Oct. 11, 1932. A. WEBER 1,882,535

APPARATUS FOR PAINTING LINES

Filed Nov. 22, 1930

Fig. 1.

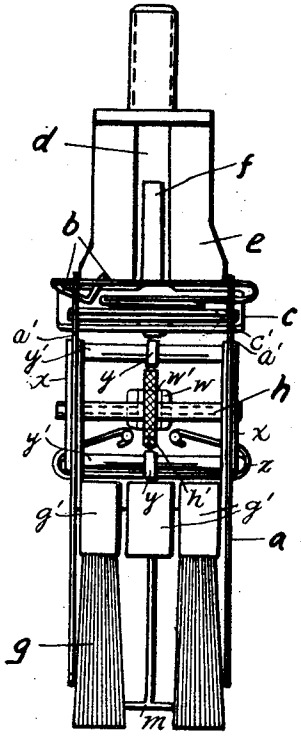


Fig. 2.

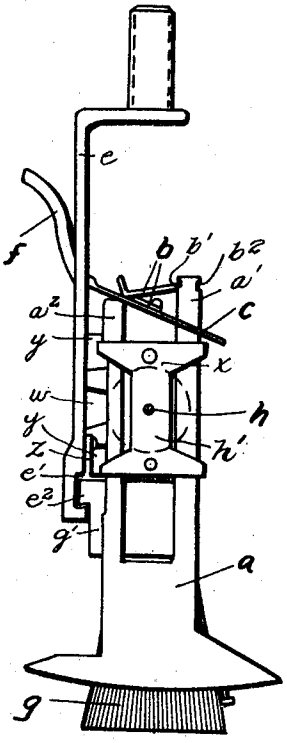


Fig. 3.

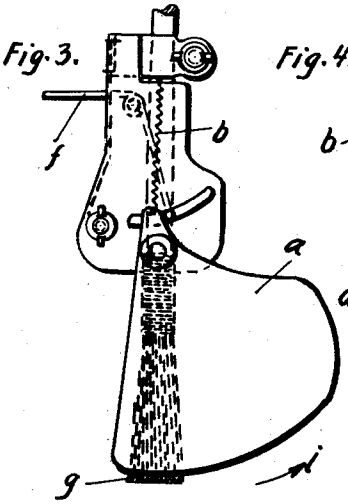


Fig. 4.

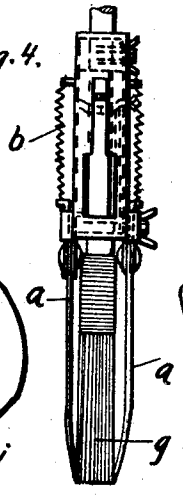
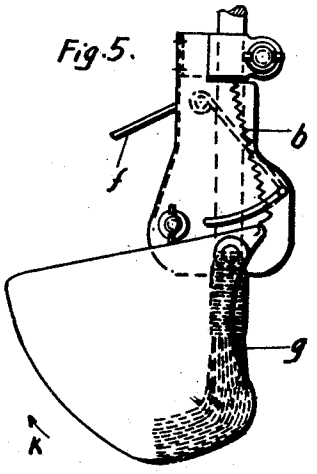


Fig. 5.



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UNITED STATES PATENT OFFICE

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APPARATUS FOR PAINTING LINES

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This invention relates to an apparatus for painting lines. The drawing of a long line of uniform width throughout and with sharply defined edges is, as is known, rendered more difficult by the fact, that the hairs of the brush can deflect laterally during the drawing of the line. Once the brush has been removed, it is difficult to again accurately apply the brush at the point, at which the line stopped, owing to the spreading of the hairs of the brush.

In order to overcome this objection, apparatus for painting lines have been proposed, the brush of which is limited by laterally fixed guide plates. These known line painting apparatus however impede the drawing of the line, owing to the fact that the guide plates remain stationary during the drawing of the line and merely slide on the surface to be painted, they prevent the brush from bending sufficiently so that the supply of color from the brush to the surface can only be effected in an imperfect manner by the end portions of the bristles.

In order to avoid this, the lateral guide plates according to the invention are oscillatably fastened on a spring controlled slide, which can be displaced during the drawing of the line. The guide plates may be made practically circular and in this instance oscillate around their own axis at the same radius as that assumed by the brush during the drawing of the line, so that lateral spreading of the hairs of the brush beyond these plates is prevented by the hairs coming into contact with the inner surface of the plates. The brushes are made easily exchangeable and one or more frieze combs m can easily be arranged between same. These combs are intermediate plates which are inserted between the hairs of the brush in order to subdivide the brush into sections. It is therefore possible with the apparatus in question to simultaneously draw several lines in different widths in a single operation, thereby effecting a great saving of time.

Two embodiments of the invention are illustrated by way of example in the accompanying drawing in which:

Fig. 1 shows the apparatus in front elevation.

Fig. 2 is a side elevation of Fig. 1.

Fig. 3 shows a modified form of construction of the line drawing apparatus in side elevation.

Fig. 4 is a front elevation of Fig. 3.

Fig. 5 shows also in side elevation the apparatus according to Figs. 3 and 4 in the position assumed during use.

In the form of construction illustrated in Figs. 1 and 2 the supporting plate e is set off directly under the handle and has on the inner side of its lower end a dove-tailed transverse groove e'.

