

No. 822,667.

PATENTED JUNE 5, 1906.

C. E. HUXLEY.
BROOM.

APPLICATION FILED FEB. 29, 1904. RENEWED APR. 6, 1906.

Fig. 1.

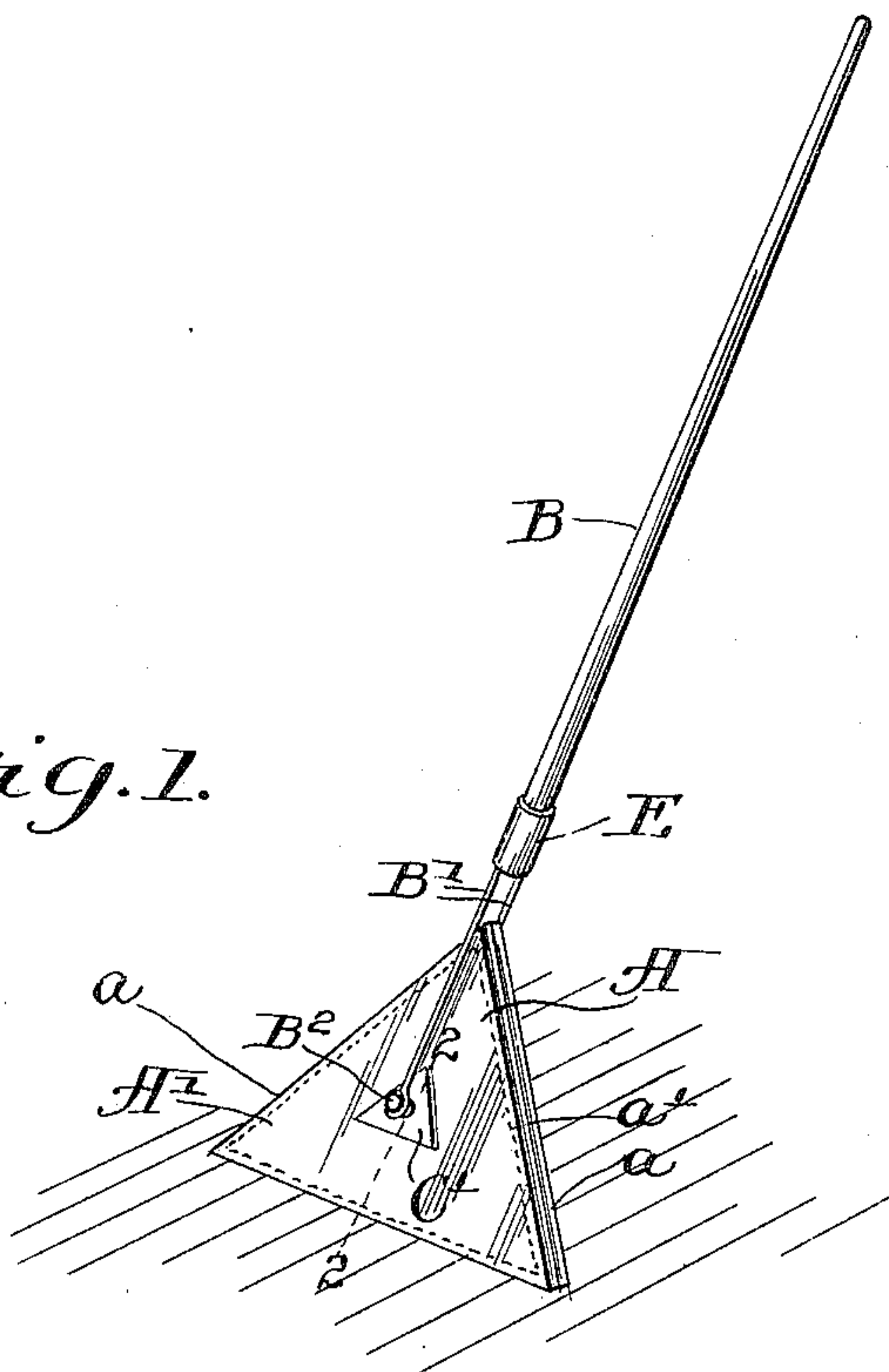


Fig. 2.

