April 28, 1942. H. G. BARGFELDT ET AL 2,281,256

UNITARY BRUSH ASSEMBLY

Filed April 28, 1939 2 Sheets-Sheet 1

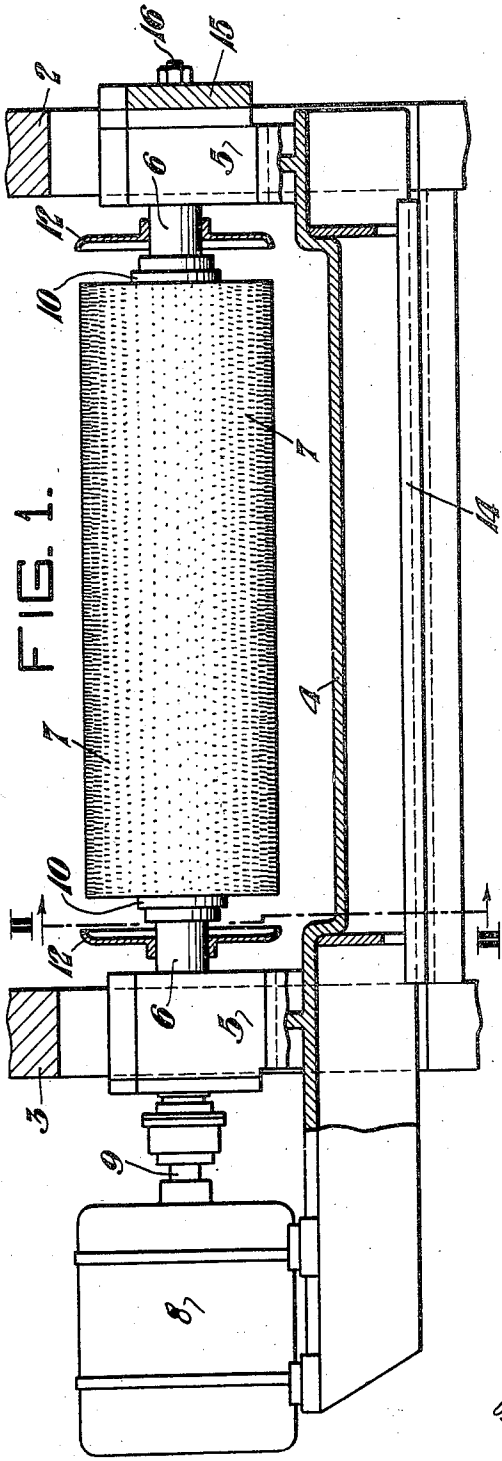


FIG. 1.

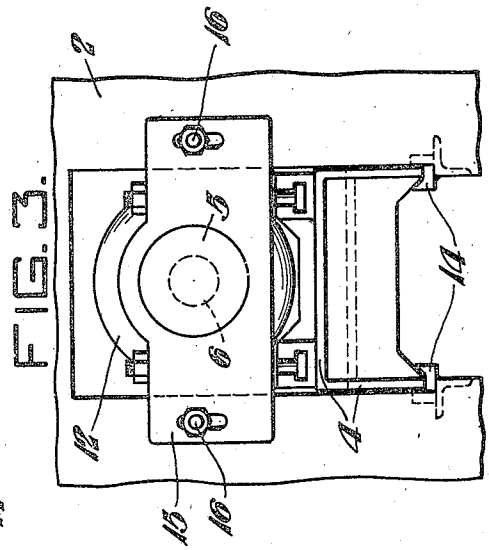


FIG. 3.

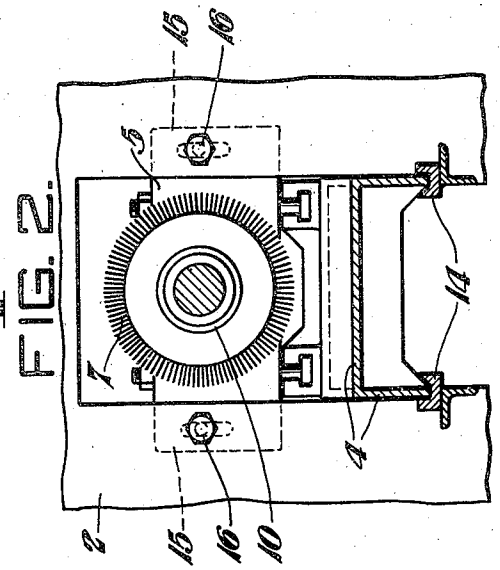


FIG. 2.

