

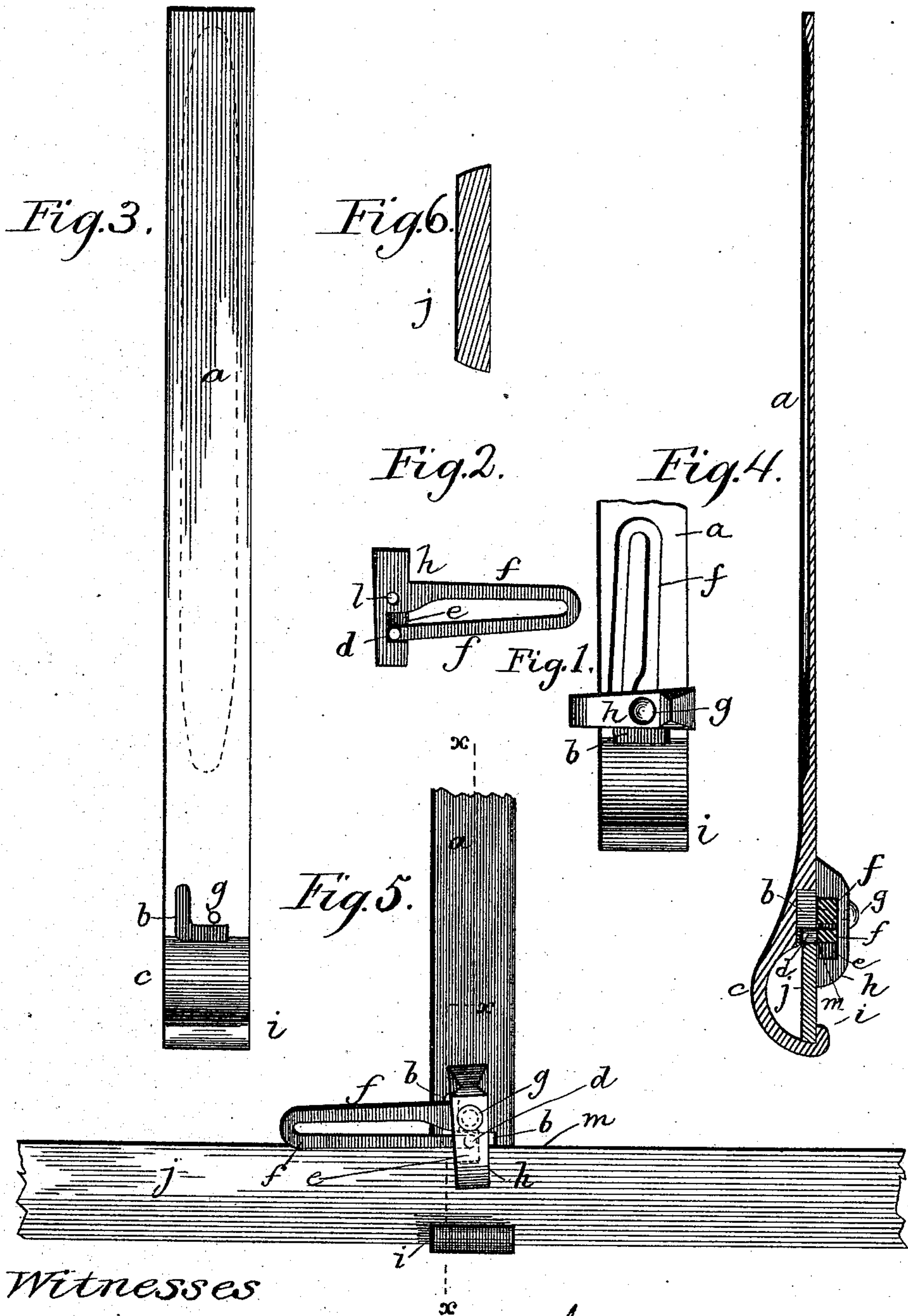
(No Model.)

W. C. PAUL.

GRIPPER FOR PRINTING PRESSES.

No. 412,412.

Patented Oct. 8, 1889.



Witnesses

Gas. B. Neibert.
J. H. Paul

Wilbur C. Paul,
Inventor

UNITED STATES PATENT OFFICE.

WILBUR C. PAUL, OF OLATHE, KANSAS.

GRIPPER FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 412,412, dated October 8, 1889.

Application filed March 30, 1888. Serial No. 269,021. (No model.)

To all whom it may concern:

Be it known that I, WILBUR C. PAUL, a citizen of the United States, residing at Olathe, in the county of Johnson and State of Kansas, have invented a new and useful Gripper for Printing-Presses, of which the following is a specification.

