No. 670,991. Patented Apr. 2, 1901.

J. E. LEE.

PRINTER'S BLOCK.

(Application filed Feb. 16, 1900.)

(No Model.)

Fig. 1.

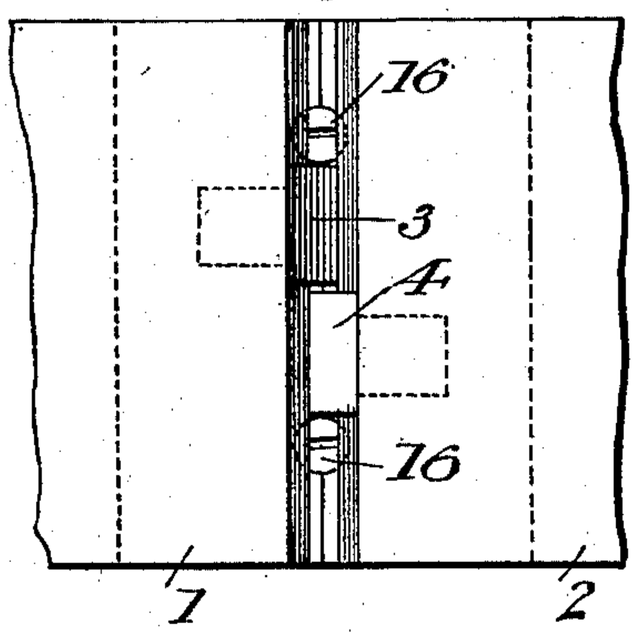


Fig. 2.

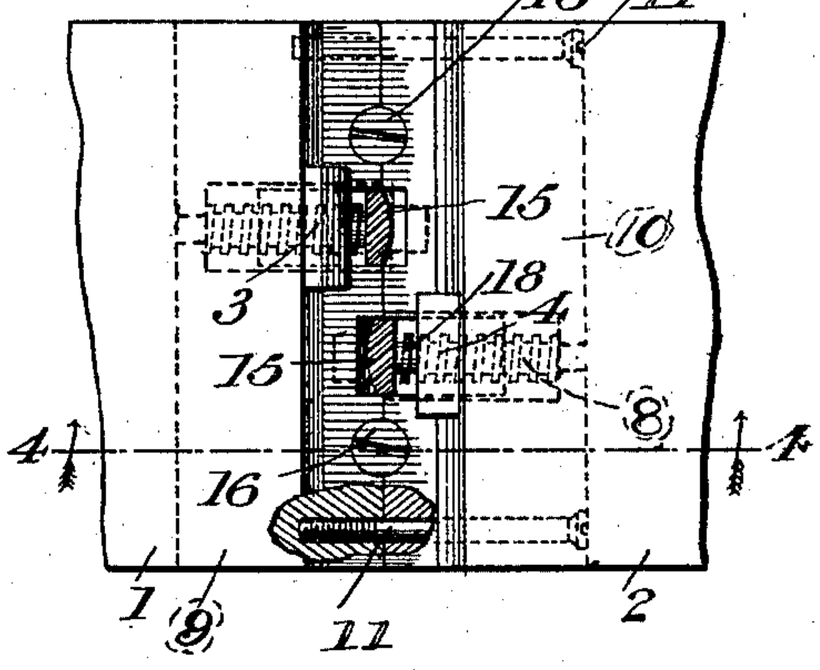


Fig. 3.

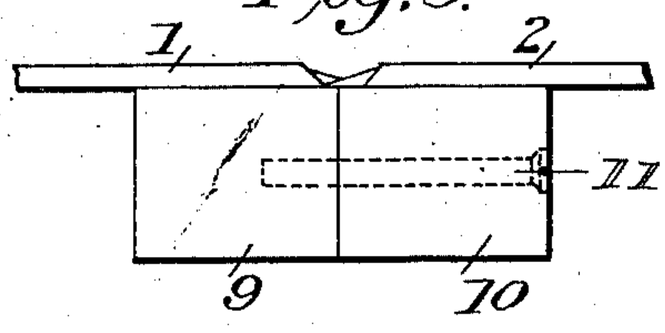


Fig. 4.

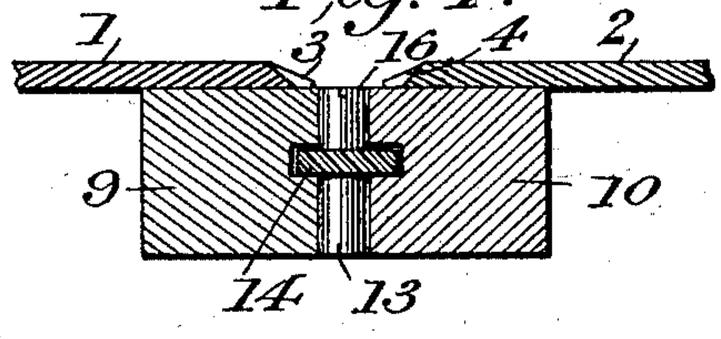


Fig. 5.

