

No. 673,555.

Patented May 7, 1901.

V. A. HANCOCK.

GRIPPER FOR PRINTING PRESSES.

(Application filed May 31, 1899. Renewed July 16, 1900.)

(No Model.)

Fig. 1.

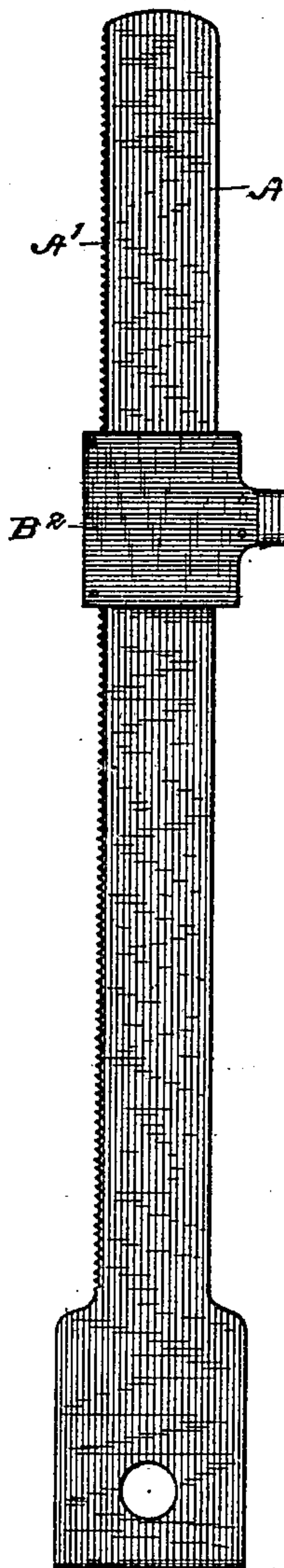


Fig. 2.

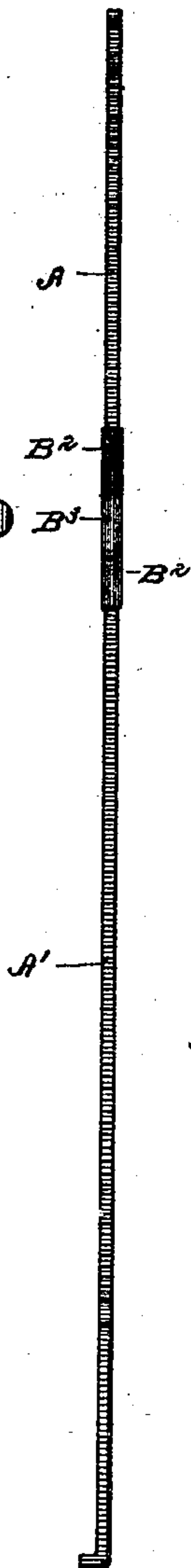


Fig. 3.

