C. PETERSEN.

BRUSH.

APPLICATION FILED AUG. 21, 1907.

913,304. Patented Feb. 23, 1909.

Fig. 1.

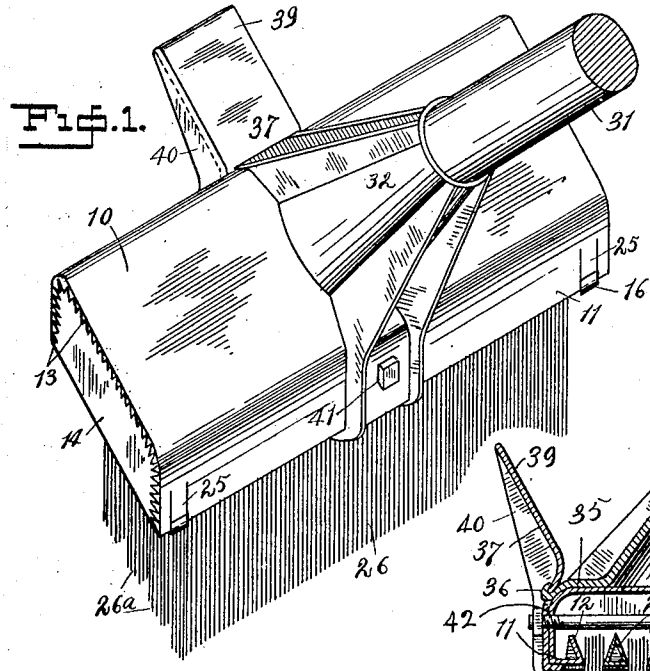


Fig. 2.

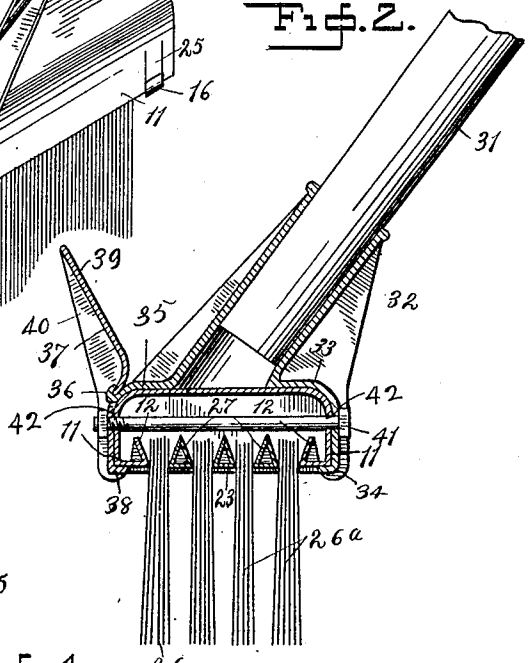


Fig. 3.

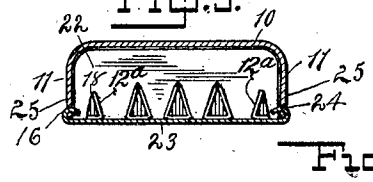


Fig. 4.

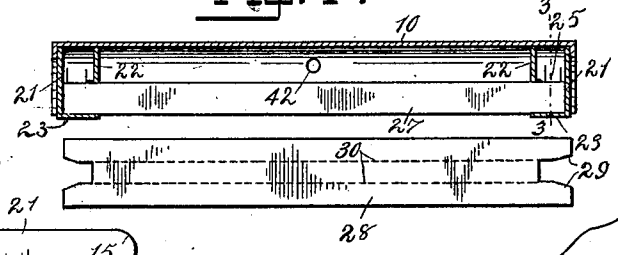


Fig. 5.

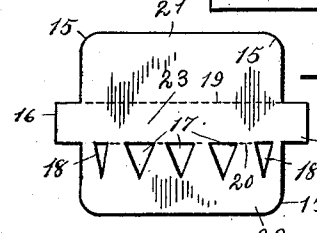


Fig. 6.

