C. FERRO.

REGISTER GAGES AND GRIPPERS FOR JOB PRESSES.

APPLICATION FILED JUNE 9, 1915.

1,154,694.

Patented Sept. 28, 1915.

Fig. 2

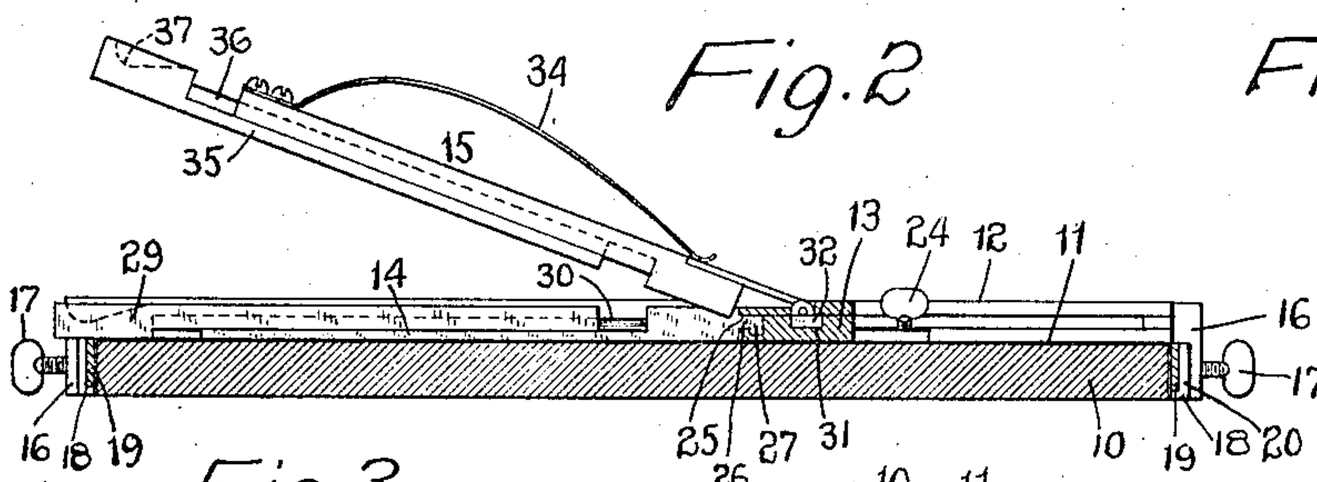


Fig. 7

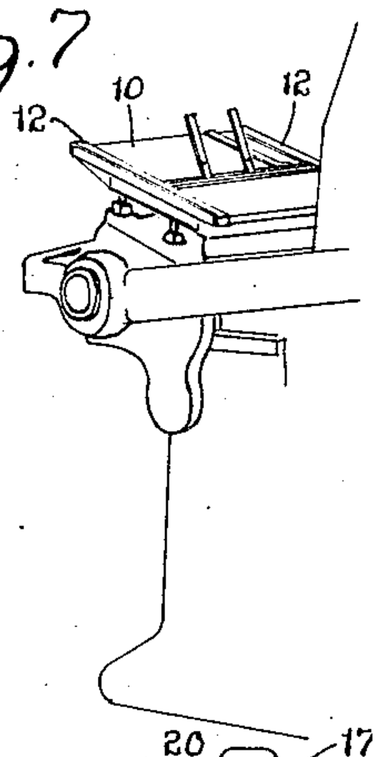


Fig. 3

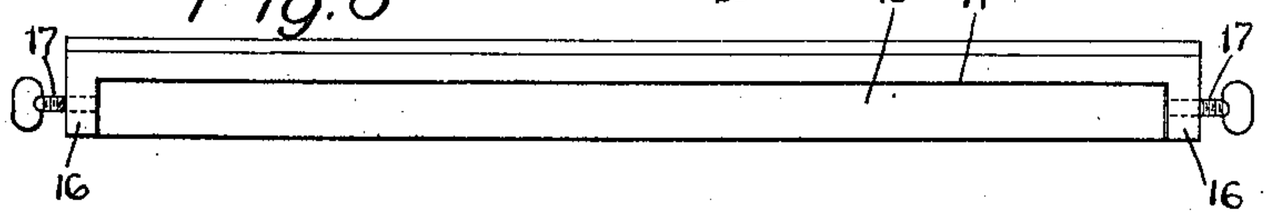


