March 11, 1924. 1,486,196

C. H. RUFFNER

PHOTOGRAPHIC PAPER HOLDER

Filed June 25, 1920 2 Sheets-Sheet 1

FIG. 1.

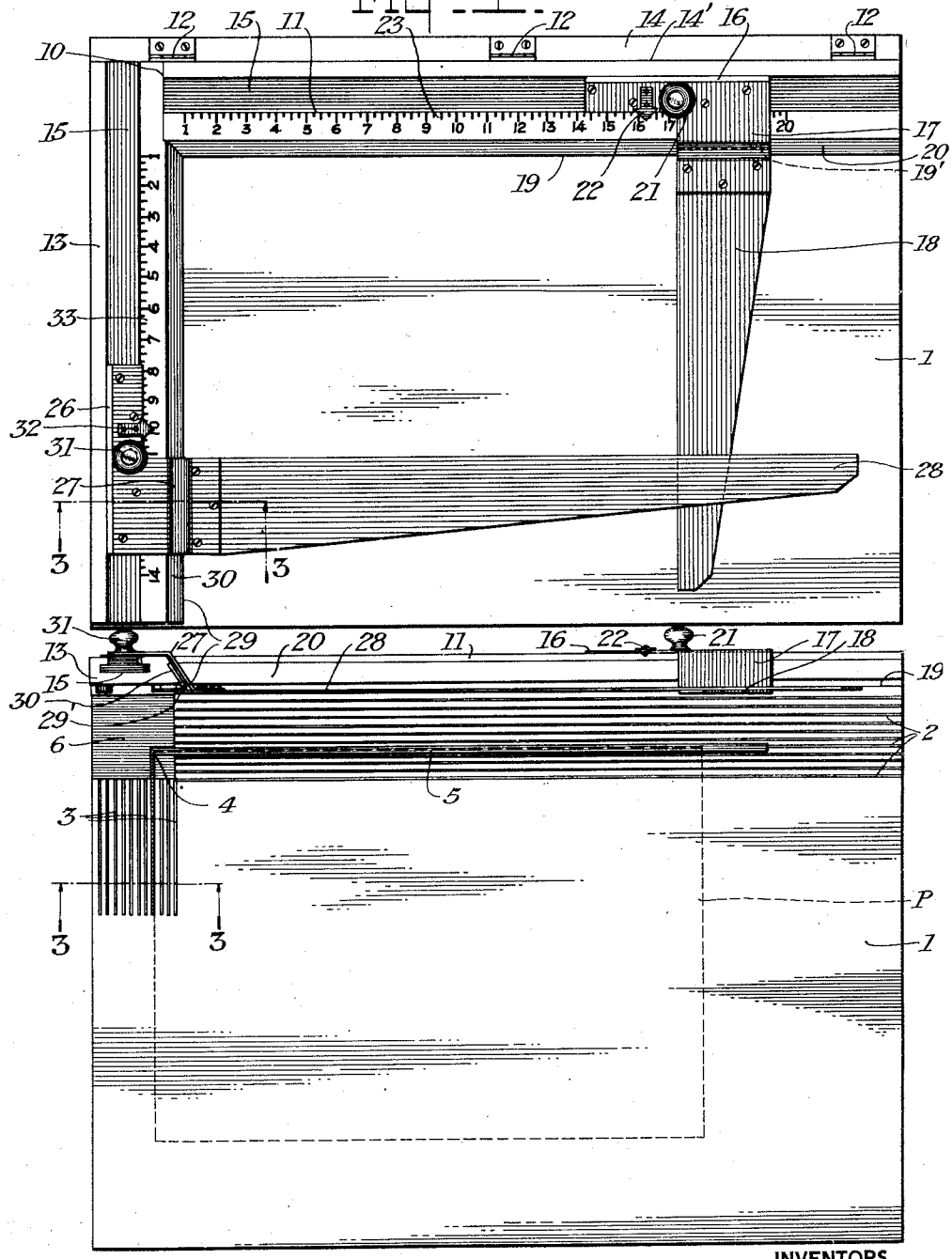



FIG. 2.

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FIG. 3.

