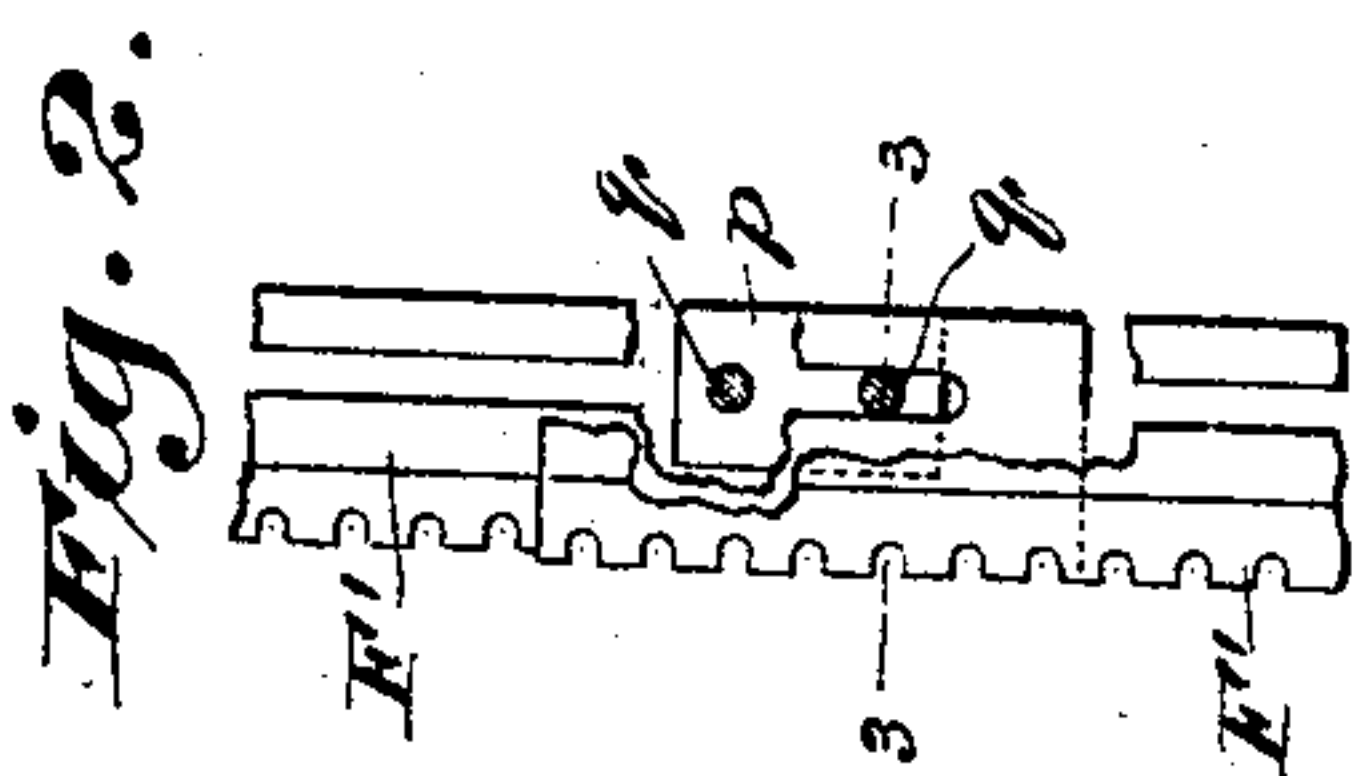
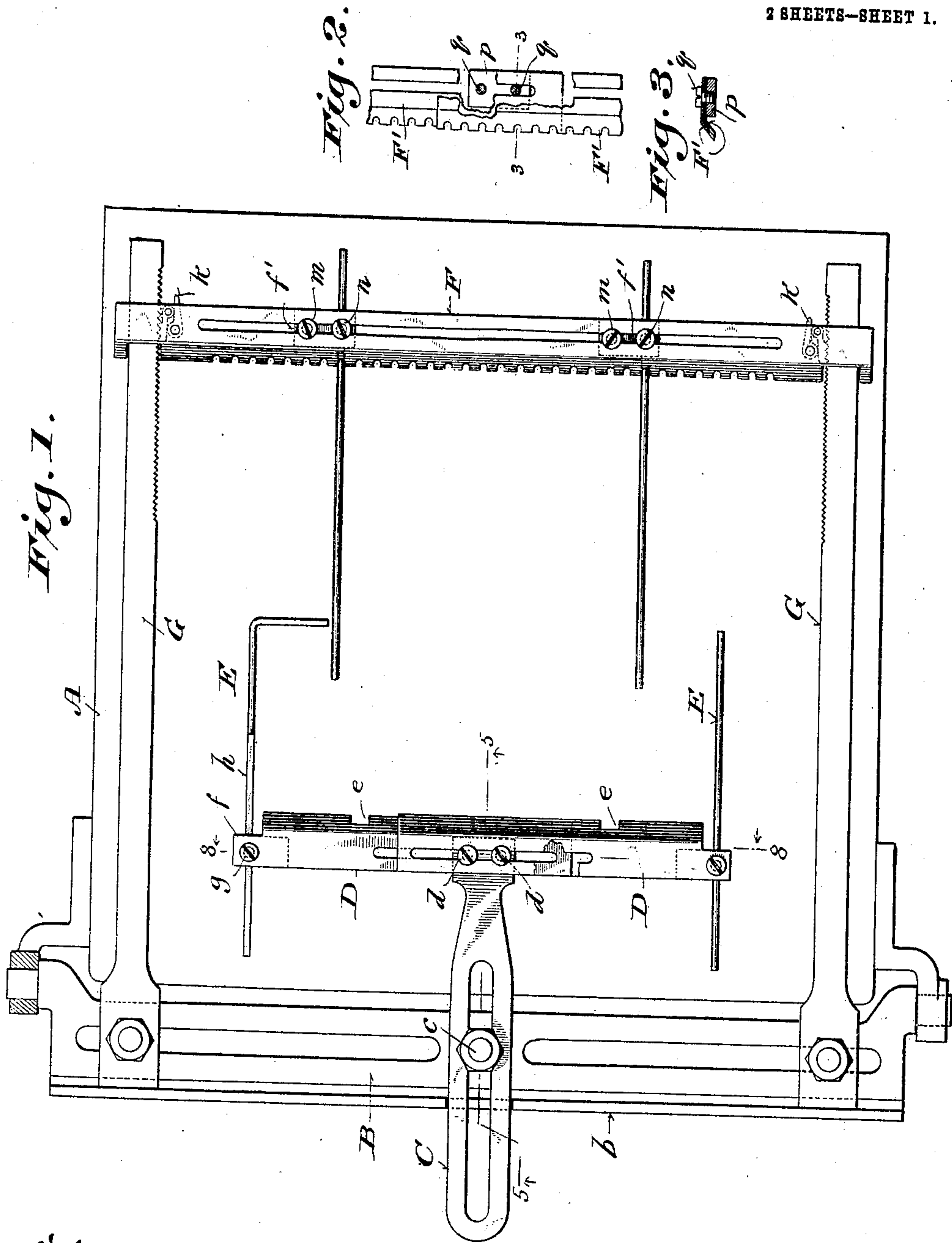