Fig. 1

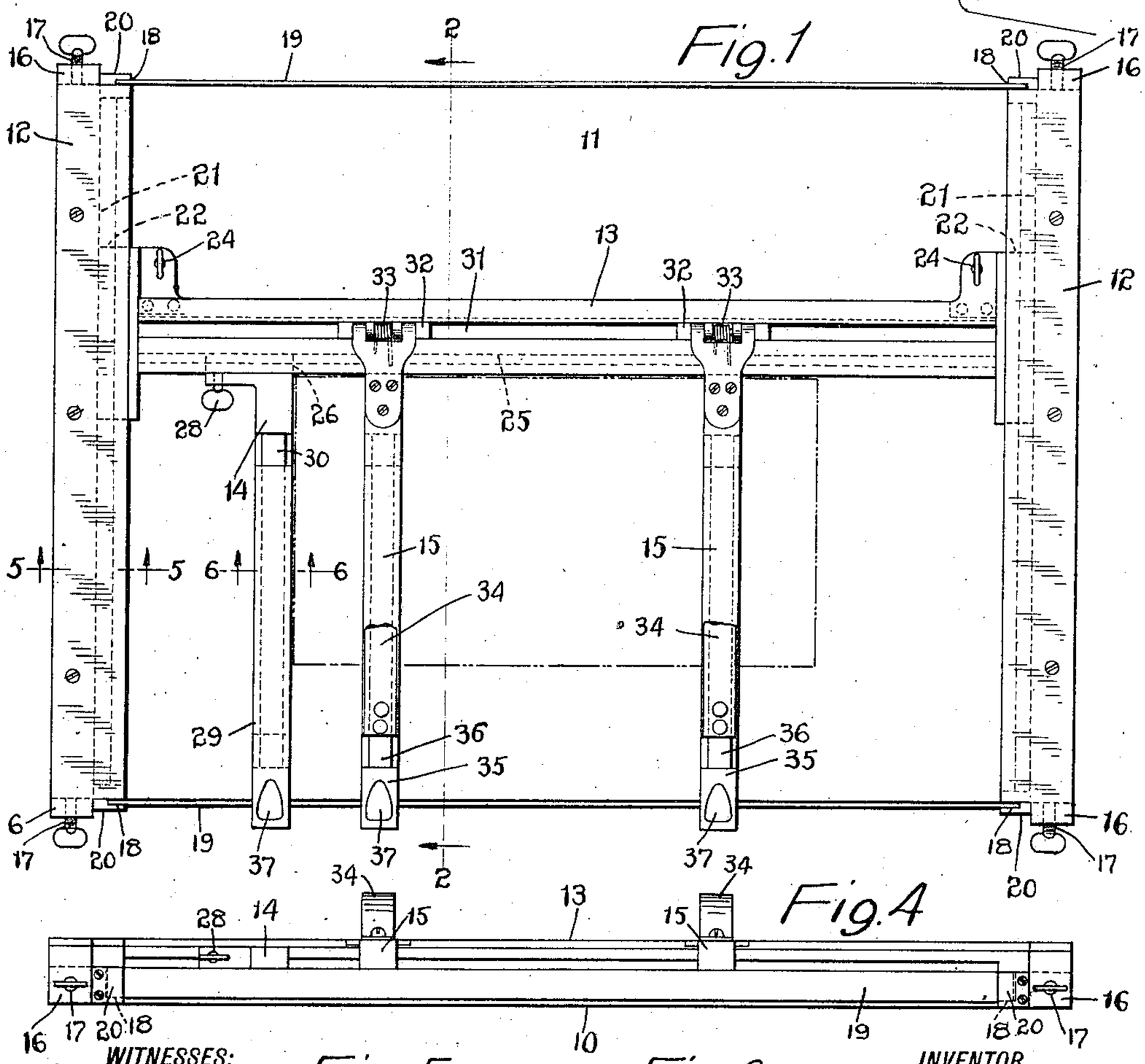


Fig. 4

Fig. 5

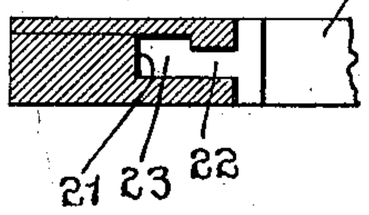
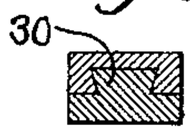


Fig. 6



WITNESSES:

H. W. Meade

INVENTOR

Casimiro Ferro

BY

A. M. Wooster

ATTORNEY

UNITED STATES PATENT OFFICE.

