

C. WAGNER.
MEANS FOR HOLDING PRINTING PLATES.
APPLICATION FILED MAR. 6, 1906.

2 SHEETS—SHEET 1.

Fig. 1

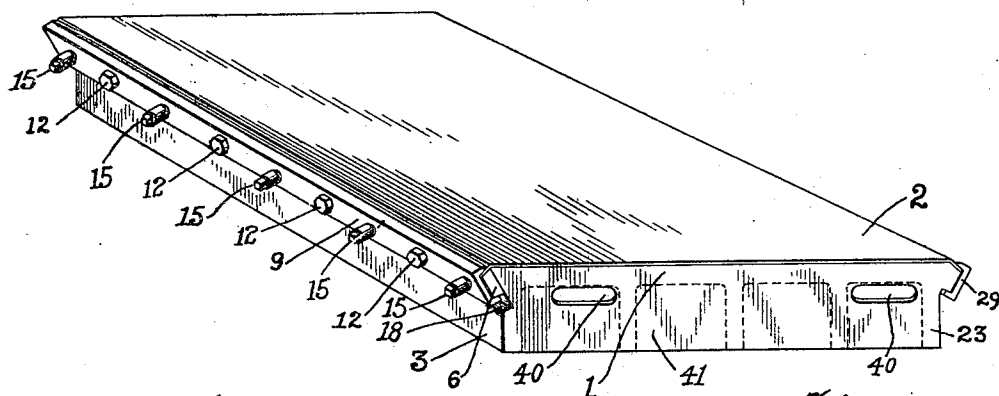


Fig. 2

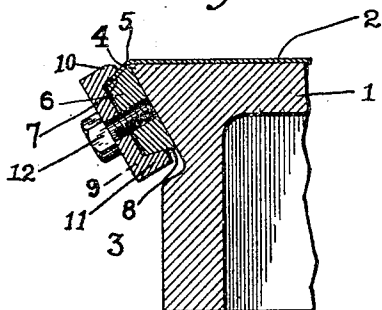


Fig. 3

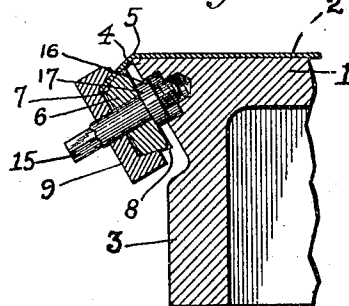
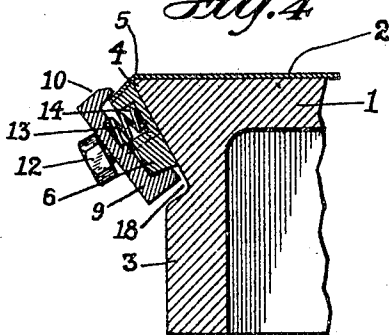


Fig. 4



Witnesses
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2 SHEETS—SHEET 2.

