

(Model.)

B. F. QUINBY.
CIRCULAR WIRE BRUSH.

No. 327,720.

Patented Oct. 6, 1885.

Fig. I.

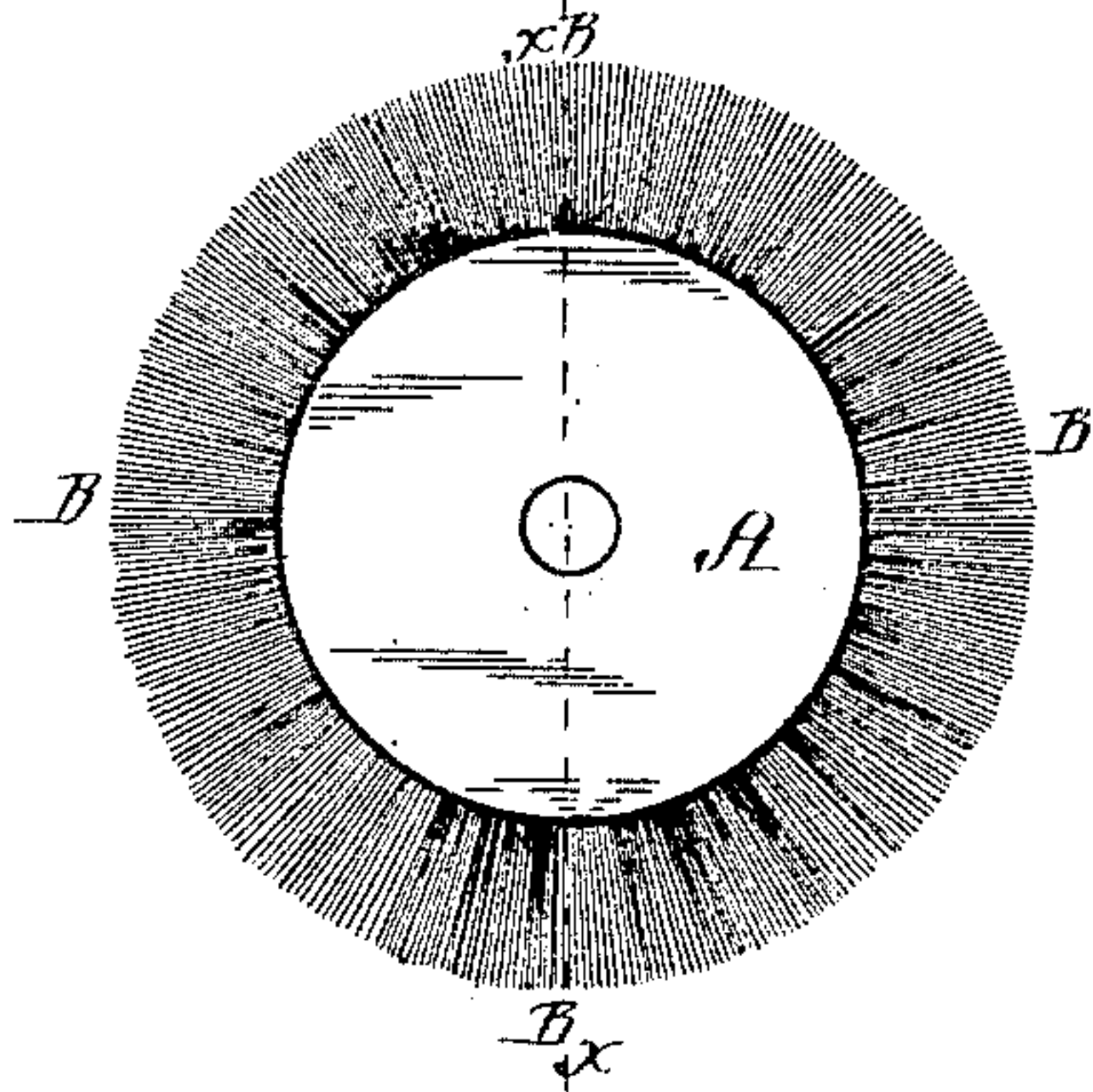


Fig. II.

