(No Model.) 2 Sheets—Sheet 1.

W. H. PRICE, Jr.

GRIPPER MECHANISM FOR PLATEN PRINTING PRESSES.

No. 399,282. Patented Mar. 12, 1889.

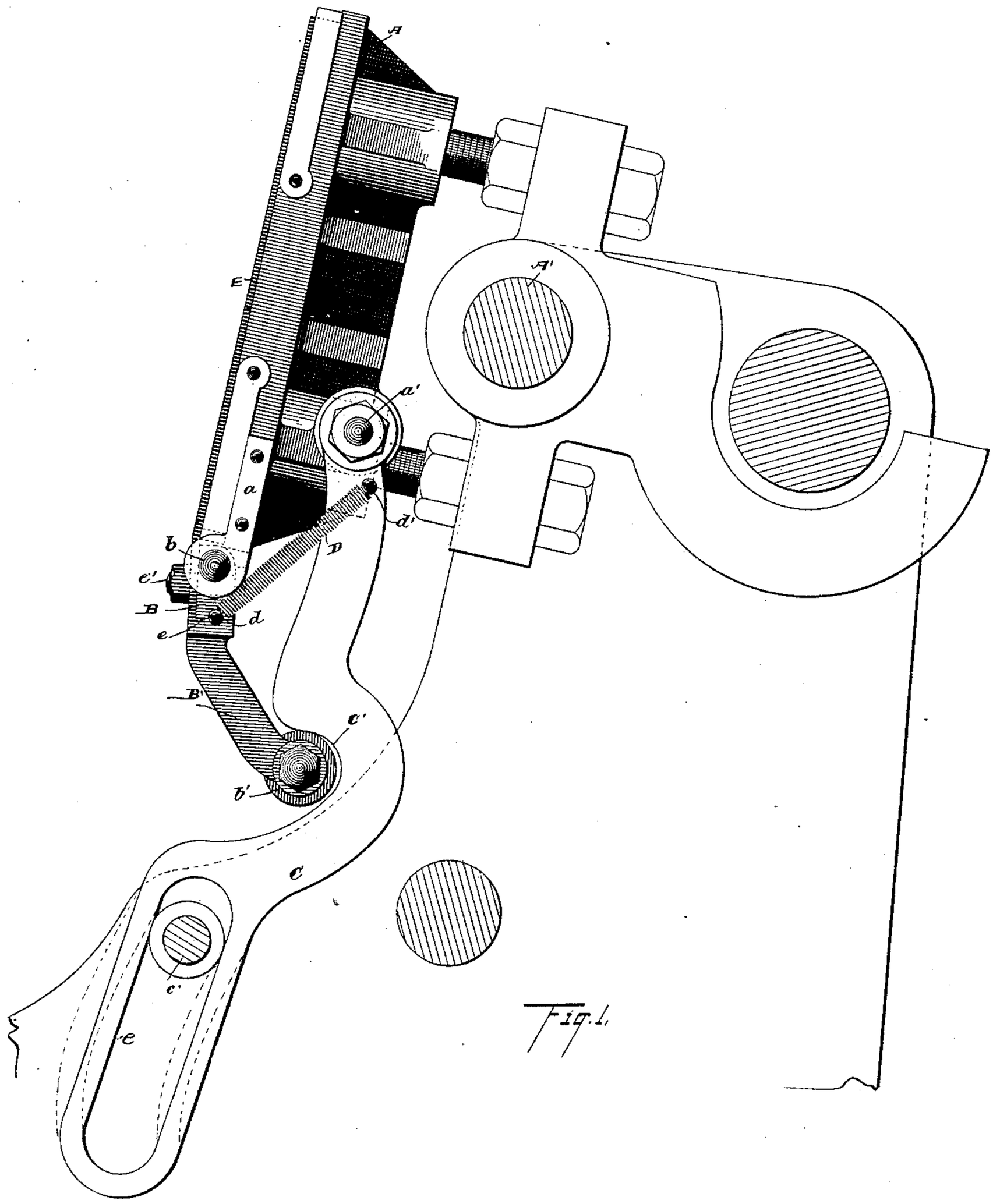

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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GRIPPER MECHANISM FOR PLATEN PRINTING PRESSES.