Fig. 5

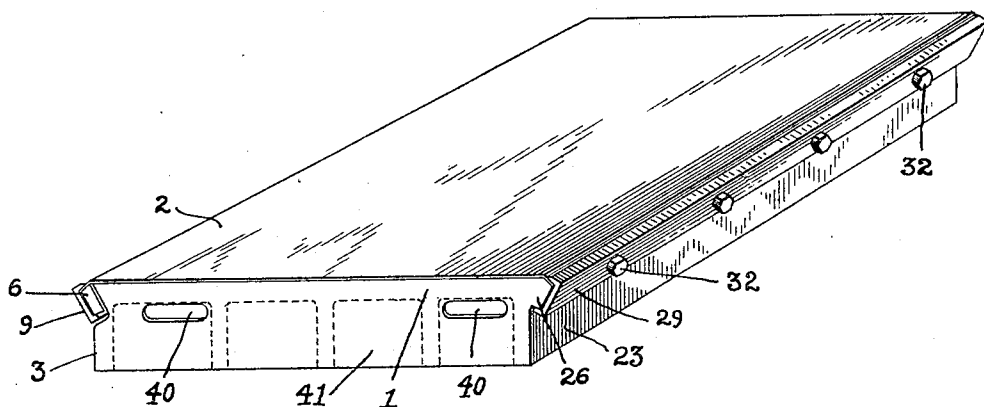


Fig. 6

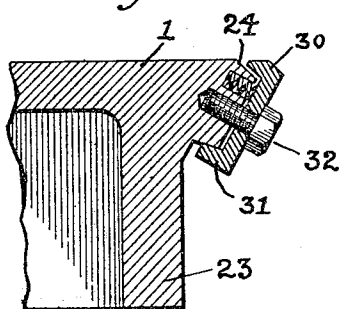
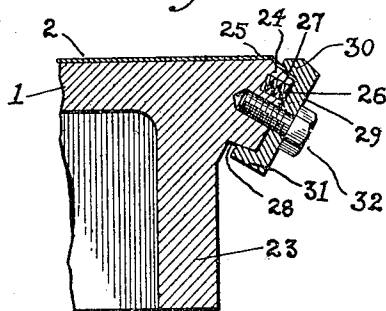


Fig. 7



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UNITED STATES PATENT OFFICE.

CHARLES WAGNER, OF NEW YORK, N. Y.

MEANS FOR HOLDING PRINTING-PLATES.

No. 838,512.

Specification of Letters Patent.

Patented Dec. 11, 1906.

Application filed March 6, 1906. Serial No. 304,437.

To all whom it may concern:

Be it known that I, CHARLES WAGNER, a citizen of the United States of America, residing in the borough of Manhattan, city and State of New York, (whose post-office address is 15 Bethune street, in said borough of Manhattan,) have invented new and useful Means for Holding Printing-Plates; and I do hereby declare the following to be a full, clear, and exact description of the same.

The present invention relates to improvements in devices for holding printing-plates—such as aluminium plates, zinc plates, &c.—in proper position for printing upon a base or bed, especially for flat-bed printing; and the objects of my invention are to provide a new form of device for clamping a printing-plate in position, to provide a new form of plate-stretching means, and to provide a combined plate-clamping and plate-stretching means.

Printing-plate holders of the kind to which my invention generally relates are usually provided with plate-clamping means along each of the opposite side edges of the bed or base, and while my improvements may be applied to both of the side edges, yet I have found that a satisfactory structure is produced if, as shown in the drawings, my new plate-clamping means and new plate-stretching means are fitted to one side edge only of the plate, any suitable form of plate-clamping means being fitted to the other side edge of the plate.

Referring to the accompanying drawings, Figure 1 is a perspective view of a device embodying my improvements, the left-hand side thereof being especially shown. Fig. 2 is a cross-sectional view of a part of Fig. 1 at a clamping-screw. Fig. 3 is a similar cross-sectional view at a stretching-screw 15. Fig. 4 is a similar cross-sectional view at a separating-spring of the improved plate-clamping means. Fig. 5 is a perspective view of the plate of Fig. 1, the right-hand side thereof being especially shown. Fig. 6 is a cross-sectional view of a part of Fig. 5, the printing-plate being omitted; and Fig. 7 is a similar view, the plate being clamped to place.

The bed or base may be of any suitable form. I have, however, shown a flat base 1, and a printing-plate 2 upon the upper face of said base. The side edges of the base are beveled, as at 4 and 24, or otherwise downwardly inclined or located below the upper face of 1 in order that the clamping means

(hereinafter described) shall be below the level of the printing-plate, and the upper face of the latter may be ground or otherwise treated without interference by the clamping means. The edges 5 and 25 of the printing-plate will be drawn or bent downwardly to conform to the beveled plate edges 4 and 24.

