollers; and this invention relates to the holders or sockets in which are placed the ends of the type-inking rollers and, when desired, other and ink-distributing rollers. In presses of this character the rollers thus coming alternately in contact with the inking-plate and with the type-form, and inking such type-form, are constructed of composition, and there is usually placed in these presses one or more rollers mounted above the type-form-inking rollers in contact with each other and one thereof in contact with the inking-rollers, such mounted rollers being constructed either of metal, cotton, flannel, leather, or other suitable material.

The purpose of this invention is to obtain holders or sockets for the type-form-inking rollers and those above them, if any, for presses of the character described, so constructed and connected together that the rollers may be raised, when desired, from contact with the type-form and inking-plate, if there be one, and at the same time separated from contact with each other. The inking and other rollers of a printing-press of this character extend transversely across the press and are held by roller-holders or roller-sockets at each end thereof, and hence the herein-described devices, constituting adjustable roller-holders, are placed on each side of a printing-press; but in order to avoid confusion in the description and illustration of the invention the several parts constituting a device embodying the invention are illustrated and described for one side only of the printing-press, the device on the other side thereof being a duplicate of the one described.

I have illustrated my invention by the drawings accompanying and forming a part of this specification, in which—

Figure 1 is a front view of a portion of the side frame of a printing-press with the device secured thereto; Fig. 2, a detail front view of the device with three rollers, being the number most frequently used, and the necessary parts for the holders thereof, shown by the full lines in the position they assume when the press is in operation and by dotted lines in a raised position with the rollers separated from each other and the inking-rollers raised from the type-form; Fig. 3, a section on line 3 3 of Fig. 2; Fig. 4, a top plan view of a guide for vertically-movable rods, controlling the position of the several roller-holders and rollers held therein; and Fig. 5 a perspective view of one of the roller-holders secured on one of the pivoted levers forming a part of the invention.

The same letter of reference is used to indicate a particular part where more than one view thereof is shown.

X is a portion of the side frame of a printing-press or a bracket rigidly attached thereto and forming a part of such frame.

A is a rod vertically movable, having its lower end resting on pedal B, which pedal is rigidly secured to rotatable rod *b*.

b is a rotatable rod extending transversely from side to side of a printing-press and through the side frames thereof.

Where more than two type-form-inking rollers are used more than one of the described devices are used. In such case, if preferred, the rod A can be divided near its upper end instead of being duplicated. A lever may also, if desired, be secured to the rotatable rod *b* in addition to the pedal B, such lever being adapted to be grasped by the hand, and the transverse rod *b* thereby partially rotated; but such additional lever forming no essential part of the invention I have not illustrated it in the drawings.

C is a bracket secured to side frame X and having movable guide C′ therein, through which the rod A is placed and in which it travels or vibrates.

C^2 are set-screws controlling movement of guide C′.

D is a roller-journal box or socket sliding vertically in guides *d d* and resting on top of rod A. (See Fig. 3.)

E is a distributing-roller having shaft *e*.

F F′ are the type-form-inking rollers, and *f* is the shaft of the inking-rollers.

G G′ are arms or levers pivoted at a^2 to the vertically-vibratory rod A.

H H′ are arms or levers pivoted at one end to pivot *h*, such pivot *h* being immovable and secured in the side frame or bracket X of the printing-press.

The levers G G′ are longer than the levers H H′, the lever G being of the same length as the lever G′ and the lever H of the same length as lever H′. The precise length of these levers is determined by the diameter of the rollers to be held in the journals, holders, or sockets attached thereto. Levers G and H are pivotally connected together at pivot *g* and levers G′ and H′ are pivotally connected together at *g′*.

I I′ are journal-boxes, holders, or sockets, which are secured at the pivotal points *g g′* or to the inner one of the levers G H and G′ H′, and in these sockets the shafts *f f* turn as the rollers F F′ are rotated.

J is a catch having a handle thereto, by which it can be turned on pivot J′, and a hook end J^2 thereon, which is adapted to extend over pivot or pin K, secured in journal-box D. Catch J holds the journal box or socket D down upon the upper end of the vertically-movable rod A.