F. D. HAKE.  
 PRINTING PRESS GRIPPER.  
 APPLICATION FILED JUNE 26, 1908.

924,983.

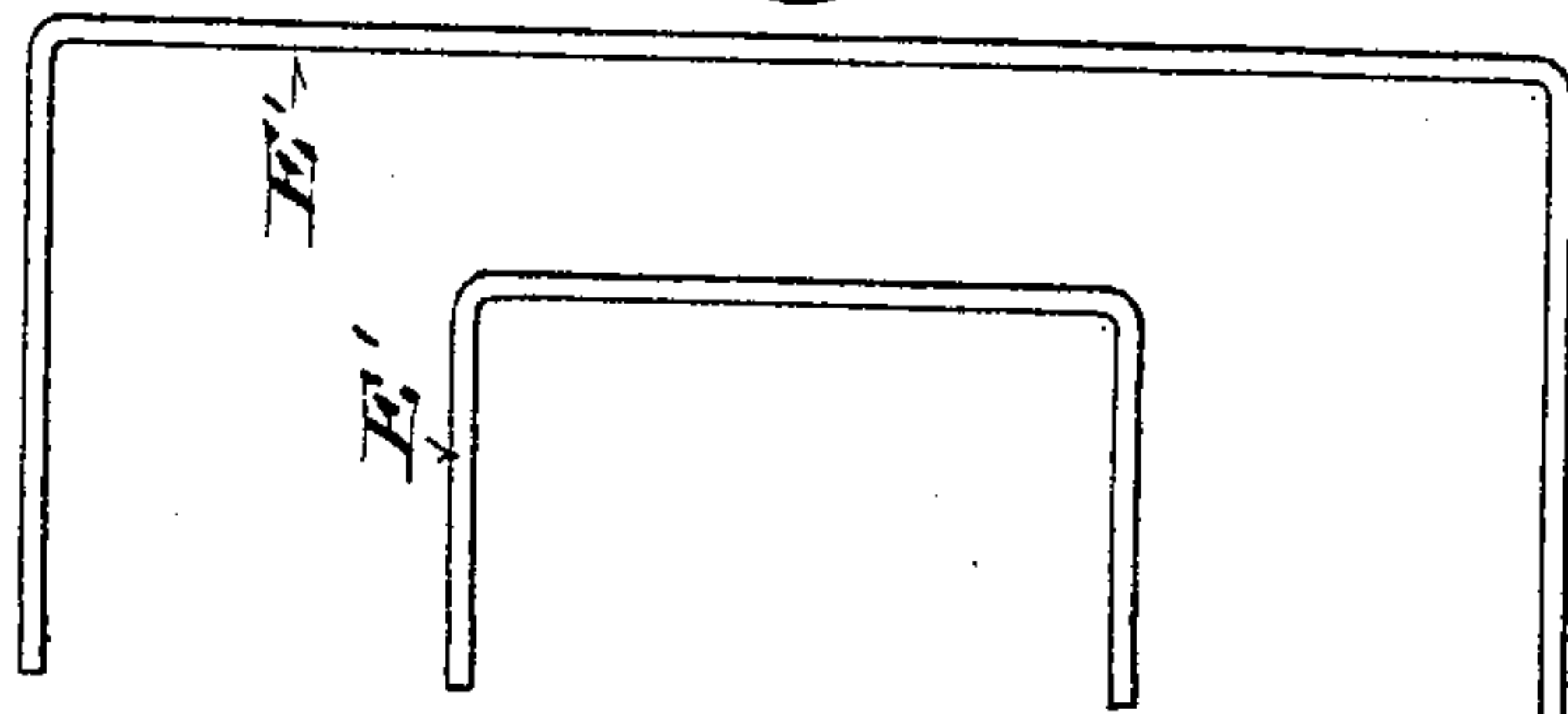
Patented June 15, 1909.

