(No Model.)

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COMBINED BED AND STRETCHER FOR ZINC LITHOGRAPHIC PLATES.

No. 422,227. Patented Feb. 25, 1890.

Fig. 1.

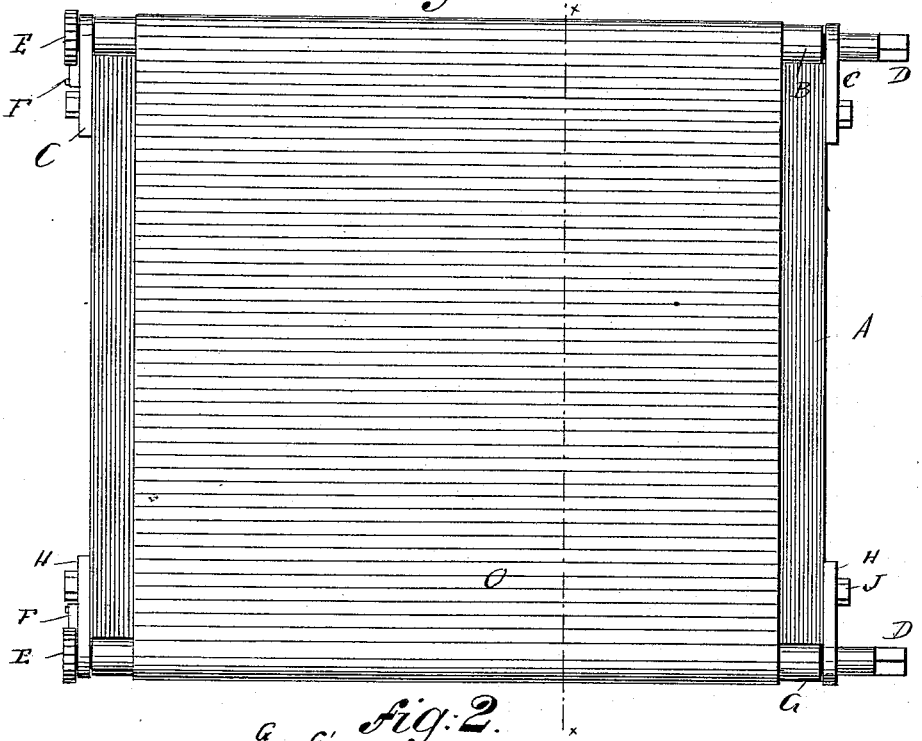


Fig. 2.

Fig. 3.

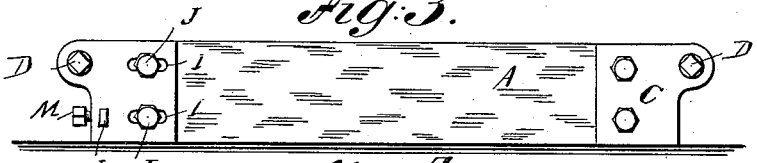


Fig. 4.

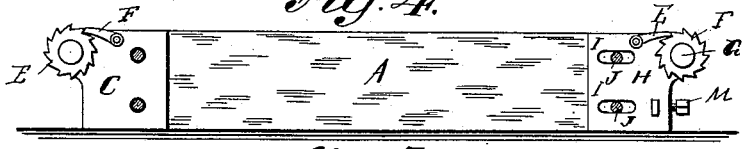
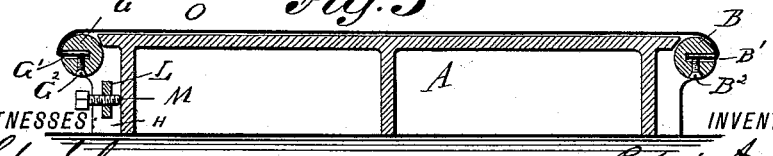


Fig. 5.



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ROBERT A. KINKELE AND GUSTAV H. LEINERT, OF BROOKLYN, NEW YORK.

COMBINED BED AND STRETCHER FOR ZINC LITHOGRAPHIC PLATES.

SPECIFICATION forming part of Letters Patent No. 422,227, dated February 25, 1890.

Application filed February 6, 1889. Serial No. 298,859. (No model.)

