No. 763,100. PATENTED JUNE 21, 1904.

E. B. HOWELL.

PNEUMATIC BRUSH.

APPLICATION FILED OCT. 10, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

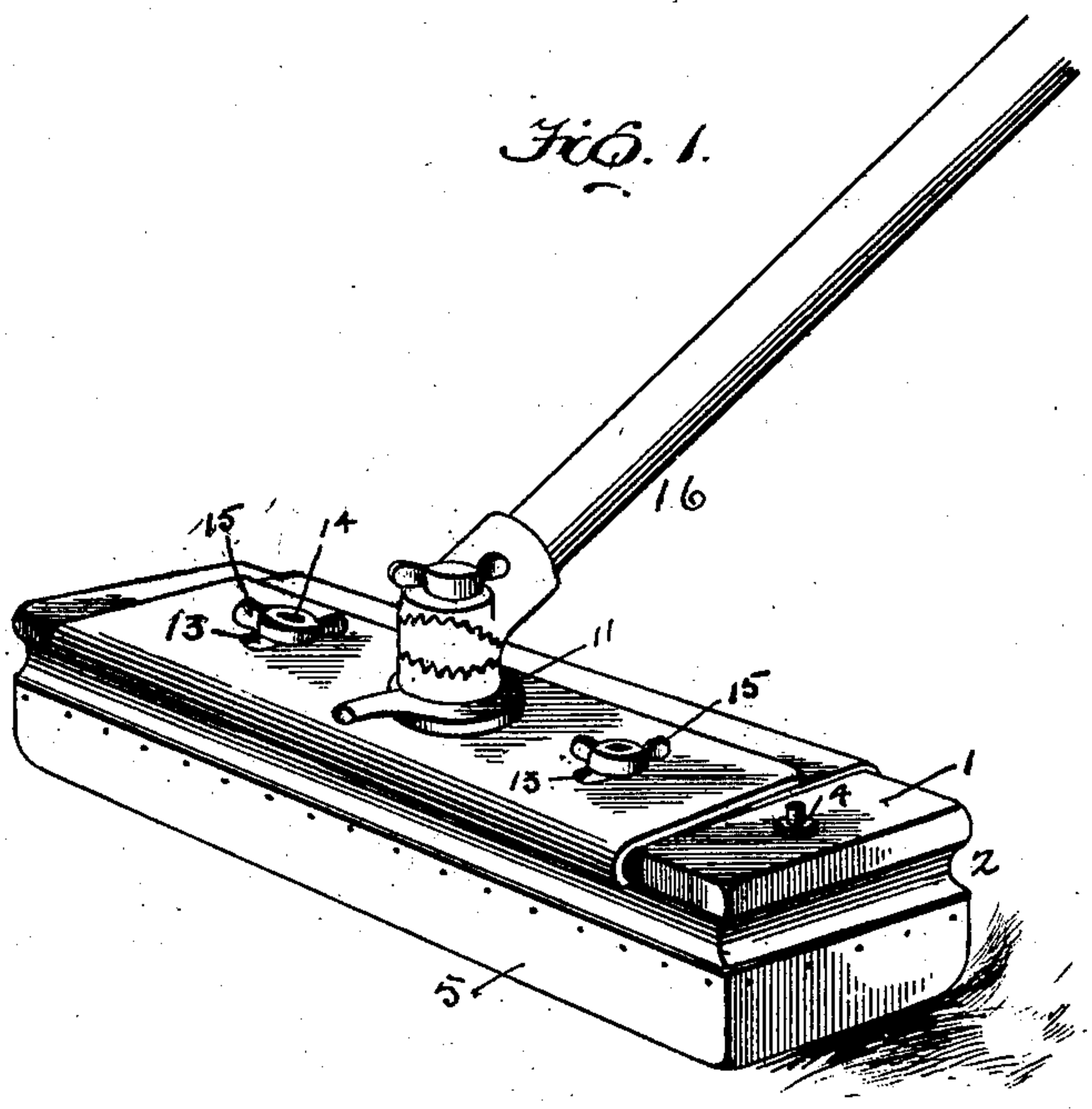


Fig. 2.