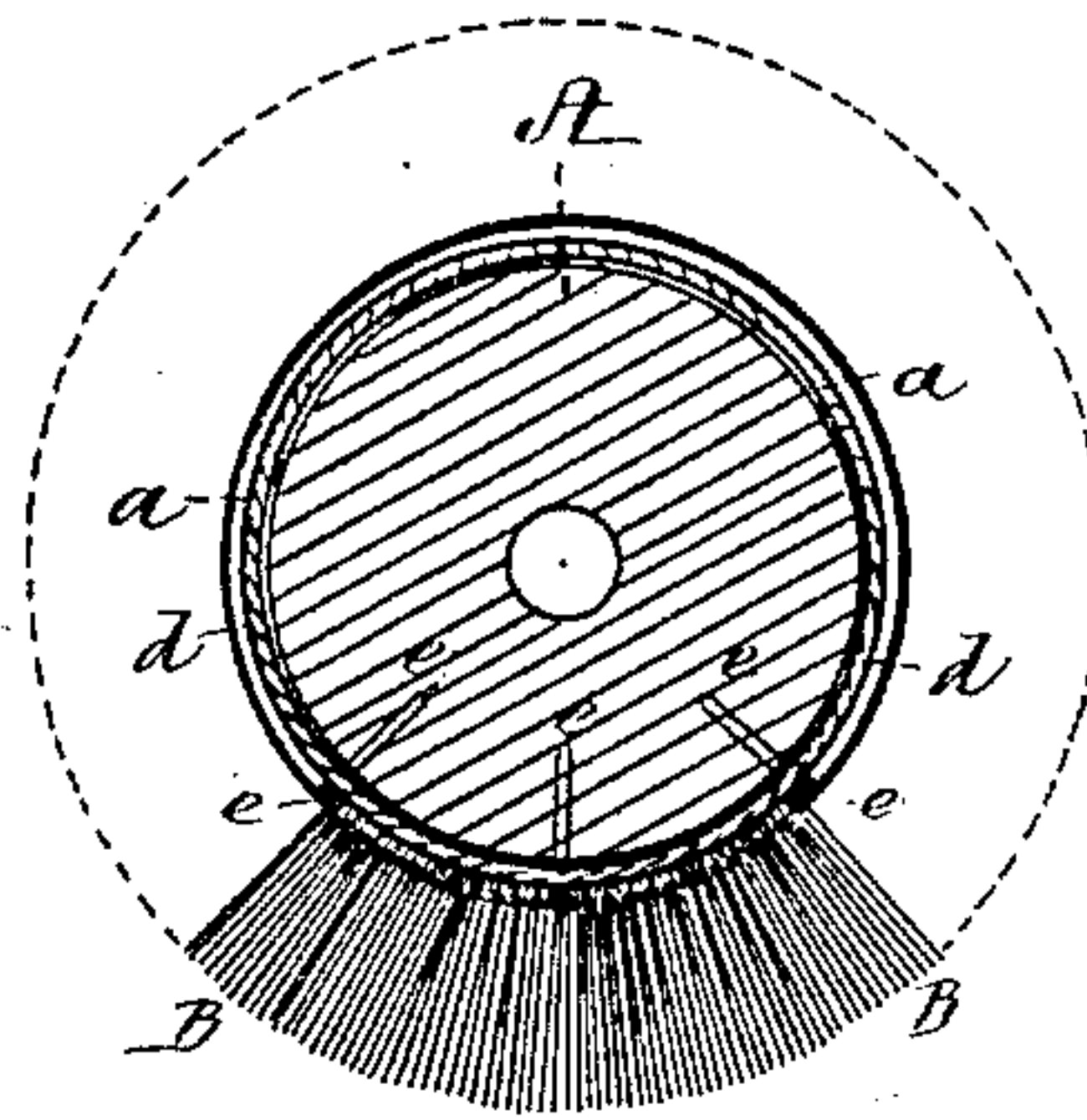


Fig. III.