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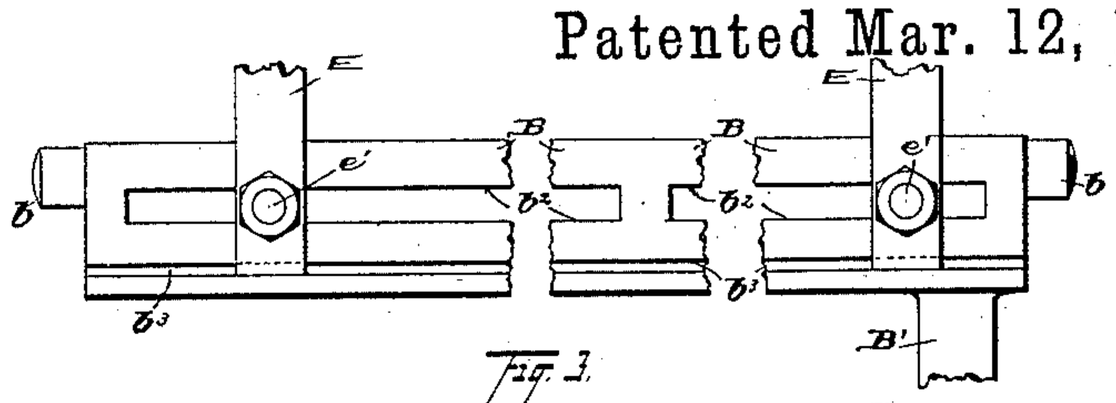

Fig. 3.

