March 10, 1942. G. M. MARKS ET AL 2,276,078

DUSTING BRUSH

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Fig. 1

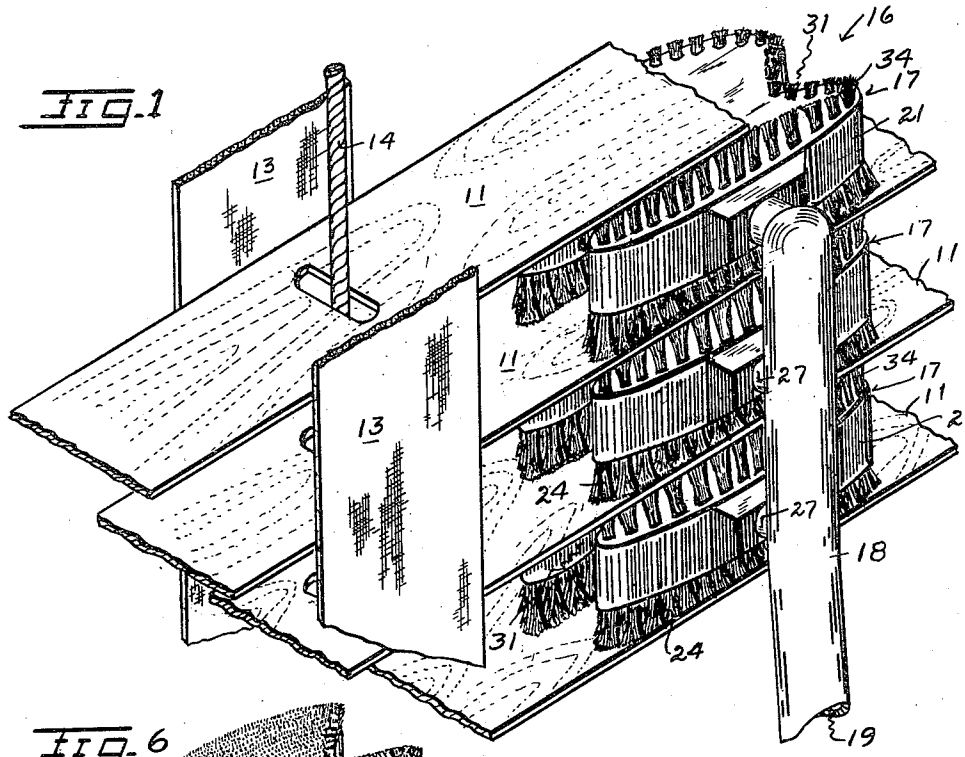
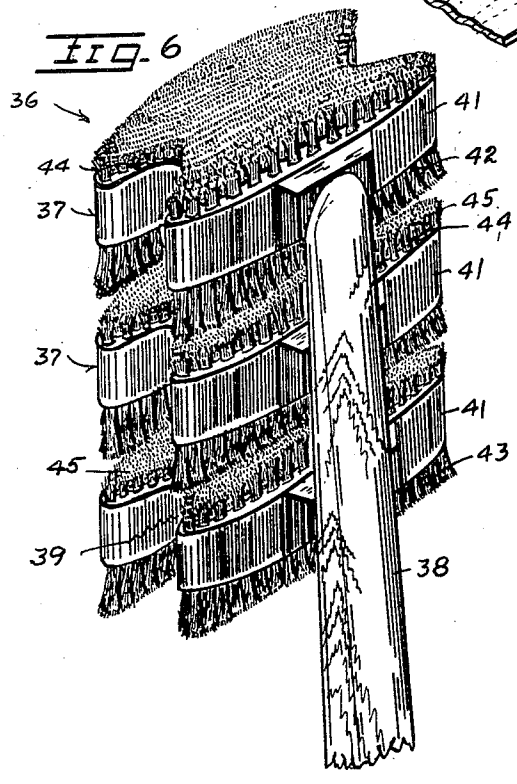


