No. 656,761. Patented Aug. 28, 1900.

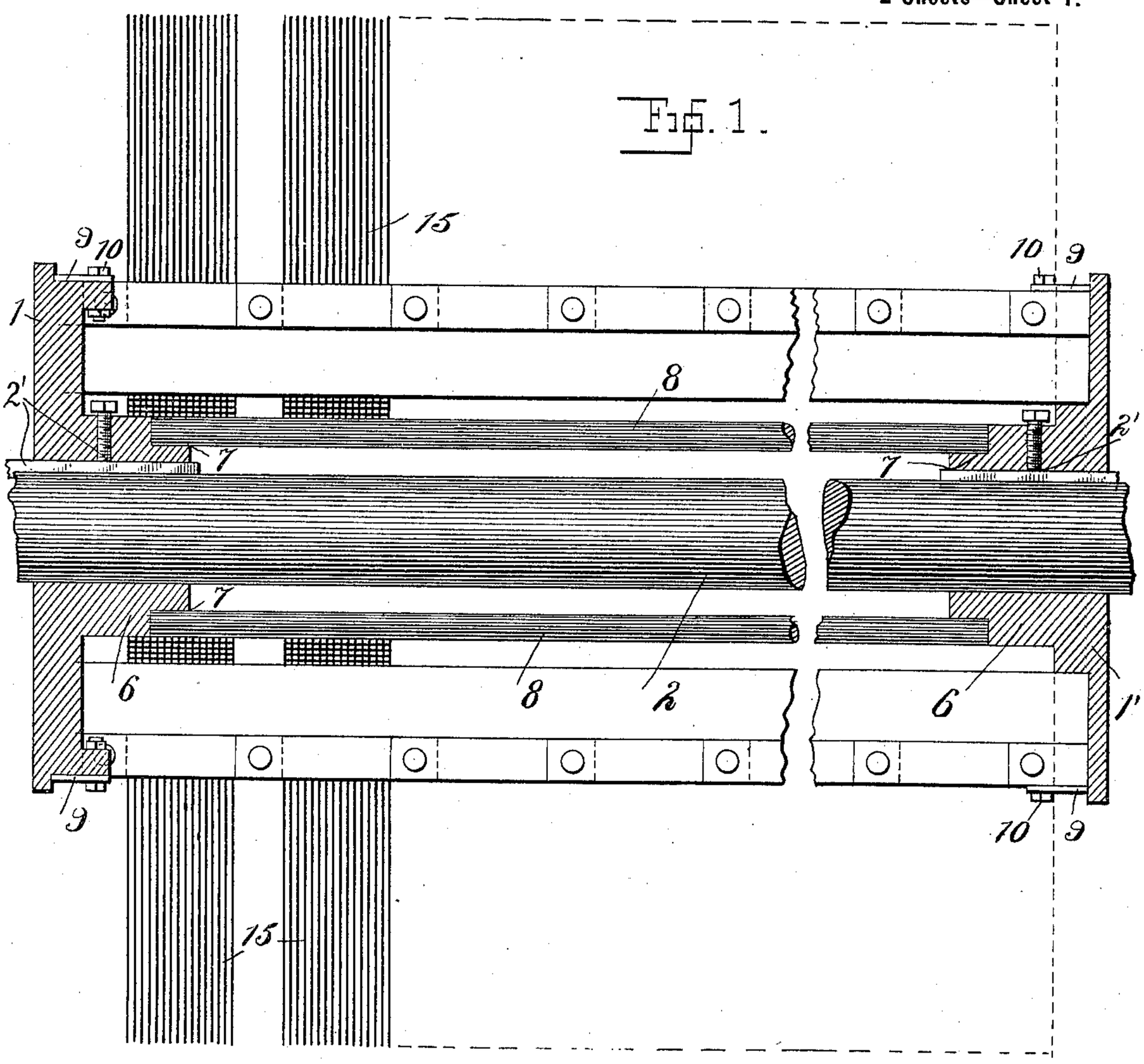
H. H. ADAMS.

