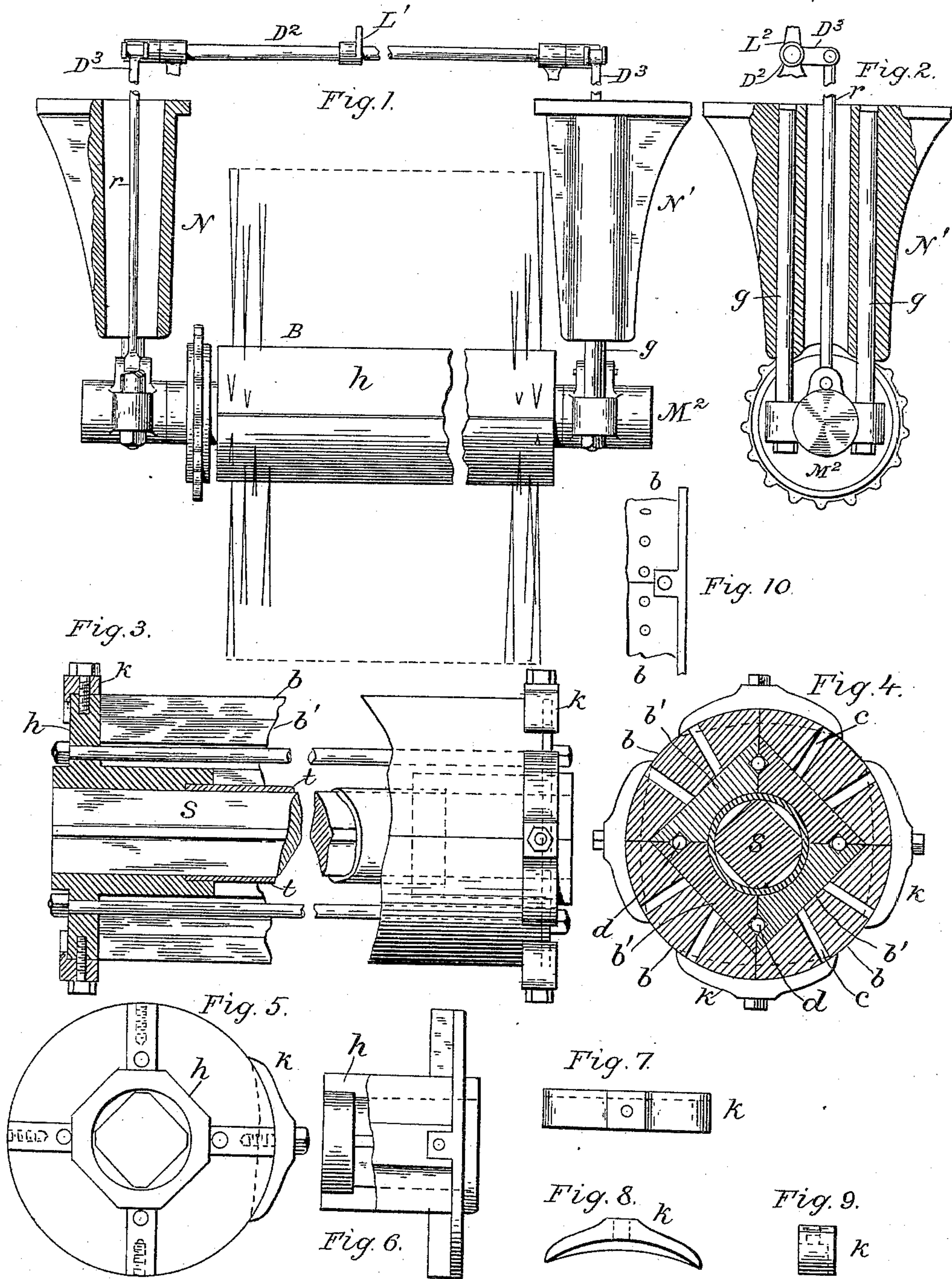


(No Model.)

I. F. BAKER & R. BOOTH.
SNOW BROOM.

No. 444,872.

Patented Jan. 20, 1891.



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UNITED STATES PATENT OFFICE.

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SNOW-BROOM.

SPECIFICATION forming part of Letters Patent No. 444,872, dated January 20, 1891.

Original application filed January 29, 1890. Serial No. 338,441. Divided and this application filed March 10, 1890. Serial No. 343,222. (No model.)

To all whom it may concern:

Be it known that we, ISAAC F. BAKER and ROBERT BOOTH, subjects of the Queen of Great Britain, and residents of Lynn, in the county of Essex and State of Massachusetts, and Malden, county of Middlesex and State of Massachusetts, respectively, have invented a certain new and useful Snow-Broom, of which the following is a specification.

10 This invention relates to the construction of rotary brushes or brooms, and is especially applicable to rotary sweepers for use in clearing streets and roadways of snow or dirt.

The object of the invention is to provide 15 for easy renewal of the brush splints and convenient repair of the rotary broom and its parts; to which end our invention consists in the improved construction and combinations of devices hereinafter described, and more particularly specified in the claims.