Fig. 6



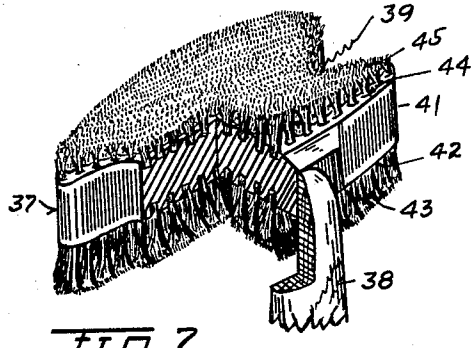


Fig. 7

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FIG. 2

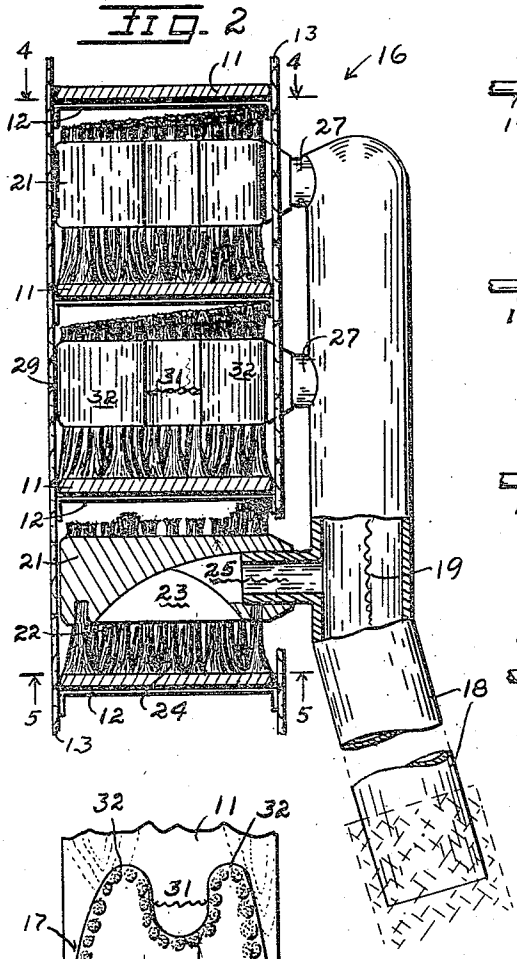
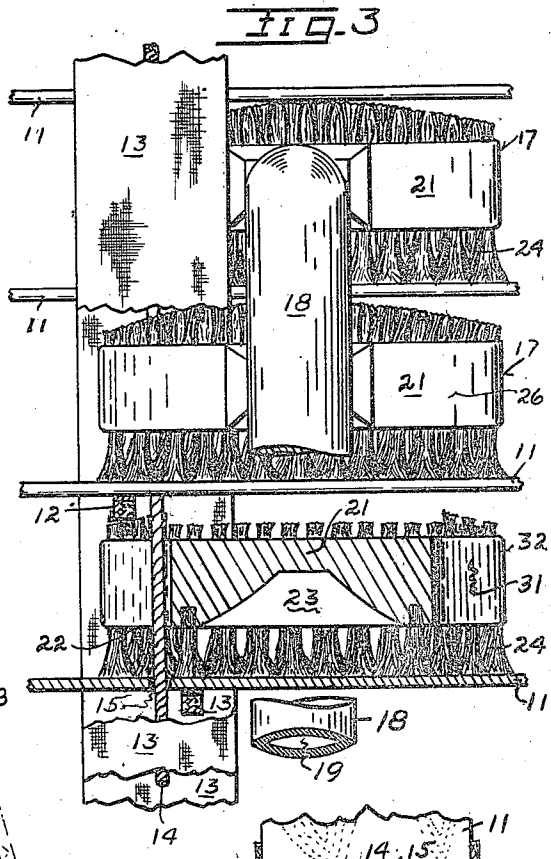