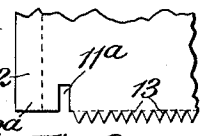
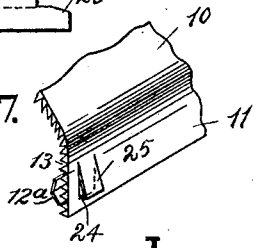


Fig. 8.

Fig. 7.



Witnesses:

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CHARLES PETERSEN, OF CHICAGO, ILLINOIS.

BRUSH.

No. 913,304. Specification of Letters Patent. Patented Feb. 23, 1909.

Application filed August 21, 1907. Serial No. 389,542.

To all whom it may concern:

Be it known that I, CHARLES PETERSEN, a subject of the King of Denmark, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brushes, of which the following is a specification.

My invention relates to improvements in the manufacture of brushes and has especial reference to that class of implements used for heavy work such as cleaning and sweeping stables and street pavements.

The main objects of my invention are to provide a brush for heavy work that will be strong and durable: to furnish a brush so designed and constructed with regard to the frame that it can be economically manufactured, and put together without the use of bolts or rivets: and to supply a bristle or wire holding device that will permit the said bristles to be readily assembled and that will grip them firmly when in place.

Further objects of my improvements consist in furnishing a simple method of attaching the handle socket; to provide a scraping attachment forming a part of the socket clamp; and to produce an implement for the purpose in view that can be made of metal and yet not exceed a practical limit as to weight.

The manner of forming and assembling the various members of the construction permits of readily removing and replacing the various parts for the purpose of repair.

I accomplish the above mentioned objects by the use of the appliance illustrated in the accompanying drawing which forms a part of this specification and in which—

Figure 1 is a perspective view of my improved brush, a portion of the handle being broken off; Fig. 2 is a transverse section through the handle socket: Fig. 3 is a sectional view on the line 3—3 of Fig. 4. Fig. 4 is a longitudinal vertical section with the socket removed. Fig. 5 is a view of the blank for one of the clamping members; Fig. 6 is a blank for an end member previous to being bent into its final form, Fig. 7 is a fragmentary view showing a corner of the covering plate and Fig. 8 is a fragmentary view showing a portion of the covering plate before bending.

Referring to the drawing more in detail, the numeral 10 indicates a cover or body portion of a casing which when provided with end plates constitutes the head of the brush. The said cover is formed of a substantial rectangular plate bent downwardly to form the sides 11 of the structure and having its margins bent horizontally inward and then upward as shown at 12 for a purpose which will hereafter appear. The end margins are provided with notches 11^a, forming projections 12^a, and are crimped or serrated as shown at 13 and then bent at a right angle with the body portion to form a retaining edge or flange for the end members 14. The latter are formed of single plates, one of which is shown in blank in Fig. 6.

The general outline of the blank is quadrilateral, the corners being rounded, as shown at 15 to fit the contour of the body portion 10. Upon each lateral margin are formed oppositely projecting ears or flaps 16 and below the medium horizontal line are a series of triangular openings 17. The blanks thus formed are then bent at a right angle on the lines 19, 20, forming a sort of channel, or double walled member, which constitutes the end piece 14. The blank portion 21 forms the external end wall of the casing, and the perforated portion 22 is parallel therewith as shown in Fig. 4 in cross section, the median portion 23, lying horizontally and forming a strong connection between the two parts 21 and 22. The ends of said median portion 23, which are the said ears 16, project beyond the sides 11, and are recurved when assembled and bent back through openings 24, which are fashioned by cutting rectangular flaps 25 in the side portion 11 of the cover plate and bending them outward to permit the introduction of the said ears 16 which thus clench the horizontal portion of the cover upon opposite sides of the structure and acting as a tie piece to prevent spreading of the sides 11 and serving at the same time to lock the end member in place. The ears are further secured in position by means of the flaps 25 which are thrust forcibly back until they occupy their original position in a plane with the sides 11, thus completely filling the apertures 24. If necessary the ends of said flaps may be shortened sufficiently to allow for the ears 16.

