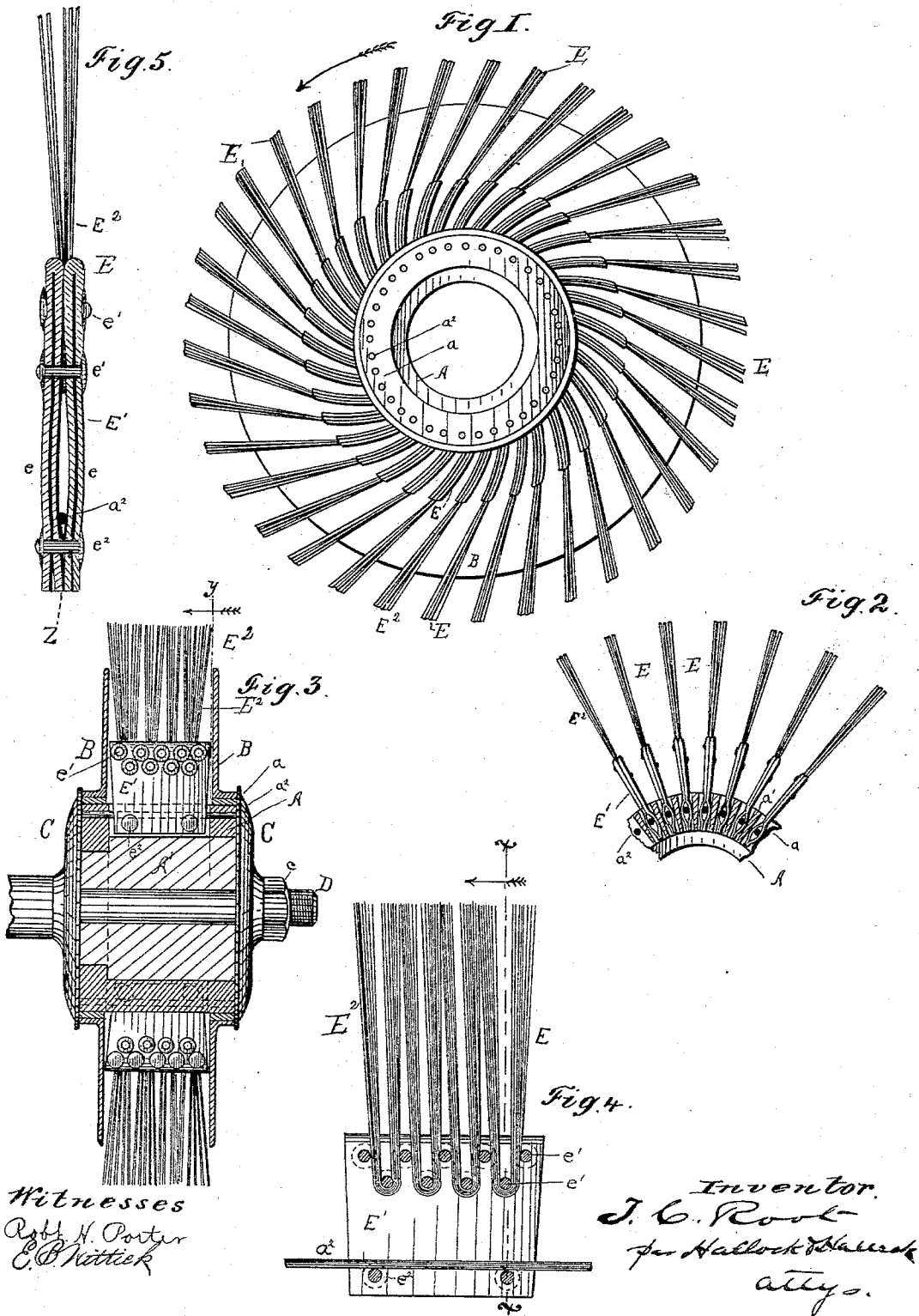


(No Model.)

T. C. ROOT.
ROTARY WIRE BRUSH.

No. 339,585.

Patented Apr. 6, 1886.



Witnesses
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UNITED STATES PATENT OFFICE.