SECTIONAL ROTARY SWEEPER.

(Application filed Dec. 7, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



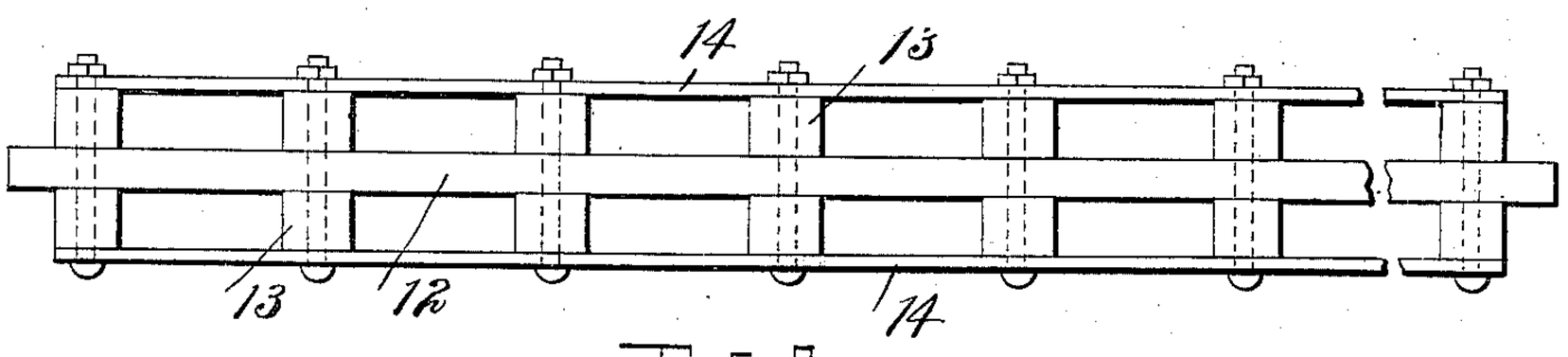


Fig. 3.

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Fig. 2.