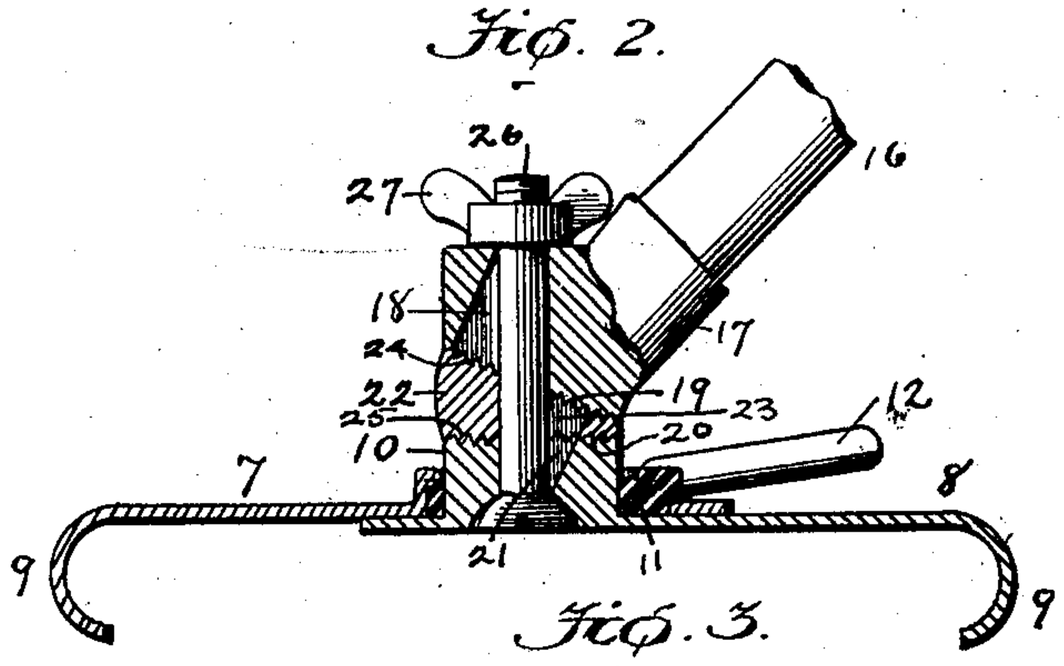
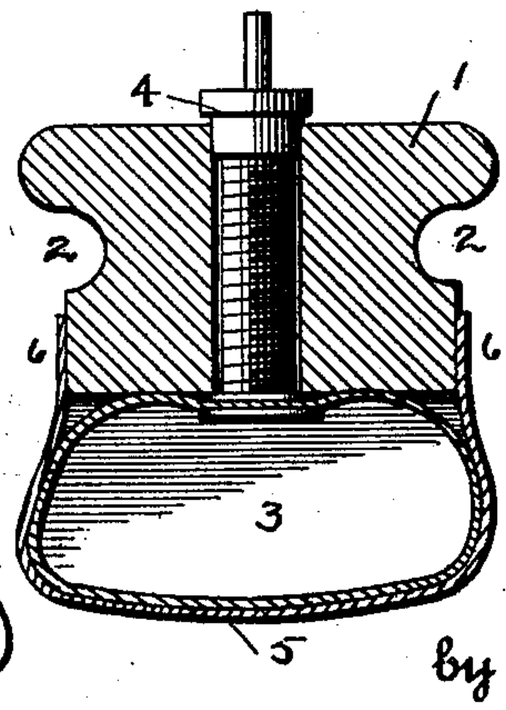


Fig. 3.



Witnesses

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PNEUMATIC BRUSH.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

