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Mar. 13, 1923. 1,448,524.

T. M. COPELAND.

PRINTING FRAME.

FILED OCT. 7, 1920.

Fig. 1.

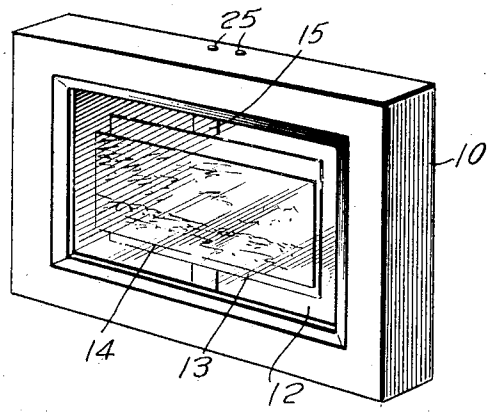


Fig. 2.

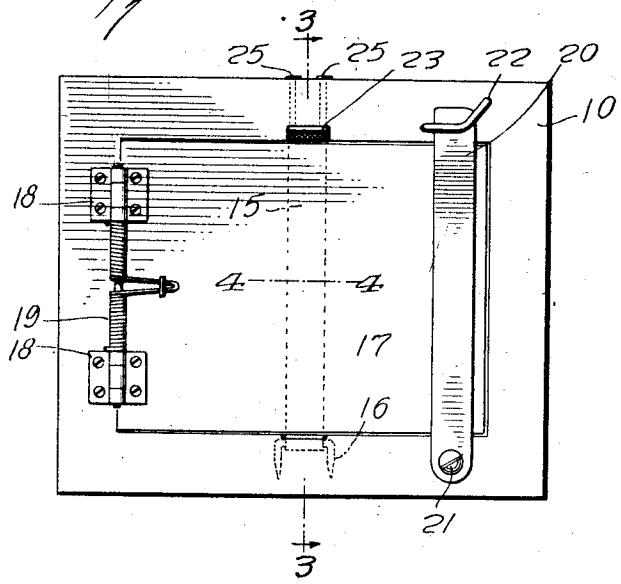


Fig. 3.

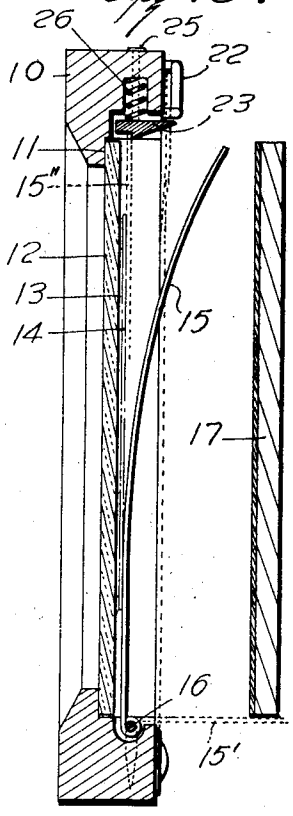


Fig. 4.

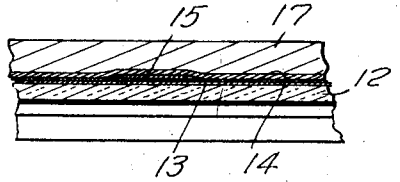
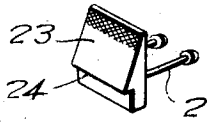


Fig. 5



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Patented Mar. 13, 1923. 1,448,524

UNITED STATES PATENT OFFICE.

THOMAS MERCER COPELAND, OF LOS ANGELES, CALIFORNIA.

PRINTING FRAME.

Application filed October 7, 1920. Serial No. 415,262.

To all whom it may concern:

Be it known that I, THOMAS M. COPELAND, a subject of the British Empire, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Printing Frames, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to photographic printing frames, and it is an object to provide a frame of the class wherein improved means is provided for printing by the use of films and paper of various sizes, some of which sizes may be smaller than the size of the frame.

A further object of the invention is to provide a printing frame wherein a glass plate is provided for supporting the film and paper with a keeper which will be locked into position upon the paper, auxiliary to the usual cover, or compression member, which supports the entire paper in printing position.

A further object of the invention is to provide improved means for facilitating the quick and convenient use of the device.