CASIMIRO FERRO, OF ANSONIA, CONNECTICUT.

REGISTER-GAGES AND GRIPPERS FOR JOB-PRESSES.

1,154,694. Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed June 9, 1915. Serial No. 33,170.

To all whom it may concern:

Be it known that I, CASIMIRO FERRO, a citizen of the United States, residing at Ansonia, county of New Haven, State of Connecticut, have invented an Improvement in Register-Gages and Grippers for Job-Presses, of which the following is a specification.

This invention relates to printing presses and has for its object to provide an attachment for job presses comprising adjustable back and end gages and grippers, which shall be relatively inexpensive to produce, easy and quick to adjust, perfectly accurate and reliable in use, and which will entirely do away with the necessity for gage pins and the various shop devices for registering the sheets which are in common use and which are the cause of much loss of time.

With these and other objects in view, I have devised the novel attachment for presses which I will now describe, referring to the accompanying drawing forming a part of this specification and using reference characters to indicate the several parts.

Figure 1 is a plan view illustrating my novel invention in place upon the platen of a press; Fig. 2 a transverse section on the line 2—2 in Fig. 1, looking in the direction of the arrows; Fig. 3 an end elevation, the gripper being removed; Fig. 4 an elevation as seen from the bottom in Fig. 1; Fig. 5 a detail sectional view on an enlarged scale on the line 5—5 in Fig. 1, looking in the direction of the arrows; Fig. 6 a detail sectional view on an enlarged scale on the line 6—6 in Fig. 1, looking in the direction of the arrows, and Fig. 7 is a perspective view illustrating my novel attachment in place upon a printing press.

10 denotes the platen of a press and 11 the tympan which ordinarily consists of a number of plies of paper secured in place upon the platen. Heretofore, so far as I am aware, the grippers, so called, have been part of the press and the register gages used have been gage pins stuck into the tympan or gages made of paper and secured to the tympan, the adjustment of which used up quite a little time each time the press was set up for a new job. The use of gage pins and similar devices is far from satisfactory on account of the expense, the loss of time and the fact that they are destructive to the tympan.

My novel attachment comprises essentially side bars 12, an adjustable back gage 13 which extends between the side bars and slides thereon, an adjustable and extensible end gage 14 which slides on the back gage, and adjustable and extensible grippers 15 which are carried by the back gage. The side bars are shown as made in two parts for convenience in construction. These bars are provided at their ends with depending lugs 16 shown as carrying wing screws 17 by which the bars are secured to the platen of a press.

18 denotes sockets which receive the ends of retaining strips 19 by which the tympan is secured in place. The ends of the sheets of paper comprising the tympan are simply turned down over the edges of the platen and retained in place by pressing the strips down into the sockets. The sockets in the present instance are formed by recessing blocks 20 which are secured to the platen by screws.

The inner edges of the side bars are provided with longitudinal grooves 21 which receive laterally elongated tenons 22 at the ends of the back gage. The inner ends of the grooves are widened and the tenons are provided with enlargements 23 engaging the widened portions of the grooves, whereby the parts are held together. The lateral elongation of the tenons permits them to be moved freely in the grooves and prevents any cramping or binding of the back gage, which is locked in position after adjustment by wing screws 24 in said gage which engage the tympan, or the platen if the latter is not wholly covered by the tympan.

The front face of the back gage is provided with a longitudinal groove 25 which receives a laterally elongated tenon 26 on the end gage 14. The inner end of this groove is widened and the tenon is provided with an enlargement 27 engaging the widened portion of the groove, and acting to retain the end gage in engagement with the back gage. The end gage is shown as locked in position after adjustment by means of a wing screw 28 carried by the end gage and engaging the back gage. In order that the end gage may extend to the front of the platen, when the press is working on relatively large sheets and the back gage is set well back, and at the same time will not be inconveniently long when the press is work-

ing on relatively small sheets and the back gage is set forward from the back of the platen as in Fig. 1. I make the end gage in two parts, which I will refer to as the end gage and the extension, the latter being indicated by 29. The end gage is provided with a dovetail rib 30 and the extension with a corresponding dovetail groove, which permits the extension to be moved backward and forward upon the gage, the parts being fitted tightly enough so that the extension will remain in any position in which it may be placed.

The back gage is provided in its top with an undercut longitudinal groove 31 in which blocks 32 are adapted to slide, the shape of the grooves and blocks being such as to retain the latter in place. The grippers 15 are hinged to these blocks. These grippers act, as in ordinary presses, to strip the sheets from the type bed after an impression has been made.

