

K. WATANABE.
BRUSH.
APPLICATION FILED DEC. 8, 1908.

916,071.

Patented Mar. 23, 1909.

Fig. 1.

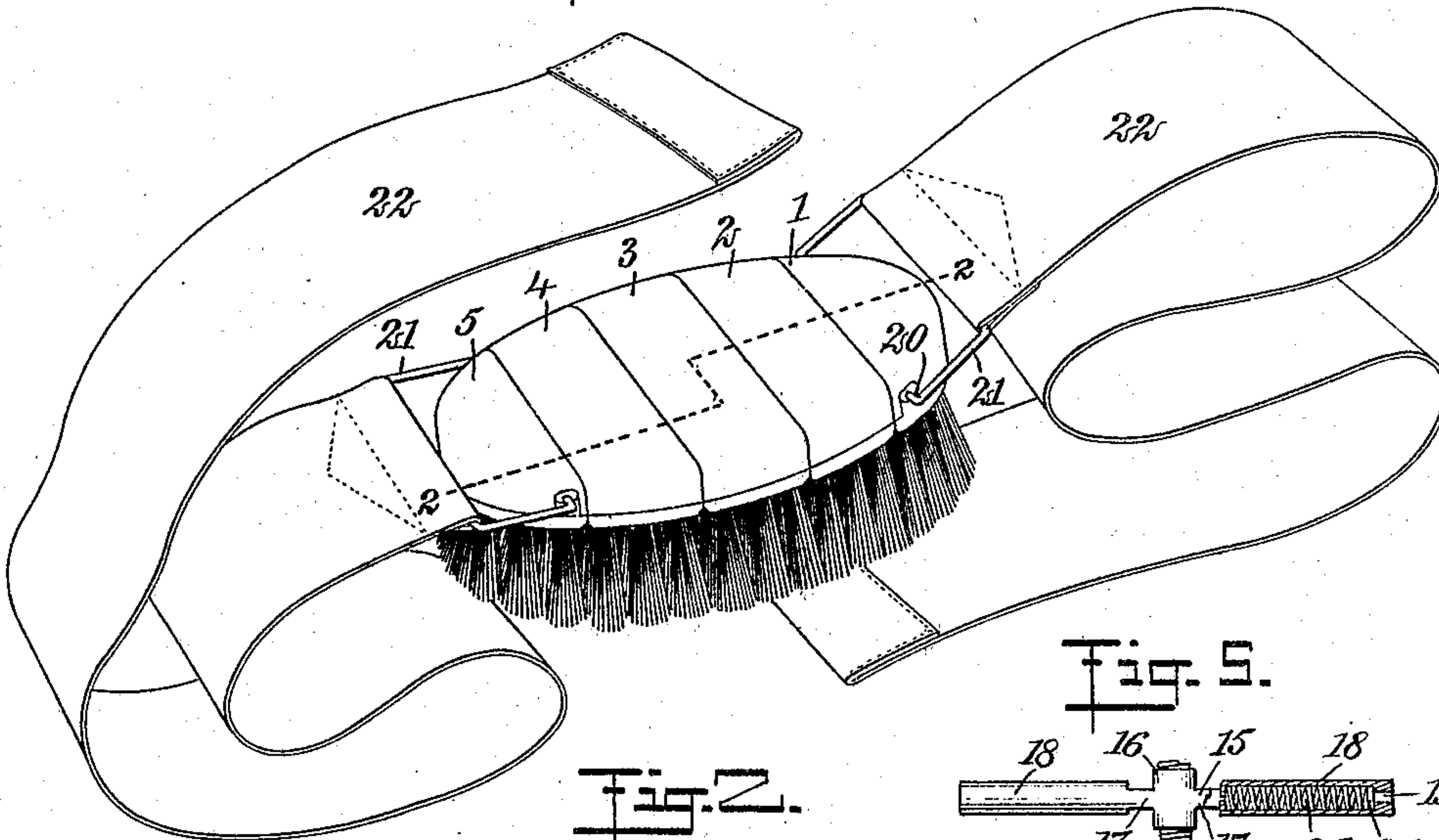


Fig. 2.