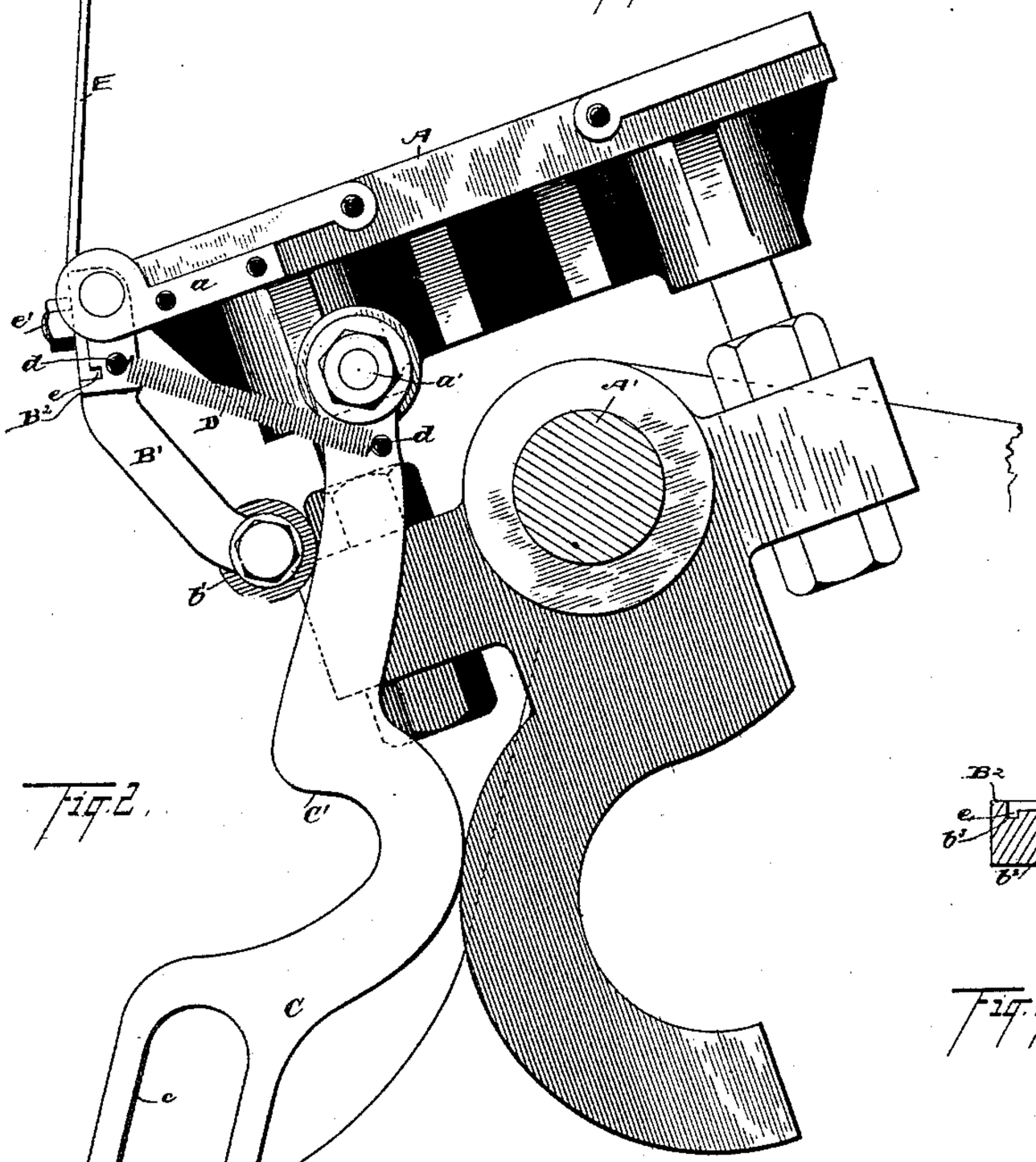

Fig. 2.

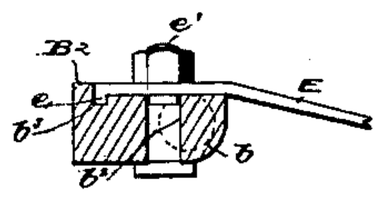

Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM H. PRICE, JR., OF CLEVELAND, OHIO, ASSIGNOR TO CHANDLER & PRICE, OF SAME PLACE.

GRIPPER MECHANISM FOR PLATEN PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 399,282, dated March 12, 1889.

Application filed April 21, 1888. Serial No. 271,380. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. PRICE, Jr., of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Gripper Mechanism for Platen Printing-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in gripper mechanism for platen printing-presses, in which a link is pivoted at the upper end thereof to the platen, the lower portion of the link traveling on a fixed support, the said link having a cam-face for actuating the arm of the gripper-plate, a spring being employed for holding the gripper-plate arm in contact with the cam, to the end that the parts may work freely and the grippers at any point of the stroke may be turned back against the face of the platen.

My invention also relates to details of construction hereinafter described and claimed.

In the accompanying drawings, Figures 1 and 2 are side elevations showing, respectively, the gripper mechanism and platen in different working positions. Figs. 3 and 4 are plan and elevation in section of the gripper-plate.

A represents the platen of the press, and A′ the axis of the platen.

B is the gripper-plate, the trunnions *b* of which are pivoted in arms *a*, the latter being connected to the platen. A short arm, B′, is integral with or attached to the gripper-bar, preferably at or near one end of the latter, the free end of this arm being provided with a lateral stud, on which stud is mounted roller *b′*, for engaging the cam C′.

C is a link pivoted at *a′* to the platen, the lower portion of the link being provided with slot *c*, the latter embracing a stud or roller, *c′*, as the case may be, such stud or roller being attached to the frame of the press, and consequently remaining at a fixed point. Link C on the face thereof is provided with cam C′, for engaging roller *b′*, and thereby actuating the gripper-plate and grippers.

