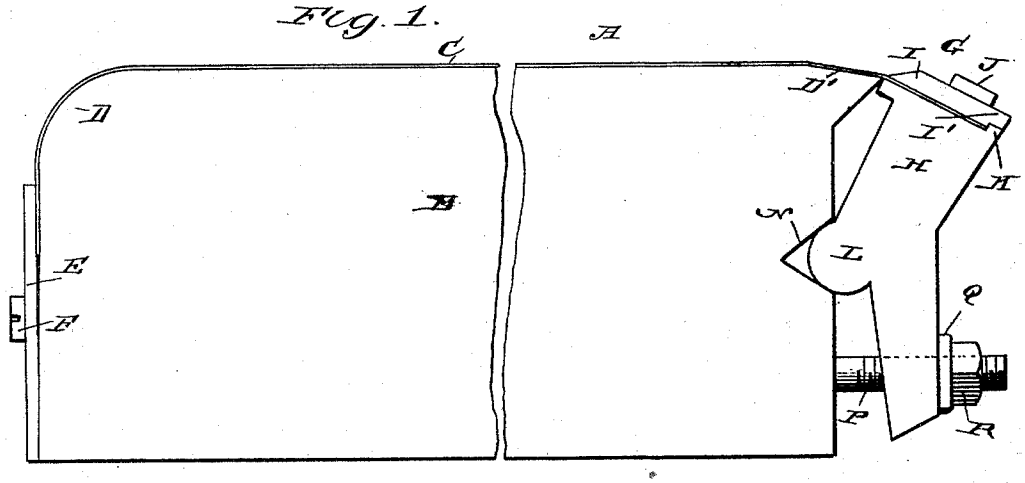
(No Model.)

W. MACKAY.

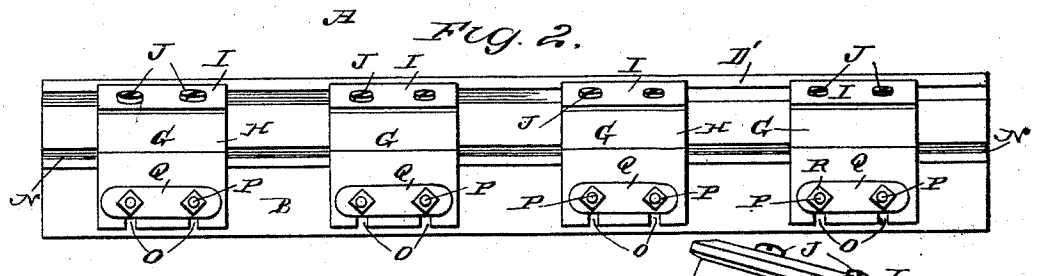
BED FOR METALLIC PRINTING PLATES.

No. 456,502. Patented July 21, 1891.

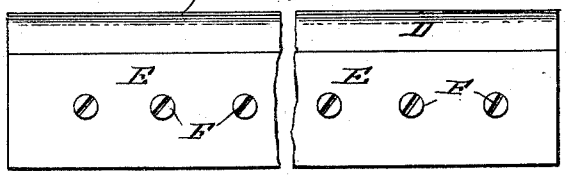
Fig. 1.



A Fig. 2.



B Fig. 3.



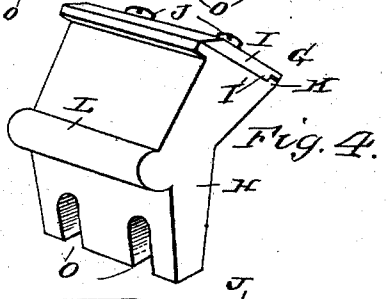
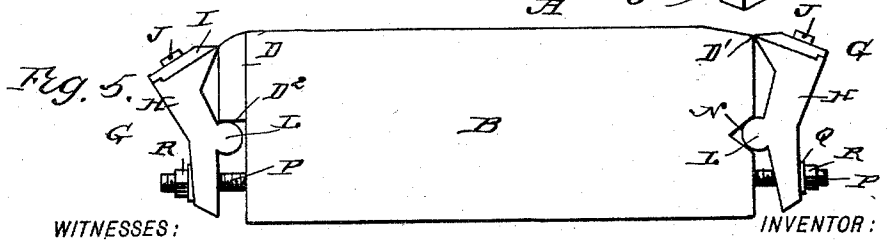


Fig. 4.

Fig. 5.



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BED FOR METALLIC PRINTING-PLATES.

SPECIFICATION forming part of Letters Patent No. 456,502, dated July 21, 1891.

Application filed April 30, 1890. Serial No. 350,037. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MACKAY, of the city, county, and State of New York, have invented a new and Improved Bed for Metallic Printing-Plates, of which the following is a full, clear, and exact description.