FIG. 3



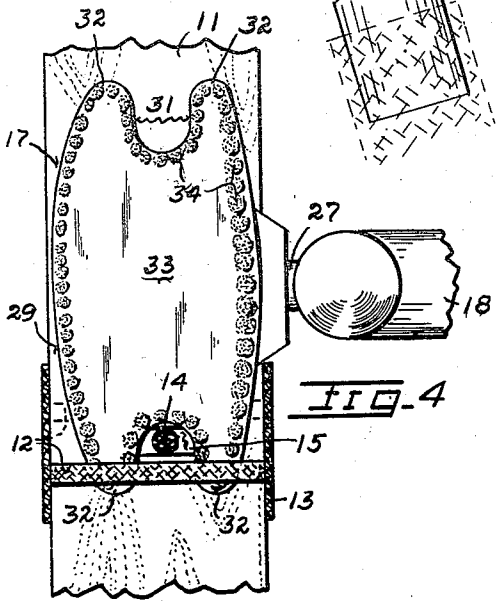


FIG. 4

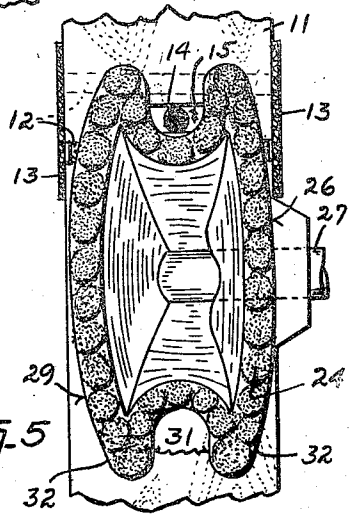


FIG. 5

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DUSTING BRUSH

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Application January 28, 1938, Serial No. 187,479

5 Claims. (Cl. 15—160)

The invention relates to a brush which is particularly designed for use in dusting the slats of Venetian blinds and the like.

An object of the invention is to provide a brush which is so formed that its bristles may be readily brought into brushing contact with all portions of a Venetian blind slat to be cleaned.

Another object is to provide a brush of the character described wherewith both faces of a Venetian blind slat may be readily dusted.

A further object is to provide a multi-head brush for effecting a dusting of a plurality of blind slats at the same time.

Yet another object is to provide a vacuum cleaner tool having the foregoing brush features incorporated therein.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth or be apparent in the following description of typical embodiments of the invention, and in the accompanying drawings, in which:

Figure 1 is a perspective view showing a multi-head vacuum cleaner brush embodying the features of present invention and operatively applied to slats of a fragmentarily shown Venetian blind.

Figure 2 is a side elevation of the brush of Figure 1 in its operative relation to the slats of a Venetian blind, one head of the brush being shown in section.

Figure 3 is a rear view of the brush of Figure 1 disposed in operative position with a portion of its head inserted between the ladder tapes of the blind, one head of the brush being shown in section.

Figures 4 and 5 are top and underneath views taken at 4—4 and 5—5 respectively in Figure 2, the brush having the same relation to the blind as in Figure 3.

Figure 6 is a perspective view of a modification of the brush which lacks the vacuum feature.

Figure 7 is a perspective view showing the upper head of the brush of Figure 6 with a quarter of the head broken out to show the brush in partial section.

The features of present invention are particularly shown as being provided in brush structures which are particularly designed for their use in simultaneously brushing a plurality of slats 11 of a usual Venetian blind structure wherein the slats 11 are supported on flexible ladder webs 12 connecting mutually opposed and parallel tape members 13. As is usual, cords 14, only one of which is shown, extend freely through sets of correspondingly disposed slots 15 in the slats, said cords extending from the bottom board of the blind assembly and being utilized for maintaining the vertical alignment of the slats of the blind and also for adjustably supporting the bottom board for determining the operative length of the blind.

Successive ladder webs 12 of a pair of tapes 13 are disposed in mutually staggered relation and at opposite sides of a cord 14 in a usual arrangement such that the ladder-like supporting structure provided by the webs and tapes is fixedly related to the set of supported slats and generally conceals the cord. While such is not shown, it will be recalled that the tapes 13 are of like length and have their ends fixed to the opposite edges of the top and bottom boards of a blind assembly, said boards being arranged for the disposal of their planes in different angular relation to the plane of the blind to dispose the webs 12, and the slats resting thereon, in corresponding angular relation to the blind plane; when the blind is to be cleaned with the present brush, the slats should be approximately perpendicular to the blind plane, as is illustrated.

