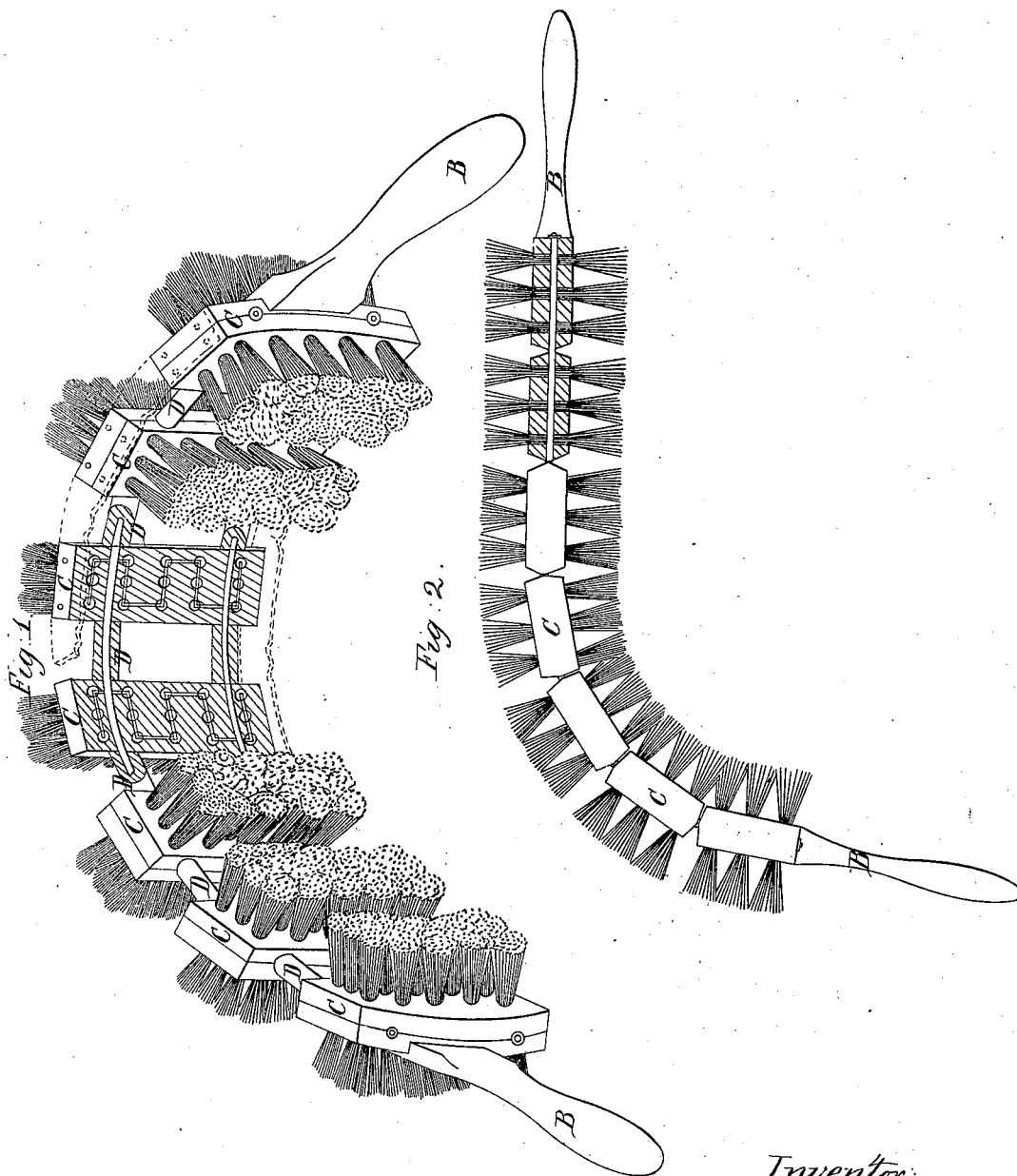


R. N. Eagle.

Brush.

No 62,833.

Patented Feb. 27, 1866.



*Witnesses,
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UNITED STATES PATENT OFFICE.

ROBERT N. EAGLE, OF WASHINGTON, DISTRICT OF COLUMBIA.

FLEXIBLE BRUSH.

Specification forming part of Letters Patent No. 52,832, dated February 27, 1866.

To all whom it may concern:

Be it known that I, ROBERT N. EAGLE, of the city of Washington, District of Columbia, have made new and useful Improvements in Brushes; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, sufficient to enable one skilled in the art to which it appertains to construct and use the same, reference being had to the accompanying drawings, which are made part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is an elevation showing a modified arrangement embracing the same principle.