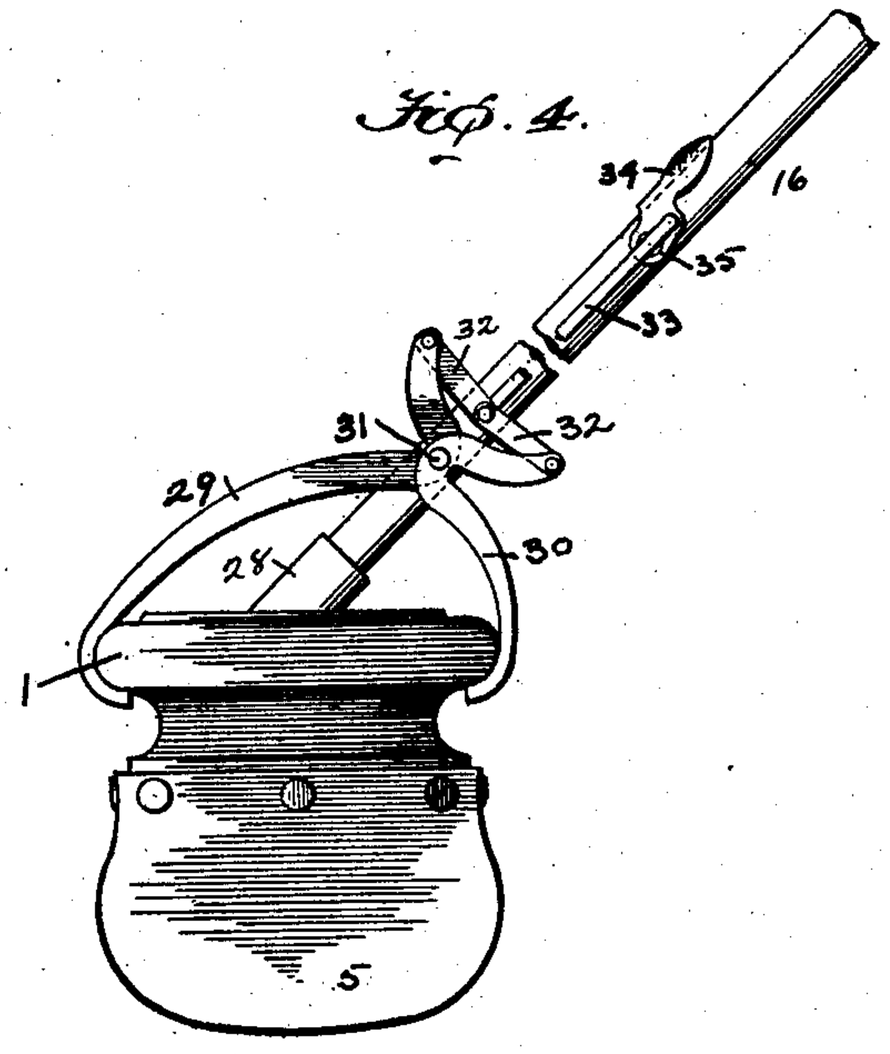


Fig. 5.

