

No. 788,157.

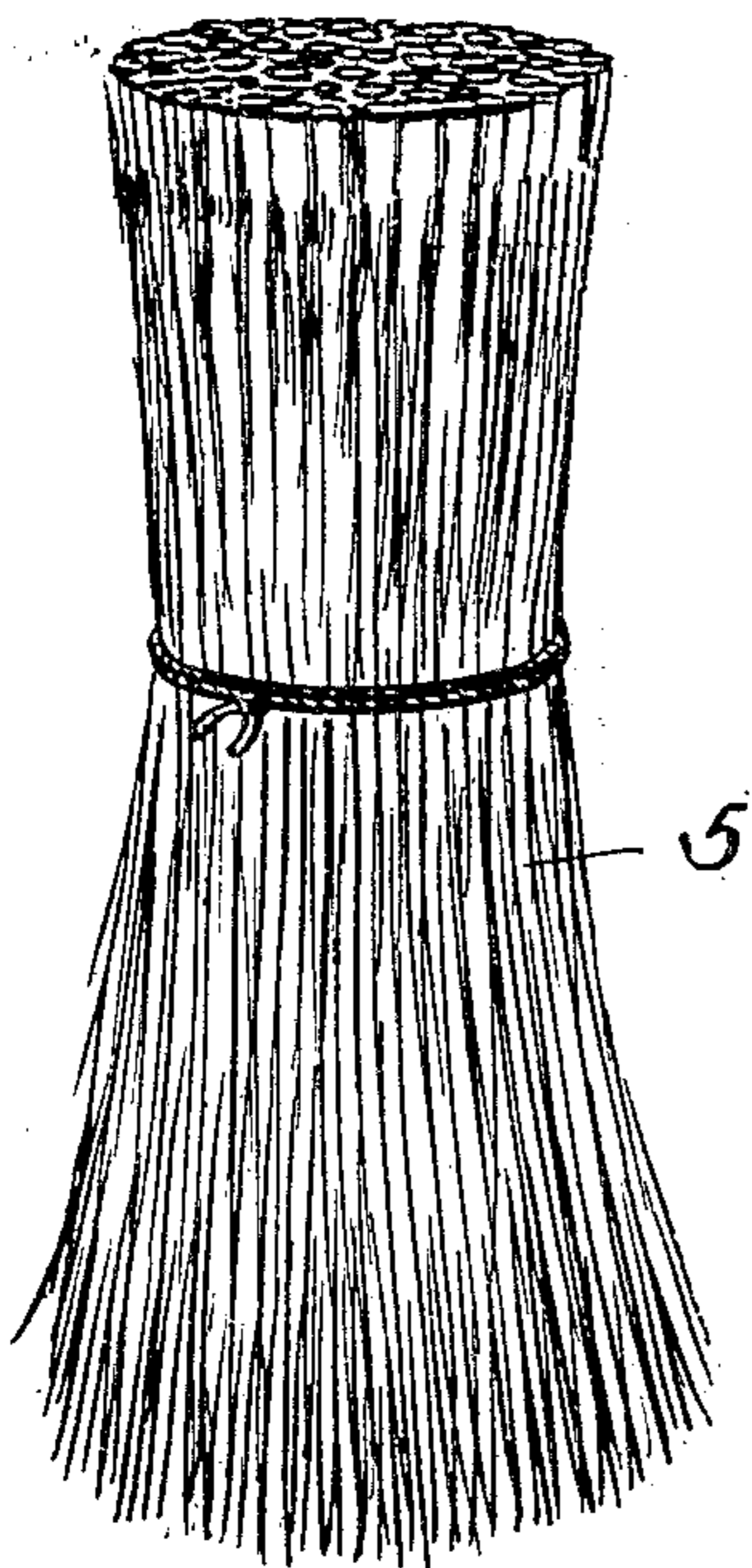
PATENTED APR. 25, 1905.

