(No Model.) 2 Sheets—Sheet 1.

A. J. FORD.

ADJUSTABLE HOLDER FOR INKING ROLLERS OF PRINTING PRESSES.

No. 457,152. Patented Aug. 4, 1891.

Fig 1

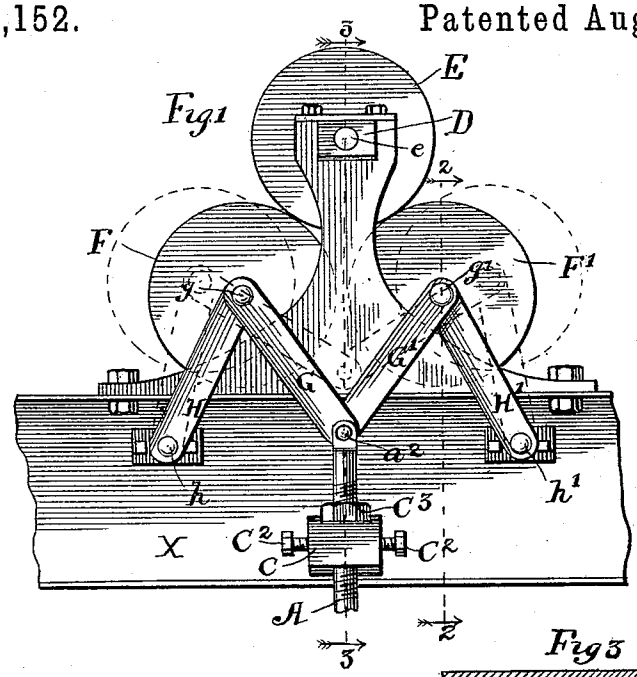


Fig 2

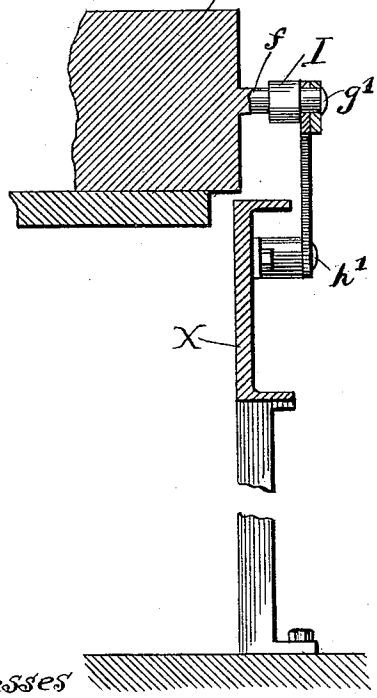


Fig 3

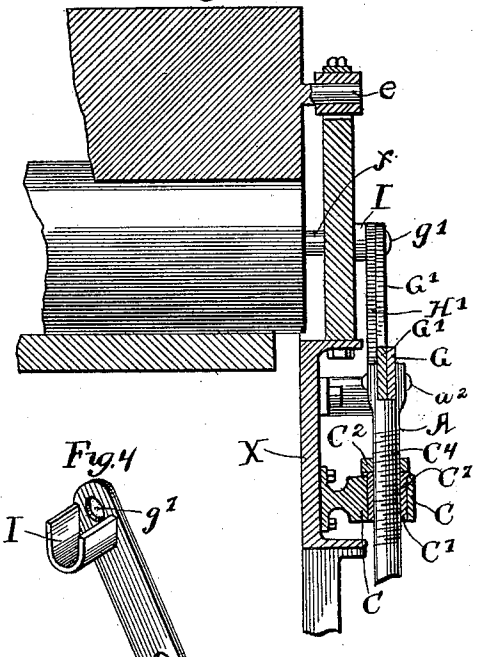


Fig 4

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

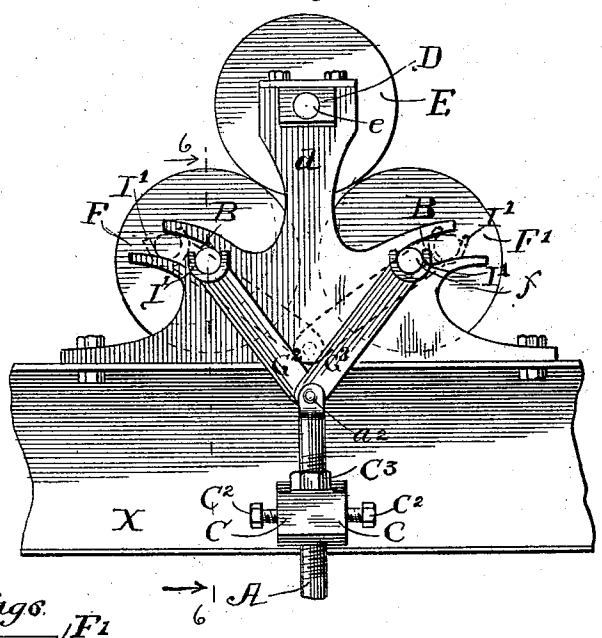


Fig. 6.