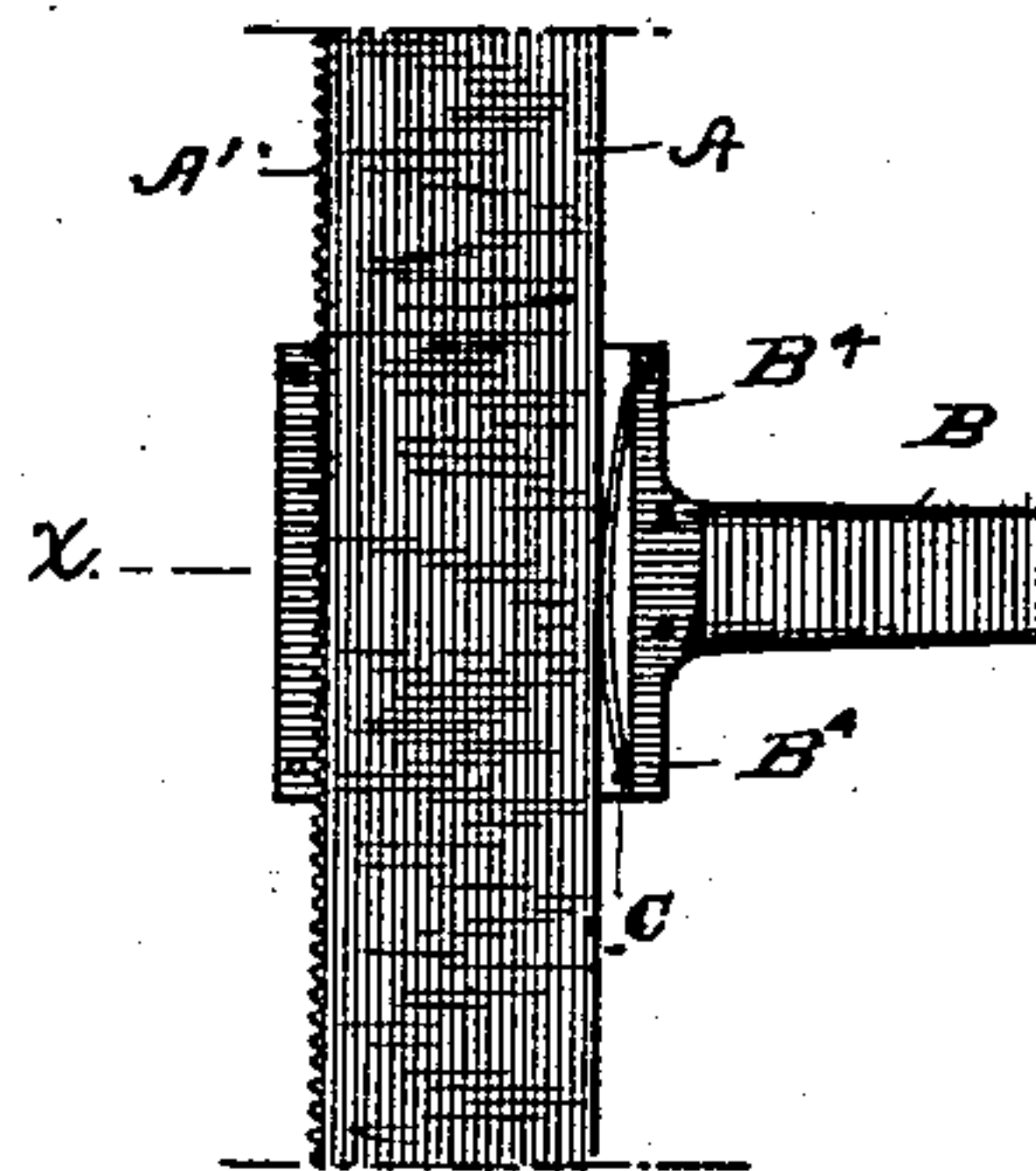
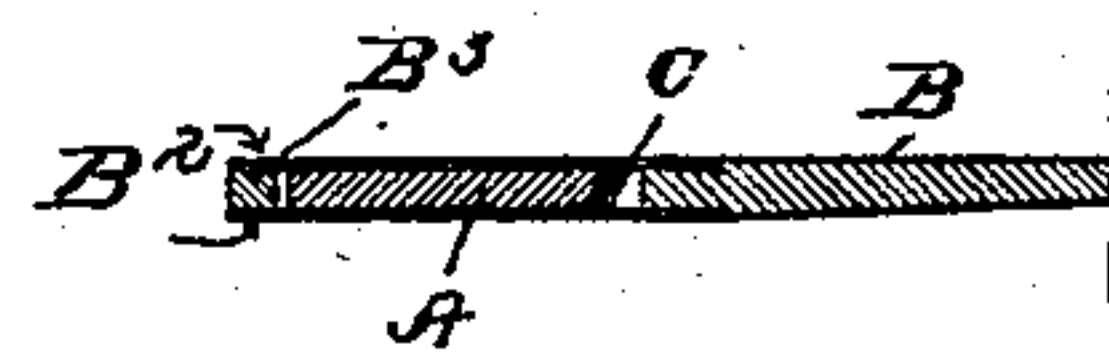


Fig. 4.



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GRIPPER FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 673,555, dated May 7, 1901.

Application filed May 31, 1899. Renewed July 16, 1900. Serial No. 23,825. (No model.)

To all whom it may concern:

Be it known that I, VICTOR A. HANCOCK, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Grippers for Printing-Presses; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to improvements in printing-presses, and more particularly to the grippers thereof.

In the drawings, Figure 1 is a front elevation of a gripper constructed in accordance with this invention. Fig. 2 is an edge view of the same. Fig. 3 is a detail view in front elevation, showing a segment of the gripper and of the gripper-finger, the front plate of the same being removed to show the construction thereof. Fig. 4 is a cross-section taken on the lines X X in Fig. 3.

One of the difficulties which has existed for the users of printing-presses of the type-bed and platen style has existed in the ineffectiveness of the ordinary gripper. This ineffectiveness has existed from the fact that the grippers have been constructed and arranged to engage the paper upon the margin outside of the printed surface. This printed surface is in many cases extensive, and when after the impression has been applied the platen has been withdrawn the adhesion between the face of the type and the paper being printed upon and the suction of the type have had the tendency to draw the paper away from the platen-bed. Under the present usual construction the grippers have been unable to resist this strain. Many devices have been resorted to by printers, one common expedient being to stretch a retaining string or thread between the grippers, which thread is adjusted to lie between lines of type when the paper on the platen is forced against the same. This expedient has proved flimsy and annoying, often resulting in the production of poor copies, particularly from the fact that the string has sagged by stretching or become dis-

adjusted by being struck or otherwise disarranged. It is the object of the present invention to overcome these difficulties.