F. R. LAY.

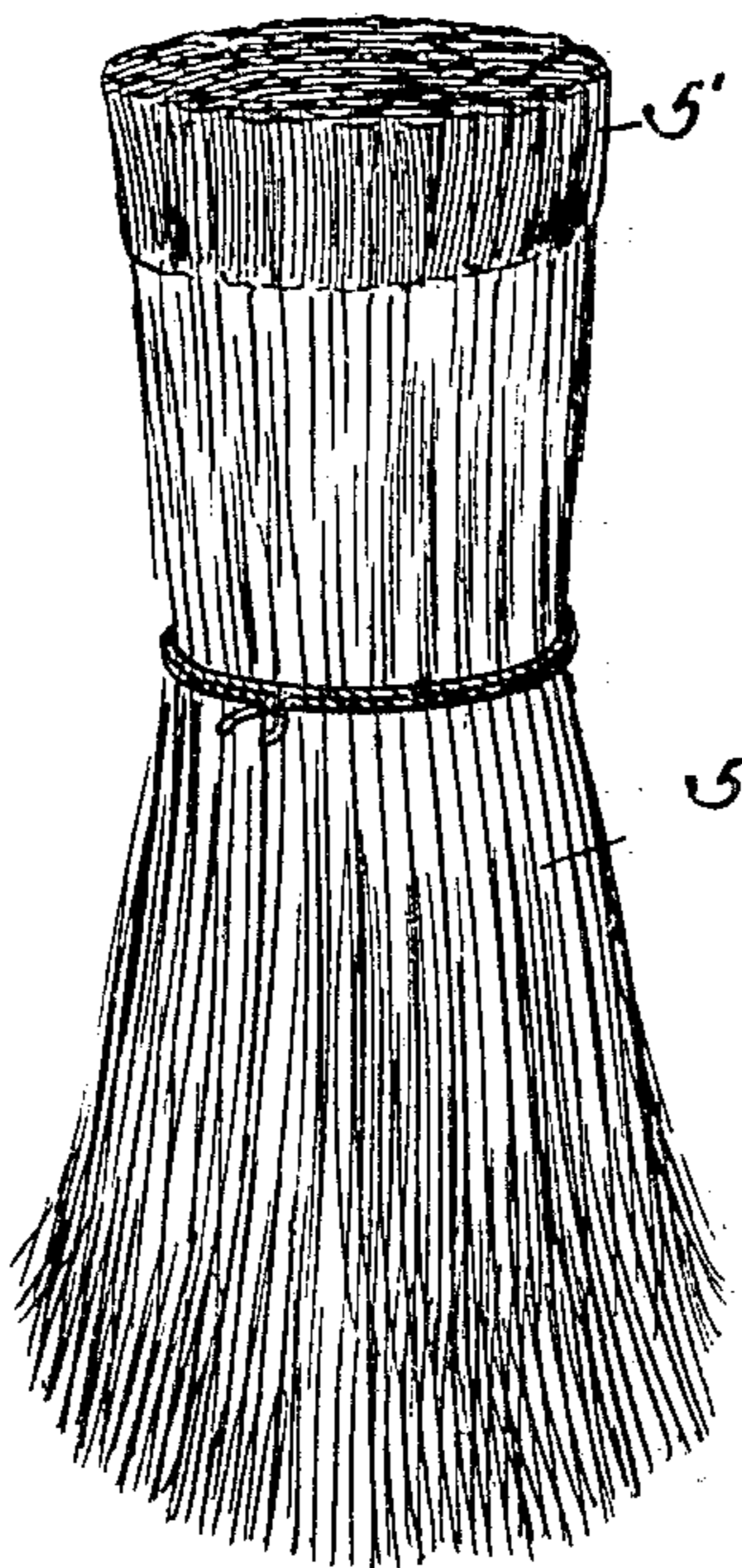
BROOM.

APPLICATION FILED JAN. 4, 1904.