The bristles 26 which constitute the brush proper may be of any suitable material such as filaments of bamboo, split wood, or metallic wires, and are arranged in parallel, longitudinal rows 26ª, held in position between clamping members 27. Each of said members except those upon the outside is constructed of a single piece of metal 28, notched at the ends to form ears 29, and bent at an angle on the dotted lines 30, so that they will form hollow structures, triangular in cross section as shown in Fig. 2. These clamping pieces pass through the openings 17 in the inner walls 22 of the end members, and their ends abut against the inner faces of the outer walls 21. The outer clamping members are formed by the upturned portion 12 of the sides 11, their ends being provided with projections, similar to the ears 29, and said projections pass through the apertures 18 and abut against the end walls 22 as in the case of the intermediate members 27.

For the attachment of a handle 31, I provide a socket 32 mounted upon a plate 33, the rear portion of the latter being curved to fit the contour of the cover 10, and having a flange 34 which engages the lower margin of the rear side.

The front extension 35 of the plate 33 reaches only to the margin of the upper face of the cover and terminates in a recurved lip 36 which engages a slot in a vertically disposed plate 37, the lower end of which projects downward and terminates in a flange 38 adapted to engage the lower margin of the front side 11. The upper portion of the plate 33 is continued upward to form a scraper 39, its sides being provided with stiffening flanges 40. The socket piece is secured in place by a bolt 41 which passes through holes 42 in the sides 11 and the engagement of the lip 36 with the plate 37 constitutes a joint which greatly facilitates the assembling and removal of the socket.

Various methods may be employed in assembling the parts and such will readily occur to one skilled in the art for the purpose of elucidating the novel features, however, a brief description of one method of putting the apparatus together will be given: The cover plate 10, properly shaped, is bent to the form shown in the cross section, Fig. 2, the teeth 13 remaining on a plane with the top and sides, one of the end plates, bent in the manner detailed, is then placed in position at one end, the projections 12ª of the cover plate passing through the apertures 18. The tongues 16 are then bent around the lower margins of the sides and their ends inserted in the apertures 24, the flaps 25 being first bent outwardly to permit of the insertion of the tongues and then returned to their original positions flush with the outer face. The next step will be to insert one end of a clamping member 27 in each of the openings 17, and place the bristles, previously assembled in suitable clusters or rows, therebetween. The free extremities of the clamping members and the ends of the side portions 11 of the cover 10, which will be deviated outwardly from the resiliency of the material are then brought closely together to clamp the bristles or other sweeping material between the clamping element. The second end plate will then be easily assembled in the same manner as described for the opposite end after which the teeth 13 are bent to engage the outer faces of the end plates. The socket piece is then assembled by engaging the lower margin of the rear side with the flange 34. The scraper is then placed upon the lip 36, and turned downward until the flange 38 engages the lower margin of the front side of the cover. The bolt 41 is then inserted through the flanges 34, holes 42 in the cover, and the flange 38, thus securing said socket piece and scraper firmly to the body of the brush, the insertion of the handle 31 completing the tool.

Having thus described my invention what I claim as new is,

1. In a brush, the combination with the cover plate, of end plates formed with parallel integral walls, one of said walls being provided with apertures, and brush clamping members passing through said apertures.

2. In a brush, the combination with the brush filaments, of a head consisting of a cover-plate, end plates interlocking with said cover plate, said end plates having parallel integral walls, and longitudinal filament clamping members passing through one of said walls in each of the end plates, and a removable socket.

3. In a brush, the combination with the brush filaments, of a cover plate having marginal flanges extending inwardly and upwardly, channeled end plates interlocking with said cover plate, and longitudinal filament clamping members engaging said end plates.

4. In a brush, the combination with a casing, consisting of a cover and channeled end plates interlocking with the cover, of a scraper, a socket member interlocking with said scraper, and means for securing said scraper and socket member to the casing.

5. In a brush head, the combination of a sheet metal cover, channeled end plates having apertures in one wall, bristle clamping members engaging said apertures, said members consisting of hollow structures and triangular in cross section.

6. In a brush, a head comprising a casing

provided with suitable bristle holding means, a socket member, a scraper detachably connected to said socket member, and a bolt securing said scraper and socket to the casing.

7. In a brush head, the combination of a casing comprising a sheet metal cover, channeled end plates interlocking with said cover, and hollow bristle clamping members engaging apertures in said end plates.

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

CHARLES PETERSEN.

Witnesses:
F. BENJAMIN,
T. M. POYNTON.