For clamping the printing-plate into position I may use a well-known clamping device, (see Figs. 5, 6, 7, and the right-hand side 23 of Fig. 1;) but I prefer to use, along one side edge at least of the base, the improved plate-clamping device of which a form is shown in Figs. 2, 3, 4 and at the left-hand side 3 of Fig. 1. This comprises two members, both independent of the base, and between which the edge of the printing-plate is gripped. The device shown employs a bar 6, having top and bottom oppositely-tapering edges 7 and 8 and a bar 9, provided with upper and lower inwardly-extending tapering flanges 10 and 11, conforming in shape to the tapering edges 7 and 8 of bar 6. Bolts 12 at intervals along the bar 9 pass therethrough, and the threaded shanks engage threads in openings in the bar 6. The edge of the printing-plate will be gripped between the flange 10 (of bar 9) and the tapered edge 7, (of bar 6,) and the gripping strain is increased by reason of the engagement of the flange 11 and edge 8 as the bolts or screws 12 are advanced. At its opposite side edge the printing-plate may be gripped by the foregoing or any other suitable clamping device. A form of such device as shown in Figs. 5, 6, and 7 comprises a rib 26, integral with the side edge 23 of the plate, to which an edge 25 of the printing-plate is secured by the coöperating gripping action of oppositely-tapered edges 27 and 28 (of said rib) with oppositely-tapered flanges 30 and 31 of a bar 29 when bolts or screws 32 are advanced.

My invention also provides means for stretching the printing-plate 2 after its opposite side edges have been gripped to smooth the same and cause it to tightly fit the upper face of base 1, and I have shown one form of device devised by me and any number of which may be used for such purpose and being preferably located midway between bolts or screws 12, as shown in Fig. 1. Referring especially to Fig. 3, I have shown a screw 15, having a square outer end and a threaded inner end 16, the threads of which engage corresponding threads in the recess of base 1.

The shank of the screw is smooth where passing through the bars 6 and 9 and is also provided with an enlargement or collar 17, adapted to fit a recess in the base 1 when the screw is fully screwed in and to engage the bar 6 when the screw is moved outwardly. Outward rotation of the screw 15 will, it is obvious, result in drawing the locked clamping device away from the base and in stretching the printing-plate to the desired degree by reason of the contact of the collar 17 with bar 6.

In addition to the plate-clamping and plate-stretching devices already described I have also provided means whereby a plate edge will be automatically released from its clamping device when the latter is unlocked and have shown a form of such improvement in Fig. 4, wherein a coiled spring 13 is seated within a recess in a clamping member 9 and is housed within a deeper recess 14 in the bar 6, thus having the opposite ends of the spring arranged to press apart the bar 6 and the clamping member 9. Any desired number of springs may be used; but good results will be assured if the springs are located about midway between the screws 12 and 15 and if each spring is located, as shown in Fig. 4, so as to press outwardly against the bar 9 above screws 12 and 15. Upon turning of screws 12 to unlock the clamping members the springs 13 will tilt the bar 9 outwardly and push the flange 10 away from the plate edge 4, enabling the plate to be readily removed. The location of the spring 13 so as to press the parts 6 and 9 apart results in an automatic releasing device which acts

whenever the clamping members are unlocked by screws 12.

The base or bed 1 may have the usual ends 41 and longitudinal stays (shown dotted) and holes 40 40 for facilitating handling of such base or bed.

I claim—

1. In a device for holding a printing-plate, a base having plate-clamping means comprising a tapered part along each of its side edges, a grooved bar embracing each of said tapered parts, means for clamping each grooved bar and tapered part together and a spring for forcing said members apart.

2. In a device for holding a printing-plate, a base having plate-clamping means comprising a tapered part integral with one side edge of the base and a tapered part carried by the base, and a grooved bar embracing each of said tapered parts.

3. In a device for holding a printing-plate, a base having plate-clamping means along each of the side edges of the base, one of said clamping means comprising a tapered bar and a grooved bar embracing the same, means for clamping said bars together and a spring for forcing them apart, and means for forcing said bars together away from the base.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES WAGNER.

Witnesses:

EDWIN M. FERRY,
W. S. TIMMIS.