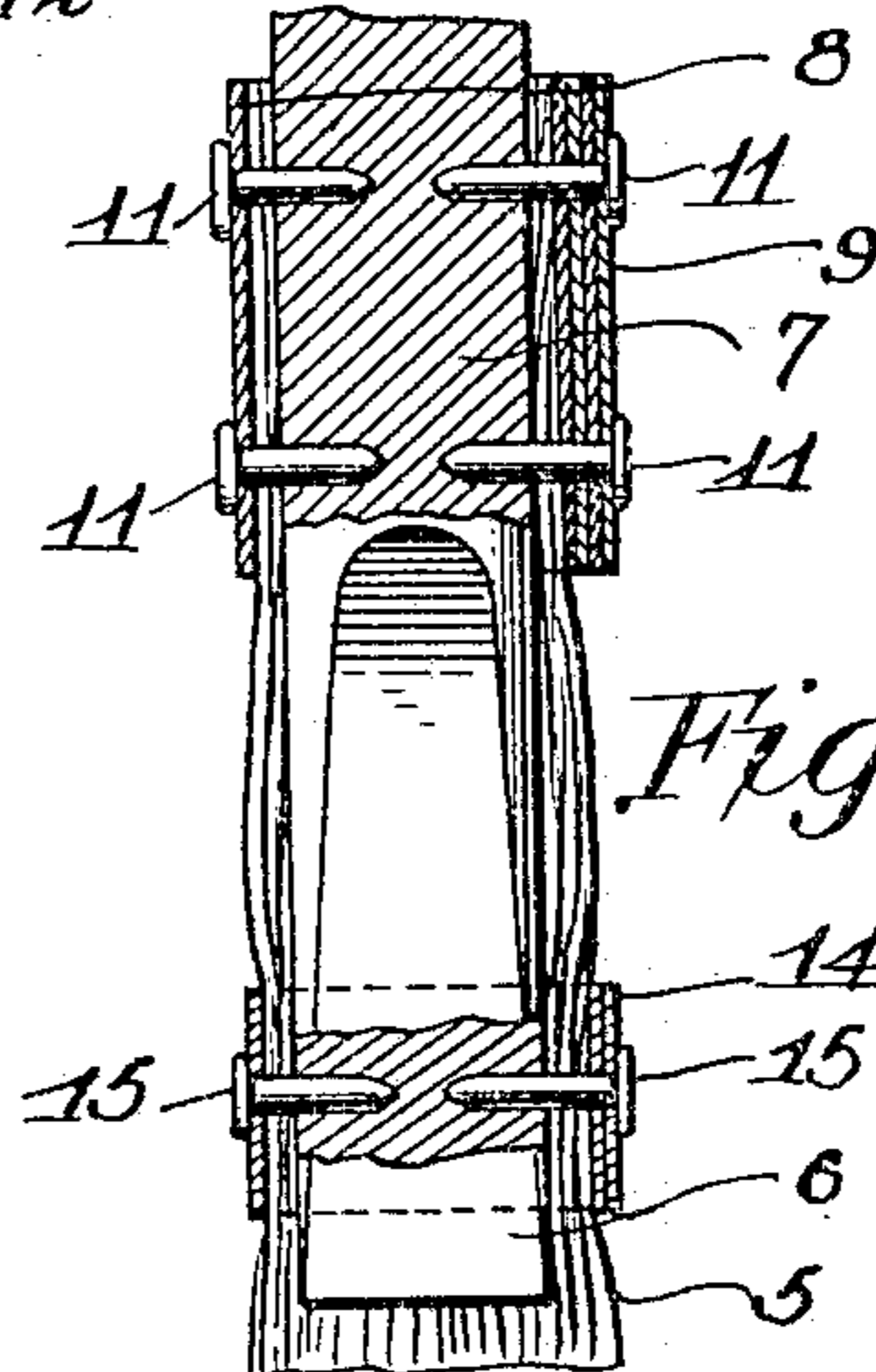
