W. J. FRASER.

APPARATUS FOR MANUFACTURING PAINTED SIGNS.

APPLICATION FILED MAR. 11, 1920.

1,426,830. Patented Aug. 22, 1922.

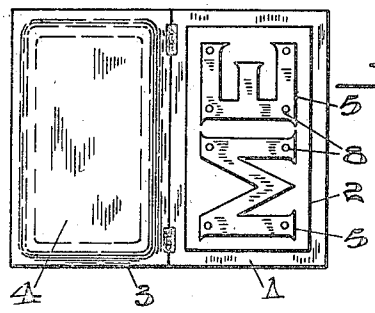


Fig. 2.

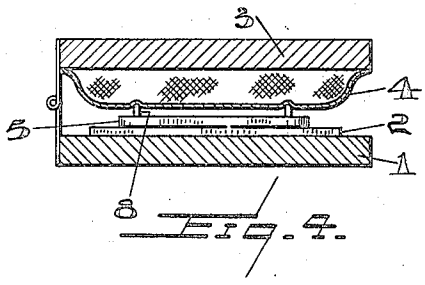


Fig. 4.

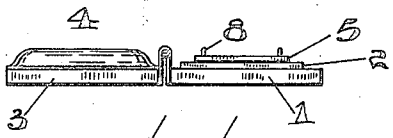


Fig. 3.

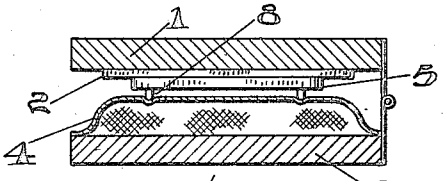


Fig. 5.

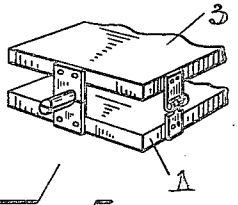
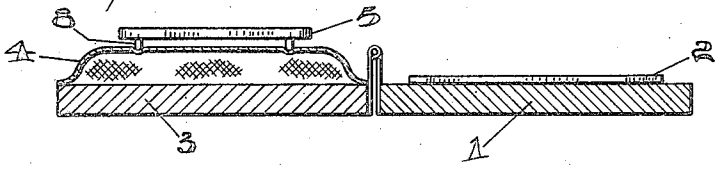


Fig. 9.

Fig. 6.



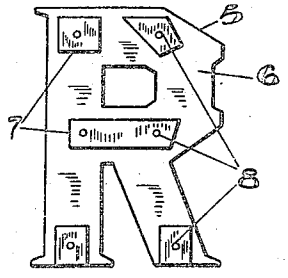


Fig. 7.

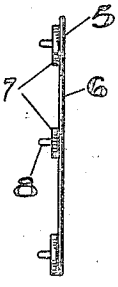


Fig. 8.



Fig. 1.

INVENTOR.
W. J. Fraser.
BY J. Edward Maybee
ATTY.

UNITED STATES PATENT OFFICE.

WILLIAM J. FRASER, OF TORONTO, ONTARIO, CANADA.

APPARATUS FOR MANUFACTURING PAINTED SIGNS.

1,426,830. Specification of Letters Patent. Patented Aug. 22, 1922.

Application filed March 11, 1920. Serial No. 365,090.

To all whom it may concern:

Be it known that I, WILLIAM J. FRASER, of the city of Toronto, in the county of York, Province of Ontario, Canada, have invented certain new and useful Improvements in Apparatus for Manufacturing Painted Signs, of which the following is a specification.

This invention relates to the manufacture of signs in which the letters or designs are of the natural color of the surface of the sign and the background is colored by means of a fluid paint applied through the medium of an air brush, and my object is to devise apparatus by means of which a larger number of similar signs may be quickly produced without resetting the masks used to shield the surface of the sign, and thus produce the lettering or design.

I attain my object by means of the constructions hereinafter described and illustrated in the accompanying drawings in which—

Fig. 1 is a plan view of a sign produced by means of my apparatus;

Fig. 2 a plan view of the apparatus with the cover thrown back;

Fig. 3 an end elevation showing the parts in the same position as in Fig. 2;

Figs. 4, 5 and 6 sectional views on a larger scale illustrating the different steps in the process of producing a sign;

Fig. 7 a plan view on an enlarged scale of a mask constructed in accordance with my invention; and

Fig. 8 an edge view of the same; and

Fig. 9 a detail in perspective showing the trunnion used in connection with the large sized apparatus.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

1 is a bed, which will usually be formed of wood and which is adapted to receive a sheet of material 2 forming the sign. Any ordinary gauges may be employed to position this sheet either on the bed or the cover. 3 is a cover provided with a pad face 4, the outer surface of the pad being formed of some suitable tough and flexible fabric.