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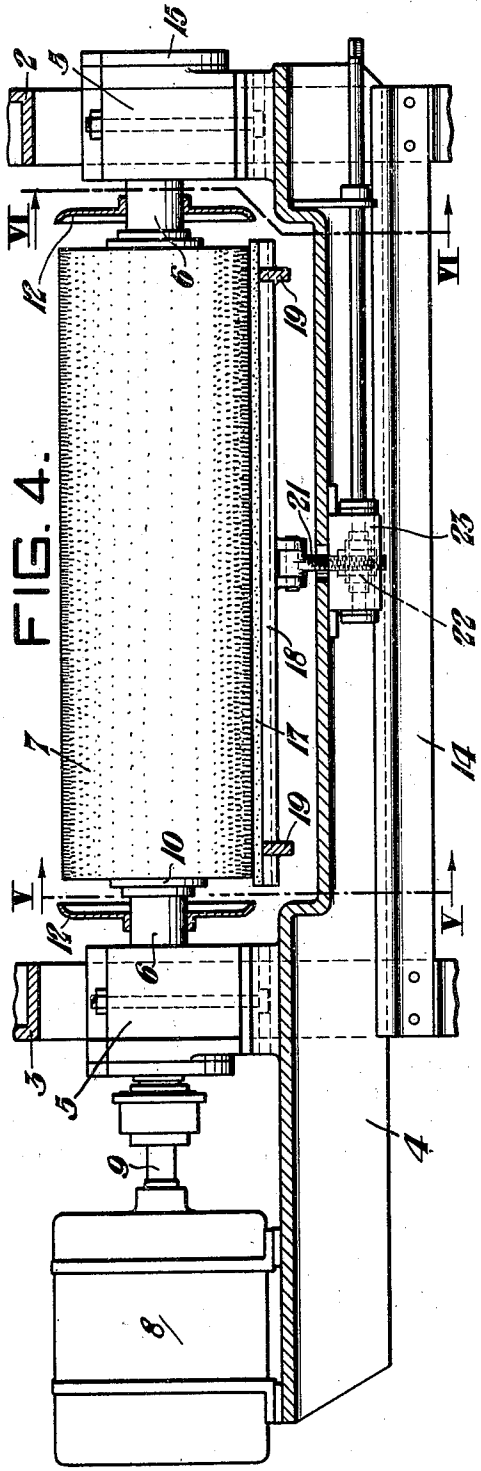


FIG. 4.

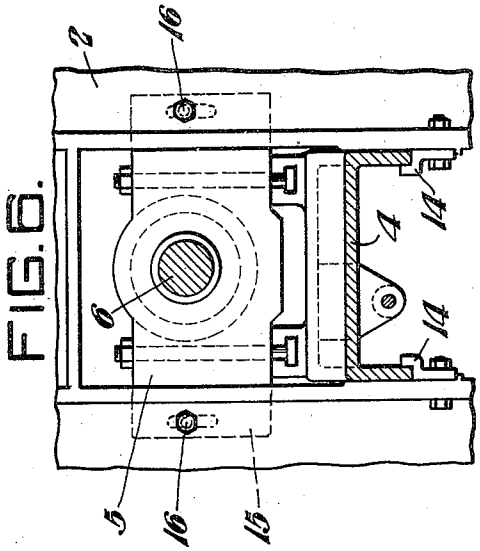


FIG. 6.

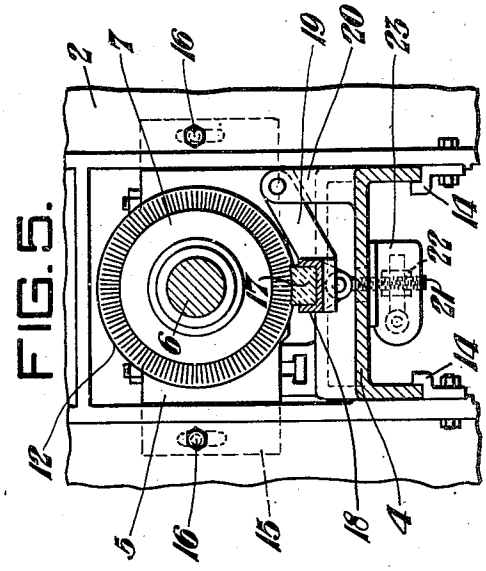


FIG. 5.

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UNITED STATES PATENT OFFICE

2,281,256

UNITARY BRUSH ASSEMBLY

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Application April 28, 1939, Serial No. 270,707

1 Claim. (Cl. 15—179)

The present invention relates to a unitary brush assembly for machines used to brush the surface of electroplated strip material.