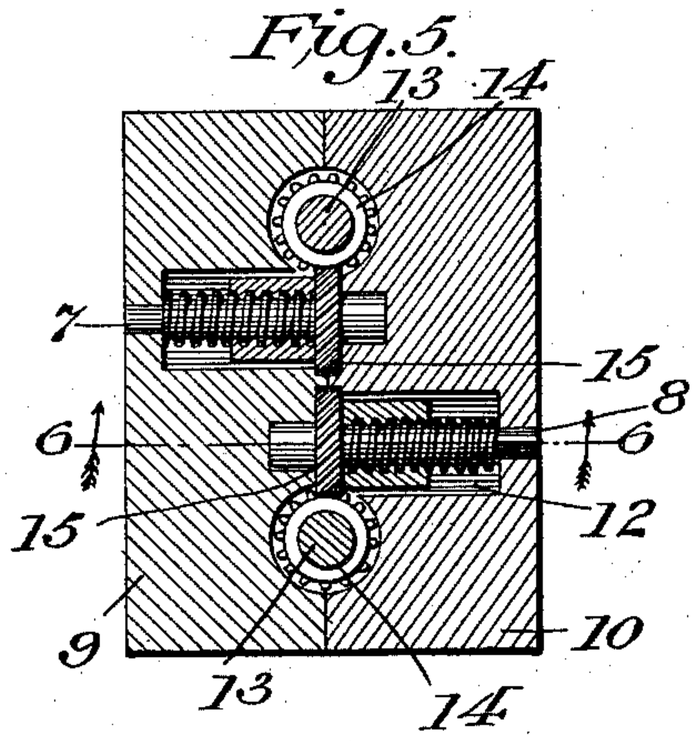
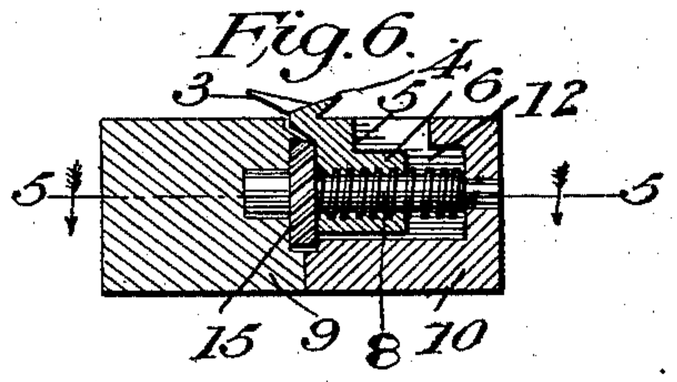


Fig. 6.



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PRINTER'S BLOCK.

SPECIFICATION forming part of Letters Patent No. 670,991, dated April 2, 1901.

Application filed February 16, 1900. Serial No. 5,432. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. LEE, 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 Printers' Blocks, of which the following is a full, clear, and exact specification.

My invention relates to printers' blocks for holding stereotype and other plates in position in the form while being printed from, and it has reference more particularly to that class in which adjustable hooks are employed for engaging over and holding the edges of the plates. A long-sought object in this art has been to have the hooks so arranged as to take up the least possible room on the face of the block, and consequently permit contiguous plates to come as close together as possible. My invention has the same primary object in view; but specifically the object of my invention is to so arrange the hooks which hold contiguous plates and their operating mechanism that they will be in line with each other and in a line with the means by which they are operated, thus enabling me to utilize the space between the plates necessarily occupied by one hook, also for one or more additional hooks and the means which operate all the hooks as well, it being understood that such operating means must always be exposed at the edge of the plate, so as to be accessible.

With these ends in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said objects and certain other objects hereinafter appearing are attained, all as fully described with reference to the accompanying drawings and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a plan view showing the plates set up as close as possible. Fig. 2 is a similar view showing the plates forced farther apart. Fig. 3 is a side elevation showing the plates in the position shown in Fig. 1. Fig. 4 is a vertical section on the line 4 4, Fig. 2. Fig. 5 is a plan section on the line 5 5, Fig. 6; and Fig. 6 is a plan section on the line 6 6, Fig. 5.