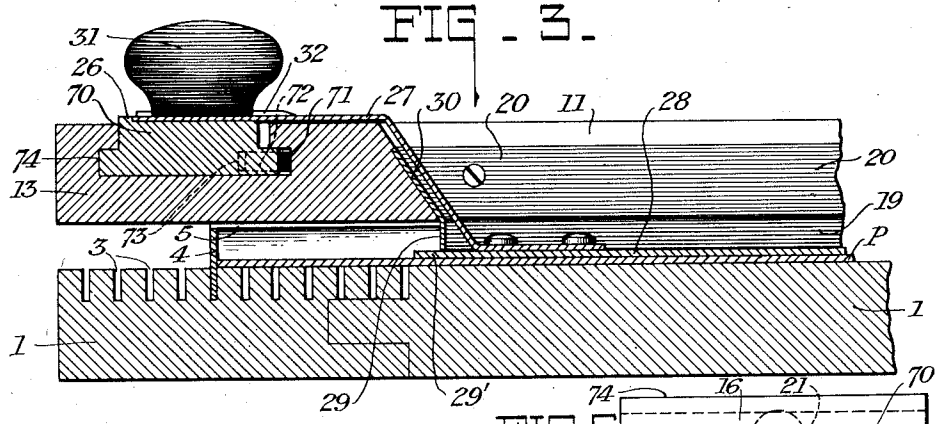



FIG. 6

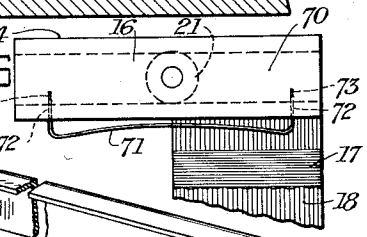
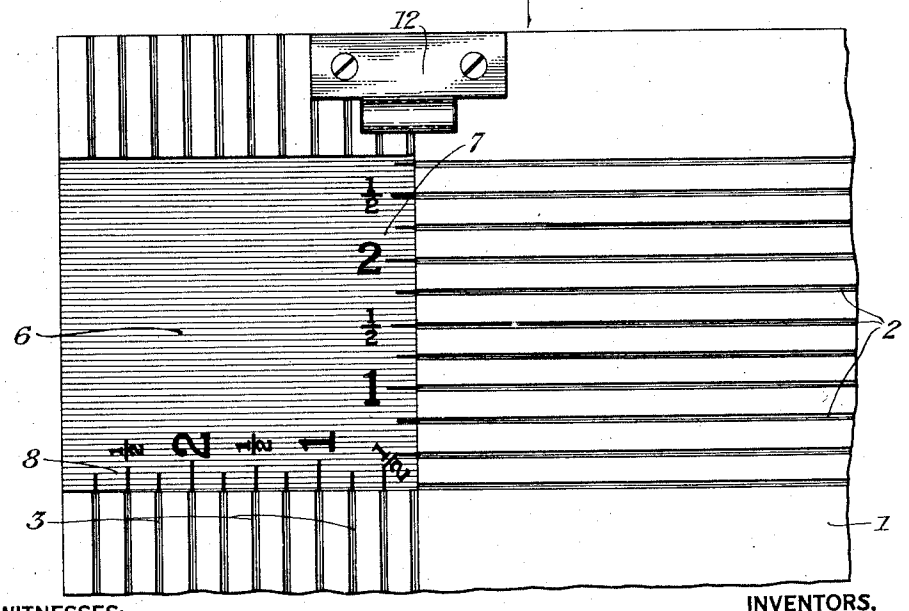



FIG. 4.




FIG. 5.




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# UNITED STATES PATENT OFFICE.

CLIFFORD H. RUFFNER, OF ROCHESTER, NEW YORK, ASSIGNOR TO EASTMAN KODAK COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

## PHOTOGRAPHIC-PAPER HOLDER.

Application filed June 25, 1920. Serial No. 391,770.

*To all whom it may concern:*

Be it known that I, CLIFFORD H. RUFFNER, citizen of the United States of America, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Photographic-Paper Holders, of which the following is a full, clear, and exact specification.

This invention relates to photography, and more particularly to paper holders adapted to hold a sheet of paper or other material flat for copying or enlarging. Since the present preferred embodiment of my invention is particularly adapted for use in holding photographically sensitive paper flat for enlarging, I shall describe such an application of it by way of illustration.

An object of my invention is to provide a simple and efficient board upon which a sheet of paper can be held flat; another object is to provide a board of the kind described in which a gauge positions the sheet of material so that it will be held flat in the correct position; another object is to provide a frame for holding the paper flat by its edges; still another object is to provide a frame which will mask off portions of the paper, and to provide adjustments whereby various sized masks are quickly made; a further object is to provide a connection between the relatively moving parts which will form a substantial and easily movable support for one of the parts; a still further object is to provide a margin gauge which can be readily adjusted. Other objects will hereinafter appear.

