

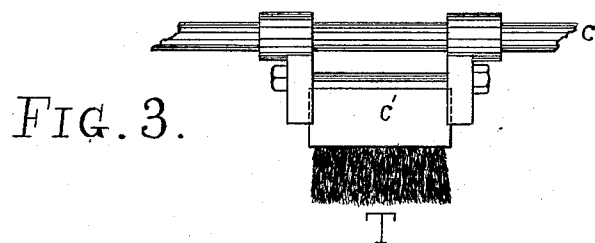
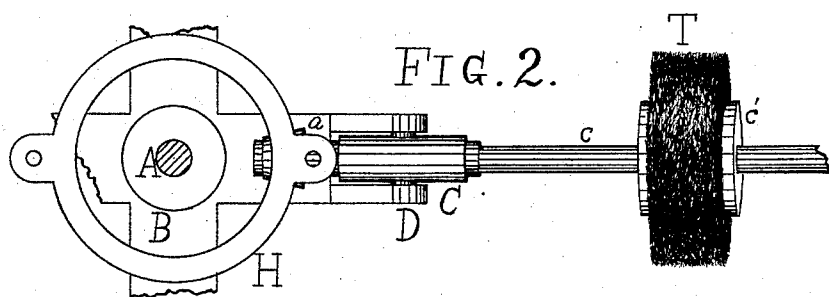
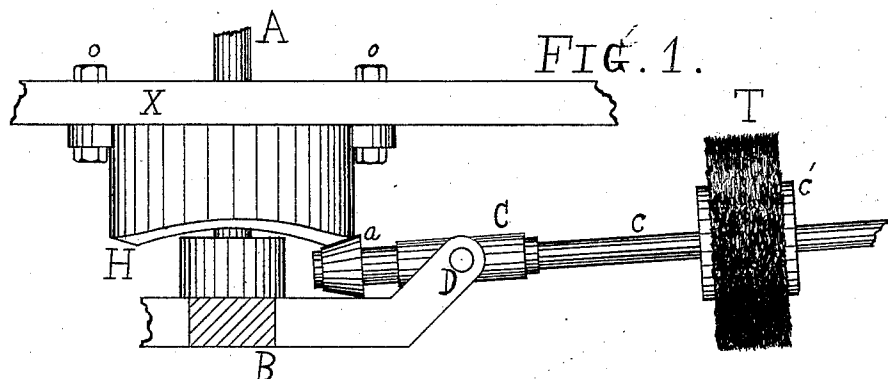
(No Model.)

D. BABCOCK.

SPREADING BRUSH FOR SIZING MACHINES.

No. 469,292.

Patented Feb. 23, 1892.



WITNESSES.

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SPREADING-BRUSH FOR SIZING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 469,292, dated February 23, 1892.

Application filed September 28, 1891. Serial No. 407,017. (No model.)

To all whom it may concern:

Be it known that I, DARIUS BABCOCK, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Spreading-Brushes for Sizing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, and represent, in—
Figure 1, a side elevation of my device.
Fig. 2 is a plan view of the same device. Fig. 3 is a view of a stationary brush which may be used in place of the rotary brush when desired.

The object of this invention is to improve the means now in use for spreading paint or sizing upon fabric to be thus treated, as in the manufacture of shade-cloth. Heretofore horizontal brushes for this purpose have been made to rotate, so that the brushing was done entirely lengthwise of the fabric, and wherever unevenness occurred in the application of the paint or sizing the brushes above referred to were ineffectual in removing the unevenness.

In the device shown the brushing is done crosswise of the fabric in opposite directions, and by this means a uniformity is secured that has not as yet been accomplished in any other way.

In the drawings, A represents a vertical rotary shaft secured in place in any approved manner. A head or carrier B is mounted on the lower end of the vertical shaft A. The carrier preferably is constructed with a plurality of arms, four being shown in the accompanying drawings, three of which are broken away to facilitate illustration. A journal-box C is swung on trunnions to each of the carrier-arms, as shown at D.

c is the brush-shaft, which is journaled in the box C.

c' is a wooden spool or body to which the bristles T or other material of which the brush is composed are secured in the usual manner. The brush is held in position upon the shaft

in any approved manner, such as pinning or by the aid of a set-screw. A cone is secured to the inner end of the brush-shaft c, and is designated by the letter a.

An annular cam H is fitted in position concentric with the upright shaft A by any well-known means, and is illustrated as being secured to an overhead timber X by the bolts o. The lower edge of the cam H is undulated and forms a face with which the cone a contacts. The weight of the brush serves to maintain the contact of the cone and cam. The object of the undulated cam is to impart a wave motion to the brushes as they sweep around in their annular path, caused by rotary motion being imparted to the vertical shaft A. The fabric to be treated is held by its edges, and consequently when wet sags in the center. The annular cam is so adjusted as to allow the brushes to follow the sag of the fabric in their undulations. It is also obvious that as the upright shaft is rotated the brushes will be carried around in an annular path, and, furthermore, that the brush-shafts will also be caused to revolve by reason of the frictional contact of the cone and cam. If desirable, the cone and cam may be provided with gear-teeth, thereby causing positive rotary motion to be communicated to the brushes.

To use the brush shown in Fig. 3, a roll is substituted for the cone a, and the shaft c is rigidly fixed in the swinging box C. The brush shown in Fig. 3 is then secured to the shaft in the desired position by set-screws or other suitable means. Now upon rotary motion being imparted to the upright shaft the radial brush-shaft communicates an annular motion, while the cam with which the roll contacts communicates a vertical reciprocal movement, which combines with the annular movement to produce the undulatory motion of the brush in exactly the manner explained for the operation of the rotary brush.

By the foregoing construction a brush is produced which brushes crosswise of the fabric, and as two brushes are operating at the same time in opposite directions it accomplishes double the work of the ordinary rotary horizontal brush and in a far more satisfactory manner.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a brush of the class described, the
5 combination, with a vertical rotary shaft having a head or carrier mounted thereon and an undulating cam arranged concentrically with relation to the shaft, of a series of radially-disposed gravity-rods carried by the head
10 or carrier and provided with brushes, said cam being adapted to impart an unbroken oscillating movement to the brush-rods, substantially as and for the purpose set forth.

2. In a brush of the class described, the
15 combination, with a vertical rotary shaft having a head or carrier mounted thereon, a series of radially-disposed tubular trunnions

journale upon the head or carrier, and an undulating cam arranged concentrically with relation to said shaft, of rotary rods journaled
20 in the trunnions and provided with circular brushes upon their outer portions and with rollers at their inner ends contacting with the cam, the latter being adapted to impart a combined rotary and vertically-oscillating motion
25 to the brushes when the shaft is rotated, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DARIUS BABCOCK.

Witnesses:

FRANK S. FAY,
JOHN TREDERMICK.