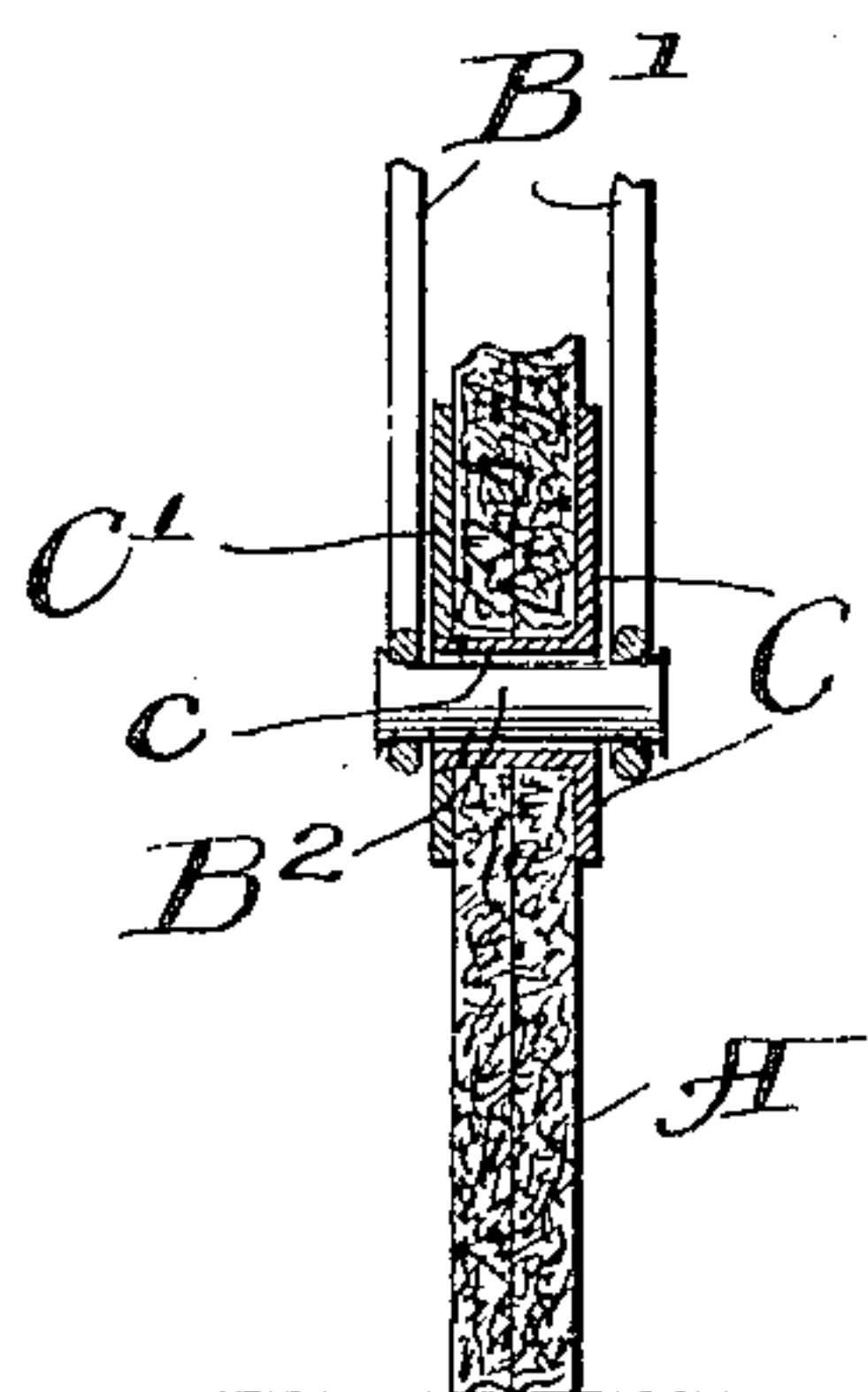


Fig. 3.

