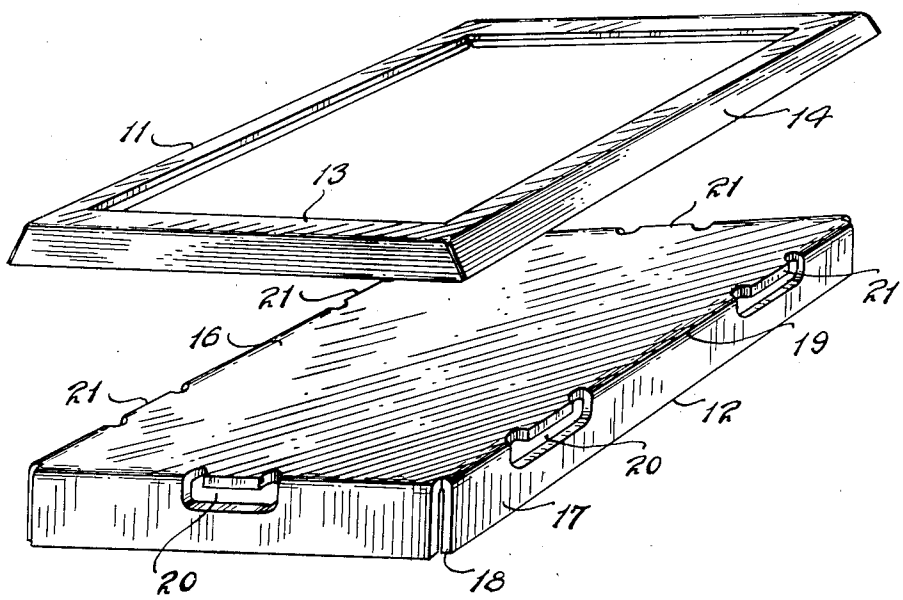
Oct. 13, 1942. J. A. MULLEN 2,298,583

PHOTOGRAPHIC PRINTING FRAME AND THE LIKE

Filed April 28, 1941

Fig. 1.



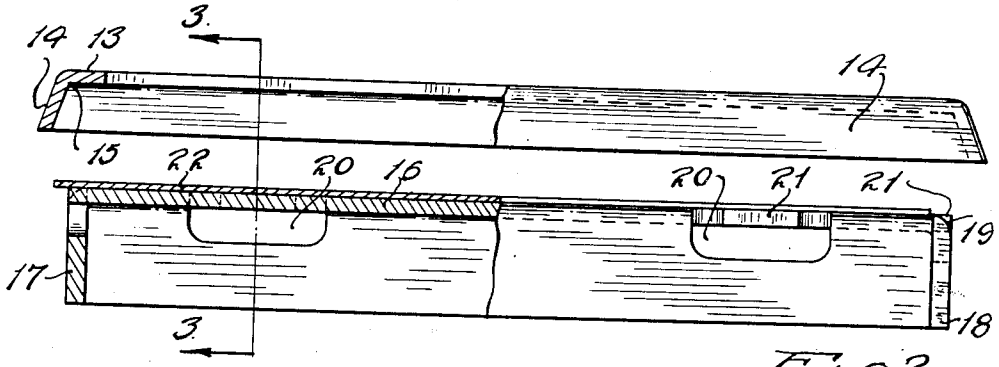


Fig. R.

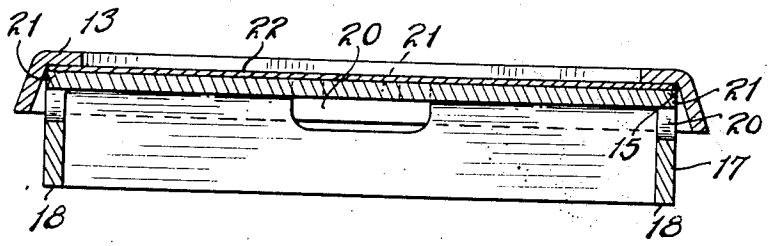


Fig. 3.

