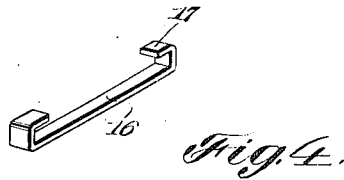
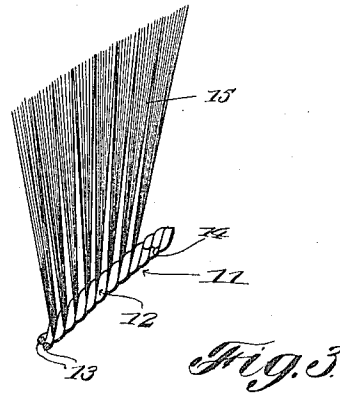
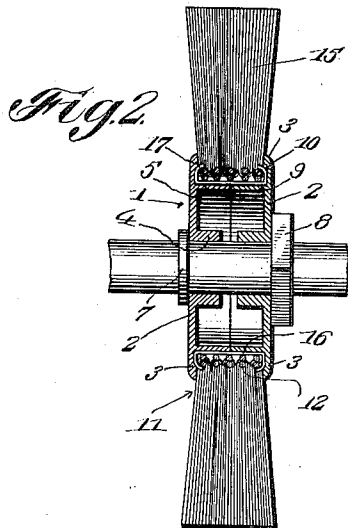
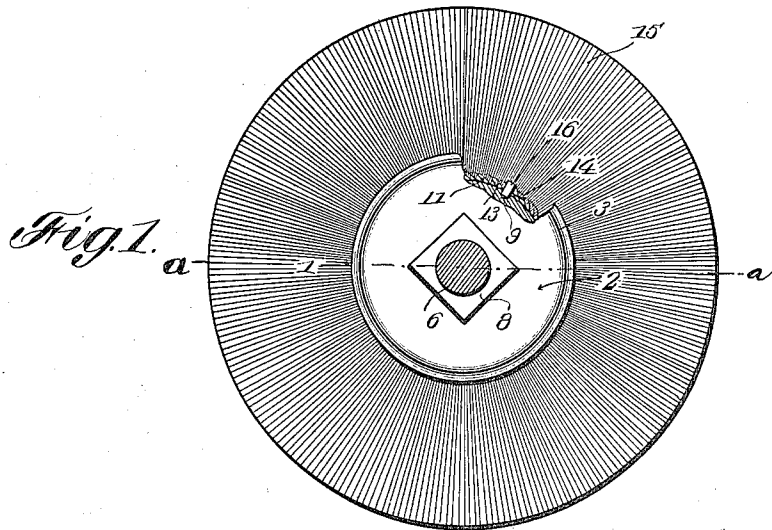


M. X. GARDNER.
 ROTARY BRUSH.
 APPLICATION FILED OCT. 2, 1912.

1,059,858.

Patented Apr. 22, 1913.



Witnesses

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UNITED STATES PATENT OFFICE.

MARY X. GARDNER, OF CLEVELAND, OHIO.

ROTARY BRUSH.

1,059,858.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed October 2, 1912. Serial No. 723,544.

To all whom it may concern:

Be it known that I, MARY X. GARDNER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Rotary Brushes, of which the following is a specification.

One object of the invention is to provide an improved circular rotary brush, the bristle elements of which may be readily removed and replaced with new ones when worn.

Another object is to effect improvements in the construction of the hub or clamping portion of the brush.

A further object is to provide improved means for binding the base rings of the brush element together in the hub of the brush.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

In the accompanying drawing:—Figure 1 is a side elevation partly in section, of a rotary wire brush constructed in accordance with my invention. Fig. 2 is a transverse sectional view of the same on the plane indicated by the line *a—*a** of Fig. 1. Fig. 3 is a detail perspective view of a portion of one of the bristle elements. Fig. 4 is a similar view of one of the binding clips.