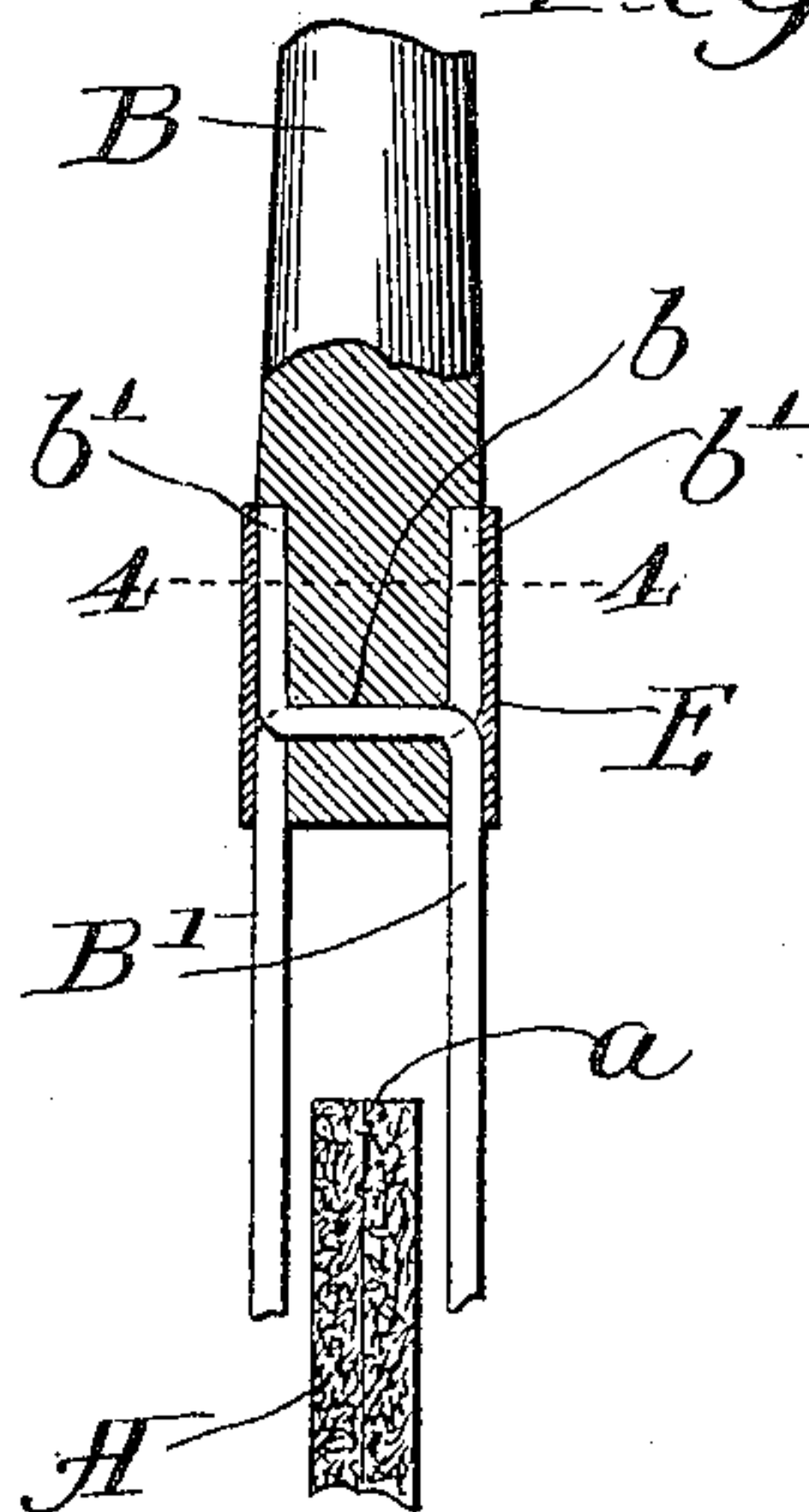
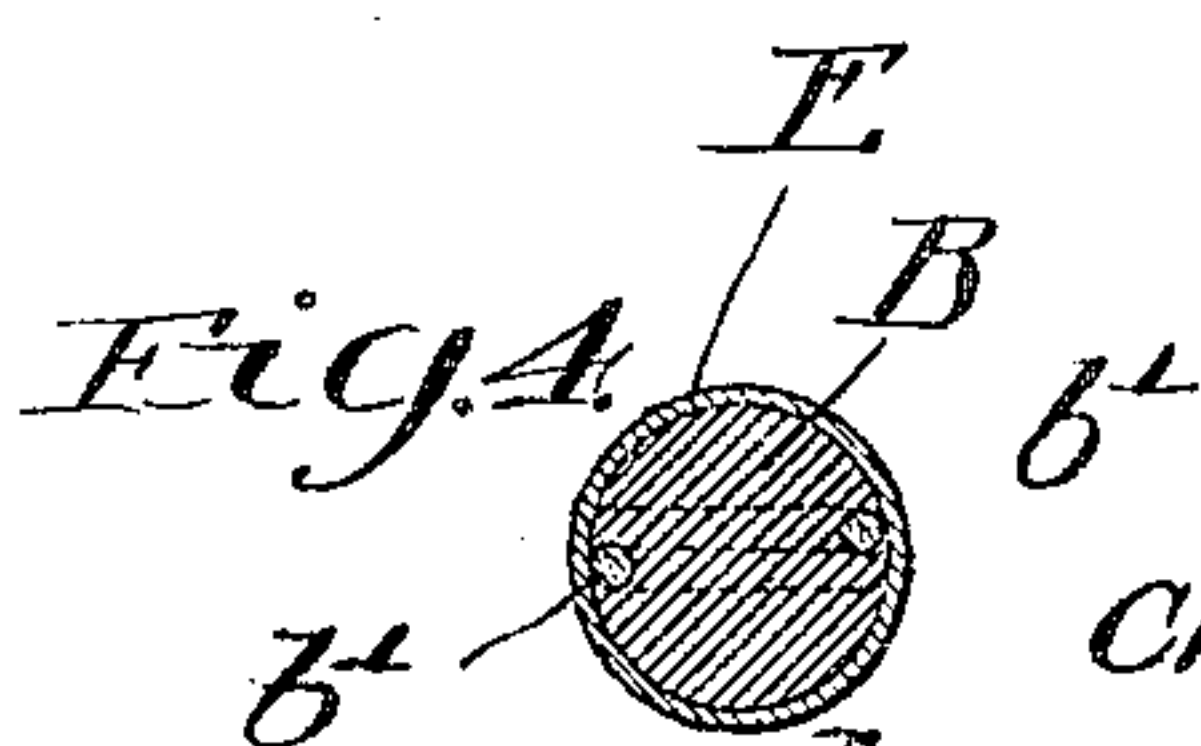