2 SHEETS—SHEET 1.



Witnesses:  
 George Telber  
 Arthur A. Hoge.

Fig. 4.

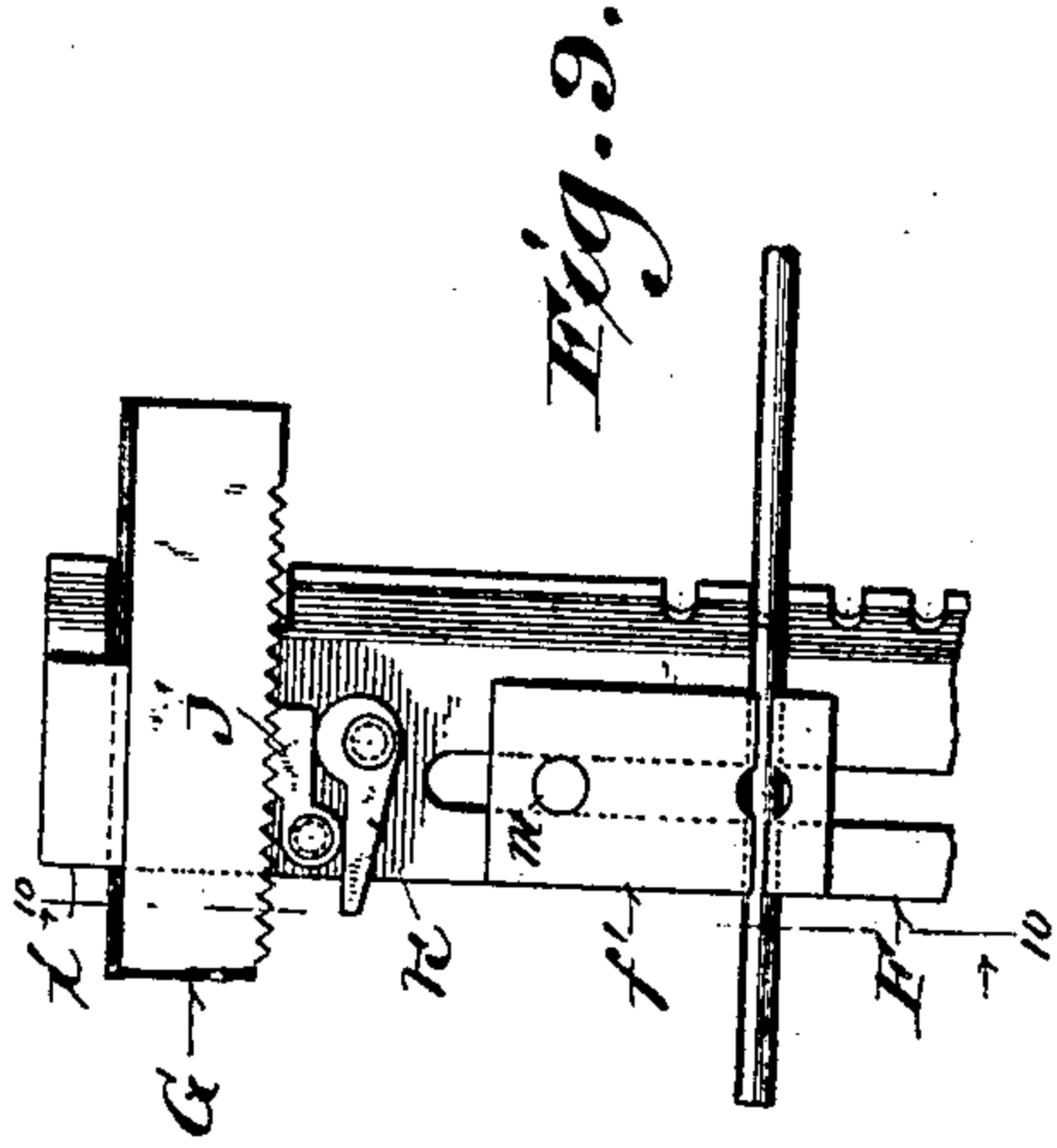


Inventor:  
 Frank D. Hake.  
 By Clifton Young  
 Attorney.