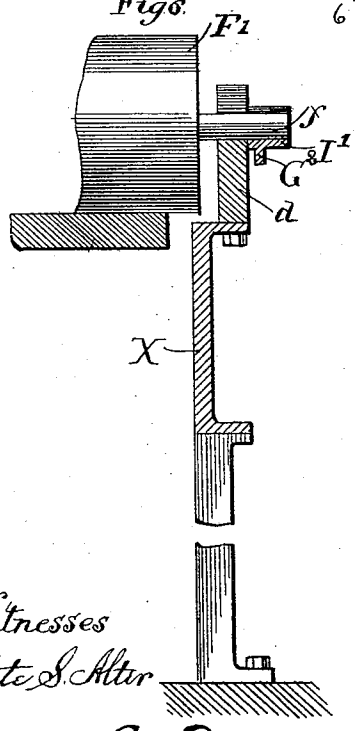
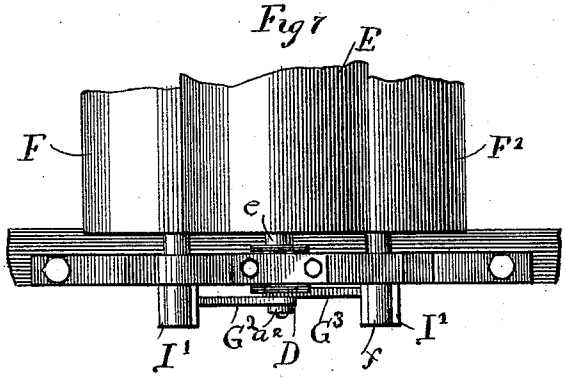


Fig. 7.



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UNITED STATES PATENT OFFICE.

ALBERT J. FORD, OF CHICAGO, ILLINOIS, ASSIGNOR TO JOHN H. VIVIAN, OF SAME PLACE.

ADJUSTABLE HOLDER FOR INKING-ROLLERS OF PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 457,152, dated August 4, 1891.

Application filed January 27, 1891. Serial No. 379,228. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. FORD, a citizen of the United States, 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 reciprocatory 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, and is a modification of the invention involving the same subject-matter heretofore made by John H. Vivian, assignee of the entire interest herein, for which the said Vivian made application for Letters Patent of the United States on or about the 18th day of December, A. D. 1890, and which application is now pending in the Patent Office of the United States and numbered 375,116. In presses of this character the rollers thus coming in contact alternately with the inking-plate, if any, 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 distributing-rollers, if any, coming in contact with the inking-plate, if any, for presses of the character described, so constructed and connected together that the type-form-inking rollers and the ink-distributing rollers when placed in such holders may, whenever desired, be raised from contact with the type-form and inking-plate, if there be one, and at the same time separated from contact with the distributing roller or rollers mounted above the type-form-inking rollers and in contact therewith.

The inking and other rollers of a printing-press of this character extend transversely across the press and are held by roller holders or 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, or so much thereof as is on the other side of the printing-press, being a duplicate of the device, or the portion thereof, described and illustrated.

In the invention hereinbefore referred to, and of which this is a modification involving invention, the roller-sockets for the type-form-inking rollers are secured to levers which are pivoted at the end where the roller-sockets are placed to other levers and at the other end to a vertically-movable pivotal point, such other levers being necessarily shorter than the first-named levers and pivoted above the vertically-movable pivot, and in addition to the above-named devices there is required a vertically-movable rod (to which the vertically-movable pivot referred to is secured preferably) extending underneath the roller-holder of the ink-distributing roller in contact with the type-form-inking rollers, (where such ink-distributing roller is used.) Such ink-distributing roller is thereby raised vertically at the same time the type-form-inking rollers are raised from the inking-plate or type-form.

The purpose of this invention being, as hereinbefore stated, to obtain adjustable roller holders or sockets for the type-form-inking rollers, whereby such rollers can be raised from contact with the type-form and inking-plate, if there be one, and separated from contact with the ink-distributing roller without vertical movement of the holders of such ink-distributing roller, the essential feature of this invention consists in such an arrangement of the several pivoted levers and the pivots thereof that the vertical movement of such ink-distributing-roller holders is dis-

pensed with, and hence no change required in the construction of such ink-distributing-roller holders as now and heretofore made.

By the herein-described invention the necessity of making two of the four pivoted levers required shorter than the other two thereof, as in the invention of the said Vivian, is obviated, and all of such levers may be of equal length or either two thereof may be shorter than the other two.