As is particularly shown in Figures 1 to 5 inclusive, a brush assembly 16 is provided which comprises a suction cleaner tool such that the dust on an object being brushed may be carried away through and from the brush structure as the dust is loosened. The brush unit 16 essentially comprises a plurality of similar brush elements 17 mounted on a common handle 18 and each providing a suction nozzle having its intake at a bristle face of the brush and its discharge through appropriate connections with the handle which provides a suction manifold passage 19 with respect to the individual brushes. The handle passage 19 is arranged for connection with a suitable air-withdrawing, or suction, means (not shown) such as a domestic vacuum cleaner, and any suitable number of the brush elements 17 may be mounted thereon, three being shown in the present instance.

Each of the brush elements 17 comprises a brush block 21 which is recessed from an interior portion of a face 22 thereof to provide a cavity 23 within the confines of the block. A continuous row or array of bristles 24 is suitably fixed to the block 21 and extends from the block face 22 to frame the mouth of the cavity 23 and provide a planar working face for application to a flat surface to be cleaned. A passage 25 extends from the cavity 22 through the block to an intermediate point of a side 26 thereof which is nearest the handle, and fixedly receives a tubular mem-

ber 27 which connects the passage 25 with the handle passage 19 while mounting the brush on the handle. In the present instance the handle is assumed to be formed of a rigid tubing and the members 27 comprise integral lateral extensions thereof which frictionally engage the bores of the passages 25 as the mounting means for the brushes 17. The blocks 21 may be of wood, or of metal, or of Bakelite, or of a slightly resilient rubber material, or other suitable material which lends itself to the fastening of bristles therein.

It will now be particularly noted that the brushes 17 are similarly disposed with respect to the handle 18 whereby they are mutually aligned along the handle, and present their working faces in transversely spaced and mutually parallel relation in planes which are substantially perpendicular to the handle portion which mounts them. Since the present brush unit is particularly designed for the cleaning of mounted Venetian blinds, the mutual transverse spacing of the corresponding working faces of the various brushes is uniform and is no less than that of the blind slats 11 to be engaged; in this manner, the working faces of the brushes may be simultaneously engaged with the top faces of successive slats when the same are disposed in substantially perpendicular relation to the upright blind plane, as is illustrated. In this manner, a movement of the brushes along each engaged slat will loosen the dust engaged by their working faces, and said dust may be removed through the brush blocks and handle if the passage of the latter is connected to a vacuum cleaner, or other suction pump.

In the disclosed brush unit which has been particularly designed for its use in cleaning Venetian blind slats, the width of the brush blocks 21, at least at their end portions, is preferably no greater than the width of the blind slats 11 whereby said end portions of the blocks may be introduced between the cooperating pair of tapes 13 for cleaning the slat portions between the tapes. This lengthwise introduction of the brushes between the tapes is limited by the cord 14 thereat, and means are provided to insure a proper brushing of the entire slat portions between the tapes. Accordingly, and as shown, both ends of each brush block 21 are notched out in the center longitudinal line thereof to provide a notch 31 between point portions 32, said notch extending between the working face 22 and the back face 33 transversely of the block. The line of bristles 24 follows the resulting side profile of the block and the notch 31 freely receives the cord 14, whereby the application of the brush along a blind slat from one side of the cord and then from the other insures a bristle engagement with all slat face portions between the tapes 13.

To further insure the suction removal of dust freed by the bristles at the brush point portions 32, the mouth portion of the suction cavity 23 is preferably extended as far as is practicable into the block points. The working application of the present brush elements 17 between the tapes 13 may be further facilitated by tapering the brush block laterally thereof toward its ends; in the present instance, the inner block edge 26 and the outer block edge 29 are each convexedly curved to provide a brush block which is generally oval on plan. Furthermore, the combination of the brush elements with the stems 27 to provide T-shaped assemblies which extend transversely from the handle axis is understood to permit a full and free working application of the brushes without necessitating a contact to the handle with the slat edges.

Bristles 34 may be provided on the upper, or back, face 33 of the blocks 21 for engaging the under sides of the blind slats while the bristles 24 are operative. As shown, the bristles 34 are arranged in a line which rims the face 33 and extend transversely from the face, are longest near the center of the rear block edge 26, are of less length near the center of the front block edge 29, and taper to still less length toward the block ends; the resulting bristle face facilitates the simultaneous insertion of the brushes between successive blind slats when the unit is to be applied, and at the same time provides a centering and spacing means with respect to the slats for insuring their conformity to the brush spacing, particularly if the normal slat spacing is less than that of the brushes 17. The bristles 34 would usually, and preferably, be less stiff than are the bristles 24.