When the press is in operation the device is in the position illustrated in Fig. 1 and by the full lines in Fig. 2, the journal box or socket D being at its extreme lower point and so that the distributing-roller D is nearly if not quite supported by the inking-rollers F F′, and such inking-rollers are in contact with the type-form on the printing-press and supported by such type-form or at their ends upon tracks at the sides of such type-form, prepared therefor.

The manner in which the device is operated is: When from any cause it is desired to elevate the several rollers E, F, and F′ from contact with each other and the type-form or inking-plate, (as from a sheet of paper being caught upon or wound around the inking and distributing rollers, or either of them, or the press is to be run without taking impressions from or inking the type-form thereon,) the rod A is elevated by pressing downward upon the pedal B or by moving the hand-lever, where one is used. Pivotal point a^2 and box D are elevated with and the same distance as the vertical rod A. Pivotal points *g g′* and boxes I I′, mounted thereon, are elevated and at the same time moved horizontally outward from the vertical rod A by reason of the arms H H′ being shorter than the arms G G′, and pivoted at points *g g′* to the levers G G′, respectively, and on immovable pivot *h*. The rollers F F′ are lifted off from the type-form and roller E is lifted off from the rollers F F′.

The rollers F F′ being made in typographic printing-presses of a composition of materials subject to shrinkage, a slight change in diameter thereof obtains when such rollers are used for any considerable length of time, and there is consequently a constant liability that the diameter of the roller F will not be the same as the diameter of the roller F′, and hence the horizontal movement and adjustment of the guide C′ is provided. By moving the guide C′ in the bracket C to the right or to the left by the set-screws C^2 C^2 the required adjustment for causing the rollers F F′ to press with equal firmness upon the type and to carry an equal portion of the weight of the roller E is obtained. The difference in the size of the rollers F F′ rarely exceeds one-eighth of an inch, and therefore but little horizontal adjustment is required in the guide C′.

It is evident that the distributing-roller E may be omitted, and in the omission thereof the box D would not be required, and also that either one of the rollers F F′ may be dispensed with, if desired, in which case one of the arms G G′ and the corresponding one of the arms H H′ will not be required.

In lithographic and printing presses other than typographic, having a bed carrying a stone or other form inked by rollers arranged thereover in the same manner as hereinbefore described, such inking-rollers are sometimes constructed of material other than the composition hereinbefore referred to; but such material being liable to shrinkage in the same manner as the composition rollers herein described, and the rollers being arranged in the same manner, the herein illustrated and described device may be attached to such presses without change in the construction thereof from that described herein, and the device is equally well adapted to such other presses as to typographic printing-presses.

Having thus described my invention and its method of operation and construction, I claim and desire to secure by Letters Patent of the United States—

1. In inking-roller holders for printing-presses, the combination of a vertically-movable rod, a roller-journal box above such rod and adapted to be raised by the raising of the rod, a lever pivoted at its lower end to the vertically-movable rod and at its upper end to another and shorter lever, an immovable pivot on which the shorter lever at the upper end thereof is pivoted, and a roller-holder secured at the pivotal point joining the levers together, substantially as described.

2. In inking-roller holders for printing-presses, the combination of a vertically-movable rod, levers pivoted at the lower end of each thereof to the vertically-movable rod and at the upper end of each thereof to another lever, an immovable pivot on which the last-named levers are pivoted at one end of each thereof, and roller-holders secured at the pivotal point joining the levers together, substantially as described.

3. In inking-roller holders for printing-presses, the combination of a vertically-movable rod, a roller-journal box above such rod and adapted to be raised by the raising of the rod, levers pivoted at their lower ends to the vertically-movable rod and at their upper ends to another and shorter lever, an immovable pivot on which the shorter levers are pivoted at their upper ends, and roller-holders secured at the pivotal points, joining the levers together, substantially as described.

4. In inking-roller holders for printing-presses, the combination of a vertically-movable rod, a roller-journal box above such rod and adapted to be raised by the raising of the rod, levers pivoted at their lower ends to the vertically-movable rod and at their upper ends each to another and shorter lever, an immovable pivot on which the shorter levers are pivoted at their upper ends, and roller-holders secured at the pivotal point joining the levers together, and an adjustable guide in which the vertically-movable rod slides and by which an adjustment of the upper end thereof and of the roller-holders is obtained, substantially as described.

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