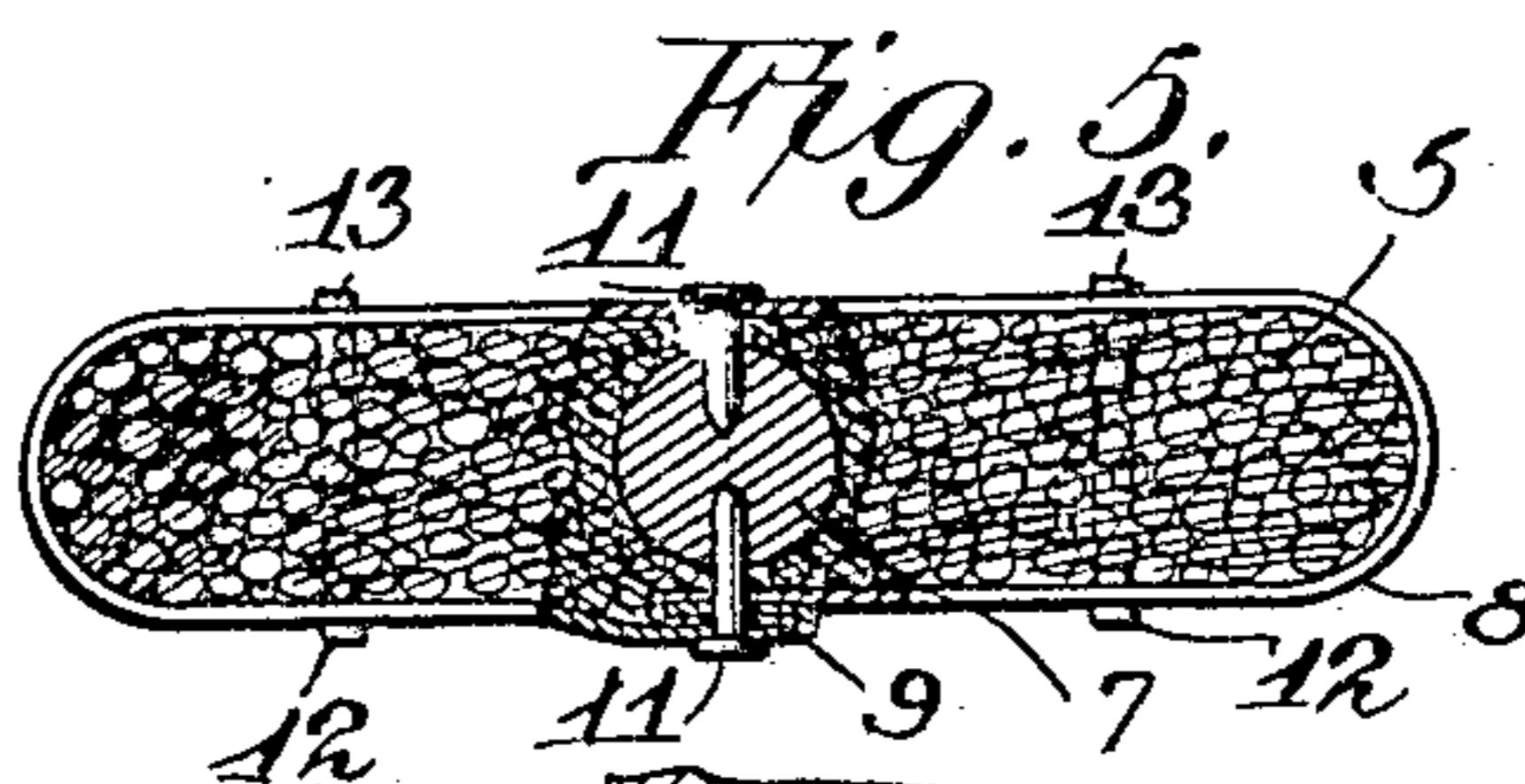
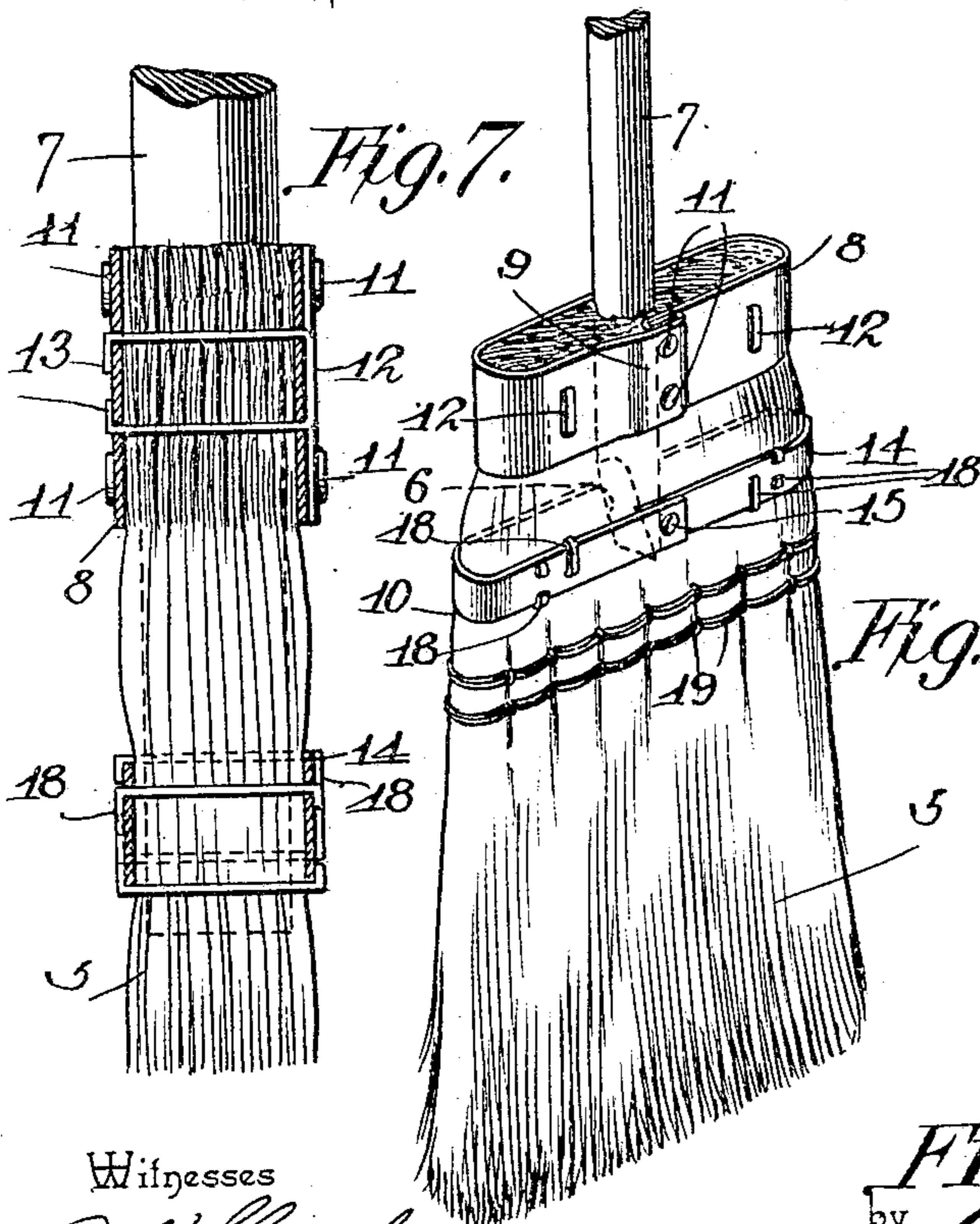