In the accompanying drawings, in which like characters designate like parts throughout:

Fig. 1 is a plan view of a preferred embodiment of my invention in operative position;

Fig. 2 is a plan view of the board shown in Fig. 1 with the masking device raised for loading.

Fig. 3 is an enlarged detail in section through one of the masking members on line 3—3 of Fig. 1, and through the margin gauge and board on line 3—3 of Fig. 2;

Fig. 4 is a perspective view of the margin gauge used with my preferred device;

Fig. 5 is a plan of the corner of the board with the masking unit removed, showing an enlarged view of the margin gauge slots and scales;

Fig. 6 is a bottom plan view of one of the slides.

The base of the preferred form of my paper holder consists of a board 1, having a series of slots 2 across the length of the board, and a shorter set of slots 3 extending partially across the width of the board. In the drawings these slots are shown as being spaced one-quarter of an inch apart so that an enlargement can be masked with a border any multiple of a quarter of an inch up to the capacity of the board, in this case two and three-quarter inches. These slots, of course, can be made as close or as far apart as desired.

In my preferred form the margin gauge itself consists of a right-angular or L shaped member 4, having an overturned flange 5 along one side. As shown in Fig. 3, the height of this gauge is considerably more than the depth of the slots 2 and 3 so that the top of the gauge and the flange 5 are spaced from the top of the board 1. This is desirable because it greatly facilitates handling the gauge, to move it from one slot to another. An additional advantage is that it makes the loading much easier than it would otherwise be, because bromide paper, which is chiefly used for enlarging, has a tendency to curl, so that when a sheet is loaded into the frame, the flange 5 being spaced some distance from the board 1, enables the operator to easily slide one end of the curved sheet under the flange, where it will be clamped by the masking frame which will be hereinafter described.

As shown in the enlarged plan at Fig. 5, there is an opening 6 formed by cutting away the walls of the slots 2 and 3 at the place where they intersect. In this opening there is a scale 7 for slots 2 and a scale 8 for the slots 3, here shown as graduated into one-quarter inch units. The margin gauge 4 can be readily adjusted for the desired margin by placing in any one of the slots 2 and 3.

To clamp the paper flat against board 1 and to mask off a portion of the sheet there is a right angular or L shaped member designated generally as 10, having one arm 11 hinged at 12 to the board 1, the other arm 13 being affixed to arm 11 and extending

at right angles thereto. The hinges 12 are placed on top of board 1 so that the end 14 of board 1 forms a stop against which the outer edge 14' of arm 11 may rest when in raised position, thus limiting its rotative movement to slightly more than ninety degrees, and conveniently holding frame 10 erect in open position. Each of the arms 11 and 13 have an undercut or T shaped slot 15 cut in their upper sides. Arm 11 has a carriage 16 sliding in slot 15, carrying a supporting bracket 17 for a masking and clamping arm 18.

The carriage 16 has an inverted T shaped body 70 less in width than slot 15, so that a bowed spring 71 having its ends 72 inserted in slots 73 in the body 70 of the slide will keep one edge 74 in contact with one side of slot 15, (Fig. 6). This construction keeps the carriage firmly in proper alinement with arm 11 and at the same time allows it to be freely moved through slot 15. Bracket 17 is here shown as being riveted to the end of mask 18, the inner end 19' of the mask extending under member 11 being supported by a rail 19 made by bending down a metal plate 20, with which member 11 is faced. The masking member 18 is, therefore, supported from above, by bracket 17 and from below by the rail 19, so that when the frame 10 is raised the masking arm will easily stand the strain of being moved from one end by the frame. The carriage 16 is also provided with a handle 21 and a pointer 22 which cooperates with a scale 23 upon member 11, to enable the mask to be readily set to the desired size. Arm 13 has a similar mask member 28, supported by a bracket 27 carried on a slide 26, and running on a rail 29 which is a part of the metal plate 30 fastened to the inner edge of arm 13. Slide 26 is identical in construction to slide 16 hereinbefore described. The handle 31 and pointer 32 also have the same functions as those described in connection with slide 16. The scale 33 is shorter than scale 23 as mask 28 is considerably longer than the masking plate 18 in the embodiment herein described. The weight of the clamping mask 10 is sufficient to hold a sheet of paper P flat against board 1. The rails 19 and 29 space the bottoms of arms 11 and 13 from the board a distance approximately equal to the distance between the top of the board and the flange 5, so that the gauge may be moved to any position inside of these rails. This construction also causes the masking clamp 10 to clamp all around the edge of a sheet of paper P, thus holding it flat. The flange 5 of gauge 4 being spaced from the board 1 makes loading very simple, as the limits within which the paper may be placed are quite considerable. One edge of the paper is rested against an edge of gauge 4, while it is moved toward and then under flange 5 after which the frame 10 is lowered to clamp it in position. Paper coated with photographic emulsion has a tendency to curl, and the flange 5 assists in holding an edge of the paper while it is being inserted. If the paper were advanced flatwise toward the margin gauge, the front edge would possibly be elevated so as to miss the gauge and slide over it, so the user lifts the rear edge of the paper, sliding the front edge along until it contacts the gauge and is held by the flange. Then the sheet is laid flat and clamped in position.