The invention consists of a two-handed brush made of sections with flexible joints or backing, or having the bristles composing the brush placed upon a flexible backing, so as to enable the brush to partially embrace the object under treatment.

The brush is capable of a variety of uses, and is especially adapted to surfaces of a rounded or irregular conformation. The flat brush may answer all the requisitions for treating a flat surface, but rounded or irregular surfaces are most effectively acted upon by a brush which will partially embrace it, or, in other words, follow the irregularities of surface or eccentricities of outline. For instances, I cite boots and shoes, the human body, the legs and bodies of animals, and other objects which might be named, presenting, according to their nature, surfaces of various diameters or angles of different acuteness.

My brush has two handles, B B, and the sections C C are united by flexible joints D D, which admit of a certain degree of play, while the required rigidity is maintained, for it is not desired to deprive the brush of all stiffness, but to enable it to flex under a moderate amount of pressure of one handle toward the other, and to enable the hands to alternately push and pull, both actions being utilized for the accomplishment of the desired purpose.

The operation is readily seen and understood—the boot, horse's leg, or other object occupies a position within the curvature of the brush, and the handles being alternately drawn upon, the bristly face of the brush traverses the surface of the object, performing the required work, whether it be removing dirt from

a boot or animal's leg, exciting the skin of a person, raising a polish upon a boot or such portions of furniture as may present the required conformation, table and piano legs, &c., and which will be more readily effected by both hands than one, with less proportionate manual labor, besides admitting of a greater delicacy of touch.

The brush may consist of sections, which I prefer, because ventilation is afforded, the latter being favorable to the escape of dust or to the drying of the surface being acted upon, such as in polishing boots. It is not, however, a necessity of the case, for a brush in which the bristles are attached to a flexible backing may be furnished with two handles, so as, by the approach of the said handles, to partially embrace or inclose the object, and so fulfill the requisitions of the distinguishing feature of my invention.

The sections may consist of small brushes strung upon a fibrous cord, or upon elastic metallic wires or rods, or upon an elastic band, or the cord may be covered between the sectional brushes with sections of rubber tubing, which bear upon the adjacent edges of the brushes and keep them apart to the required extent or with the required force, so as to have a tendency to restore the brush to its normal or straight condition, the tubes being somewhat compressed by the bending of the brush.

There are many variations of which my brush is capable in the peculiar form, quality, finish, mounting, shape of handles, material, size, &c., and the nature of the brushing surface will be varied according to the use. It will be stiff, short, and hard, or soft and elastic, according to the objects and purposes, several of which have been cited, and perhaps sufficient has been said on this subject to enable the expert, to whom this paper is directed to understand the scope and object of the invention.

The mode of jointing the sections to each other, when they are concatenated, and not mounted on a flexible backing, may be varied, according to desire, as to finish and purpose. A simple pivot, joint, or any other form of hinge, an elastic tie, (above described,) a web of fiber, gum, or leather may be found convenient and efficacious.

Fig. 2 shows the sections strung upon a cord,

wire, or elastic band, and bearing such a relation to each other as to form an angle more or less acute, according to the nearness of any two neighboring sections, or an arch when bent by the mutual approach of the handles. The sections themselves having a keystone shape, and the material upon which they are based having flexibility, strength, and elasticity, adapts them to the requirements of special cases, as in brushing lengthwise with the angles and deflections of surface instead of across and around them.

The width of the sections, regulated by the number of rows of bristles, or by the size of the bunches in connection with their number, will, of course, vary according to the size or diameter presented by the object or parts of the object to be polished, and the width of the spaces between the sections will depend upon the extent to which it may be desired to close it, or, in other words, the shape it may be desired to permit it to assume. This question of the size and shape of sections, and the distances between them, is, in short, one of proportion and adaptation to purpose, and it is useless to attempt to anticipate all the modifications and uses. The sections on the brush side may be united with webbing or an elastic strip, and the backing may be of canvas, leather, wood, rubber, or spring metal, in strips

or continuous in width. When both surfaces are provided with brushes the backing of any material may be embraced between them, and will confer upon them the required characteristics, or the sections thus doubly provided with brush-surface may be strung either together, as fully explained in an earlier portion of this specification, or be applied to the outer sides or edges of the section, (as shown in red lines, Fig. 1,) instead of above, below, or between them.

The brush may be supple or flexible without any spring in itself, or, by reason of its backing, flexible joints, or flexible connections, it may be elastic, springing back to a straight normal condition, or by the peculiar character and shape of the spring it may have a normal bend and embrace the object.

The brushes may be of any size or shape, round, square, &c., according to their nature and purpose.

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

A two-handled flexible brush, made substantially as described.

R. N. EAGLE.

Witnesses:

JAS. L. EWING,
W. F. HALL.