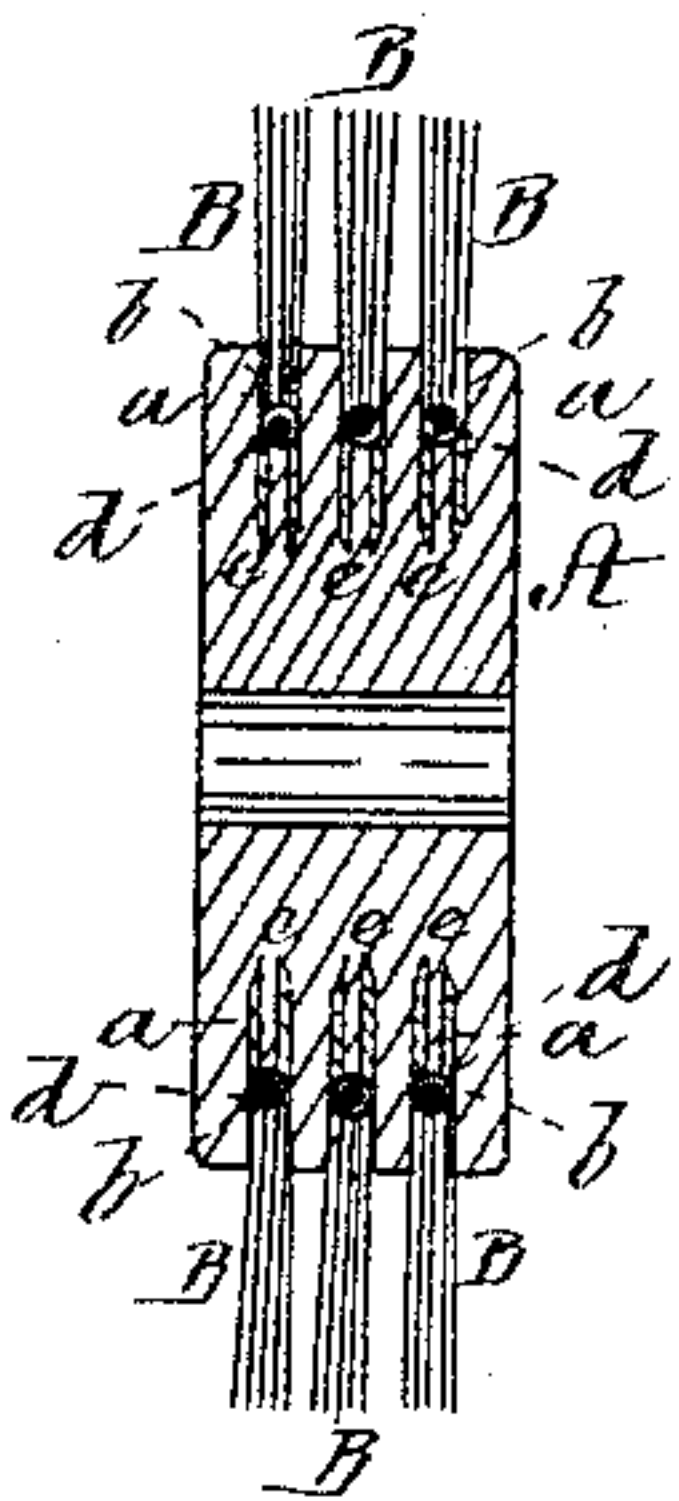


Fig. IV.