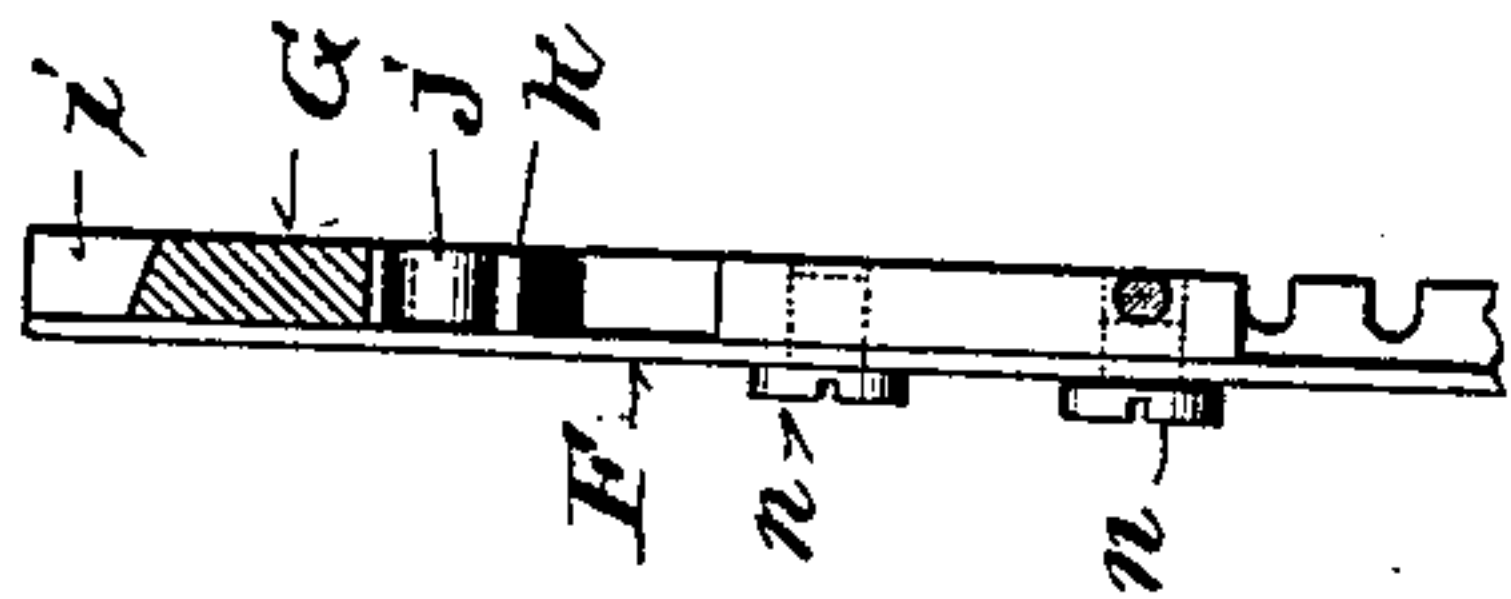
F. D. HAKE.  
PRINTING PRESS GRIPPER.  
APPLICATION FILED JUNE 25, 1908.

924,983.

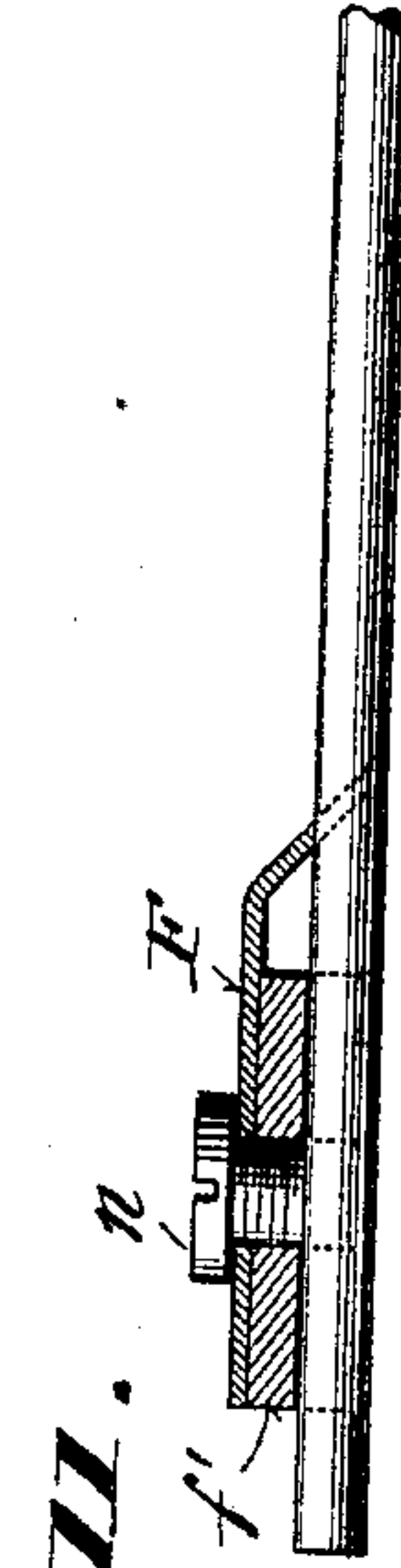
Patented June 15, 1909.  
2 SHEETS—SHEET 2.