The invention consists in providing a gripper-finger for the grippers which may be moved vertically on the same and be retained in any desired position thereon and which will extend across the space intervening between the two grippers on either side of the platen.

It further consists in the construction of the said gripper-finger and the grippers whereby the fingers may be readily and easily adjusted and held firmly in position when so adjusted.

To facilitate the description of the invention, with reference to the drawings, we will use the letter A to designate the gripper. This gripper is of the usual construction, with the exception that the rear or outward edge, as shown in the drawings, is provided with fine serrations *a'*.

It is upon the gripper A that the gripper-finger B is mounted. The finger B is formed to any suitable length or thickness. Various sizes of fingers may be used, forming, however, distinct attachments, in all of which, however, it is desired that the thickness of the finger should not exceed the thickness of the gripper A. When the type-bed and platen of the printing-press are brought together, there is little space left, and this is nearly filled by the dimension in thickness of the usual gripper. Therefore the cheek-pieces or side plates B², which connect the finger B and the rear block B³, should be as thin as is possible to make a durable and sufficiently strong construction. In the present construction the finger B is at its inner end, or end next the gripper, formed to a shape shown in Fig. 3 of the drawings, having the perpendicular extensions B⁴, which form a face block for the gripper-finger. In this face block B⁴ there is embedded one end of a small flat spring C, this construction being preferred by me for the reason that a construction is thus produced which readily admits of the insertion of the end of the gripper within the channel formed between the face and the rear blocks, while at the same time

space and parts are economized. The rear block B³ is provided on its inner face with serrations corresponding in size and pitch to the serrations A' formed on the outer edge of the gripper. As before stated, the rear block B³ and the face block B⁴ are joined by the thin cheek-pieces B² B². These are in the present construction riveted to the said blocks to form a narrow channel for the reception of the gripper A, as shown in Fig. 4.

The spring C operates to draw the back block B³ against the serrated edge A' of the gripper A. When the teeth produced by the serrations in both the gripper A and the back block B³ are intermeshed, the gripper-finger B is held firmly in position and prevented from being disadjusted in a vertical direction. This adjustment can be very readily accomplished, however, by the operator by drawing the face block B⁴ toward the gripper A against the expansion of the spring C. In doing this the teeth formed by the serrations in the block B³ are moved out of engagement with the teeth formed by the serrations in the outer edge of the gripper-finger A, and the gripper-finger B may be readily moved upward and downward.

In practice it is found that the serrations in the gripper A and block B³ can be made very fine, so that the adjustment of the gripper-finger may be correspondingly fine. It is found that with a construction such as described any desired movement of the gripper-finger B can be obtained to avoid the type in the type-bed. With this gripper-finger in position the difficulties above mentioned are entirely overcome, as before the paper can be drawn from the grasp of the gripper A by the suction or adhesion heretofore referred to it is necessary to displace or draw outward the gripper-finger B. To do this, it is necessary to twist the construction of either the gripper-finger B or the gripper A. As the force required to accomplish this is greater than that ever created by the suction or adhesion

referred to, the difficulties are overcome by the use of this invention.

By means of the serrated construction of the block B³ and the gripper A the gripper-finger B may be moved vertically to extend outward from the gripper A on a line with the very top thereof, in which position the lower half of the teeth in the block B³ would be the only ones engaging the gripper-finger. In this position, however, the construction would be thoroughly and fully operative, as the spring C would hold the teeth in engagement. This possible adjustment is very advantageous, as it often occurs that the only position where the finger B might be used to advantage is above the line of the printing.

As stated, the sizes and shapes to which the gripper-fingers B may be formed in accordance with this invention are numerous. As they are constructed after the manner described, they may be interchanged readily, and thus accommodate many various conditions in the operation of printing.

Having thus described this invention, what is claimed is—

The combination with a gripper having a serrated rear edge, of a gripper-finger, a face block upon said gripper-finger at the inner end thereof, a separate rear block having its inner face serrated to engage the said serrations upon the edge of the gripper, side plates connecting said face block and rear block, said side plates and face and rear blocks forming a groove receiving said gripper, and a flat spring in said groove and interposed between the said face block and the gripper, one end of said spring extending downwardly into the said face block in the general direction of its length; substantially as described.

In testimony whereof I have hereunto set my hand this 6th day of April, 1899.

VICTOR A. HANCOCK.

Witnesses:

BALDWIN VALE,
MAYNARD HARMS.