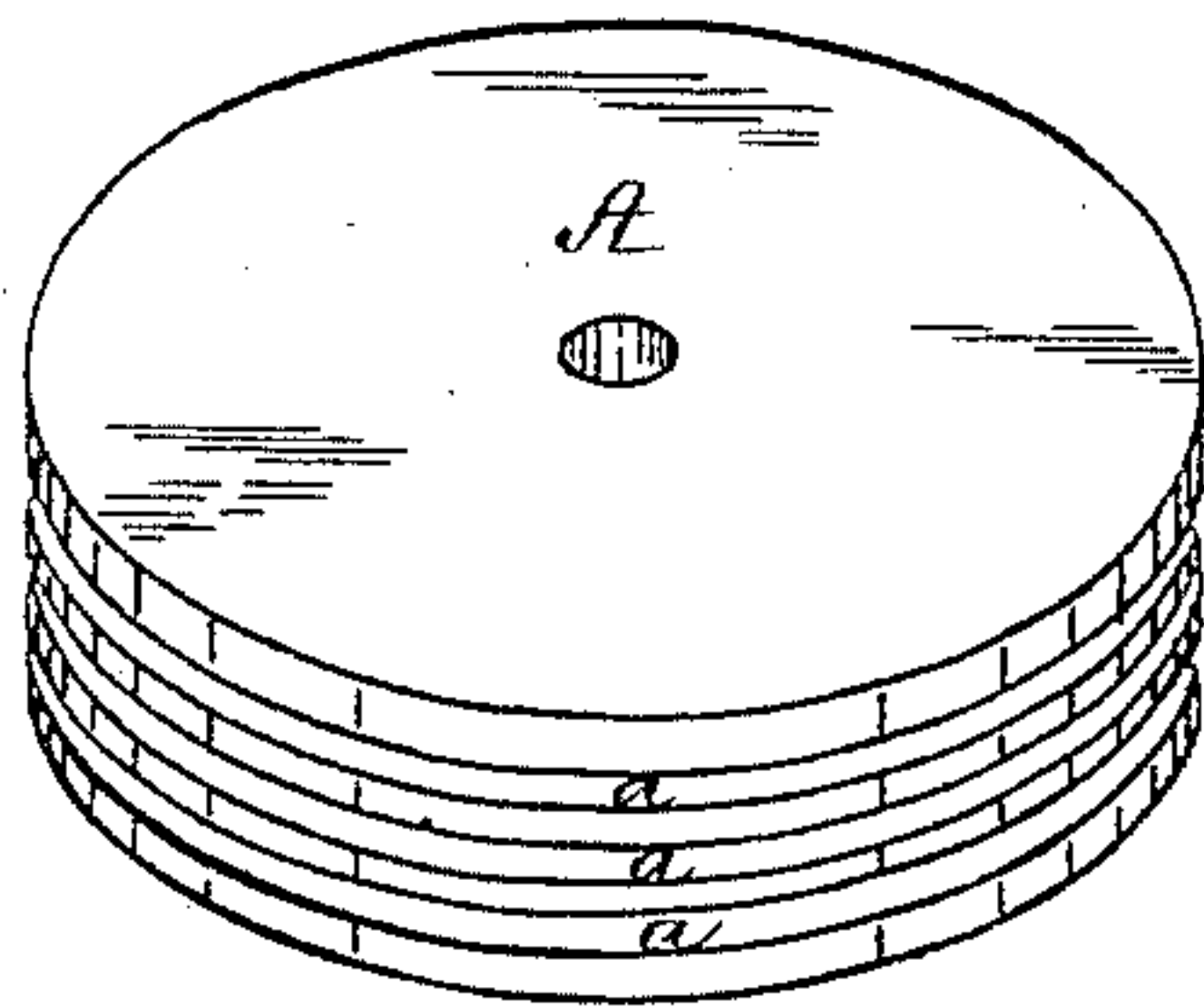


Fig. V.

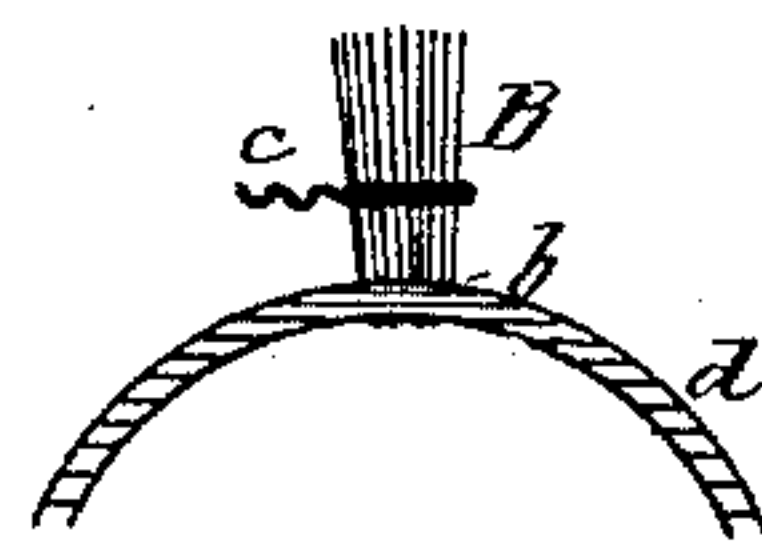


Fig. VI.



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UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN QUINBY, OF BOSTON, MASSACHUSETTS.

CIRCULAR WIRE BRUSH.

SPECIFICATION forming part of Letters Patent No. 327,720, dated October 6, 1885.

Application filed June 9, 1884. Serial No. 134,355. (Model.)