*Fig. 9.*

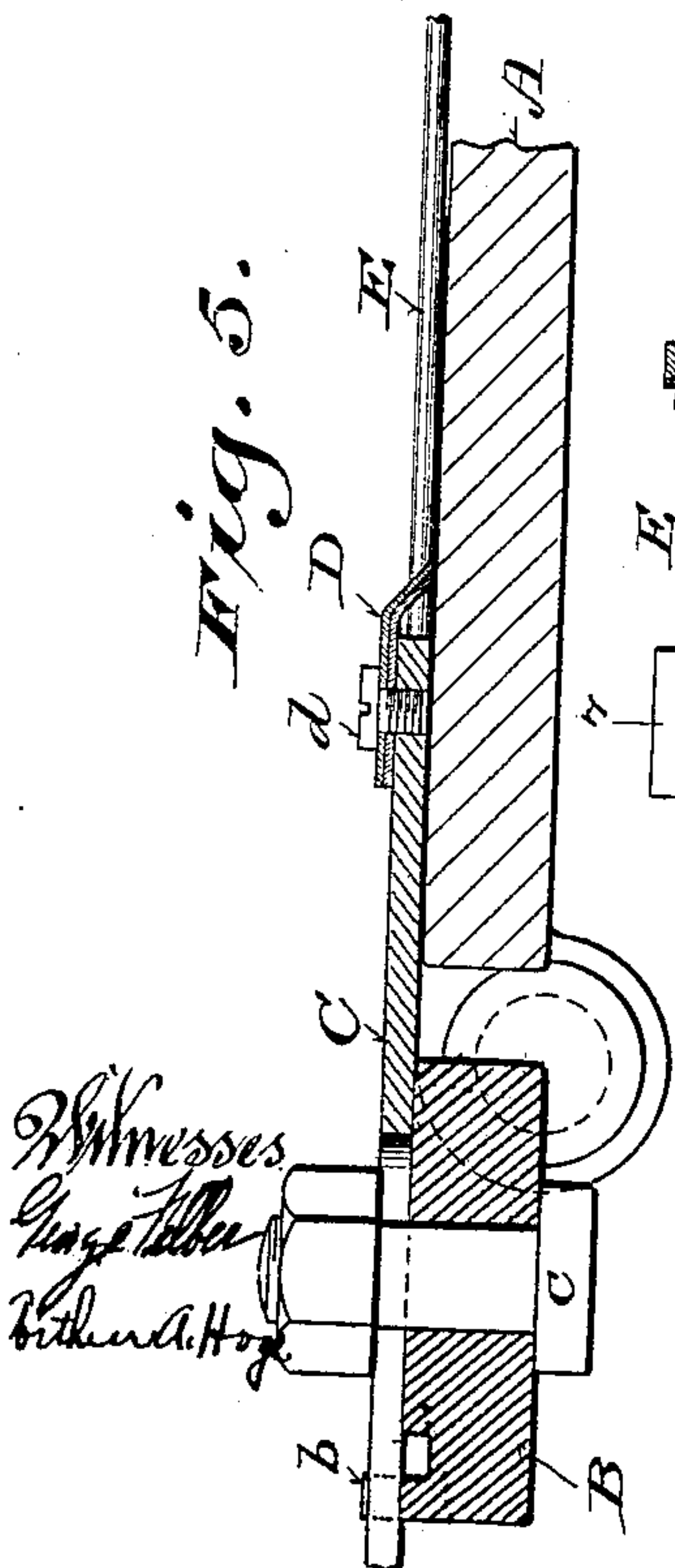


*Fig. 10.*



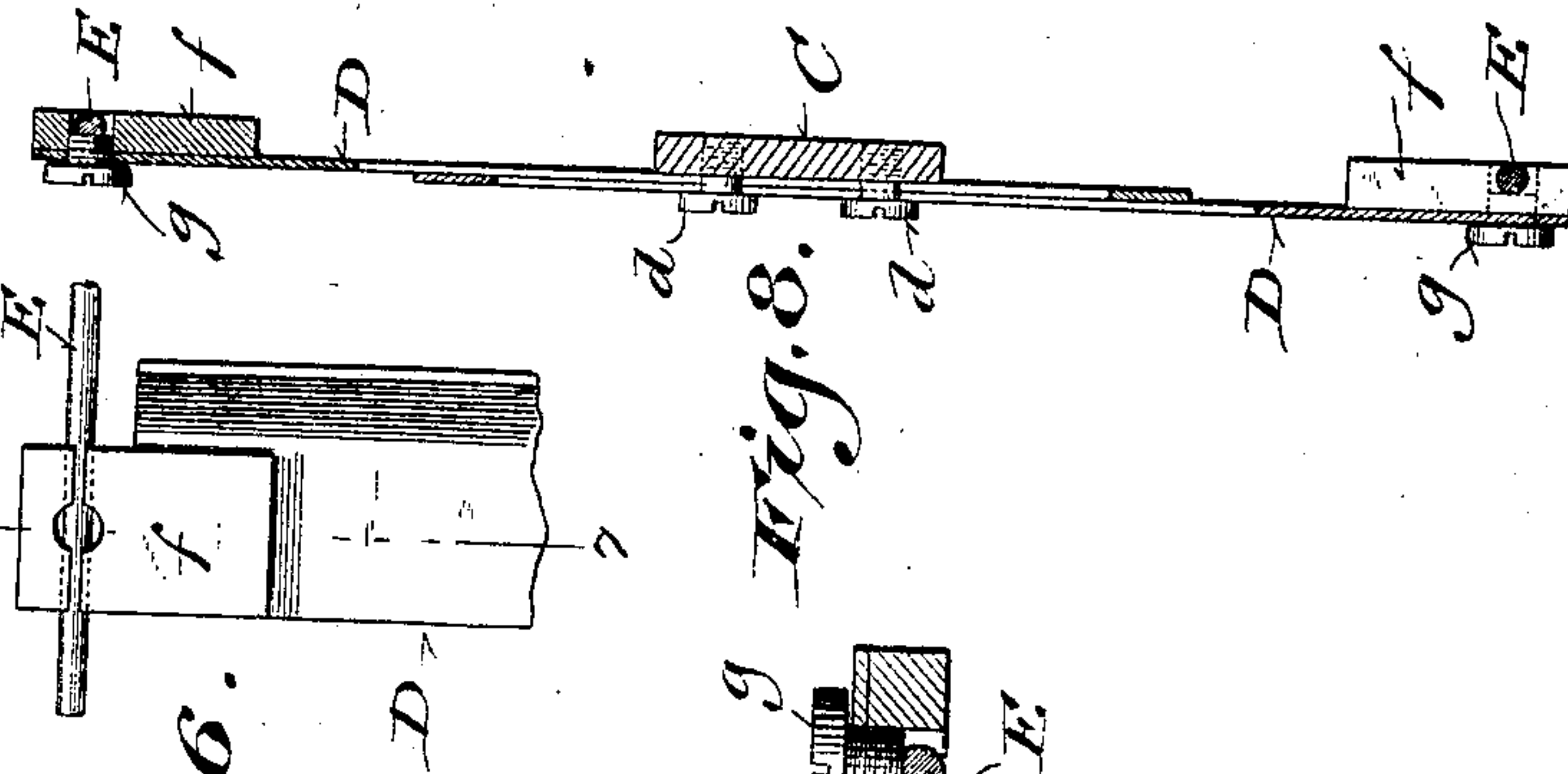
*Fig. 11.*

*Fig. 5.*



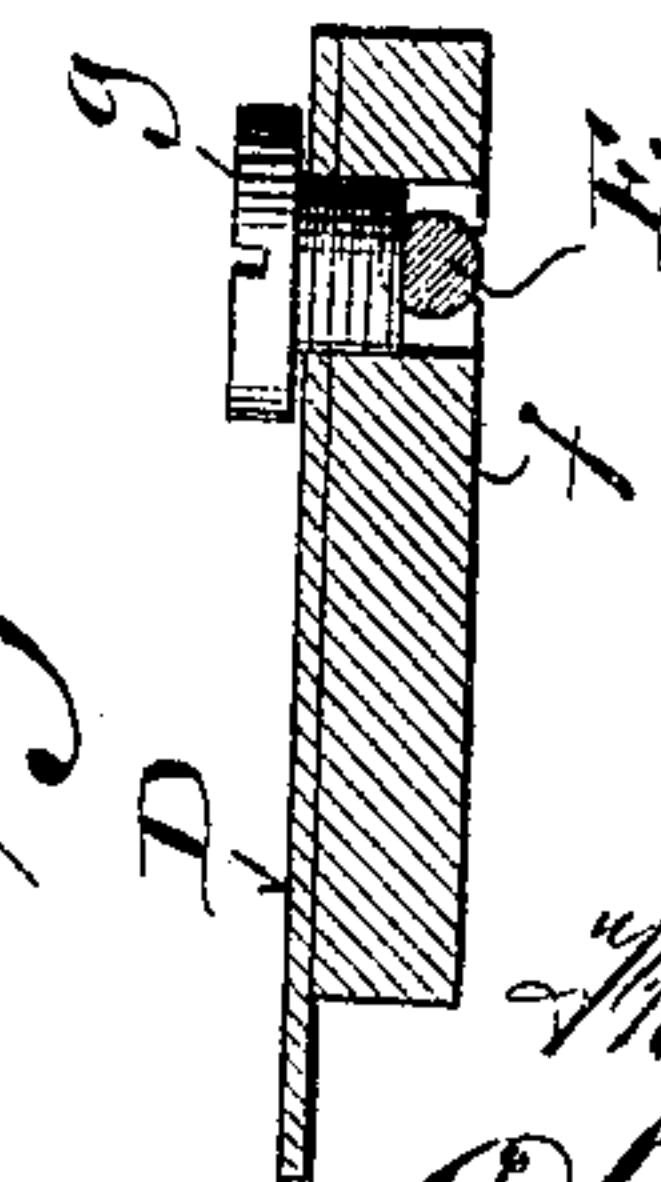
Witnesses  
George T. Allen  
Arthur H. Hoge

*Fig. 6.*



*Fig. 8.*

*Fig. 7.*



Inventor:  
F. D. Hake.  
By *Christopher Young*  
Attorneys.



# UNITED STATES PATENT OFFICE.

FRANZ D. HAKE, OF MILWAUKEE, WISCONSIN.

## PRINTING-PRESS GRIPPER.

No. 924,983.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed June 25, 1908. Serial No. 440,225.

*To all whom it may concern:*

Be it known that I, FRANZ D. HAKE, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Printing-Press Grippers; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and pointed out in claims, its object being to provide simple, economical and readily adjustable gripper attachments designed to overcome the difficulties heretofore experienced in holding sheets to be printed upon firmly on the tympan of platen printing-presses, said attachments serving to prevent inaccuracy of register, shifting, picking and pulling of the fed sheets, their entanglement with mechanism or inking-rollers of the presses and the blurring of ink on said sheets.