Preferably the cover is hinged to the bed so as to maintain a fixed relationship with the same when the apparatus is being operated.

With the apparatus I employ masks 5, which are shaped to form letters, emblems, or other designs. Small letters are preferably made of heavy metal alloy so that they are not easily displaced when positioned on the sheet 2 as indicated particularly in Fig. 2. For larger letters, it is desirable that the mask be more or less flexible so that it will closely hug the surface of the sheet 2 despite any slight irregularities or buckling of the same. Such larger letters or designs are therefore preferably made of a piece of flexible material 6, such, for example, as a thin fibre board, to which are cemented or otherwise secured pieces 7 of some heavy metal or alloy. These pieces will be located over such parts of the design as might have any tendency to spring up or not to follow the irregularities of the surface on which the mask is laid.

Secured to and extending up from each mask, as shown in Figs. 2 and 3, and from the pieces 7 as shown in Figs. 7 and 8, are a plurality of short pins 8 with blunt ends.

The apparatus is used as follows. A sheet of cardboard or other suitable thin material is placed in position on the base as shown in Figs. 2 and 3. The masks forming the letters or other design are then accurately placed in position thereon. By means of an air brush the exposed parts of the sheet are then suitably colored, some of the color, of course, also being applied, incidentally, to the backs of the masks. The cover is then closed to bring the padded face thereof into contact with the pins 8 as shown in Fig. 4. The apparatus is then reversed as shown in Fig. 5 to bring the cover undermost. The bed is then thrown back and the sheet 2 removed, leaving the masks positioned on the pad face 4. The completed sign is then removed to dry and a fresh card placed in position over the masks as they lie on the cover. The cover is then closed, the apparatus turned over and the cover lifted. The cycle of operations may then be recommenced.

The pins 8, in co-operation with the pad face 4 of the cover, have two very important functions. They provide a very small area of contact with the padded cover, which prevents the masks sticking to the cover owing to the paint which accumulates on the backs of these masks, and further

by slightly imbedding themselves in the pad they maintain all the masks in their proper position relative to one another so that all signs produced are exactly similar with all parts of the lettering or design in perfect alinement.

It will be seen that the essence of this invention is that there is interposed between the masks and the inside face of the cover means having a limited area of contact with the masks so that there is insufficient paint-coated surface engaging the masks to cause the adhesion of the masks to these interposed means.

When the apparatus is of considerable size, as it must be for the manufacture of large signs, it is very awkward to turn over the apparatus. I therefore provide the apparatus with a pair of trunnions located at opposite sides midway between the other two sides. These trunnions are divided lengthwise in a plane parallel to the inside faces of the bed and cover, the halves being secured respectively to the bed and cover. When the apparatus is closed, means are thus provided which are engaged in suitable bearings to enable the apparatus to be easily turned with either side up, while with either side up it is possible to swing back the cover or bed, whichever happens to be uppermost.

In the larger sizes it is usually necessary to use clamps or latches to hold the cover and bed in the closed position while the device is being turned.

What I claim as my invention is:—

1. Apparatus for manufacturing painted signs comprising a bed adapted to support the sheet of material forming the sign; masks provided with pins projecting from their backs; and a cover provided with a padded face adapted to engage the ends of the aforesaid pins.

2. Apparatus for manufacturing painted signs as set forth in claim 1 provided at one side with a hinge connection between the cover and the bed.

3. A mask for use in sign-making apparatus provided with a plurality of short pins, not less than three, projecting from its back, the outer ends of said pins being adapted to engage a substantial plane surface to hold the back of the mask out of contact therewith.

4. A mask for use in sign-making apparatus formed of a stiff flexible material having spaced metal weights secured to its back.

5. A mask for use in sign-making apparatus formed of a stiff flexible material having spaced thin metal weights secured to its back and short pins projecting from said weights.

6. Apparatus for manufacturing painted signs comprising a bed adapted to support the sheet of material forming the sign; a mask; a cover; and pins, not less than three, connected to and projecting normal to the surface of one of the two last mentioned parts and adapted to engage the other.

7. Apparatus for manufacturing painted signs comprising a bed adapted to support the sheet of material forming the sign; a plurality of individual masks; a cover; and means having a limited area of contact with the masks interposed between the masks and the inside face of the cover to prevent paint deposited on the backs of the masks causing the adhesion of the masks to the cover.

8. Apparatus for manufacturing painted signs comprising a bed; a cover; and a pair of trunnions divided lengthwise in a plane parallel to the inside faces of the bed and cover, the halves being secured respectively to the bed and cover.

Signed at Toronto Canada this 4th day of March 1920.

WILLIAM J. FRASER.