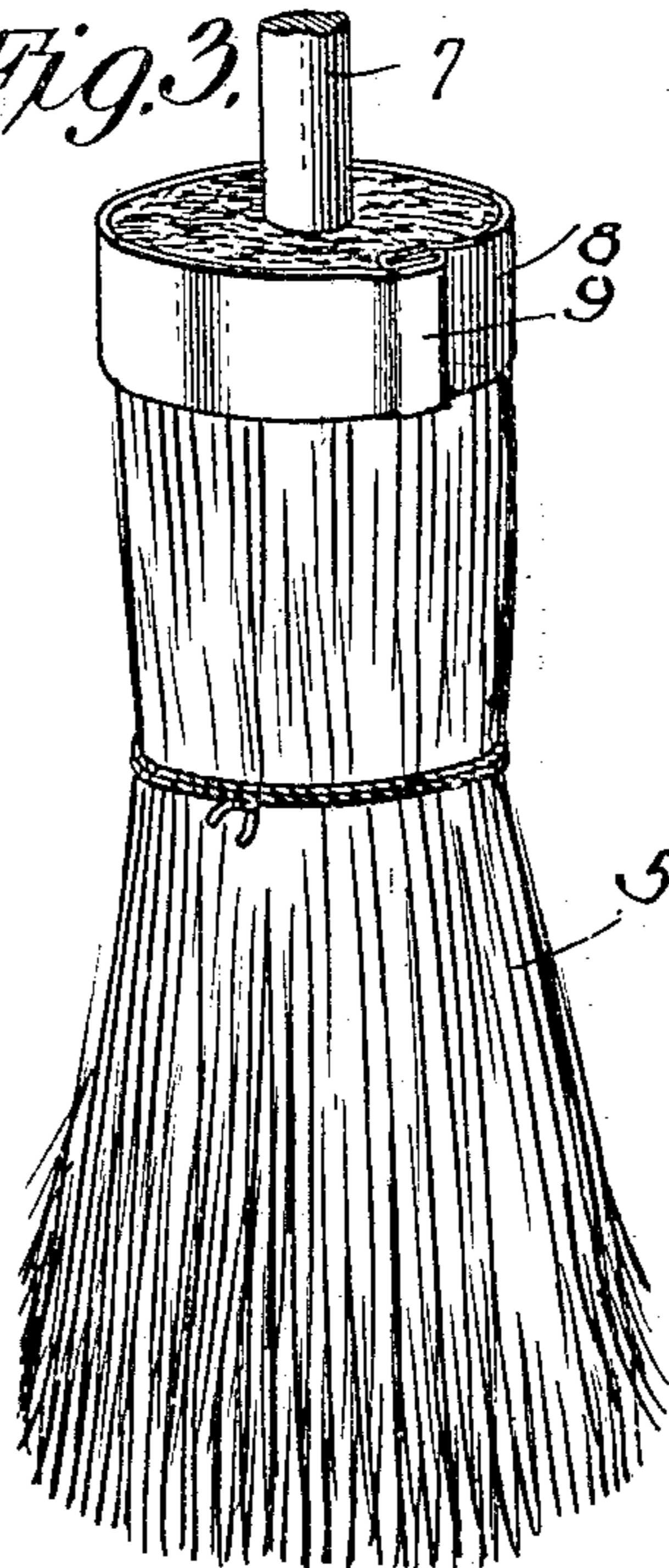
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*