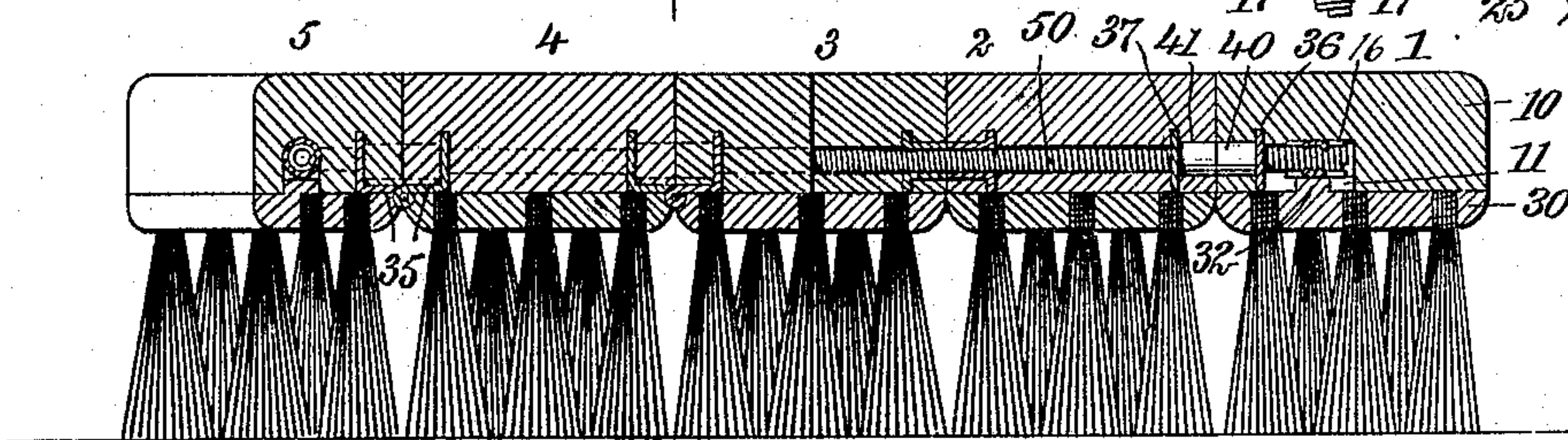


Fig. 5.

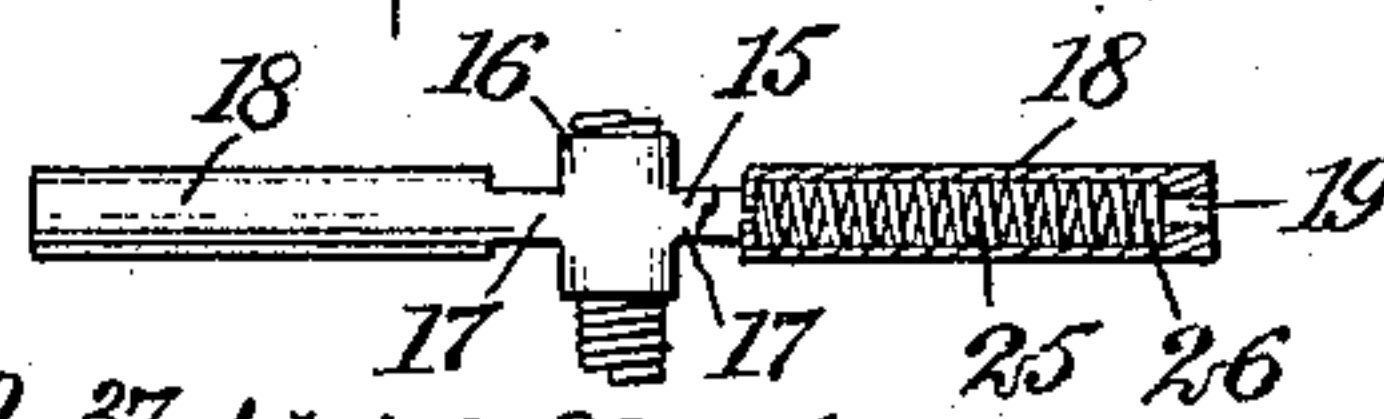


Fig. 3.