The operation of my device is as follows: Assuming an enlargement ten by sixteen and one-quarter inches is to be made, masking arms 18 and 28 are moved by handles 21 and 31 until the pointers 22 and 32 indicate the proper position on the scales 23 and 33 as shown in Fig. 1. If an inch border is desired, the gauge 4 is set in slots 2 and 3 opposite the "1" mark on scales 7 and 8. A sheet of paper P is then slid along one rail of gauge 4, the operator holding one end of the sheet raised, until an edge slides under flange 5 contacting with gauge 4. After releasing the paper, frame 10 is lowered until the masking strips 18 and 28 lie on the paper. The rails 19 and 29 press also upon the edges of the paper, for, although a thickness of the metal of strips 18 and 28 lie between the rail and the paper for a small portion of their length, this dimension is so small that the contact is practically uniform throughout the length of the rail. In Fig. 3 for instance, the thickness of the masking strip 29' is exaggerated in the drawing to make the construction clear, the metal being actually only a few thousandths of an inch thick.

From the foregoing description it will appear that I have invented a simple paper holder which can be quickly and easily handled in a dark room, and one which will hold a sheet of paper flat upon a board. While I have described my invention as a paper holder for enlarging, particularly adapted for use with vertical enlarging machines, I do not wish to confine myself to this use, since the principles of my invention can readily be applied to other types of paper holders.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a bromide paper holder the combination of a base, with an L shaped margin gauge, the base having slots extending from one corner parallel to the sides of the base, the L shaped gauge being adapted to fit selectively into any of the slots to vary the position of the bromide paper relative to the base.

2. In a holder for sheet material, the combination of a slotted base with an L shaped margin gauge movable over the base into

operative positions in the slots, a flange on one part of the gauge, another part of the gauge being adapted to guide a sheet of material being placed on the base, and the first mentioned part of the gauge being adapted to confine an edge of the sheet material within operative limits.

3. In a holder for sheet material, the combination of a slotted base, a margin gauge adapted to be selectively placed in any of the slots, and a clamping arm overlying said gauge, and adapted to contact the base and clamp sheet material thereagainst.

4. In a holder for sheet material the combination of a slotted base, a margin gauge adapted to be selectively placed in any of the slots, said gauge having a flange overhanging the base, and a clamping arm overlying said gauge and adapted to contact the base and to clamp sheet material thereagainst.

5. In a paper holder, the combination of a base, with a series of slots extending across the top of the base, a reduced portion at one end of the slots, and slot identifying means located therein.

6. In a paper holder, the combination of a base, with slotted areas extending along the top of the base in two directions, a cutaway portion located at the place where the slotted areas would normally intersect, and a scale located in the cutaway portion for identifying the various slots.

7. In a holder for sheets of sensitized paper, the combination of a base having two series of slots, of side and bottom walls for the slots, one series of slots being angularly disposed with reference to the other series of slots, and a margin gauge adapted to be positioned by a side wall of a slot of each series of slots and being supported by a bottom wall.

8. In a holder for paper, the combination of a base slotted in two directions, with side and bottom walls for the slot and an L shaped margin gauge adapted to be positioned by walls of the slots, the side walls of the slots embracing the sides of a margin gauge to position the gauge, and the bottom walls supporting the gauge, so that a part thereof will project from the base.

9. In a holder for paper, the combination of a slotted base, side and bottom walls for the slots, with a margin gauge, said margin gauge being adapted to fit into a slot and consisting of a flat metal strip, the side walls of the slot engaging the sides of the metal strip to hold it erect, the gauge being supported by a bottom wall.

10. In a holder for paper, the combination of a slotted base, side walls to the slots, and a margin gauge adapted to be positioned in the slots, the margin gauge being made of strip material of greater width than the depth of the side walls of the slots.

Signed at Rochester, New York, this 18th day of June 1920.

CLIFFORD H. RUFFNER.