INVENTOR.
JANUARIUS A. MULLEN.
BY Joseph Harley
ATTORNEYS.

Patented Oct. 13, 1942 2,298,583

UNITED STATES PATENT OFFICE

2,298,583

PHOTOGRAPHIC PRINTING FRAME AND THE LIKE

Januarius A. Mullen, Grosse Pointe, Mich.

Application April 28, 1941, Serial No. 390,693

4 Claims. (Cl. 88—24)

This invention relates to a printing frame for use in photographic work and especially in the making of enlargements.

Printing frames of the type now in use may generally be said to be designed to perform two functions, namely, (*a*) to hold the sensitized paper flat during the exposure, and (*b*) to mask a portion of the paper so as to form a border on the finished print.

The present invention seeks to accomplish both of these functions while performing the additional function of centering the paper relative to the masking areas of the printing frame; also, to accomplish this centering quickly and, in a sense, automatically.

Another object is to design a printing frame such as may be simply and economically manufactured.

Further objects and advantages will be more fully brought out in the following description of the invention, a representative embodiment of which is illustrated in the drawing forming a part of this specification.

In the drawing, Fig. 1 as a perspective view of the elements of a printing frame constructed in accordance with the principles of this invention;

Fig. 2 is a side elevation of the parts shown in Fig. 1 with portions thereof cut away to show the construction in cross section; and

Fig. 3 is a sectional view taken along the line 3—3 of Fig. 2 and showing the parts in operative relationship.

As can be seen from Figs. 1 and 2, the complete printing frame consists of two parts, a rectangular frame element 11 and a complementary base member 12. Both of these parts are preferably fabricated by a stamping process, using relatively heavy gauge material, preferably sheet metal, in order that the weight of the parts will be sufficient for the satisfactory performance of their functions in a manner to be later described.

In the construction of the frame element 11, the material is formed into a rectangular horizontal border or masking portion 13 which may be uniform in width or not as desired. The material adjacent the sides of this masking portion is bent downwardly to form substantially vertically extending sides 14, this bending operation being performed so that sharply defined inner corners 15 are formed between the horizontal border 13 and sides 14, and so that the dimensions of the frame element 11 between the corners 15 thereof correspond to the dimensions of the size of sensitized paper with which the printing frame is designed to be used.

The base member 12 essentially consists of a flat rectangular surface 16, corresponding in dimensions to the size of sensitized paper to be used and to the inner dimensions of the frame element 11, and bordered by depending sides 17. These sides 17 are greater in depth than the sides 14 of the frame element and must be accurately bent so that their bottom surfaces 18 lie in the same plane in order that the base member may be steady. Bending the sides 17 from the rectangular surface 16 will inevitably leave an appreciable radius 19 on the outer surface of the metal and the presence of such radius may prevent the sensitized paper from being properly centered on the base member 12 when the frame element 11 is placed thereon. Accordingly, one or more cut out portions 20 are formed in each of the sides 17 of the base member before the bending operation takes place, these cut out portions being positioned so that the surface 16 of the base member is brought to an edge 21 at each of the cut out portions, thus sharply defining the dimensions of the rectangular surface 16 in accordance with the dimensions of the size of sensitized paper to be employed.

Since photographic printing frames must be used in subdued light, it is difficult to accurately center the sensitized paper upon the surface 16 of the base member by hand, and therefore, the frame element is constructed so that, within certain limits, it will tend to perform this function of centering automatically, or at least with a minimum amount of manipulation. By referring to Fig. 2, in which the frame element 11 is shown positioned above the base member 12, it can be seen that the sides 14 of the frame member are formed at a substantial angle to the vertical. In this same view a piece of sensitized paper 22 is shown resting upon the surface of the base member in an improperly centered position. During the lowering of the frame element to its operative position shown in Fig. 3, it will be seen that the angularly disposed sides 14 thereof, acting in cooperation with the sharp edges 21 at the sides of the surface 16 of the base member, will cause the paper 22 to assume a properly centered position. If the base member had a curved surface along its entire upper peripheral edge, the sensitized paper would tend to bend around said edge more readily than around the sharp edges 21 which therefore contribute materially to the self centering action of the parts on the paper as they are assembled.