A spring, D, is pivotally connected at *d* with the gripper-plate, and is connected at *d′* with the link, the tension of this spring holding roller *b′* in contact with the cam. The spring has no labor to perform in actuating the grippers, and, owing to the peculiar arrangement of the parts, the link swinging rearward as the platen is elevated, points *d* and *d′* need not vary in distance apart more than an eighth of an inch in operating the press, and the tension of the spring therefore varies only a trifle, and consequently the spring is not likely to break or materially relax its tension for a long time. At any position of the platen in which the grippers in their normal or working position stand apart from the platen the grippers may be turned against the face of the platen for convenience in adjusting the grippers or in arranging for holding the paper, &c., and such occasional turning back of the grippers of course distends spring D, and the recoil of the spring returns the grippers to their normal or working position—that is, with roller *b′* bearing against the face of the cam. Heretofore when a stationary cam was employed for operating the grippers such cam was necessarily so abrupt at certain points as to cause great strain and wear of the parts, by reason of which in repairing presses of this class it was an exceptional case where the gripper mechanism was not one of the broken or injured parts of the press, and with many presses the gripper mechanism was broken and renewed several times, while the balance of the press remained in good working order. With the construction shown the moving cam in a measure accommodates itself to the movement of arm B′, so that the line of this arm is always at such an acute angle to the surface of the cam at the point where roller *b* engages the cam that the roller works easily, and no inordinate strain is brought to bear on the parts. (See, for instance, Fig. 1.)

Slots *c* of the link, instead of being straight, may curve more or less in the direction shown in dotted lines, Fig. 1, to give more throw to the cam or to give the same throw with less angularity of the cam. Such curved slots of the link may sometimes be used to advantage—for instance, in attaching my improve-

ments to presses already in use, and where, from the peculiar contruction of the press, the different members of the new gripper mechanism cannot well be located exactly in their proper relative position.

The gripper-plate B is provided in the usual manner with slots b^2 and groove b^3, the former for receiving bolt e', for securing grippers E, and the latter for receiving toes e of the grippers, by which arrangement the grippers are adjustable lengthwise of the plate B. Heretofore the grippers have frequently been bent or broken by carelessness of the operator in tightening bolts e' while the toes e were out of the groove and resting on the face of the plate below or rearward of the groove. To prevent this I provide rib B^2, the latter projecting from the face of the plate B and extending along the rear side of groove b^3, the rib being flush with the rear or lower side of the groove. In adjusting the grippers while the face of the platen is in an inclined position, as is likely to be the case if toes e back out of the groove, rib B^2 will hold the grippers from moving rearward and downward, and consequently when bolts e' are tightened toes e will be returned to their place in the groove, bolts e' not being of sufficient length to admit of toes e mounting the rib. There is, therefore, no liability of misplacing or injuring the grippers in shifting and fastening the same.

What I claim is—

1. The combination, with platen, gripper-plate, and arm, of a traveling cam for engaging such gripper-plate arm, the said cam being pivotally connected with and operated by the platen, substantially as set forth.

2. The combination, with platen, grippers, gripper-plate, and arm, of link pivoted to the platen, the lower portion of the link traveling on a stationary support, said link having a cam-face for engaging the gripper-plate arm, whereby the grippers are actuated, substantially as set forth.

3. The combination, with platen, gripper-plate, and arm, of a reciprocating vibratory cam for engaging and operating such arm, said cam being pivotally connected with the platen, substantially as set forth

4. The combination, with a platen, gripper-plate, and arm, of a traveling link pivotally connected with and operated by the platen and having a cam-surface for engaging such gripper-plate arm, and a spring connected with the gripper-plate and link for holding the arm in contact with the cam-surface of the link, substantially as set forth.

5. The combination, with grippers and gripper-plate, the former having toes and the latter having a longitudinal groove for receiving such toes, of rib projecting from the face of the gripper-plate in position to engage the end of the grippers, said rib being flush with the rear side of said groove, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 31st day of December, 1887.

WILLIAM H. PRICE, JR.

Witnesses:
CHAS. H. DORER,
ALBERT E. LYNCH.