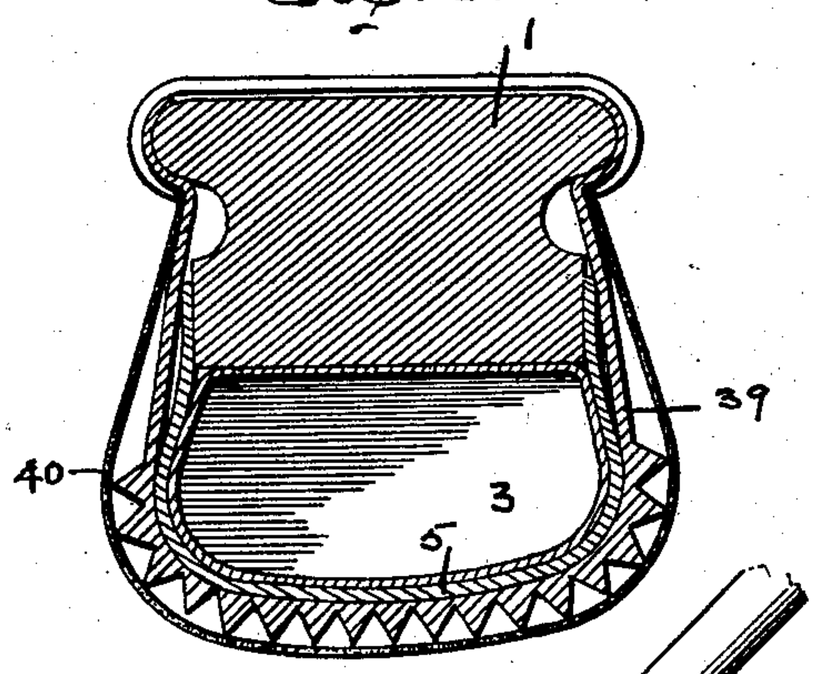
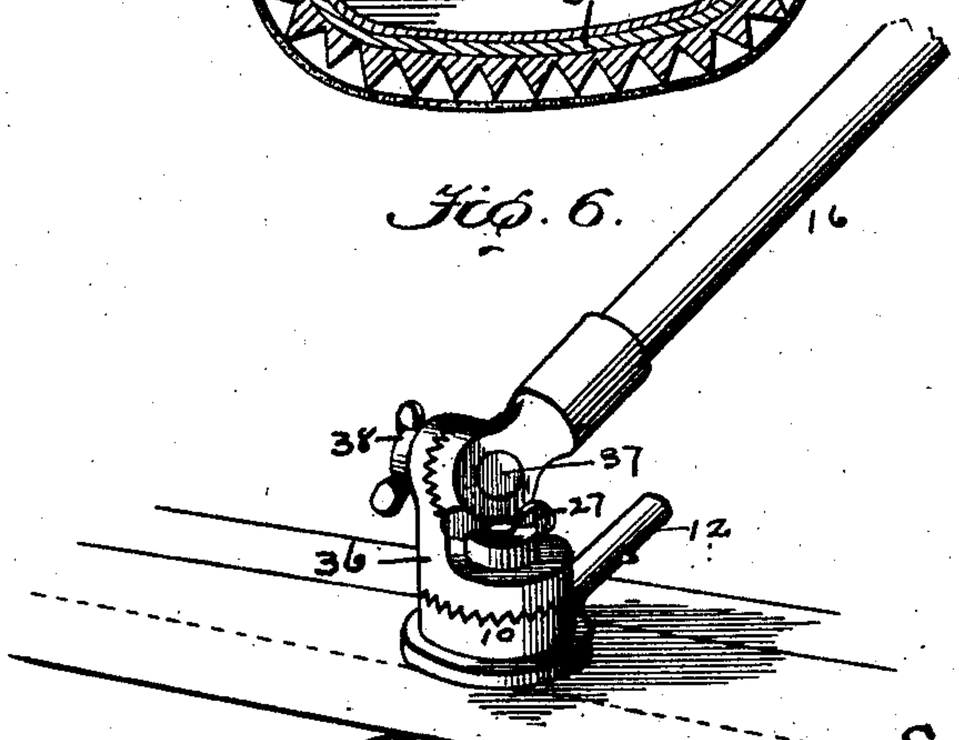


Fig. 6.



Witnesses

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No. 763,100. Patented June 21, 1904.

UNITED STATES PATENT OFFICE.

EDWARD B. HOWELL, OF BUTTE, MONTANA.

PNEUMATIC BRUSH.

SPECIFICATION forming part of Letters Patent No. 763,100, dated June 21, 1904.

Application filed October 10, 1903. Serial No. 176,498. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. HOWELL, a citizen of the United States, residing at Butte, in the county of Silverbow and State of Montana, have invented new and useful Improvements in Pneumatic Brushes, of which the following is a specification.

This invention relates to pneumatic brushes.

The object of the present invention is the provision of a brush having a pneumatic pad and improved and novel means for clamping or holding thereto any desired scrubbing, polishing, or abrading device, whereby the brush can be used to mop or clean floors or other surfaces, spread wax on hardwood floors, polish hardwood floors, sandpaper floors, and clean and treat linoleums.

A further object is to provide novel handle-holding means whereby the handle can be conveniently adjusted to the requirements of the user, thus obviating stooping in order to properly manipulate the brush.

Other not specifically mentioned objects of the invention will appear from the following detailed description of the nature and operation of the invention, and the novel features are recited in the claim thereto appended.

In the accompanying drawings, Figure 1 is a perspective of the invention; Fig. 2, a sectional detail of the clamp and handle-holding devices; Fig. 3, a section through the brush, showing the valve for inflating the pneumatic pad; Fig. 4, a view of a modified clamp; Fig. 5, a section through the brush, showing the use of the clamp in holding different polishing and scrubbing devices over the pueumatic pad; and Fig. 6, a detail of a modified form of clamp and handle-holding device.

The brush has a back 1, provided with grooves 2 along its sides.

A pneumatic tube 3 of substantially the length and width of the back 1 is provided with an ordinary inflating-valve 4, extending up through the back 1, and is held in position against the bottom of the back 1 by a retaining fabric 5, suitably fastened to the back at 6.