An object of the present invention is to provide a unitary brush assembly capable of removal from or placement in any brushing machine without damage to the brushing element mounted thereon.

Another object of the present invention is to provide a supporting member on which is mounted the brush and driving means therefor.

A further object of the present invention is to provide a unitary brush assembly including a supporting member and means for guiding the supporting member into and out of the brush machine whereby damage to the brushing element on the supporting member is prevented.

Other objects and advantages will become apparent as the description proceeds, and reference is had to the accompanying drawings, in which:

Figure 1 is a sectional elevation of the preferred construction of the present invention;

Figure 2 is a section on line II—II of Figure 1;

Figure 3 is an end view of Figure 1;

Figure 4 is a sectional elevation of the present invention, but showing a honing or grinding mechanism in combination with the brush assembly supporting member;

Figure 5 is a section on line V—V of Figure 4, and

Figure 6 is an end view of Figure 4.

In the drawings, the numerals 2 and 3 represent the side frames of a brushing machine, each of which is provided with suitable openings for receiving a brush assembly unit.

The rotary brush assembly unit comprises a channel-like supporting member 4 upon which is mounted bearing housings 5, containing bearings of conventional design, for supporting the shaft 6 of the rotary brush 7. The supporting member 4 extends outwardly through the opening in the member 3 a sufficient distance so as to support a motor 8, whose armature shaft 9 is directly connected to the shaft 6 in any conventional manner so as to constitute the direct driving means for the rotary brush. The rotary brush is wound upon a tube 10, which tube is positioned on and secured to the shaft 6, in any conventional manner.

Secured to the shaft 6 on either side of the rotary brush are splash plates 12 which prevent water from reaching the bearings on said housings 5. The bearing housings 5 should be of such width that they readily position themselves within the openings in the spaced members 2 and 3.

The supporting member 4 is of a width greater than the diameter of the rotary brush 7 so that upon insertion or removal of the brush assembly unit, said supporting member protects the rotary brush from being damaged against the openings in said supporting frame. This supporting member 4, being of channel-like construction, fits snugly in the openings in the supporting frame and is slidably mounted on guide members 14, which extend between and are secured, in any conventional manner, to the spaced members 2 and 3. Such a construction provides means whereby the brush assembly unit can be properly guided during its insertion into and removal from the brushing machine so that damage to the rotary brush is prevented. On the member 2 there may be provided, if desired, stop plates 15 which position the brush assembly unit with respect to said member 2 when being inserted into the machine. The stop plates 15 are secured to the frame 2 by bolts 16.

As shown in Figures 4 to 6, inclusive, the supporting member 4 may be provided with a grinding or honing mechanism. This mechanism comprises a flat abrading member 17 extending across the entire face of the rotary brush. This abrading member 17 is supported in a receptacle 18, to which are secured lever arms 19 pivotally connected to supporting arms 20 carried by said member 4. Extending through the supporting member 4 and pivotally connected to the receptacle 18, in any conventional manner, is an adjusting screw 21 extending into an internally threaded collar 22, which collar is contained in a housing 23 attached to the said member 4 and rotated in any conventional manner so that vertical movement may be imparted to said adjusting screw 21 to advance the honing or grinding member 17 for contact with said rotary brush assembly, whereby the surface of said brush is maintained truly cylindrical. Mounting of the honing mechanism on said member 4 permits the brushing element to be trued before being placed in the machine proper. While this procedure may be advantageous in some cases, the honing mechanism may be located, if desired, in the brushing machine apart from the unitary brush assembly.

The present brush assembly unit is one of a number of such units which may be used in a brushing machine for conditioning the surface of strip-like materials, and due to the fact that each brushing element and its driving means is

directly connected and entirely mounted and can be removed through the side frame of the machine, the ready and easy removal from the machine of any one of the brush assembly units without interfering with the operation of the remaining units in such a machine is permitted.

While we have shown and described specific embodiments of the present invention, it will be seen that we do not wish to be limited exactly thereto, since various modifications may be made without departing from the scope of the invention, as defined by the following claim.

We claim:

A brushing apparatus comprising a frame, a unitary brushing assembly slidable endwise in said frame, said assembly comprising an elongated inverted U-shaped supporting member, means carried by said frame for supporting and guiding said supporting member, a driving unit secured to said supporting member adjacent one of its ends and adapted for disposition exteriorly of said frame, a rotary shaft extending longitudinally of said supporting member and secured thereto, and a rotary elongated brush carried by said rotary shaft.

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