Figure 1 of the drawings represents a plan view of gripper attachments in accordance with my invention applied in connection with the gripper-bar of a printing-press, parts in the showing being partly broken away; Fig. 2, a similar view of a fragment of an adjustable upper bar-gripper; Fig. 3, a cross-section view indicated by line 3—3 in Fig. 2; Fig. 4, an elevation of different sizes of angular yoke rod-grippers; Fig. 5, a detail sectional view indicated by lines 5—5 in Fig. 1; Fig. 6, a plan view of a fragment of a lower bar-gripper inverted; Fig. 7, a sectional view of the same indicated by line 7—7 in Fig. 6; Fig. 8, a sectional view indicated by lines 8—8 in Fig. 1; Fig. 9, a plan view of a fragment of an upper bar-gripper inverted and adjustably connected to a gripper-bar arm; Fig. 10, a partly sectional elevation of what is shown in Fig. 9, the view being indicated by line 10—10 in said Fig. 9, and Fig. 11, a partly sectional view illustrating the upper bar-gripper and a rod-gripper.

Referring by letter to the drawings, A indicates the tympan and B the gripper-bar of an ordinary platen printing-press. I centrally notch the ledge *b* of the gripper-bar to provide a guideway for a longitudinally slotted shank C, and a slot-engaging bolt *c* is employed to fasten the shank to said bar in adjusted position.

A lower bar-gripper is employed in con-

nection with the upper end of the shank C at right-angles to the same. This lower bar-gripper is herein shown as comprising a pair of longitudinally slotted sections D, D, in sliding engagement to provide for varying the length of said bar, but either section, slotted as aforesaid or otherwise, is in itself a bar-gripper and the length of same may be indefinitely varied. The two-section bar-gripper herein shown may be lengthened or shortened by an adjustment of either or both sections that are held in adjusted position by binding screws *d*, extending through their slots into the shank C aforesaid. If but one of the sections D be employed as a bar-gripper the same is secured in adjusted position by said binding-screws.

The upper edge of the lower bar-gripper, in any form, is inturned at a suitable angle to attack sheets upon the tympan A, and gage-pin clearance notches *e* are provided in this inturned edge of said bar, said inturned edge being in practice extended over and above the gage-pins to hold the lower margin of a sheet bed to the press.

One or both ends of the lower bar-gripper in any form is provided with an inner stationary block *f* transversely apertured for the engagement of a rod-gripper E that is flush with the inner side of the block through a slot of the same intersecting said aperture, and the thickness of said block is such that said rod-gripper is on the same sheet-attacking plane as the inturned edge of said gripper-bar. The rod-grippers have sliding adjustment in their respective blocks and a binding-screw *g* is employed to secure each rod-gripper in its adjusted position. If a rod-gripper be otherwise than straight, the surface of same opposing the binding screw is preferably slabbed as shown at *h* in Fig. 1, to prevent turning of said gripper in the block *f* with which it is engaged. In Fig. 1, I have shown a straight rod-gripper and an angularly crooked rod-gripper, it being my intention to supply the trade with rod-grippers in sets variable as to extent of crook, either angular or curved, or pressmen may readily make crooked rod-grippers from lengths of wire of suitable gage by bending the same to form the crooks desired. In Fig. 4, I show a plurality of angularly bent rod-grippers E' in the form of angular yokes of varying dimensions it being my intention to supply the trade with such grippers in sets ranging from a predetermined minimum to a predeter-



mined maximum of width for use in connection with an expansile and contractile bar-gripper having the sections thereof provided with blocks and binding-screws similar to those aforesaid, but pressmen may readily make angular yoke bar-grippers of various widths by bending lengths of wire of suitable gage.

An upper longitudinally slotted bar-gripper F is shown provided with beveled end-blocks *i* that match beveled edges of arms G bolted to the gripper-bar B, and toothed dogs *j* in pivotal connection with said upper bar-gripper engage with rack-toothed edges of said arms, the engagement being maintained by cam-latches *k* also in pivotal connection with the aforesaid upper bar-gripper. By means of the dogs and cam latches aforesaid the upper bar-gripper is securely held in adjusted position vertically of the gripper-bar arms. In cross-section, the upper bar-gripper is similar to the lower bar-gripper or a section of same except that its inturned sheet-attacking edge is reverse to that of said lower bar-gripper. This inturned edge of the upper bar-gripper is notched at intervals of its length for the engagement of rod-grippers similar to those described in connection with the lower gripper-bar, and guide-blocks *f'* similar to the ones aforesaid, except that the same are movable along said upper bar-gripper and held in adjusted position by binding-screws *m* extending through the bar-slots into said blocks. These blocks are also provided with binding-screws *n* for the rod-grippers.

It is practical, as shown in Figs. 2 and 3, to have the upper bar-gripper comprise a pair of sections *F'*, *F''*, adjustable one upon the other to vary the length of said bar-gripper, one of said sections being provided with a block *p* for the engagement of binding-screws *q* that extend through the slots of both sections. The arms G are adjustable in connection with the gripper-bar B to permit the lengthening or shortening of the two section upper bar-gripper.