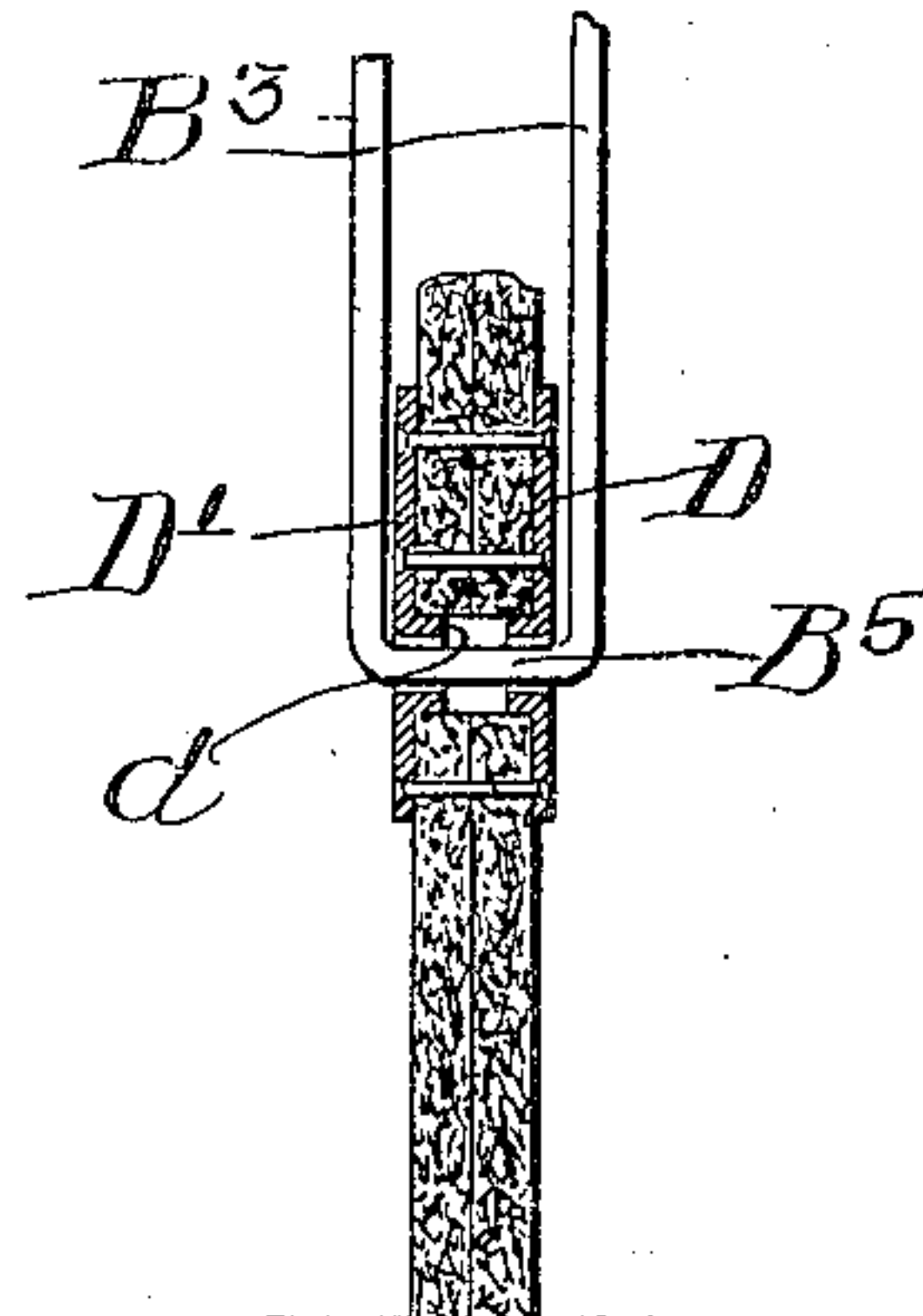