To all whom it may concern:

Be it known that we, ROBERT A. KINKELE and GUSTAV H. LEINERT, of Brooklyn, county of Kings, and State of New York, citizens of the United States, have invented certain new and useful Improvements in a Combined Bed and Stretcher for Zinc Lithographic Plates, of which the following is a specification.

The zinc plates usually used in making lithographing and photo-engravings or zinco-engravings are fastened and stretched upon a bed, on which they must be held firmly and securely; and the object of our invention is to provide a new and improved bed provided with a stretching device, whereby the zinc sheets or plates can be applied easily and rapidly and stretched very easily to rest firmly upon the bed.

The invention consists in the construction and combination of parts and details, as will be fully described and set forth hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of our improved bed and stretcher for zinc photographic plates. Fig. 2 is a front view of the same. Fig. 3 is a view of one end. Fig. 4 is a view of the other end, parts being in section. Fig. 5 is a vertical transverse sectional view on the line $x x$, Fig. 1.

Similar letters of reference indicate corresponding parts.

The bed A is made of cast metal in the usual manner, and has a perfectly smooth top surface. A roller B, having a longitudinal groove B′ and a screw B^2, is mounted parallel with one edge of the bed, said roller being mounted to turn in fixed wings C, bolted to the sides of the bed and projecting beyond that edge at which said roller is located. One end of the roller-shaft is provided with a squared head D and the other end with a ratchet-wheel E, engaged by a pawl F, pivoted on one of the wings C. A like roller G is provided with a longitudinal groove G′, and a screw G^2 is mounted parallel with that edge opposite the one at which the roller B is located, said roller G being journaled in jaws or wings H, that are mounted to slide toward or from the front of the bed—that is, in the direction of the strain in the plate or sheet—the wings being held on the sides of the bed by bolts J, passed through longitudinal slots I in said wings. The shaft of the roller G is also provided at one end with a squared head D, and at the opposite end with a ratchet-wheel E, engaged by a pawl F. The wings H are united by a bar L, parallel with the front of the bed, and through threaded apertures in said bar set-screws M pass, their inner ends resting against the front of the bed, and their outer ends having heads to permit of applying a key for turning them.

The zinc sheet or plate O is applied in the following manner: The rollers B and G are turned so that the open edges of their grooves B′ and G′, respectively, are at the top, and the edges of the plate or sheet O are placed into said grooves and locked in place by means of the screws B^2 and G^2, respectively. The screws M are loose, so that the roller G can rest against the front of the bed. The shafts of the rollers B and G are then turned in opposite directions by means of keys applied on the square ends or heads D, whereby parts of the sheets are wound on the rollers, as shown in Fig. 5, and the sheet is flattened out upon the bed. The screws M are then turned by means of keys for the purpose of moving the wings H, and with them the roller G, from the front of the bed until the zinc sheet or plate is stretched taut and rests firmly upon the top of the bed. The zinc sheet or plate can thus be applied very easily and rapidly and drawn taut in a very short time.

To remove the sheet or plate, the screws M are loosened, the rollers B and G turned toward each other, and the bent edges of the sheets or plates lifted out of the grooves in the rollers.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination, with a lithographic bed-frame, of a roller adjacent to one edge of the same, and wings on the frame, which wings can be moved in the direction at right angles to the length of the roller, the roller being mounted in said wings, substantially as set forth.

2. The combination, with a lithographic

bed-frame, of rollers at two opposite edges, one of the rollers being mounted in wings which can be moved in the direction of the strain to which the plate or sheet is subjected, substantially as set forth.

3. The combination, with a lithographic bed-frame, of a roller mounted adjacent to one edge of the frame in fixed bearings, a roller mounted on the opposite edge in movable bearings, a bar connected with said movable bearings, and means, substantially as set forth, for adjusting said bar and bearings, substantially as set forth.

4. The combination, with a lithographic bed-frame, of a roller mounted adjacent to one edge in fixed bearings, a roller mounted adjacent to the opposite edge in movable bearings, means, substantially as set forth, for adjusting the movable bearings in relation to the bed, a ratchet-wheel connected with each roller, and a pawl engaging each ratchet-wheel, substantially as set forth.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

ROBERT A. KINKELE.
GUSTAV H. LEINERT.

Witnesses:
OSCAR F. GUNZ,
JOHN ALONZO STRALEY.