My invention relates to improvements in grippers for bed-and-platen (generally called "job") printing-presses, wherein a spring-lever clutch, in conjunction with a clutch at the extreme lower end of the gripper, which is bent around the lower side of the gripper-bar in semicircular or other adaptable shape by an instantaneous adjustment with the hands, is made to hold the gripper, in the position desired by the operator, strongly and firmly; and the objects of my improvements are, first, to provide a simple and durable device by which such grippers may be made self-locking in the position desired; second, to provide a spring, in connection with the lever-clutch, with the view of taking up the uneven places or wear on the gripper-bar caused by irregularity in its manufacture or from long use, as well to prevent the release of the lever-clutch until assisted by the hand of the operator, and, third, to reduce to the minimum the time expended by the operator in releasing and readjusting the said grippers. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1. represents the gripper with the spring-latch open and detached from the bar; Fig. 2, an underneath view of the spring-lever clutch when detached from its working position on the gripper. Fig. 3 shows a top-surface view of the gripper-bar; Fig. 4, a sectional view of the gripper as it appears attached to the gripper-bar. Fig. 5 is a view of the gripper as it appears when attached to the gripper-bar ready for work, and Fig. 6 shows a sectional view (on end) of the gripper-bar.

Similar letters refer to similar parts throughout the several views.

The gripper-bar *j*, as shown by Figs. 5 and 6, is attached to the printing-press in a like manner to that effected by gripper-bars now in general use on bed-and-platen (or job) printing-presses, each according to its own

peculiar style and shape, differing from them in that it presents in end view a keystone-shaped quadrilateral, with the narrow side to the underneath, instead of a quadrangular view on end, and that it is solid from end to end, instead of being slotted, as are those in common use.

The construction of the gripper itself is best pictured in Figs. 3 and 4, wherein *a* represents the arm or shank of the gripper, (which stands in an almost exact vertical position when the gripper is attached to the bar,) and which is grooved on the under side, (or side that is presented flat to the platen as the latter makes its forward motion toward the bed,) and which makes an air-chamber, and thus assists greatly in the detaching of the sheets of paper from the form of type in the use of stiff ink. At the point on the gripper where the semicircular or angular (semicircular in this instance) bend *c* must be made to encircle the lower side of the gripper-bar to the point where is turned the lower or corresponding clutch *i*, an L-shaped recess *b* (or cavity) is made, and at its inner angle or turning point is firmly placed the rivet *g*. By means of this rivet *g* the spring-lever clutch, Fig. 2, is attached to the gripper by the passage of the rivet *g* through the hole *l* in the cross-bar *h* of the lever-clutch. On the under side of cross-bar *h* is made a cavity or recess *e*, above the clutch-tooth *d*, to permit the free contraction and expansion of the spring *f f* as the lever is drawn around on the top of the gripper-bar *j* or reversed to its unlocked position on the upper surface of the gripper *a*—that is, from its position shown in Fig. 5 to that in Fig. 1. In the case at hand the lever *f f* turns to the left in locking the gripper to the bar; but it would be prudent and necessary in the use of two (the usual number) grippers on the press to have one spring-lever clutch turn to the right and the other to the left, and always thus arranged to a point of convenience, no matter how many of these grippers it may be necessary to use at one time.

The locking of the gripper upon the gripper-bar, after the former has been moved horizontally along the latter until it is in the position desired by the operator, is effected by moving the "power" end of the lever *f f* in a

swinging move from right to left and toward the gripper-bar, as shown in Figs. 1 and 5, or moving the lever with the hand from left to right in like manner should the spring-lever clutch be made to operate in the reverse, as mentioned in the last paragraph. This movement of the lever-power *f f*, bearing against the fulcrum-rivet *g*, compresses the clutch-tooth *d* on the "pressure" end of the lever *f* to *d* firmly against the upper edge *m* of the gripper-bar, compelling the opposite edge to settle firmly under and against the lower or corresponding clutch *i* on the gripper, and by the same effort or movement the cross-bar *h* is made to ride upon the top of the gripper-bar, followed by the outward end of the spring-lever *f f*, which also rides the top of the gripper-bar *j*, as shown in Fig. 5, and both of these factors having a strong downward pressure, driving the keystone-shaped bar, (hereinafter more fully described,) Figs. 4 and 6, firmly into place in the cavity or bend *c*, as shown in Fig. 5, and by the movement last described the clutch-tooth *d* is carried along the edge *m* of the bar until it passes a "center" of the fulcrum or rivet *g*, and is thus so firmly held to its "lock-up" that it is only released at the will and effort of the operator.

Being fully aware that prior to my invention grippers for use on platen printing-presses have been made which are attached to gripper-bars and movable at the will of the operator, and made to hold their position firmly by means of bolts and nuts, bolts and thumb-

screws, or other device, I do not claim such a combination, broadly; but

I do claim as my invention and desire to secure by Letters Patent the following peculiar features:

1. The combination of a solid gripper-bar having a keystone shape, and a gripper having a bend to encircle the lower side of the bar, and means for securing the same in position, substantially as described.

2. The combination, with the gripper-bar and gripper, of a clutch for securing the latter to the bar, said clutch comprising a pivoted spring-lever having a clutch-tooth *d*, to clamp the upper edge of the bar, and a cross-bar *h*, to ride on the face *j* of the bar, said clutch coacting with the clutch *i* on the gripper to firmly lock the latter on the bar, substantially as described.

3. The combination of a bar of a gripper and a spring-lever clutch for locking the same on the bar on printing-presses or other machines wherein such a combination may be required, and operating as set forth in the specification.

4. The combination of a gripper-bar *j* and a gripper, Fig. 1, of a platen press with a spring-clutch, Fig. 2, for securing said gripper in place on the bar, all substantially as described.

WILBUR C. PAUL.

Witnesses:

ART. HENRY,

JAMES B. HEIBERT.