Fig. 5.



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UNITED STATES PATENT OFFICE.

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BROOM.

No. 822,667.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES E. HUXLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brooms; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a novel broom or cleaner for sweeping or cleaning smooth surfaces—such as hard-wood floors, ceilings, and walls, or the like; and the invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

Among the objects of the invention is to provide a simple and inexpensive device of this character which will operate to effectively remove dust and dirt from a smooth surface, such as a polished-wood floor, and which is so constructed as to maintain perfect sweeping contact with the surface to be cleaned regardless of how the device may approach said surface.

In the drawings, Figure 1 is a perspective view of a cleaning device or broom made in accordance with my invention. Fig. 2 is a cross-section thereof, taken on line 2 2 of Fig. 1. Fig. 3 is a detail showing the manner of attaching the shank of the handle to the fork-arms between which the broom is mounted. Fig. 4 is a transverse section taken on line 4 4 of Fig. 3. Fig. 5 is a view similar to Fig. 2, showing a modification.

The preferred form of the body of the broom A is triangular, as shown, though it may be of other polygonal form so long as it possesses a plurality of relatively long margins *a*, constituting the active or sweeping faces of the broom. The body of the broom preferably consists of a continuous web of a durable yielding fibrous material, such as felt. It may be made of a single thickness of felt or a plurality of layers, the latter being indicated in Fig. 2, and when made of a number of layers they are bound together by a row of stitching *a'* just inside the margins thereof.

The broom is provided with a handle and is connected with said handle in such manner that it is free to turn or rotate in the plane of

the body of the broom, so that either of its margins or sweeping faces *a* may be brought into contact with the surface to be swept or cleaned. It matters not, therefore, which part of the margin of the broom-body strikes the surface first when applied thereto, it will automatically adjust itself to the surface in a manner to bring one of its sweeping-faces into proper engagement with the surface to be cleaned without the necessity of manually adjusting the broom-body. The triangular shape of the broom-body is preferable, inasmuch as such shape provides a maximum length of sweeping-face with a convenient minimum number of such faces.

The form of handle herein shown, which is a preferred one, is made as follows: B designates the shank of the handle, and B' B' designate two fork-arms, preferably made of strong wire and which are attached at their upper ends to the shank of the handle and at their lower ends to a transverse shaft B², which extends transversely through the broom and has proper bearing engagement therewith. Said transverse shaft may be made separate from the fork-arms and attached thereto in the manner shown in Fig. 2, or it may be made an integral part of said arms, as shown in Fig. 5.