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

Figure 1 is a front elevation of a portion of the side frame of a printing-press with the device secured thereto; Fig. 2, a sectional view on line 2 2 of Fig. 1, viewed in the direction of the arrows; Fig. 3, a sectional view on line 3 3 of Fig. 1, also viewed in the direction of the arrows; Fig. 4, a perspective of one of the levers to which the type-form-inking-roller socket is secured; Fig. 5, a front elevation of a modification of the device; Fig. 6, a sectional view of such modification on line 6 6 of Fig. 5, and Fig. 7 a plan view of such modification.

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.

A is a rod, vertically movable and actuated by any suitable means.

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

C^2 C^2 are set-screws adjustable against and controlling the movement of guide C′ in bracket C.

C^3 is a nut adjustable on rod A, by means of the screw-threads therein fitting over the screw-threads C^4 on the rod A.

D is an ink-distributing-journal box or roller-socket supported in standard *d*.

E is a distributing-roller, and *e* is the shaft thereof, rotatable in journal-box D.

F F′ are the type-form-inking rollers, and *f f* are the shafts thereof, respectively.

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

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

The levers G G′ may be of the same length as levers H H′, or longer or shorter, as preferred, the lever H being of the same length as lever H′, and lever G of the same length as lever G′. Levers G and H are pivotally connected together at pivot *g*, and levers G′ H′ are pivotally connected together at *g′*.

I is a journal-box, holder, or socket secured to the inner one of the levers G H and G′ H′, and in such socket the shaft *f* of the rollers F F′ respectively turn as such rollers are rotated.

In the modification illustrated in Figs. 5, 6, and 7, B B′ are grooves in standard *d*. G^2 G^3 are levers pivoted at the lower end on the vertically-movable pivot a^2, and having secured at the upper end of each thereof the roller-socket I′. The levers G^2 G^3 are constructed substantially the same as are the levers G G′, hereinbefore described, and the grooves B B′ may be circular, having a radius of the same length as the circle described by the levers H H′ from the pivotal points *h h′*, respectively, and if the exact movement of the roller-sockets I I in the construction illustrated in Figs. 1 to 4, both inclusive, is to be obtained in the movement of the roller-socket I′, such circular shape of the grooves B B, respectively, must be observed.

When the grooves B B′ are employed, as last described, and the levers H H′ dispensed with, there is a tendency to greater friction and less certainty in the movement of the roller-sockets than in the construction requiring the levers H H′ in place of the grooves B B′, and hence I prefer the form of construction illustrated in Figs. 1 to 4, both inclusive.

When the press is in operation the device is in the position illustrated in Fig. 1 by the full lines, the distributing-roller E being nearly, if not quite, supported by the inking-rollers F F′, and the inking-rollers in position to come suitably in contact with the type-form when the same is moved thereunder.

The manner in which the device is operated is to elevate the rollers F F′ from contact with the type-form or inking-plate, and also, to separate such rollers from contact with the ink-distributing roller E, pivotal point a^2 is elevated—as by the elevation of rod A or by any suitable means—into about the position illustrated by the dotted lines in Fig. 1, when the several levers G G′ and H H′ in the construction illustrated in Figs. 1, 2, 3, and 4 will assume, or nearly so, the position also indicated in Fig. 1 by dotted lines, and in the construction illustrated in Figs. 5, 6, and 7 the levers G^2 G^3 will assume about the position indicated by the dotted lines in Fig. 5. The type-form-inking-roller sockets I I, respectively, will thus be elevated and at the same time away from the journal-box D.

Where, as sometimes occurs, the rollers F F′ are of different diameters, the movable block C′ in holder C is moved to the right or left by screws C^2 C^2, so that such rollers upon the lower surface thereof will be in the same horizontal plane, after which the nut C^3 is raised or lowered upon the rod A until such rollers will properly come in contact with the type-form, when the same is moved thereunder.

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

1. In type-form-inking-roller holders for printing-presses, the combination of a vertically-movable and laterally-adjustable pivot,

levers pivoted at the lower end of each thereof to such vertically-movable pivot, roller-sockets secured at the upper end of such pivoted levers, and mechanism whereby when such vertically-movable pivot is elevated such roller-sockets are moved upward and away from each other, substantially as described.

2. In type-form-inking-roller holders for printing-presses, the combination of a vertically-movable pivot, levers pivoted at the lower end of each thereof to such vertically-movable pivot and at the upper end of each thereof to another lever, immovable pivots on one of which each of the second-named levers is pivoted at the other end thereof, and roller-sockets secured to the inner one of such levers at the pivotal point joining two of the levers together, substantially as described.

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LUTE S. ALTER.