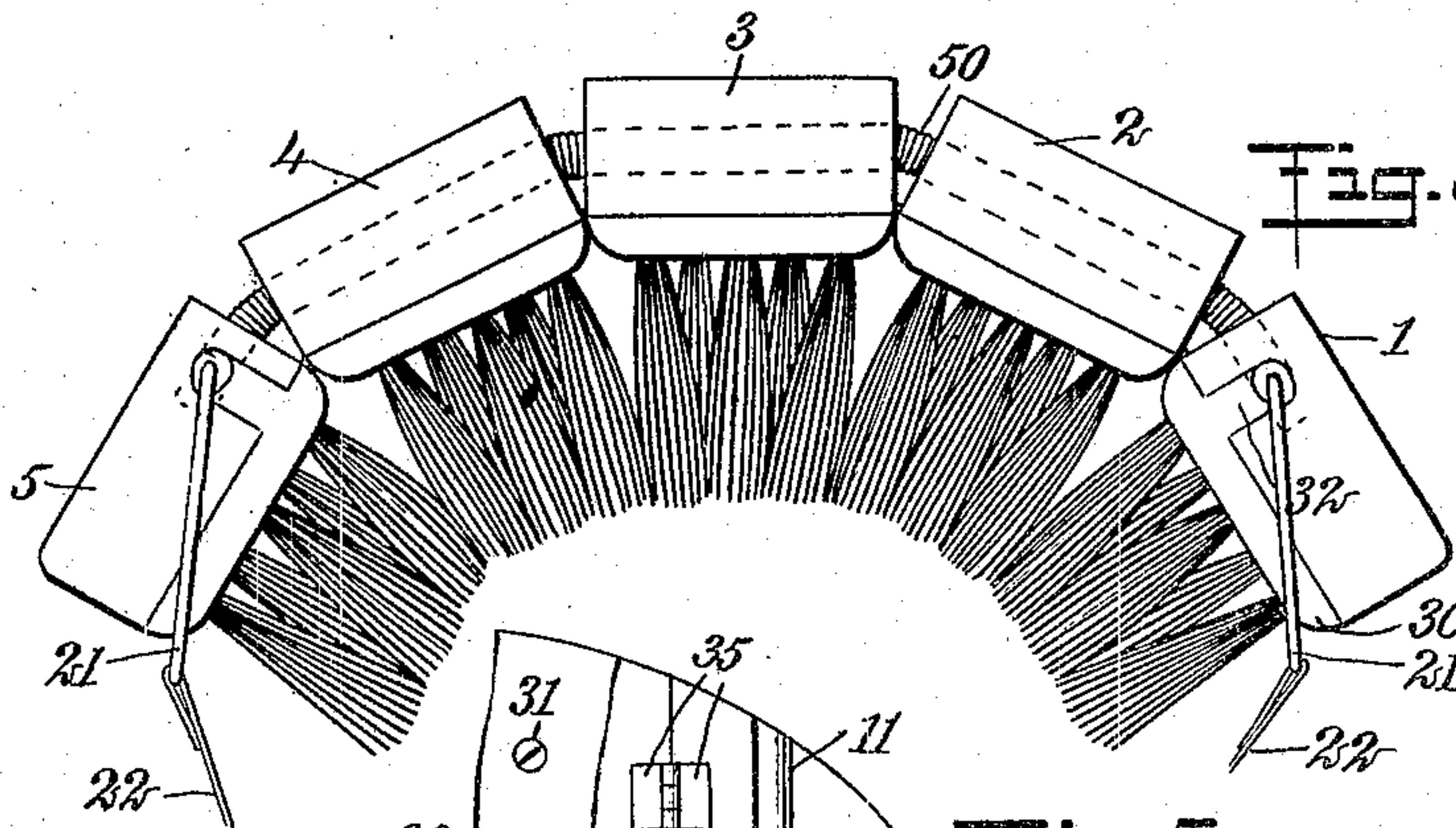