The broom-body is provided centrally thereof with a suitable bearing for the shaft B², and said bearing is preferably made of metal (or it may be made of any other suitably-rigid material) in order to constitute a durable and strong connection of the handle with the body of the broom. As shown in Fig. 2, the bearing consists of two apertured plates C C', one on each side of the body of the broom, near the center thereof. One of said plates—the plate C, as herein shown—is provided with a short tube *c*, located in alignment with its central opening, which extends transversely through an opening in the broom-body and through the central opening in the plate C'. The end of said tube is riveted to the plate C' by having its ends upset upon the margin of the central opening thereof. The tube *c* constitutes a rigid connection between the two side bearing-plates and constitutes a continuous bearing-sleeve which extends through the broom-body for the reception of the handle-shaft B².

In Fig. 5 the metallic bearing parts consist of two plates D D', which are fitted to the

broom-body in the same general manner as the bearing-plates C C', before described, and are each provided with a short inwardly-directed nipple *d*, which extends a short distance inwardly into the central opening of the broom-body. Said nipples may be formed by punching or stamping inwardly the plates at the central parts thereof. Said bearing-plates D D' are attached to the broom-body by means of rivets or in any other suitable manner. The short inwardly-extending nipples constitute wide or extended bearing-surfaces of the plates for the shaft of said fork-arms. In the construction shown in Fig. 5 the handle fork-arms B³ are made integral parts of the bearing-shaft B⁴, said parts being made from a continuous wire, which is first inserted into the central opening of the broom-body and is thereafter bent upwardly at its ends to constitute the parallel fork-arms B³.

The fork-arms of the handle are connected with the shank thereof in the following manner: Said shank is provided near its lower end with a transverse opening *b*, and the ends of the fork-arms extend transversely through said opening, one from each side thereof. The parts of said fork-arms below the opening *b* in the shank of the handle and the extreme ends *b'* of said fork-arms after passing through said opening *b* lie within longitudinal grooves or notches, one on each side of the handle just below and above the transverse opening therein. The meeting ends of the handle-shank and fork-arms are covered by a suitably-shaped ferrule E, preferably made of sheet metal, and which incloses and conceals the joint between the shank and fork-arms.

In the use of the broom or cleaning device it will be noted that owing to the fact that the broom-body is mounted to rotate freely on its bearing the engagement of the entire active face of one side margin of the broom-body is always insured notwithstanding the manner in which the body of the broom may approach the surface to be cleaned or the angle at which the handle is held while using the broom—that is to say, if upon bringing the broom-body against the surface to be cleaned one corner thereof should strike the surface first the continued advancement or approach of the broom toward such surface will cause the broom-body to swing upon its axis, so that one of its margins will be

brought fully and squarely upon the surface and will be maintained in such position. Furthermore, there being a plurality of sweeping-faces or margins the life of the broom will be greater than one having a single sweeping-face.

I claim as my invention—

1. A broom comprising a polygonal-shaped broom-body having a plurality of straight margins constituting the active or sweeping faces of the broom, and a handle connected with the broom-body in a manner permitting said body to rotate freely on the handle.

2. A broom comprising a polygonal-shaped body having a plurality of straight margins comprising the active or sweeping faces of the broom, and a handle provided at its lower end with a fork, the arms of which extend on opposite sides of the broom, and a shaft extending loosely through the broom-body and connected with the fork-arms.

3. A broom comprising a polygonal-shaped, continuous web-body made of fibrous material and having a plurality of straight margins constituting the sweeping-faces of the broom, and a handle provided at its lower end with a shaft upon which said body is freely rotatable.

4. A broom comprising a polygonal-shaped, continuous web-body made of fibrous material and having a plurality of straight sides constituting the sweeping-faces of the broom, and a handle provided with fork-arms which extend on opposite sides of the web and are provided with a shaft extending transversely through the web, and metal bearing-plates attached to the sides of the broom through which said shafts extend and provided with bearing-surfaces for said shafts.

5. A broom comprising a flat triangular-shaped body and a handle, the latter comprising a shank and fork-arms, said fork-arms extending on opposite sides of the body and provided at their lower ends with a shaft which extends transversely through the body and upon which the body is freely rotative.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 23d day of February, A. D. 1904.

CHARLES E. HUXLEY.

Witnesses:

EDWARD JACKSON,
D. K. MORTON.