1 2 represent the printing-plates, which have their edges beveled, as usual, if desired, and 3 4 are the hooks or clamps which engage such beveled edges for holding the plates, and which hooks are usually provided with stems 5, which connect them with nuts 6, running on screws 7 8, respectively. These screws 7 8 as a rule are journaled in independent blocks, which are placed back to back with the hooks 3 4 between the contiguous plates; but in carrying out my invention these blocks, while shown at 9 10 as separate pieces for convenience in manufacture, are virtually one piece, for they are secured together by screws 11, back to back, and the screw 7 of one is journaled at one end in the other, and screw 8 is journaled at one end in block 9. The screws 7 8 are arranged in horizontal recesses 12, formed through the top and inner edge of each block, but closed by the opposite block when the blocks are placed together, thus forming a clearance-space for the nut 6 and holding its screw in place. By arranging the screws 7 8 out of axial alinement in this manner it will be seen that the hooks 3 4 come in line with each other, and thus occupy substantially only as much room transversely of the plates as is necessary for but one of them.

The screws 7 8, which separate the hooks, may be rotated by any well-known mechanism; but whatever it be it should, according to my invention, be located in line with the face of the hook or hooks. For this purpose I have shown vertical shafts 13 journaled in matched recesses in the contiguous faces of the blocks, which when placed together hold the shafts against lateral movement, while endwise movement is prevented by a worm wheel or gear 14, secured on each shaft and encompassed by counter-recesses in the blocks. These worm-wheels 14 engage similar worm-wheels 15 on the screws 7 8, and the upper ends of the shafts 13 are exposed and provided with screw-heads 16 or other suitable means whereby they may be rotated. The rotating heads 16 are arranged in a line parallel with and between the edges of the plates, so that the plates need be no farther apart than is necessary for keeping uncovered but one of the screw-heads, and they are also arranged in line with the hooks 3 4 when the latter are at substantially the inner extremity of their movement. Thus it will be seen that any number of the hooks and any number of the screw-heads 16 require only as much space transversely of the space between

the plates as is necessary for the accommodation of but one of such screw-heads 16. It will also be seen that in my improved block the hooks face away from each other and project from the face of the block at a point removed from all of its edges, and all of such edges from the hooks outward are entirely unobstructed and flush with the general face of the block, so that plates may be supported on the block at all sides of the hook. This is very important in making up large forms composed of a number of plates, because it is readily seen that the edges of the plates may be brought very close together and contiguous edges supported upon the same block. Also where two hooks are employed facing away from each other, as in the example of my invention shown in the accompanying drawings, they may be conveniently held by forming an aperture therein and passing both hooks up through this aperture, so that opposite edges of the aperture will be engaged by the two hooks, respectively, and the hooks being out of line they may be utilized for twisting the plate, and thus adjusting it to the proper position with great accuracy. These are only a few of the various uses to which my improved hook may be put.

While it is preferable for convenience in construction to make the device in the double form shown and described, it will nevertheless be understood that the hooks, with their operating mechanism, may be mounted in separate blocks, if desired.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. A printer's block having in combination, a plurality of hooks having their engaged faces turned away from each other and movable in opposite directions, and means for actuating said hooks accessible from above at a point to one side of the lines of movement of said hooks, substantially as set forth.

2. A printer's block having in combination, a plurality of hooks having their engaged faces turned away from each other and movable in opposite directions and adapted to come into line transversely of their lines of movement when at the inner extremities of their movement, and means for actuating said hooks accessible from above at a point also in said transverse line, substantially as set forth.

3. A printer's block having in combination, a plurality of hooks movable in opposite directions, vertical shafts having their upper ends exposed and provided with means whereby they may be rotated, means connected with said shafts for operating said hooks, and two blocks fitted together and containing said means and having matched cavities or recesses in which said shafts are journaled, substantially as set forth.

4. A printer's block having in combination a hook, having a nut, a horizontal screw for moving said nut, a worm-gear on said screw, a vertical shaft, and a worm-gear on said shaft engaging said first worm-gear, said shaft having a rotating head arranged to one side of the line of movement of said hook, substantially as set forth.

5. A printer's block having in combination a block proper, a hook projecting from the face thereof and means for actuating said hook arranged to one side of the line of movement thereof and accessible from above, said hook being located at a distance from the edge of the block on both sides in the line of movement of the hook whereby two plates may be supported on the same block in front and behind said hook and the surface of the block between the hook and the extreme edges being entirely free from upward projections above its general plane whereby a number of contiguous plates may project over the same block without obstruction, substantially as set forth.

6. A printer's block having in combination a block proper divided into two parts each having formed therein one-half of a cylindrical passage having an enlargement at an intermediate point, the shaft 13 journaled in said passage and having gear 14 located in said enlargement, a screw operatively connected to said gear and a hook operatively connected with said screw, said half-blocks having matched cavities in which the ends of said screw are journaled respectively, substantially as set forth.

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