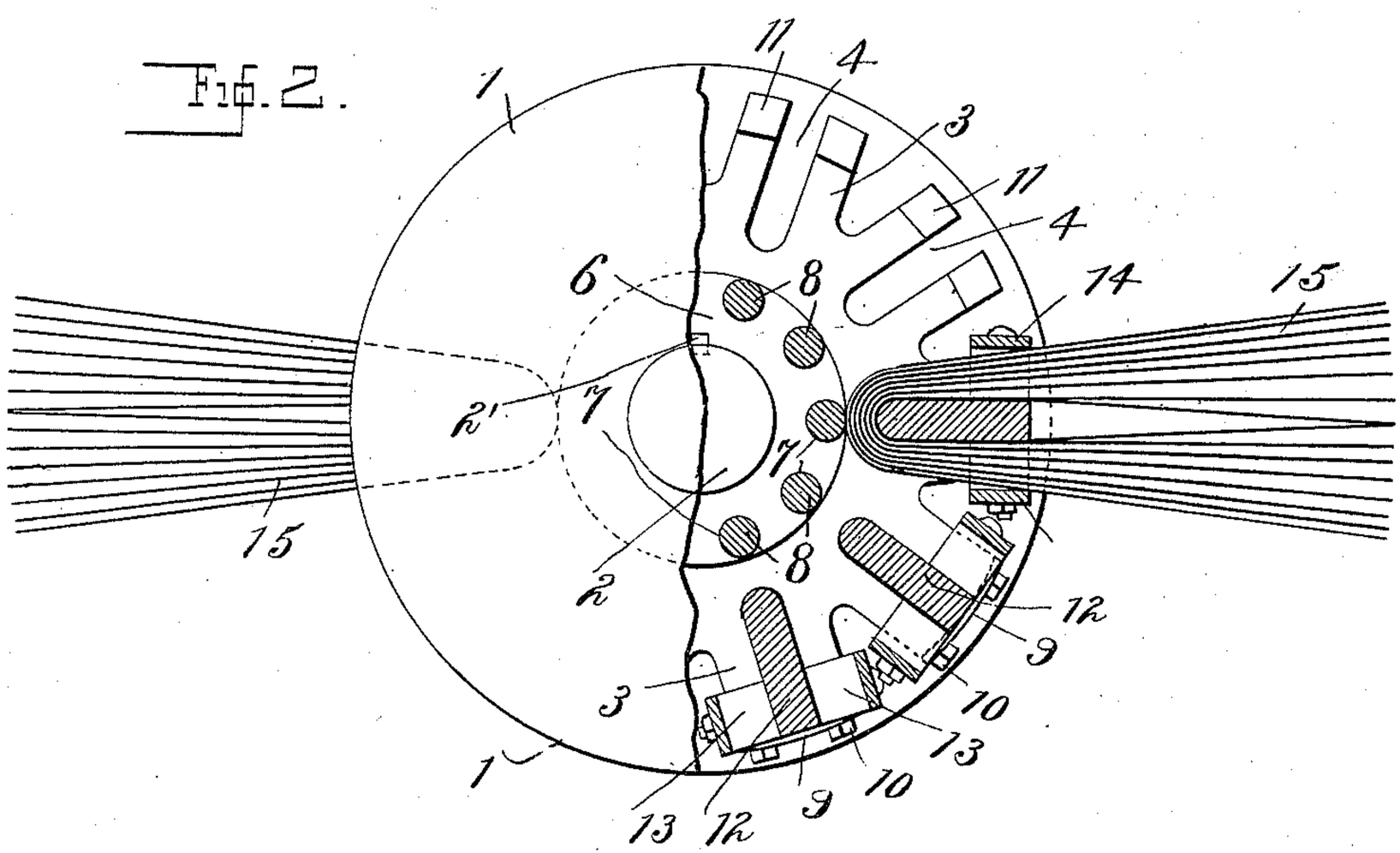


Fig. 4.

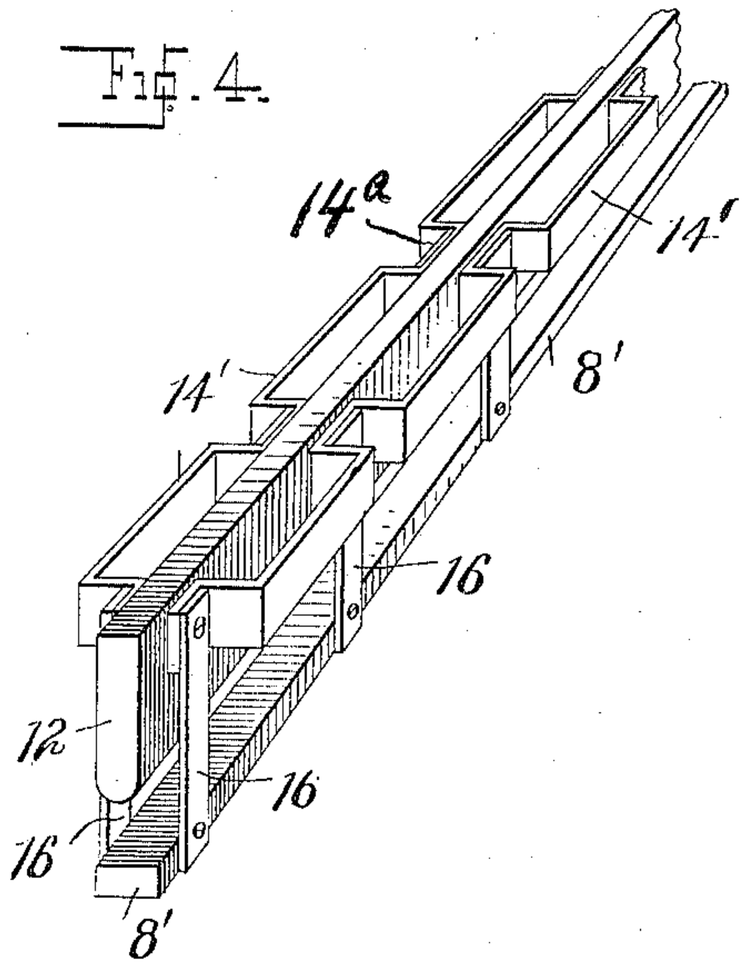
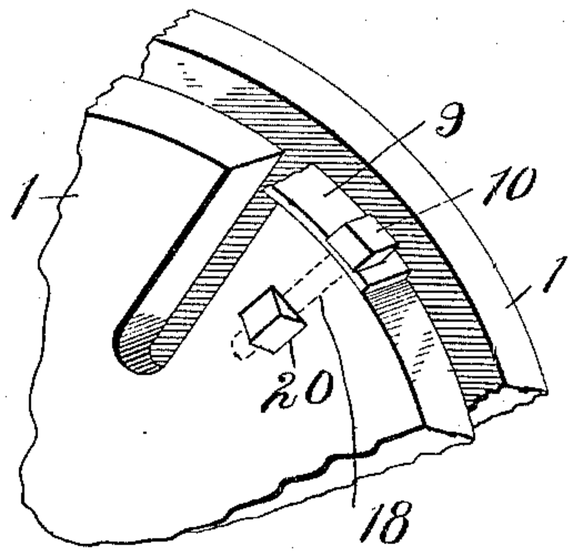