My improved brush has a two-part hub 1, the members 2 of which are identical in construction and are preferably made of cast iron, each hub member being here shown as comprising a side or circular wall 3, a central annulus 4 which projects from the inner side thereof and a rim annulus 5 which also projects from the inner side thereof and is wider than the central annulus, whereby when the hub members are arranged on a shaft or arbor 6, as shown in Fig. 2, the two-part hub presents an annular channel in its periphery. One of the hub members, in practice, when the brush is in use, bears against a collar 7 with which the shaft or arbor is provided and the other is engaged by a nut 8 screwed on the threaded portion of the shaft or arbor so that the hub members are clamped on the shaft or arbor and on the bristle elements which are fitted in the peripheral channel of the hub. The outer annuli 5 of the hub members are provided in their outer sides with regularly

spaced transverse recesses 9 which communicate with radial recesses 10 on the inner surfaces of the flanges 3 which form the side walls of the peripheral channel of the hub.

The bristle elements 11 of my improved rotary brush are separable, each element consisting of a closed base ring 12 that is made of two twisted wires 13, the ends of which are electrically welded together as at 14 and bristles 15 which are formed of double wires, these bristles being anchored on the base ring and being held between the twisted wires that constitute the latter. The base rings of the various bristle elements are of the same diameter and are adapted to be fitted on the outer annuli 6 of the hub members so that the central or inner portions of the bristle elements will lie in the peripheral channel presented by the hub. These bristle elements are secured together by binder clips 16 which, in practice, are preferably made of soft iron. These binder clips extend transversely across the inner sides of the base rings of the bristle elements. Their ends are bent around the base rings of the outer bristle elements as at 17, and said binder clips are arranged in the recesses 9 of the outer annuli of the hub members, which form the bottom of the peripheral channel presented by the hub, the ends 17 of the binder clips fitting in the recesses 10 of the side walls of said channel. Hence, the binder clips not only bind the base rings of all of the brush elements together but by engaging the transverse grooves in the bottom of the peripheral channel presented by the hub also lock the binder elements to the hub for rotation therewith and prevent the brush elements from slipping. The parts of the brush may be readily disassembled by first removing the clamping nut 8 and then separating the members of the two-part hub so as to release the brush element from the peripheral channel of the hub, as will be understood. Hence, when the brush elements become worn they may be readily renewed at very slight cost.

While I have herein shown and described a preferred form of my invention, I would have it understood that changes may be made in the form, proportion and construction of the several parts without departing from the spirit of my invention and within the scope of the appended claims.

I claim:

1. A rotary brush comprising a hub presenting an annular channel in its periphery and having a recess in one face of said peripheral channel, a series of removable bristle elements having a base ring, and a binder securing the base rings together and engaging the said recess.
2. A rotary brush comprising a hub presenting an annular channel in its periphery and having a recess in the bottom of said peripheral channel, a series of removable bristle elements each having a base ring, and a binder securing the said base rings together and engaging the said recess.
3. A rotary brush comprising a two-part hub presenting a peripheral channel having a transverse recess in the bottom, a series of removable bristle elements each comprising a base ring and bristles attached thereto, and a binder clip extending across the inner sides of and securing the base rings together, the said binder clip fitting in the transverse recess of the bottom of the peripheral channel of the hub.

4. A rotary brush of the class described comprising a series of bristle elements each having a base ring and bristles attached thereto, binding clips securing the base rings of the bristle elements together and a hub presenting a peripheral annular channel in which the base rings of the bristles are fitted.

5. A rotary brush of the class described comprising a series of bristle elements each having a base ring and bristles attached thereto, binding clips securing the base rings of the bristle elements together and a hub presenting a peripheral annular channel in which the base flange of the bristles are fitted, the said binding clips being ductile and the ends thereof being bent around the outer base rings of the bristle elements.

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

MARY X. GARDNER.

Witnesses:

E. T. DONNELLY,
J. S. WINCHESTER.