*Fig. 6.*

Witnesses

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Attorneys

# UNITED STATES PATENT OFFICE.

FRANK R. LAY, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF  
TO HENRY C. CHURCHMAN, OF INDIANAPOLIS, INDIANA.

## BROOM.

SPECIFICATION forming part of Letters Patent No. 788,157, dated April 25, 1905.

Application filed January 4, 1904. Serial No. 187,695.

*To all whom it may concern:*

Be it known that I, FRANK R. LAY, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Broom, of which the following is a specification.

This invention relates to an improved broom.

In the construction of brooms considerable difficulty has heretofore been experienced in securing the broom fiber permanently within the confines of the retaining head or band inasmuch as the fiber being usually fine and smooth the nails and similar fastening devices employed fail to properly secure the fiber within the head and when the broom becomes dried or seasoned the resulting shrinkage of the fiber causes the same to be easily detached, thereby rendering the broom practically worthless.

The principal object of the invention is to overcome these objections and to provide an inexpensive, durable, and efficient broom in which the liability of the individual fibers becoming accidentally detached is effectively obviated and the number of fastening devices employed reduced to a minimum. In attaining this end the fiber or stock is tied or otherwise bundled together at or about the center and the butt-end thereof immersed a proper distance into hot pitch, cement, glue, or other suitable adhesive material, after which the handle is inserted in the center of the bundle and a band of metal or other suitable retaining material placed around the cemented end of the stock, the broom-head thus formed being compressed to give it the desired shape. After the stock has been compressed into the proper shape and while the adhesive material is still in a liquid state suitable fastening devices are driven through the retaining-band and handle and through the stock on each side of the handle, the pitch upon cooling or solidifying causing the band to adhere to the stock and the individual fibers to adhere to each other and to the handle.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view showing the stock bundled and

ready to be immersed in the adhesive material. Fig. 2 is a similar view showing the butt-ends of the stock covered with pitch. Fig. 3 is a perspective view showing the retaining-band in position and the broom-head ready to be pressed into the desired shape. Fig. 4 is a perspective view of the completed broom. Fig. 5 is a transverse sectional view of the same. Fig. 6 is a vertical sectional view, and Fig. 7 is a similar view showing the arrangement of the staples.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In constructing the broom a sufficient quantity of broom-straw or other fiber 5 is bundled together, as indicated in Fig. 1 of the drawings, and the bent ends thereof immersed in a suitable adhesive material 5', preferably hot pitch. The pointed end 6 of the handle 7 is then driven or otherwise inserted in the center of the stock and a retaining-band 8, formed of metal or other suitable material, placed around the cemented end of the stock, with its adjacent edges folded inwardly upon each other to form a lock-joint 9, as clearly illustrated in Fig. 3.

The stock with the metallic retaining-plate in position thereon is placed in a suitable machine and compressed laterally, which causes the broom-head to assume the contour shown at 10 in Fig. 4. While the broom-head is being compressed, nails or similar fastening devices 11 are driven through the retaining-band from opposite sides thereof into the handle 7, said fastening devices securing the handle within the fiber and the band in position on the head. In order to hold the retaining-band in contact with the cemented end of the stock and secure the same in position after the broom-head has been removed from the compressor, I drive staples 12 through the fiber on each side of the handle, the ends thereof being preferably clenched on the opposite side of the band, as indicated at 13. An auxiliary retaining-band 14 encircles the broom-head a short distance below the retaining-band 8, said auxiliary band having its overlapping ends secured together by nails

15 driven into the pointed end 6 of the handle 7, staples 18 being also driven into the broom-head from the opposite sides of the band, as shown.

5 The broom may be provided with the ordinary stitching 19 in order to reinforce the head and give the same the desired degree of stiffness.

10 By constructing the broom in the manner described the liability of any portion of the stock becoming detached by reason of shrinkage or for other causes is effectually prevented, as the butt-end of the stock is thoroughly permeated with adhesive material before the  
15 application of the retaining-band and the lateral strain on said band when the head is compressed forces the fibers in contact with each other, causing said fiber to adhere to both the handle and retaining-band.

20 The introduction of the handle into the stock prior to the application and compression of the retaining-band prevents the cemented ends of the fibers from being broken or otherwise injured, while by using staples instead  
25 of nails for fastening the band in position a much larger contact-surface is obtained and greater security assured.

The pitch acts as a preservative for the fibers of the stock and when solidified forms

a hard impervious coating, protecting the 30 broom-head from moisture and rendering the use of an inclosing cap or casing unnecessary.

Having thus described the invention, what is claimed is— 35

A broom-head having the butt-ends of its broom fibers exposed and saturated with pitch, a retaining-band encircling the saturated portion of the head and having its overlapping ends interlocked, a handle having a 40 pointed end inserted in the head, fastening devices passing through the interlocking ends of the retaining-band and engaging the handle, staples engaging the band and head on each side of the handle, an auxiliary retain- 45 ing-band spaced from the first-named band, staples passing through the auxiliary band and engaging the broom-head, and fastening devices engaging the auxiliary band and the pointed end of said handle. 50

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANK R. LAY.

Witnesses:

PIERRE GRAY,  
JOHN L. McMASTER.