Fig. 5.



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UNITED STATES PATENT OFFICE.

HARRY H. ADAMS, OF JERSEY CITY, NEW JERSEY.

SECTIONAL ROTARY SWEEPER.

SPECIFICATION forming part of Letters Patent No. 656,761, dated August 28, 1900.

Application filed December 7, 1899. Serial No. 739,473. (No model.)

To all whom it may concern:

Be it known that I, HARRY H. ADAMS, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Sectional Rotary Sweepers, of which the following is a specification.

The object of this invention is to produce a rotary broom in which each section is independent of the other sections and may be removed and refilled without disturbing any of the other sections, thereby making it easier to repair and handle and at the same time filling all the requirements of a rotary broom in strength, lightness, and durability.

In the accompanying drawings, Figure 1 is a longitudinal section of a rotary broom constructed according to my invention. Fig. 2 is an end elevation of same, partly in section. Fig. 3 is a plan view of one of the broom-supports. Figs. 4 and 5 show modifications.

The complete broom is constructed as follows:

Heads or spiders 1 1′ are mounted on the broom axle or shaft 2 and secured to same by keys or set-screws (indicated at 2′) or in any usual manner. The heads are cast with lugs or projections 3 on one side, extending nearly to the outer edge of the head and so mounted that the lugs on each pair of heads face each other. Slots 4 are formed in said lugs, extending radially from the outer edge of said lugs to a point nearer the center or hub of the spider or head, these slots being adapted to receive the broom-sections, as shown in Fig. 2.

In the hub 6 of each head there are circular holes or recesses 7, the centers of the holes or recesses being in direct radial line with the centers of the slots. These recesses are adapted to receive pipes or bars 8, which constitute the backing or retainer for the broom material. These backing bars or strips are not removed from the heads after they are once secured in position. The broom-sections when in place in the slots are separated from the said backing-bars by the broom material. The broom-sections are secured in position by a clamp at each end of the section, (see Fig. 2,) such clamps comprising strips or plates 9, adapted to be placed over the top of the slots 4 and to be fastened to the heads by bolts 10, engaging with said strips and with lugs 11, extending inwardly from the heads. In removing a section all that is required is to remove the two clamps of that particular section, and said section may then be withdrawn.

The sections are constructed as follows: A beam or support 12, preferably of wood and of a cross-section corresponding to the length and width of the slots in the heads above mentioned, has secured to its sides separating or spacing blocks 13, said blocks determining the amount of broom material to each subsection or bunch. Side strips 14, preferably of iron, are then secured to said blocks on the outside, clamping the broom material 15 in place. The broom material is bent under the said beam, the inner edge of which is rounded, and enough broom material is forced in, so as to entirely fill the space inclosed by said blocks and clamping-strips. The strips or bars of the broom-sections are then dropped or forced into the slots in the broom-head sand the clamps attached, and the broom is complete.