Immovability of the sensitized paper during its exposure is essential to the obtaining of good

prints, and therefore the frame element 11 is fabricated from heavy gauge material so that its weight will be sufficient to securely hold the paper firmly in a flat position. Likewise, the base member 12 is also of heavy construction so that it will not readily be accidentally moved out of alignment with the negative in the enlarger. This heavy construction of the base and its consequent immovability safely permits the exposure of a number of prints without adjustment once the base member has been aligned with the enlarger, thereby decreasing the time and hence the cost of making prints. This heavy construction also prevents the printing frame from being distorted or otherwise damaged.

I claim:

1. A photographic printing frame comprising a rectangular base member having a flat paper supporting surface and a vertical flange around the peripheral edge thereof to hold said flat surface spaced from a support upon which said base member may be placed, and a cooperating rectangular open frame adapted to be placed upon said base member for holding a piece of sensitized paper securely in position thereon, said open frame comprising a horizontal flange section for engaging and forming a border outline upon said sensitized paper in the printing thereof and a depending flange section, said depending flange section extending downwardly and outwardly relative to the said flat surface of said base member, whereby said depending flange section will exert a substantially automatic centering action upon a piece of paper supported upon said base member when said open rectangular frame is placed upon the base member.

2. A photographic printing frame comprising a rectangular base member formed from a single piece of sheet material and having a flat paper supporting surface and a vertical flange around the peripheral edge thereof to hold said flat surface spaced from a support upon which said base member may be placed, said vertical peripheral flange portion of said base member being punched out at spaced intervals to provide a plurality of projecting lugs lying in the plane of the flat surface of said base member and terminating in a sharp edge substantially in vertical alignment with the outer surface of the said vertical peripheral flange portion, and a rectangular open paper holding frame cooperating with said flat surface and the said sharp edges of said base member to hold and locate a piece of sensitized paper in a properly centered position on said base member.

3. A photographic printing frame comprising a rectangular base member having a flat paper supporting surface and a vertical flange around the peripheral edge thereof to hold said flat surface spaced from a support upon which said base member may be placed, said vertical peripheral flange portion of said base member being punched out at spaced intervals to provide a plurality of projecting lugs lying in the plane of said flat surface of said base member and terminating in a sharp edge substantially in vertical alignment with the outer surface of the said vertical peripheral flange portion, a rectangular open paper holding frame adapted to engage over said base member and cooperating with said flat surface and the said sharp edges of said base member to hold and locate a piece of sensitized paper in a properly centered position on said base member, said open frame comprising a horizontal flange section for engaging and forming a border outline upon said sensitized paper in the printing thereof, and an outer flange section extending at an obtuse angle to said horizontal flange section for causing said outer peripheral flange section to exert a substantially automatic centering action upon a piece of paper supported upon said base member when said open rectangular frame is placed upon the base member.

4. A photographic printing frame comprising a base member having a flat paper supporting surface and a depending flange around the peripheral edge thereof to hold said flat surface spaced from a support upon which said base member may be placed, and a cooperating open frame adapted to be placed over said base member for holding sensitized photographic paper securely in position thereon, said open frame comprising a masking flange section for engaging and forming a border outline upon said sensitized paper and a plurality of centering flange sections extending downwardly and outwardly relative to said masking flange section, said centering flange sections lying adjacent said depending flange and the peripheral edge of said flat surface of said base member when said open frame is placed upon said base member, and said flat surface of said base member ending in a sharply defined peripheral edge along portions contiguous to said centering flange sections.

JANUARIUS A. MULLEN.