From the foregoing it will be understood that I provide simple, economical means for horizontally gripping and holding on the press tympan, the upper, or lower edge or both of a sheet to be printed upon, and for gripping vertically of said sheet at any desired point in the most limited spaces between lines, there being full length contact of any and all the bar-grippers and rod-grippers with the aforesaid sheet, each rod-gripper being immovably secured in connection with a bar-gripper block with which it is engaged, and each bar-gripper likewise secured in connection with its support.

The gripper assemblages are organized with especial reference to ready adjustment of the various gripper devices both horizontally and vertically to reach any possible

accessible point of a form on a press, and especial reference is had to the provision for gripping the sheet to be printed upon adjacent to the lower, or upper edge or both of said edges of said sheet and at any accessible point in any direction in and between type-matter or plates, as well as at one or both sides of same as various jobs of printing may require for the best results possibly obtainable.

I claim:

1. A printing press gripper-bar and its arms, and a horizontal bar-gripper having a shank in vertically adjustable connection with said bar midway between the arms of same.

2. A shank for vertically adjustable connection with a printing press gripper bar auxiliary to the gripper-bar arms, and a horizontal bar-gripper in independently adjustable connection with the aforesaid shank.

3. A horizontal bar-gripper provided with a shank for vertically adjustable connection with a printing-press gripper-bar auxiliary to the gripper-bar arms, and a vertically disposed rod-gripper in connection with said bar-gripper.

4. A horizontal bar-gripper provided with a shank for vertically adjustable connection with a printing-press gripper-bar auxiliary to the gripper-bar arms, and a vertically disposed rod-gripper in independently adjustable connection with said bar-gripper.

5. A shank for vertically adjustable connection with a printing-press gripper-bar auxiliary to the gripper-bar arms, and a horizontal bar-gripper comprising sections in independently adjustable connection with the aforesaid shank.

6. A shank for vertically adjustable connection with a printing-press gripper-bar auxiliary to the gripper-bar arms, a horizontal bar-gripper comprising longitudinally slotted sections in sliding engagement on the aforesaid shank, and slot-and-shank engaging binding-screws for the gripper-bar sections.

7. A shank for vertically adjustable connection with a printing-press gripper-bar, a horizontal bar-gripper comprising sections in independently adjustable connection with the aforesaid shank, and means in connection with each gripper-bar section for the attachment thereto of a vertically disposed rod-gripper.

8. A horizontal bar-gripper having a shank for vertically adjustable connection with the gripper-bar of a printing-press and having its upper edge inturned to attack sheets to be printed upon, a block rigid upon the underside of the bar-gripper and having a transverse aperture intersected by a slot, a rod-gripper engaging the aperture of the block to be flush with said block through the slot of same, and a binding-screw in connection



tion with said bar-gripper to secure the rod-gripper in adjusted position.

9. A horizontal bar-gripper provided with a shank for vertically adjustable connection with a printing-press gripper-bar, the upper edge of the bar-gripper being intumed to attack sheets to be printed upon and extend over and above gage-pins to hold lower margins of said sheet.

10. A pair of edge-beveled arms attachable to the gripper-bar of a printing-press, a horizontal bar-gripper provided with beveled end-blocks that match the beveled edges of said arms, and means in connection with the bar-gripper for clamping the blocks of same in contact with the aforesaid arms.

11. A pair of arms attachable to the gripper-bar of a printing-press, a longitudinally slotted horizontal bar-gripper in vertically adjustable connection with the arms, a transversely apertured and slotted block facing the underside of the bar-gripper, a binding-screw extending through the bar-gripper slot into the block, a rod-gripper engaging the block aperture flush with said block through the slot in same, and a binding-screw extending through said bar-gripper slot into the aforesaid block against the rod-gripper.

12. A pair of arms attachable to the gripper-bar of a printing-press, a longitudinally slotted horizontal bar-gripper in vertically adjustable connection with the arms, its sheet-attacking edge being intumed and notched at intervals, a transversely apertured and slotted block facing the underside of the bar-gripper, a binding-screw, extending through the bar-gripper slot into the block, a rod-gripper engaging the block aperture and a bar-gripper notch flush with said

block through the slot of same, and a binding-screw extending through said bar-gripper slot into the aforesaid block against the rod-gripper.

13. A pair of arms attachable to the gripper-bar of a printing-press, the outer edge of the free end of each arm being beveled and the inner edge rack-toothed, a horizontal bar-gripper having beveled end blocks matching the bevel edges of the arms with which they are engaged, toothed dogs in pivotal connection with the bar-gripper to engage the rack-toothed edges of said arms, and cam-latches also in pivotal connection with said bar-gripper for maintaining the engagement of said dogs with the aforesaid arms.

14. A horizontal bar-gripper provided with a shank for vertically adjustable connection with a printing-press gripper bar, a pair of arms attachable to the gripper-bar, and another horizontal bar-gripper in vertically adjustable connection with the arms.

15. A horizontal bar-gripper provided with a shank for vertically adjustable connection with a printing-press gripper-bar, a pair of arms attachable to the gripper-bar, another horizontal bar-gripper in vertically adjustable connection with the arms, and vertically disposed rod-grippers in independently adjustable connection with said bar-grippers.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

FRANZ D. HAKE.

Witnesses:

N. E. OLIPHANT,  
GEORGE FELBER.