To all whom it may concern:

Be it known that I, BENJAMIN FRANKLIN QUINBY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Circular Wire Brushes for Cleaning, Cutting Down, and Smoothing Off Metallic and other Surfaces, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure I is a plan of a circular brush constructed in accordance with my invention. Fig. II is a horizontal section through the center of the same. Fig. III is a transverse section on the line xx of Fig. I. Fig. IV is a perspective view of my improved stock or holder detached. Fig. V represents a bunch of wires crimped or bent at their centers with the connecting and fastening wire passing through the loop formed thereby. Fig. VI represents a bunch of wires having their centers wound around the connecting and fastening wire.

My present invention has special reference to the construction of that class of circular brushes ordinarily termed wire "snagging" or "scratch" brushes employed in cleaning, smoothing off, and finishing the surfaces of metal work of various descriptions. The style of brush heretofore used for this purpose consists in a holder provided with a series of perforations, into each of which is drawn and rigidly secured a separate bunch of wires. Brushes of this construction are objectionable for the reasons that the wire bunches become "set" or permanently bent in one direction. They soon break off at or near the outer periphery of the holder, and the latter, if made of wood, is liable to be split, owing to the number and close location of the perforations.

To avoid the above-mentioned objections is the purpose of my present invention, which consists in a stock or holder formed in one piece and provided with one or more annular grooves or channels for the reception of a corresponding number of rows of the butts or loops of the wire bunches, which are strung upon an annealed wire or other suitable connection, and secured thereby radially upon and around

the holder, each row of bunches being secured in its annular groove by a separate and distinct fastening-wire, the aforesaid means of fastening admitting of the free and independent movement of each individual wire loop throughout its entire length, which feature endows it with the ability to yield and adapt itself to the various inequalities in the surface of the work to be acted on, the work being performed in a thorough and satisfactory manner without the rapid wear and destruction of the brush incident to the rigid connection of the butts within the perforations previously referred to and without the liability of breaking the fastening where one wire only is located within a continuous helical groove extending from one end of the holder, and serving as a common fastening for all the bunches of which the brush is composed.

To enable others skilled in the art to understand and apply my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings A represents the brush stock or holder formed of one piece, either of wood or metal, and provided with three annular grooves or channels, a , for the reception of the looped butts of as many series of bunches B of metal wire, each bunch being previously crimped or bent at its center to form a loop, b , and the wires being confined in said position by a small twisted wire or cord, c , in order that the original form of the bunch may be retained. Upon a larger annealed wire, d , to be employed as a connecting and fastening wire, are strung a sufficient number of bunches to fit snugly against each other around the holder at the bottom of one of its channels, and the two ends of the fastening-wire d are then drawn together and twisted by a pair of pinchers or otherwise.

In order to prevent the slipping of the butts along the fastening-wire d , I drive staples e , Fig. 3, over the wire at intervals of every five or six bunches, which form stops therefor, and keep them in their proper original position; and to avoid the separation of the twisted ends of the fastening-wire in case of undue strain thereon, I drive a staple across the wire at each of its ends, which thus keeps the wire d

in place and prevents the bunches from dropping off therefrom. After the staples are driven the small confining-wire *c* is removed from each bunch *B*, and the wires of which they are composed are free to separate and their outer ends to spread out and be uniformly distributed in a radial direction, so that no irregular intervals will occur at the perimeter or working-line of the brush.

Where very small wire—such as a fine grade of brass wire—is employed for imparting to the surface a satin finish or imitation of frost work, I find it desirable to wind the center of the bunch a turn and one-half around the fastening-wire *d*, which connects the bunches, as otherwise the contact of their ends with an object might cause one or more wires to be drawn out of the bunch.

Instead of three grooves, as shown and described, the holder may be provided with any number, depending on the width of brush desired.

I claim—

As an improvement in metallic scratch-brushes, the holder *A*, formed in one piece and with two or more annular grooves, *a*, for the reception of a corresponding number of rows of wire bunches, *B*, having the fastening-wires *d*, and staples *e*, driven thereover, as described, a separate and independent wire, *d*, being employed for each groove, as set forth.

Witness my hand this 6th day of June, 1884.

BENJAMIN FRANKLIN QUINBY.

In presence of—

N. W. STEARNS,

JAS. W. CHAPMAN.