The invention as thus far described constitutes a pneumatic brush which could be used for a variety of purposes—for scrubbing, polishing, &c.—the user manipulating the brush by grasping the back 1 with the hand. However, I find it quite desirable to provide means for clamping polishing, abrading, or scrubbing devices over the retaining fabric 5 and also a manipulating-handle, and therefore my invention consists, further, in the following devices:

The numerals 7 and 8 represent clamp-plates having curved ends 9, adapted to take into the grooves 2, said plates lying on top of the back 1 and one of them having a boss 10 entered through an opening in the other where they overlap. Encircling the boss is an eccentric 11, having operating-handle 12 and fitting the opening in the upper plate. By turning the handle the eccentric throws the clamp-plates 7 and 8 apart or draws them together.

In the upper clamp-plate slots 13 are provided, which receive the screws 14 on the under clamp-plate, thumb-nuts 15 on said screws being adapted for clamping the plates wherever adjusted.

The operating-handle 16 has a head 17, provided with a conical opening 18 and an inclined lower serrated face 19. The boss 10 has a serrated face 20 and a conical opening 21. Interposed between the head 17 and boss 10 is a nut 22, having an enlarged opening 23 and provided with upper and lower serrated faces 24 and 25, engaging the serrated faces 19 and 20. A clamping-bolt 26 extends through the openings 18, 21, and 23 and is provided with a thumb-nut 27. This peculiar connection renders it easy to adjust the handle to different angles and different positions circularly relative to the brush to suit all possible conditions of use, as working in corners of a room or when the brush is used by persons of different heights.

In Fig. 4 the handle is screwed into a socket 28, rigidly secured to the top of the back 1, and the handle is not adjustable.

The clamping device consists of levers 29 and 30, pivoted at 31 to the handle and having their short arms connected by toggle-levers 32, which are moved by a rod 33, pivoted to a locking-lever 34, which is pivoted to the handle at 35. When the lever 34 is in the position shown, the levers 29 and 30 clamp the

cloth, scrubber, or other device held over the fabric 5, and the strain along rod 33 being through pivot 35 the parts are locked.

In the modification of Fig. 6 the eccentric and clamp-plates are used as before. A one-piece locking member 36 takes the place of nut 22, and the bolt 26 only passes through the member 36 and boss 10. The handle is separately pivoted to the member 36 by a bolt 37, on which is thumb-nut 38. Provision is thus made for angular and circular adjustments of the handle to meet all requirements of use.

Fig. 5 illustrates in a general way the manner of attaching to the brush the various scrubbing, abrading, and polishing fabrics which may be used over the pneumatic pad.

The main object of the invention is the care of hardwood floors and linoleums. With a wet cloth attached it can be used like any mop. With a damp cloth it can be used to catch up the fine dust on polished floors that inevitably escapes the broom. Wrapped tightly with a woolen cloth it can be used to spread the wax on hardwood floors much more rapidly, evenly, and easily than is possible by hand. By using a dry woolen cloth the brush can be used to polish a waxed floor.

In Fig. 5 the numeral 39 represents a scrubbing fabric, while 40 illustrates how a rag could be used in lieu of the device 39. A piece of sandpaper for sandpapering a floor could be used around the fabric 5, or a piece of felt to put wax on a floor could be used. In brief, the clamp provides means for conveniently securing between its hooks and the back 1 the ends of any fabric desired, the body of the fabric passing around the fabric 5, which protects the inflatable or pneumatic tube.

The pneumatic tube or pad, whether it be an inflatable tube or an "air-cushion" tube, provides a firm yet yielding pad which accommodates itself to every part of the surface being treated and gives the most satisfactory results in use.

In the claim by the use of the word "pneumatic" I mean an air or gas filled tube, pad, or sack, thus including both inflatable and air cushion tubes, pads, and sacks.

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

A pneumatic brush, comprising a rigid back having grooves along two opposite edges and a valved air-passage, a closed pneumatic tube extending along the bottom of said back and communicating with said air-passage, a retaining fabric secured to the back and passing under said tube, a removable layer of flexible substance outside of the fabric, and a handle having clamping members engaging with the grooves in the back and securing the removable layer to said back.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD B. HOWELL.

Witnesses:
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