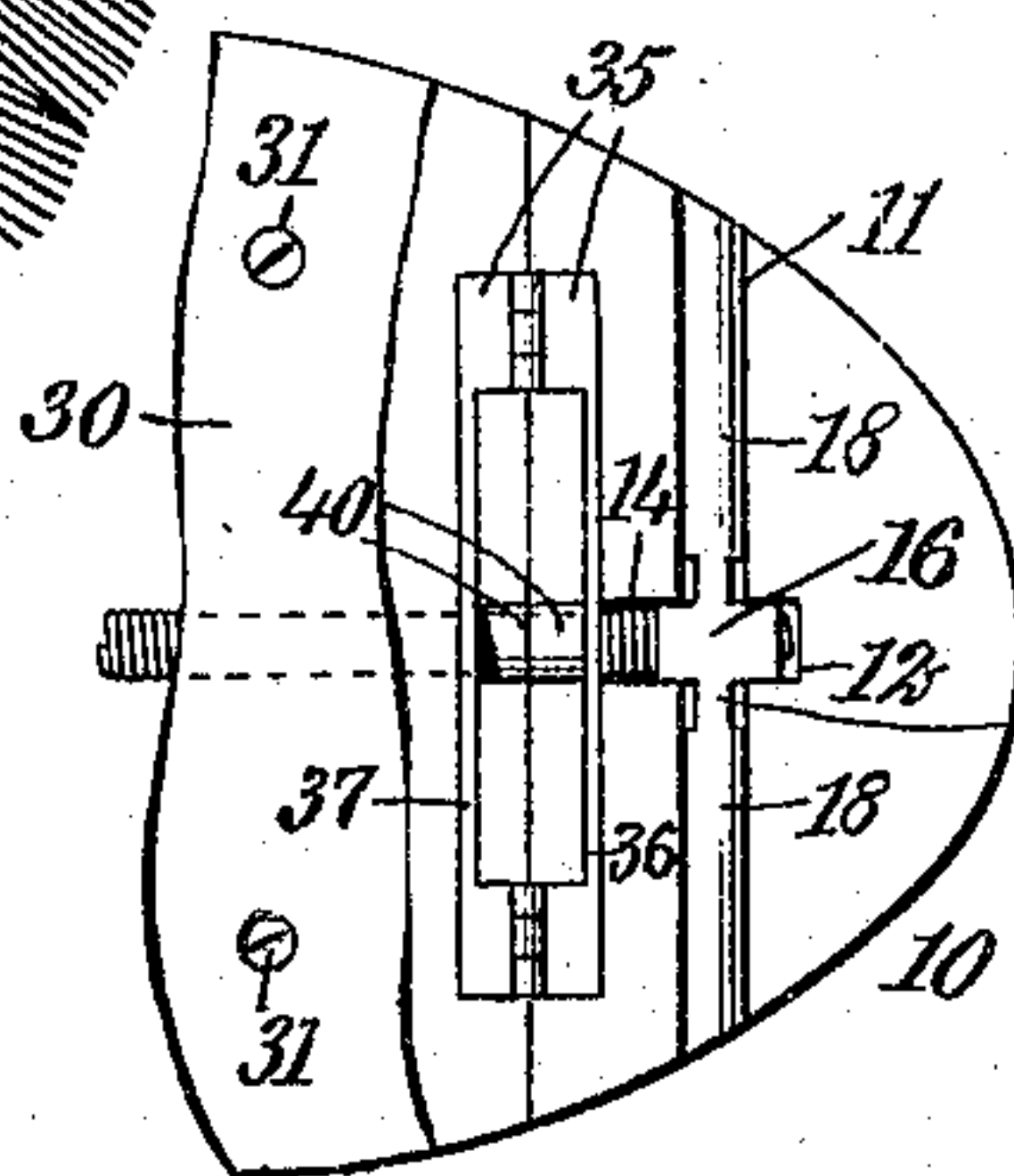