Figures 6 and 7 disclose a modification of the dusting brush which lacks the provision for the suction removal of the disturbed dust. In the present instance, a multi-head brush unit 36 comprises a plurality of brushes 37 mounted in alignment on a handle 38 and having end notches 39 extending transversely thereacross and functioning as the notches 31 of the first embodiment.

As shown, the blocks 41 of the brushes 37 have the same general outline as the brushes 17 for the simultaneous application of the brushes to mutually parallel and transversely aligned and similarly directed surfaces. The unbroken lower working faces 42 of the blocks 41 carry bristles over their entire area, and the top faces 44 are similarly provided with bristles 45, each bristle array being arranged for functioning as a dust releasing means in a well understood manner, and being necessarily more complete than in the first embodiment because of the lack of a suction means to promptly remove the disturbed dust.

From the foregoing description taken in connection with the accompanying drawings, the advantages of the construction and method of use will be readily understood by those skilled in the art to which the invention appertains. While we have now described the features and principles of operation of structures which we now consider to be preferred embodiments of our invention, we desire to have it understood that the showings are primarily illustrative, and that such changes may be made, when desired, as fall within the scope of the following claims.

We claim:

1. In a brush for selectively dusting the opposite faces of a fixedly disposed Venetian blind slat or the like having a cord extending transversely thereof from a point intermediately therein, brush block having bristles extending from opposite faces thereof to engage the different faces of the slat while the brush block is disposed in substantially the same position with respect to the slat, and a notch in the edge of the block extending transversely of said face and arranged to receive the cord freely therein and therealong while the bristles are operative against corresponding slat faces beyond the cord.

2. In a device for the simultaneous dusting of corresponding faces of a plurality of the slats of an open Venetian blind having a cord extending transversely therethrough at intermediate points of the slats, a series of blocks having brush faces

for rectilinear working application longitudinally thereof and along said slat faces, and a common handle connecting said blocks laterally thereof to fix the brush faces in the same relative relation as are the blind slat faces to be dusted, said blocks having mutually aligned notches provided in corresponding ends and extending transversely through the blocks and arranged to receive the cord freely therein and therealong while the adjacent brush faces are operative opposite and beyond the cord.

3. In a tool for effecting the simultaneous dusting of corresponding faces of a plurality of the slats of an open Venetian blind having a cord extending transversely therethrough at an intermediate point of the slats, and having corresponding edge points of the slats connected by tapes at opposite sides of the cord and slats, a series of blocks no wider than the slats having brush faces for rectilinear working application longitudinally of the blocks and along said slat faces, and a common handle connecting said blocks laterally thereof to fix the brush faces in the same relative relation as are the blind slat faces to be dusted, said blocks having notches provided in corresponding ends in mutual alignment and extending transversely through the blocks and arranged to receive the cord freely therein and in their line while the adjacent brush face portions are operative opposite and beyond the cord and the block ends thereat extend freely between the tapes.

4. In a brush for simultaneously dusting corresponding faces of a succession of transversely spaced Venetian blind slats or the like having a cord extending therethrough at corresponding intermediate points thereof, a multi-headed brush providing transversely aligned brush blocks having working faces with the same transverse spacing as said slat faces to simultaneously engage a plurality of the latter and having mutually aligned end notches extending transversely of said faces and arranged to receive the cord freely therein and therealong while the bristle faces are operative against corresponding slat face portions beyond the cord.

5. In a vacuum brush for simultaneously cleaning corresponding faces of a succession of transversely spaced Venetian blind slats or the like having a cord extending transversely therethrough at corresponding points intermediately therein, a multi-headed brush providing transversely aligned brush blocks having working faces with the same transverse spacing as said slat faces to simultaneously engage a plurality of the latter and having mutually aligned end notches extending transversely of said faces and arranged to receive the cord freely therein and therealong while the bristle faces are operative against corresponding slat face portions beyond the cord.

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