With these and other objects in view, the invention comprises certain novel units, elements, parts, functions, and combinations, as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a perspective view of a printing frame made in accordance with the present invention, seen from the front, or glass, side;

Figure 2 is a view in rear elevation of the frame;

Figure 3 is a sectional view of the frame, taken on line 3—3 of Figure 2, with the cover, or closure, partially open;

Figure 4 is a detail sectional view taken on the line 4—4 of Figure 2, showing the keeper for clamping the paper and film in position, and

Figure 5 is a detail perspective view of one type of latch for securing the keeper in position.

Like characters of reference indicate corresponding parts throughout the several views.

The improved printing frame which forms the subject matter of this application comprises a frame member 10 of substantially the usual and ordinary type and form, having a ledge 11, upon which is supported a glass plate 12. The glass plate 12 serves as a support for the film shown in perspective in Figure 1, as 13, and superposed thereon, the printing paper 14.

Intermediate the ends of the frame, and extending transversely thereof is a keeper 15, preferably pivoted, or hinged, at one side of the frame, outside of the lines of the glass plate 12, such hinging being conveniently shown as the staple 16. The hinging of the keeper 15 upon this hinge member represented by the staple 16, permits it to be swung to the position shown as 15′, in Fig. 3 entirely out of the way, to permit the raising of the cover member 17, which compression member is hinged to the frame 10 in any approved manner, as by the hinges 18, a spring 19 being provided for automatically lifting the compression member 17, when released. The securing means for the compression member 17 is the spring bar 20, pivoted to the frame at 21, and proportioned so that its end opposite the pivot slides under the keeper 22.

The frame is also provided with a latch 23, opposite the staple 16, which is proportioned and positioned to retain the keeper 15 in clamping position when the extremity of such keeper is engaged under the shoulder 24 of such latch. This latch may be of any approved type to accomplish the purpose aimed at, but is here shown as mounted upon guides 25, and a spring 26 provided for holding the said latch 23 in engaging position. The keeper 15 is, therefore, adapted to be depressed by reason of its own resiliency, to the position 15″, as shown at Figure 3. In other words, the complete movement of the keeper 15 is from the position 15′, which is the open position, to the closed, or clamping position, 15″, in which position the keeper is clamped upon the paper 14, which is superposed upon the film 13, holding such film and paper rigidly at their middle portion, permitting the lifting of either end of the paper for inspection, when the compression member 17 is open.

In operation, the film 13 will be first laid upon the glass plate 12 in the correct position, and the printing paper laid thereon. This will preferably be done while the keeper 15 is in the position 15′. The keeper 15 will then be moved downwardly and clamped upon the paper and latched under the latch 23, the keeper thereby clamping

across the central portion of the paper and film, as shown more particularly at Figure 1. The compression member 17 will then be closed upon its hinges 18, and the bar 20 moved into position under the keeper 22, whereupon the printing frame is in condition for printing when exposed to the actinic rays.

When sufficient time may have elapsed to have accomplished the printing, the bar 20 is moved from under the keeper 22 and the closure 17 is automatically opened by the spring 19. As heretofore stated, both ends of the printing paper are available for inspection when the compression member is open, and a single opening of the closure will, therefore, disclose both ends, making the inspection more complete and rapid.

While the device presents numerous features for convenience of use and speedy action, its principal feature resides in the use of the keeper, which is clamped upon the paper and film retaining such paper and film in immovable relation, whereby the inspection is permitted without disturbing the relation of the paper to the film.

What I claim to be new is:

1. A printing frame embodying a frame member, a light-transmitting plane plate carried by the frame member, a substantially plane back member proportioned to cover one surface of the light-transmitting plate, means to maintain the pressure of the back on approximately all points of the plate, a film-confining strap positioned to extend across the plate and be clamped by the back, and means to latch the strap in film-confining position independently of the back.

2. A printing frame embodying a frame member, a light-transmitting plane plate carried by the frame member, a substantially plane back member proportioned to cover one surface of the light-transmitting plate, optionally releasable means to maintain the pressure of the back on approximately all points of the plate, a film-confining strap positioned to extend across the plate and be clamped by the back, and optionally releasable means to latch the strap in film-confining position independently of the back.

3. A printing frame embodying a frame member, a light-transmitting plane plate carried by the frame member, a substantially plane back, a pressure means for the back, a film-confining strap extending across and positioned to be clamped between the back and the plate, and an independent manual latch for the strap.

THOMAS MERCER COPELAND.