

(No Model.)

D. A. McDONEL.
PROCESS OF MANUFACTURING BROOMS.

No. 531,055.

Patented Dec. 18, 1894.

Fig. 1.

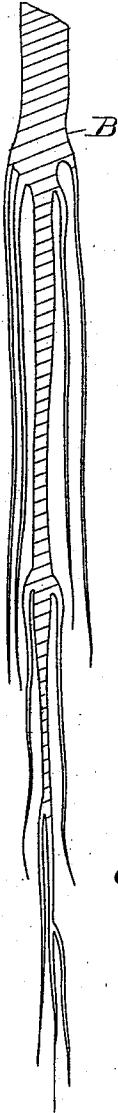


Fig. 2.

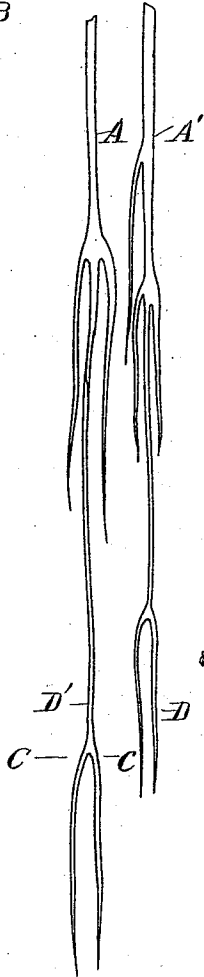


Fig. 3.

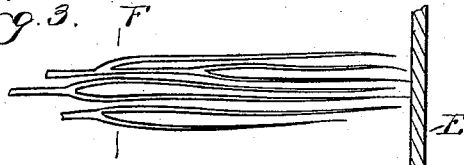


Fig. 4.

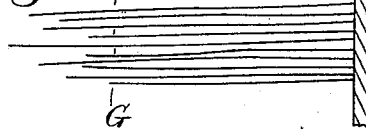


Fig. 5.



Fig. 6.

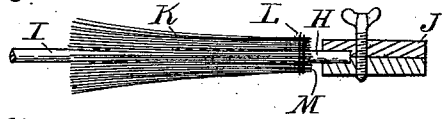


Fig. 7.

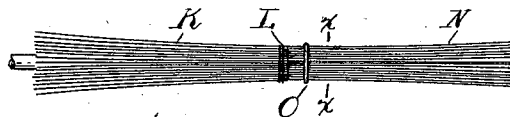


Fig. 9.

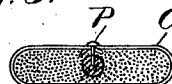
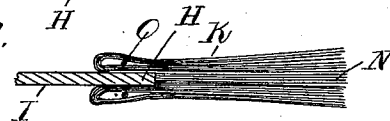


Fig. 8.



Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL A. McDONEL, OF DETROIT, MICHIGAN, ASSIGNOR TO THE PENINSULAR BROOM COMPANY, OF SAME PLACE.

PROCESS OF MANUFACTURING BROOMS.

SPECIFICATION forming part of Letters Patent No. 531,055, dated December 18, 1894.

Application filed July 8, 1893. Serial No. 479,965. (No specimens.)

To all whom it may concern:

Be it known that I, DANIEL A. McDONEL, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Processes of Manufacturing Brooms, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to an improved method of "manufacturing brooms" and it consists in the several steps hereinafter described and definitely pointed out in the claim.

15 In the drawings, Figure 1 is an enlarged elevation of a stalk of broom corn. Fig. 2 is an enlarged elevation of one of the stems secured to the stalk. Figs. 3, 4, 5, 6, 7 and 8 are diagram views illustrating the different steps in the manufacture of the broom. Fig. 9 is a cross section on line *xx* in Fig. 7.

In the present state of the art there are many different methods employed in manufacturing brooms, but so far as I am aware in all methods heretofore used the stalk is 25 evened or butted as it is called, at the butt of the stems or stalks. The effect of this is to make the tips or point of the broom uneven and to even it up. In finishing the broom, it is trimmed off. The effect of this is illustrated in Fig. 2. Suppose the stems A A' (each of which represents one of the stems growing from the stalk B and separated therefrom in any desired manner) are evened at 35 the butts as shown, and then the corn is cut off on the line C C, it is evident that the fine thread-like stems D on the stem A' will be available for use at the end of the broom, but that the large stiff stem D' of the stem A will also form an element in the sweeping end of 40 the broom. Now it is well known that the fine thread-like stems or branches at the end of the main stem are especially advantageous in sweeping, and if these branches can be preserved as nearly as possible in their entirety it not only adds to the practical utility of the broom but also adds to the bushiness of the end of the broom, which is one point of superiority liked by buyers.

50 In forming the broom I utilize a brush

which is formed by first sorting or evening the stalks to the point, as shown in Fig. 3, in which I have shown a number of stalks of corn in a bunch butted at the points against a board or other flat surface E. When thus 55 butted they are put under a suitable knife and the butts are trimmed, say upon the line F, leaving the longest corn of a greater length than is required for the finished broom.

In cutting the corn upon the line F many 60 of the fibers or branches originally secured to the stalk will be severed therefrom. The corn thus trimmed I next even or butt to the points again which will move the shortened fibers down, so that the fine branches or bifurcations at the end on all the stems will be 65 bunched at the point, as shown in Fig. 4, the butts being uneven. I next trim the corn thus evened to the length desired for use cutting it on the line G in Fig. 4. The corn is 70 now ready to be made into a broom. The corn for the covering of the broom is necessarily somewhat longer than the corn for the body. After the material for the brush has been arranged for use, I secure the "cover" 75 to the handle with the points extending upward thereon. To do this I secure the lower end H of the handle I in any suitable clamp J and bind on near the end a suitable handle K of corn, by means of a binding wire L. 80 When thus secured in position I trim down the edges to form a substantially square shoulder M.

I am aware that coverings for brooms have before been secured with the points extending 85 up the handle, but I believe I am the first to secure the covering corn thus, as the first step of securing the corn to the handle and then trimming it down to the squared shoulder, as shown at M, against which the squared 90 shoulder on the body N may abut and make a good joint between the two.

The body N I preferably manufacture and attach in the following manner: A handful of corn of suitable size, trimmed as described 95 and butted or evened at the butts is placed in a U-shaped staple or binding wire O, the ends of which are then bent down, as shown in Fig. 9 and secured by a staple P to the handle, forming a suitable rectangular body, the 100

upper squared end of which abuts against the lower shoulder M of the covering. The covering is then turned down over the butt, as shown in Fig. 9 by any suitable means and
5 the broom is sewed in the usual manner.

What I claim as my invention is—

The method of forming brooms consisting in securing the covering to a handle at a point
10 butts presented downward and evened, secur-

ing the body to the handle below the butts, and finally securing the covering over the body, substantially as described.

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

DANIEL A. McDONEL.

Witnesses:

M. B. O'DOHERTY,
OTTO F. BARTHEL.