33 denotes springs, shown as coiled about the pintles of the hinges and having arms bearing respectively against the under sides of the grippers and the top of the back gage, the action of which is to normally hold the grippers in a raised position, as in Figs. 2 and 7, so that the sheets may be placed in position on the tympan.

The grippers are provided on their backs with bow springs 34, one end of each spring being attached to the outer end of a gripper and the inner end being free and lying in contact with the gripper toward its lower end, as clearly shown in Fig. 2. In Fig. 1, the free ends of the bow springs are broken away. These springs bear against the bed of the press each time an impression is made and act to cushion the grippers. It will of course be understood that the impression is usually much smaller than the sheets and that the grippers are adjusted so that the bow springs will engage the bed of the press outside the type bed (not shown, as it forms no portion of the present invention) at each actuation of the press. In order that the grippers may extend to the front of the platen when the press is working on relatively large sheets and the back gage is set well back, and at the same time will not be inconveniently long when the press is working on small sheets and the back gage is set well forward from the back of the platen as in Fig. 1, I make the grippers in two parts, which I will refer to as the grippers and the extensions, the latter being indicated by 35. Each gripper is provided with a dovetail rib 36 and the extension with a corresponding dovetail groove, which permits the extension to be moved backward and forward on the gripper, the parts being fitted tightly enough so that the extension will remain in any position in which it may be placed. The extensions of the grippers and the end gage are provided with finger sockets 37 for convenience in moving them inward or outward.

The operation will be obvious from the drawing. Unless there is considerable difference in the size of the sheets or the impression, no adjustments whatever are required in changing from one job to another. When there is an appreciable change in the size of the sheets or the impression, the back gage is moved forward or backward as may be required and locked in place by the wing screws, then the end gage and the grippers are moved to the right or left as may be required, the end gage being locked in place by the wing screw, and then the extensions of the end gage and the grippers are moved inward or outward as may be required. With these simple and easily made adjustments, the attachment is always ready for any job of work within the capacity of the press, without the use of gage pins or other devices and without loss of time in making temporary gages upon the tympan by the use of pieces of paper.

Having thus described my invention I claim:—

1. A device of the character described comprising side bars adapted for attachment to a platen, a back gage adjustable on said bars, an extensible end gage adjustable on the back gage, and means for locking said gages in position after adjustment.

2. A device of the character described comprising side bars adapted for attachment to a platen, a back gage adjustable on said bars, an extensible end gage adjustable on the back gage, and extensible grippers adjustable on the back gage.

3. A device of the character described comprising side bars adapted for attachment to a platen, tympan retaining strips, blocks attached to the platen and having sockets for said strips, a back gage adjustable on said bars, an end gage adjustable on the back gage and adjustable grippers carried by the back gage.

4. A device of the character described comprising side bars adapted for attachment to a platen and provided with grooves widest at their inner ends, a back gage having tenons with enlargements engaging said grooves and a groove in its front face widest at its inner end, an end gage having a tenon with an enlargement engaging the last mentioned groove, and means for securing said gages in place after adjustment.

5. A device of the character described comprising side bars adapted for attachment to a platen and provided with grooves widest at their inner ends, a back gage having tenons with enlargements engaging said grooves and a groove in its front face widest at its inner end, and an extensible end gage having a tenon with an enlargement engaging the last mentioned groove.

6. A device of the character described comprising side bars adapted for attachment to a platen, a back gage adjustable on said bars and having an undercut longitudinal groove, blocks adapted to slide in said groove, grippers hinged to said blocks and springs for normally retaining said grippers in a raised position.

7. A device of the character described comprising side bars adapted for attachment to a platen, a back gage adjustable on said bars and having an undercut longitudinal groove, blocks adapted to slide in said groove, grippers hinged to the blocks. an adjustable end gage carried by the back gage, springs for normally retaining the grippers in a raised position and bow springs on the backs of said grippers which are attached at one end only and are adapted to engage a press at each actuation thereof.

8. A device of the character described comprising side bars adapted for attachment to a platen, a back gage adjustable on said bars, an extensible end gage carried by the back gage, and extensible grippers also carried by the back gage.

9. A device of the character described comprising side bars adapted for attachment to a platen, a back gage adjustable on said bars, an end gage and grippers carried by the back gage, said end gage and grippers being provided with dovetail ribs, and extensions adapted to slide on said ribs, for the purpose set forth.

In testimony whereof I affix my signature.

CASIMIRO FERRO.