The invention relates to printing from metallic plates, and its object is to provide a new and improved bed for conveniently supporting metallic plates during the process of printing, and which is simple and durable in construction, securely holds the plate in position, and permits of adjusting the plate so that the latter presents an absolutely true surface to insure accurate printing.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a broken side elevation of the improvement. Fig. 2 is a reduced view of one end of the improvement. Fig. 3 is a like view of the other end. Fig. 4 is a perspective view of one of the lever-clamps, and Fig. 5 is a side elevation of a modified form of the improvement.

The improved bed A for metallic printing-plates is provided with the bed B proper, on the top of which is placed the metallic printing-plate C, containing the matter to be printed onto the paper or other material in the usual manner. One end of the plate C passes over the rounded end D of the bed proper B, and is secured at its end between the end of the bed B and a clamping-plate E, fastened onto the end of the bed B by set-screws F, as is plainly shown in Figs. 1 and 3. The other end of the plate C passes over the downwardly-beveled end D′ of the bed B, and is adapted to be clamped between the jaws H I of the lever-clamps G. The jaws I of the clamps G have their front edges beveled so as to be below the top surface of the plate C, and are held in place on the jaws H by the set-screws J. The jaws I are prevented from sliding on the jaws H by recesses I′ fitting onto shoulders K, formed on the rear ends of the jaws H.

Each jaw H extends downward on the end of the bed proper B, and is provided on its inner side with a rounded lug L, adapted to engage a transversely-extending groove N, formed in the end of the bed B. This lug L forms the fulcrum for each clamp G, so that the latter can swing outward at its upper end in order to stretch the plate C firmly on the top of the bed proper B.

In the lower end of each jaw H are formed slots O, through which pass bolts P, secured in the end of the bed proper B. A washer Q is placed transversely across the lower end of each jaw H, and nuts R, screwing on the outer ends of the bolts P, screw up against the said washers Q, so as to adjust each clamp G, as hereinafter more fully described.

The operation is as follows: The metallic plate C is first clamped with one end between the plate E and the end of the bed B by adjusting the set-screws F. The plate C is then passed over the rounded part D of the bed proper B, over the top surface of the latter, and then the free end of the said plate C is clamped between the jaws I and H of the several clamps G, which latter are placed with their lugs L in the transverse groove N, and with the bolts P passing through the slots O, as previously described. The operator then screws up the nuts R, so as to move the lower part of each fixed jaw H inward, while the upper part with the plate C swings outward, the said clamps turning on the lugs L as a fulcrum. By thus swinging the upper ends of the clamps G outward the plate C is stretched over the top surface of the bed proper B, and by adjusting the nuts of the several clamps G according to the condition of the plate C the latter can be conveniently stretched on the top surface of the bed proper B, so that its printing-surface is absolutely true. The bed B with the plate C adjusted as described is used in the printing-press in the usual manner, so that an absolutely correct impression is obtained from the plate C. For short plates C the clamping-plate E is dispensed with, and similar sets of clamps G are used on each end of the bed proper B, as is plainly shown in

Fig. 5. For this purpose this end of the bed B is provided with an offset D^2, engaged at its under side by the lugs L of the clamps G, so as to form a fulcrum for the latter. In this case the plate C is first inserted into the jaws H and I of one set of clamps G, at one end of the bed B, and then secured in the other set of clamps G at the other end of the bed, after which one or both sets of clamps are adjusted, as previously described, so that the plate is evenly stretched on the top surface of the bed-plate B.

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

1. The combination, with a bed for supporting metallic printing-plates, of a clamp fulcrumed on the end of the bed and provided with an opening in its lower end, and a screw-bolt secured to the end of the bed, projecting through the opening of the clamp, and provided with a nut on its end, substantially as herein shown and described.

2. In a bed for metallic printing-plates, the combination, with the bed proper provided with a transversely-extending recess, of a clamp-lever adapted to engage one end of the printing-plate, a rounded lug formed on the said clamp-lever and engaging the said transverse recess, and bolts and nuts for adjusting the said clamp-lever on the end of the said bed, substantially as shown and described.

3. In a bed for metallic printing-plates, a clamp consisting of a jaw provided with a lug on its inner side at about the center and with slots in its lower end and a second jaw detachably secured to the upper end of the first-named jaw, substantially as described.

4. In a bed for metallic printing-plates, a clamp consisting of a jaw provided with a shoulder on its upper face, a rounded projection on its inner face, and slots in its lower end, and a second jaw secured on the upper end of the first-named jaw and having its front edge beveled and provided with a recess in its under face engaging the shoulder of the other jaw, substantially as herein shown and described.

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