TIMOTHY C. ROOT, OF ERIE, PENNSYLVANIA.

ROTARY WIRE BRUSH.

SPECIFICATION forming part of Letters Patent No. 339,585, dated April 6, 1886.

Application filed September 11, 1885. Serial No. 176,764. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY C. ROOT, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Rotary Wire Brushes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to grinding and polishing wheels, and particularly to rotary polishing-brushes for cleaning sand or other matter from castings; and it consists in certain improvements in the construction thereof, as will be hereinafter fully set forth, and pointed out in the claims.

Brushes for cleaning castings are made of steel wire, generally spring-steel flat wire. Where such material is made into a rotary or machine brush, the wires have to be much finer than where the brush is a hand-brush, because the larger wire will break out of a machine-brush. The wire to stand has to be so small or fine that it very soon mats down. Therefore, it will be seen, great difficulty has been experienced in making a good serviceable machine-brush. I have by my improved construction overcome the difficulties, and am able to make a machine-brush of the same-sized wire as hand-brushes are made, and I find I obtain from such brushes a much better grade of work than can be made with a hand-brush or a fine-wire machine-brush, and that it does its work in much less time.

My invention is illustrated in the accompanying drawings, as follows:

Figure 1 is a side view of a machine-brush made in accordance with my invention, the flanges B and C (seen in Fig. 3) being removed. Fig. 2 is a fragment of the brush in section on the line *y* in Fig. 3. Fig. 3 is a section of the brush on the plane of its axis. Fig. 4 is a section view of one of the small brushes which go to form the full-sized brush, taken on the line *z* in Fig. 5. Fig. 5 is a section view of the same part on the line *x x* in Fig. 4. This view is full size, except as to length of the wire brush.

A is the hub of the brush.

A' is the core or centering of the hub, the

former being of metal and the latter of wood or metal.

D is the arbor or mandrel on which the brush is mounted. The hub A has flanges *a a* and connecting-webs *a' a'*, which form sockets not unlike the spoke-mortises in a common vehicle-hub.

The brush is made up of a series of flat brushes, E E, which are secured in sockets above named, and they are held in place by wire rods *a''*, which pass through holes in the rims *a*, and between the layers of material which form the brush-shanks.

The construction of these flat brushes is the essential feature of my invention. The shanks E' are made of flexible material—such as leather or strong cloth, such as canvas or duck.

Figs. 4 and 5 show the construction of these brushes perfectly. The wires E' are bent into loops like hair-pins, and laid in bunches between two layers of the flexible material, and rivets *e' e'* are put through the material E', and through and between the bunches, as clearly shown in Fig. 4. Other rivets, *e''*, fasten the layers of material E' together at the lower end, and the rods *a''* pass through between the layers, as seen in Figs. 2, 3, 4, and 5. These flat brushes, it will be seen, are very flexible in their shanks. The shanks are, in fact, flexible webs or connections between the wire brush and the hub.

I have found by actual and continued use that the wires in these brushes will very seldom break. The brushes last a long time, and do most excellent work, and do it rapidly. The flanges B B protect the sides of the brush and prevent the work being pushed too far against the brush. The flanges C C hold the hub in place and keep the rods *a''* from working out.

What I claim as new is—

1. In a rotary wire brush, the combination, with the hub and the wires forming the brush, of a flexible web or shank connecting said wires to the hub, substantially as set forth.

2. In a rotary wire brush, the combination, with the hub and the wires forming the brush, of a flexible non-metallie web or shank connecting said wires to the hub, substantially as set forth.

3. In a rotary wire brush, the combination,

with the hub, of a series of flat brushes consisting of the wire bunches F^2 and the flexible shanks E' , holding said bunches set radially in said hub, substantially as set forth.

- 5 4. In a rotary wire brush, the combination, substantially as shown, of the hub A, with sockets therein, the flat brushes composed of the flexible shanks E' , and wire bunches E^2 , secured together and to said hub, substan-

tially as shown, the flanges B B, and the flanges to C C.

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

TIMOTHY C. ROOT.

Witnesses:

ROBT. H. PORTER,
JNO. K. HALLOCK.