Instead of fixing the backing-bars in the heads they may be suspended by straps 16 from the broom-supports 12, as shown at 8′ in Fig. 4. This figure also shows a modification of the clamping-strips, which are here shown at 14′ with bent-in portions 14^a attached directly to the support 12, so as to dispense with the use of spacing-blocks.

Fig. 5 shows a modified method of fastening the clamping-plates 9, the bolts 10 being in this case received in radial holes 18, cored in the head-casting, with an enlargement 20 to receive the nut, as shown.

Both methods of fastening shown provide independent fastening means for the several broom-sections, so that any one of the sections may be removed independently of the others and without even loosening the fastenings of the others. Similarly the fact that each broom-section is divided into a number of subsections or bunches by means of the spacing-blocks enables any particular part of a broom-section that may be worn out to be replaced without loosening the whole broom. In practice one end of the broom-section wears more than the other owing to the fact that the

broom usually sweeps at an angle, causing more work to come on the inner end of the broom. I do not clamp the fastening-strips 14 down onto the broom material, but insert the broom material in the spaces between the spacing-blocks, the support, and the side strips until such space is full, and then I depend on the backing bar or pipe 8 to hold the broom material in place after it is in place on the sweeper. Thus on removal of a section from the sweeper any one subsection or bunch may be pulled out without loosening the others. The spacing-blocks have the further advantage of diminishing the amount of broom material required, as owing to the diagonal action of the broom the discontinuous subsections are just as effective as a continuous section would be, the bunches overlapping one another in the rotary and longitudinal paths of movement.

Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

1. A broom-section composed of a support running parallel with the axis of said broom, broom material attached to and carried by said support, in independent bunches, spacing-blocks secured to said supports for spacing the broom material and binding-strips on both sides of said supports engaging with all of the spacing-blocks on their respective sides, and forming with the spacing-blocks, spaces fitting the several broom-bunches independently of one another.

2. In a rotary broom-head, plates or spiders adapted to be mounted on a broom-shaft, said heads having lugs or projections on one side extending radially from the center toward the outer edge, but not to said outer edge, said lugs or projections being provided with slots extending from the outer edge of same toward the center of the plate or spider and adapted to receive broom-sections, and with recesses near the extremities of said slots, toward the center, adapted to receive means for backing broom material, and clamps adapted to be attached to said broom-head for securing said broom-sections, substantially as shown and for reasons set forth.

3. In a sectional rotary broom, the combination of a broom-shaft, having heads or spiders mounted thereon, having a plurality of radial slots in the opposite faces and adapted to receive the broom-sections, and a plurality of recesses near the inner extremities of said slots adapted to receive means for backing the broom material, means for backing the broom material supported in said recesses and carried by said broom-heads, sections composed of supports with broom material mounted thereon adapted to be carried in said slots in broom-heads, and clamps attached to said broom-heads adapted to secure said supports or sections in place.

4. A rotary broom composed of heads and a plurality of sections extending parallel with the axis of said broom, each section comprising a beam or support, spacing-blocks secured to said support for spacing broom material, side strips outside of said spacing-blocks, broom material bent around the under side of said support between the support, the side strips and the blocks, and supports carried by said heads and engaging beneath said broom material to hold said broom material in place.

5. In a rotary broom, the combination of broom-heads suitably mounted on a broom-shaft, a plurality of radial slots or recesses in said broom-heads corresponding to the number of sections used, circular recesses in radial line with said slots also corresponding to the number of sections, backing-rods carried by the broom-heads and supported in last-named recesses and running parallel with said broom-shaft, broom-sections composed of broom material mounted on a suitable support and carried in said radial slots, the broom material of said sections coming in contact with and being prevented from shifting by said backing-rods, clamps attached to said broom-heads and securing said sections in their proper place.

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Witnesses:
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A. P. KNIGHT.