The brush is made in sections each composed of hairs or bristles g fixed in a metal socket g' having a dove-tailed projection e^2 on one narrow side. The individual sections are secured on the supporting plate e in that their projection e^2 is slipped into the groove e^1. In order to more securely hold the sections on the plate a spring z is fixed on the inner side of the plate and bears on the upper side of the sockets g^1 or their projections e^2. Two brackets y arranged one above the other project from the middle of the inner side of the plate e and each plate is provided at its free end with a hole in which a transverse bar y' is mounted. Half way between these brackets y a projection w is arranged having a vertical slot w'. Two I-shaped elements x each having a hole at each end of their vertical web are slipped one on each end of the bars y'. These elements x also have each an intermediate hole half way between the two holes at the end of their vertical web, these intermediate holes being provided with a right and left hand screw thread respectively. A transverse spindle h having a right hand

screw thread at one end and a left hand screw thread at the other end engage in the intermediate holes of the I-shaped elements x, this spindle carrying in its middle a knurled disc h' guided in the slot w' in the projection. By turning the disc h' in one or other direction the spindle h is rotated so that the elements are moved together or apart. The ends of upper and lower horizontal flanges of the elements x are slotted and in these slots vertical arms a^1 and a^2 of side plates a are vertically guided. By moving the elements x together by turning the knurled disc h' the plates a are pressed against the side of the outer brush sockets g', which are pushed tightly against one another and firmly clamped. The lower end bears on the bristles g and prevents lateral spreading thereof. The lower end plates a are extended towards the front and rear so that they afford a good guide of the brush on the surface to be painted. The arms a' of the plates are longer than the arms a^2 and have each notches b', b^2 at the upper end, one on the inner side and the other on the outer side. The arms a' extend through a transverse slot c' in a plate c resting on the upper end of the arms a^2 and having a lever f extending through a vertical slot d in the supporting plate e. A spring b is fixed on the plate c and engages in the inner notches b' of the arms a'. The outer edge of the transverse slot c' engages in the outer notches of the arms a' when pressure is exerted on the lever f.

In order to exchange the brush sections, the clamping pressure is removed from the sockets by turning the knurled disc h^1 and thus shifting apart the elements x carrying the side plates. The upper end of one or both of the arms a' of the side plates can then be released by disengaging the spring b from the notch b', whereupon the side plate or plates can be slipped out of the slots in its guide element x. The projections of the sockets can then be slipped out of the dove-tailed groove in the supporting plate. After the brush sections have been exchanged the side plates are replaced and screwed tightly against the sockets by turning the knurled disc in the opposite direction.

If it is desired to paint a line of a certain width, the brush sections necessary for producing the width of the line are inserted in the supporting plate and the side plates fixed at the proper height to allow the requisite bending of the bristles. The brush is then brought into the proper position on the surface to be painted and pressure applied until the lower end of the side plates bears on this surface, after which it is only necessary to move the brush along the surface maintaining the pressure on the brush so that the side plates slide along the wall. The bristles can then only paint the surface between the side plates, being limited laterally by the side plates. Thus a straight line of uniform width can easily be painted.

Should it be desired to simultaneously paint two or more lines, one or more of the intermediate sections may be replaced by an inverted T-shaped part m which carries at the free end of its vertical web a socket g' with a dove-tailed projection e^2 like those of the brush sections. The horizontal flange of this T-shaped part m prevents the spreading of the bristles inwardly, whereas they are prevented from spreading outwardly by the side plates a. Thus several parallel lines can be painted simultaneously.

When the brush is not in use, the bristles can be protected by lowering the side plates a.

For adjusting the height of the side plates the lever f and the plate c are pulled in upward direction, the notch b^2 in the arm a^1 preventing the plate c from disengaging from the arm a^1.

In the form of construction illustrated in Figs. 3 to 5 the like parts are designated by the same reference characters. The guide plates a are, according to this construction, oscillatable around their own axis. They are held in the desired position by springs b and can be pressed laterally in the direction of the arrow i by the lever f. Consequently it is easy to dip the brush into the paint. The apparatus can be pressed against the wall, as desired, as in passing along the wall the guide plates a yield in the direction of the arrow k (Fig. 5), owing to the spring b and, being substantially of circular shape, roll along the wall, but only as far as the brush assumes a curved shape, when being pressed against the surface by the hand guiding the apparatus. If the brush is removed by hand, the guide plates a are turned back by the springs b into a position corresponding to that assumed by the brush on being removed from the wall. The apparatus is so constructed that it can be fitted to any brush.

I claim:—

1. An apparatus for painting lines, comprising in combination with the handle and the brush, a downwardly extending supporting plate on said handle, two lateral plates shiftable relative to said supporting plate arranged one on each side of said brush adapted to restrict the lateral spreading of the brush and to form a rest during the painting of a line, and a spring-loaded arm detachably connected to said lateral plates adapted to regulate the height of said side plates.

2. An apparatus as specified in claim 1, in which the lateral plates are oscillatably mounted on said supporting plate and adapted to rotate around their own axis during the painting of the line.

3. An apparatus as specified in claim 1, in which the brush is composed of separate

sections adapted to be fitted together to produce the desired width of line.

4. An apparatus as specified in claim 1, comprising in combination with the supporting plate and the brush composed of separate sections adapted to be fitted in the supporting plate, inverted T-shaped parts adapted to also be fitted in said supporting plates between said brush sections to enable two parallel lines to be simultaneously painted.

In testimony whereof I affix my signature.

AUGUST WEBER.