In the accompanying drawings, Figure 1 shows a complete rotary broom in side elevation mounted on suitable bearings or supports. Fig. 2 is an end elevation of the supporting 25 devices, the guides being shown in section. Fig. 3 is a side elevation and partial longitudinal section of the broom-shaft. Fig. 4 is a transverse section of the shaft. Fig. 5 is an end view of one of the heads looking from the inside. Fig. 6 is a plan of one of the heads detached. Fig. 7 is a plan, Fig. 8 a side 30 view, and Fig. 9 an end view, of one of the clamps. Fig. 10 shows a detail of construction.

The broom-shaft may be supported in any 35 suitable way—as, for instance, from a rock-shaft D^3 , having arms D^3 , from which depend the hangers in which the broom-shafts revolve. The rock-shaft, being suitably mounted on a frame or platform in the case of a snow- 40 sweeper, may be turned by a handle, as at L' , secured to the rock-shaft for the purpose of lifting the broom from the ground. The hangers have the usual or proper bearings or journal-boxes M^2 , and are provided with suspension- 45 rods r , which are pivoted to the journal-box heads and extend upward for attachment to the rock-shaft arms D^3 , from which they are pivotally suspended.

Caps N N' depend from a suitable frame or support—as, for instance, from the car-sill 50 in the case of a rotary car-track sweeper—and are engaged by guide-rods g connected to the hangers, as shown. This particular manner of supporting the broom is not claimed herein, but forms the subject of claims in a prior ap- 55 plication for patent filed by us January 29, 1890, No. 338,441, of which application the present is a division.

The cylindrical stock or head B , in which the splints are secured, is made in a number 60 of sections or segments b , so that it may be detached from the shaft or its backing without removing the shaft from its bearings, and the several segments may be built up around and secured to the shaft or parts carried 65 thereby after renewal of the splints.

The splints of the snow-broom may be made of rattan or similar elastic and tough material, or of metal in certain instances. The 70 former is preferred. The splints are driven into holes in sections of the stock, this construction permitting the removal of worn or defective sections and the insertion of others without dismantling the entire broom, as was formerly necessary. 75

The broom-shaft on the hub, in which the segments b rest or around which they are disposed, is constructed preferably as follows: Mounted on an iron shaft s , so as to be incapable of turning thereon, are heads h , which 80 are provided with sockets to receive the ends of an intermediate iron tube t surrounding the shaft. The shaft may be square and pass through square openings in the heads, as shown, but its outer ends are turned down to 85 form journals so that the shaft may turn in the bearings M^2 . To form the hub or backing for removable segments b b , sections of hub b' , preferably of wood, are clamped in position together around the shaft and between 90 the heads by means of bolts d , running the entire length of the shaft and extending through the heads h , the whole being drawn up firmly by nuts, Fig. 3. Upon this hub or backing, square or angular in form, are super- 95 imposed the sections b b of the stock, which

latter are held down upon the hub formed as above by means of clamps *k*, preferably fastened down upon the heads. The segments, being thus held down against radial movement on the flat bearings provided by the hub, are prevented from shifting circumferentially around the shaft or hub.

The clamps are preferably applied at the points where the segments of the brush-stock adjoin. The heads may have offsets on their inside, as shown, which, as indicated in Fig. 10, may also serve to hold the segments against rotation while forming bearings for the clamps and clamp screws or bolts.

To remove any section *b* it is only necessary to loosen the two clamps *k k* at the opposite ends. Fig. 5 is an end view of the head *h* from the inside, showing the openings for the reception of the square shafts and bolt-holes, &c. Fig. 6 is a part section through the head *h*, showing more clearly the shouldered receptacle for the tube *t*. Figs. 7, 8, and 9 are different views of the clamp *k*.

By building up the hub or bearing of wood to receive the brush-stock we obtain lightness, and by making the heads longitudinally movable with relation to one another on the shaft we permit the shaft or hub to be readily dismantled for repair.

While we have shown the hub made up of sections *b'* as square, it is quite obvious that it might have a greater or less number of angles or sides and be of equal utility in permitting the sections of the brush-stock to be firmly clamped against displacement. A four-sided hub and a four-segment stock will be found, however, to serve admirably.

What we claim as our invention is—

1. The combination, in a rotary brush, of a

cylindrical stock or head divided into segments, in combination with circumferential clamps for holding the segments in place on the hub or backing against centrifugal displacement, and end pieces or heads carried by the shaft and between which the segments lie, as and for the purpose described.

2. In a rotary sweeper, the combination, with the broom-shaft, of heads movable longitudinally with relation to one another on said shaft, and a broom hub or backing built up around the shaft and clamped between said heads.

3. The combination, in a rotary broom, of the journal-shaft, the heads mounted thereon, clamp-rods connecting the same, a sectional hub between the heads, and detachable splint-carrying stocks clamped upon said hub.

4. The combination of the central journal-shaft, the heads and longitudinal clamping-bolts, the sectional hub, the splint-carrying segments assembled around said hub, and the clamps carried by the heads and bearing on the splint-carrying sections.

5. The combination, in a rotary track-clearing broom, of the journal-shaft, heads carried thereby, a sectional splint-carrying cylinder built up around the shaft, and clamps carried by said heads and bearing on the said cylinder.

Signed at Lynn, in the county of Essex and State of Massachusetts, this 6th day of March, A. D. 1890.

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Witnesses:

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