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

KAMEJIRO WATANABE, OF SEATTLE, WASHINGTON.

BRUSH.

No. 916,071.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed December 8, 1908. Serial No. 466,462.

To all whom it may concern:

Be it known that I, KAMEJIRO WATANABE, a subject of the Mikado of Japan, and a resident of Seattle, in the county of King and State of Washington, have invented a new and Improved Brush, of which the following is a full, clear, and exact description.

This invention relates to flexible brushes, and has for its principal object the production of an improved flexible brush adapted to be flexed in one direction to conform itself to the curvature of the object to which it is applied, but so constructed that it will automatically return to its normal position to form a straight back brush.

Another object of the invention is to provide a flexible brush having readily detached handles.

A further object is to provide improved guiding means for the spring at the edges of the sections, in order to prolong the life of the brush.

Although in its present embodiment my invention is shown as a bath brush, it is in no wise limited thereto but may be utilized in many other kinds of brushes.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a perspective view showing the brush complete with flexible handles attached thereto; Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1; Fig. 3 is a side elevation of the brush showing it flexed to surround an object; Fig. 4 is a partial inverted plan showing a hinge and the means for anchoring the spring; and Fig. 5 is a detail view partly in section, of the yoke for anchoring the spring and also showing one of the plungers for holding the attached handles in position.

In said drawings, the back of the brush comprises sections 1, 2, 3, 4 and 5, although it is to be understood that the number of sections may be readily increased or diminished. The end section 1 is composed of an upper member 10 provided with a groove 11 extending across the same and having a lateral recess 12 communicating therewith on one side. A groove 14 extends from the groove 11 to the inner edge of the member 10. A yoke 15 comprising a central hollow boss 16 and two laterally-extending arms 17,

is retained in the grooves 11 and 14 and in the recess 12, as clearly seen in Fig. 4.

The arms 17 may be formed into substantially cylindrical extensions 18, which are closed at their inner and outer ends. The outer end is provided with an aperture 19 for the reception of the trunnions 20 of the C-shaped fasteners 21 attached to handles 22. In each extension 18, there is a spiral spring 25 bearing against a plate 26 adapted to come in contact with the inner end of the trunnion 20 at each end of the yoke. A bristle plate 30 is secured to the under side of the member 10 by means of screws 31. Said plate has a rib 32 adapted to enter the groove 11 to hold the yoke 15 in position. The end sections 1 and 5 are alike, and the description of one will suffice for both.

In order to connect the end sections with the intermediate sections, hinges 35 are provided, which are formed from two plates having laterally-extending projections 36 and 37, which connect said hinges and may be let into the upper members of the back of the brush as shown in Fig. 2. A sleeve 40 is secured to each of the projections or plates 36 and 37, by means of solder or in any other suitable manner and said sleeves are held in alinement with recesses 41 formed in the upper members of the back of the brush.

A spiral spring 50 is secured at each end to one of the cylindrical bosses 16 and passes longitudinally through all of the sleeves 40 in the top members of the back of the brush. The adjacent faces of the sections 1, 2, 3, 4 and 5 are flat and perpendicular to the axis of the spring 50. The tendency of the spring 50 is to maintain the brush with a flat back, as shown in Figs. 1 and 2, and to automatically return the brush from the position shown in Fig. 3 to said flat position.

The attaching member 21 is provided with the trunnions 20, which are spaced apart sufficiently to enable the end of one to be freed from its aperture 19 by pushing the other end longitudinally. When one end is freed, then the handle is pushed in the opposite direction to free the other trunnion.

From the construction above set forth, it will be seen that the brush is adapted to conform to irregular surfaces, but is limited in its backward movement to form a straight brush, which may be securely gripped and which is incapable of being bent backwardly.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent:

1. A brush, comprising a plurality of sections, each provided with a flat face where it comes in contact with the adjoining section, a spring having its ends secured in the end sections of the brush and its body extending through the intermediate sections, and hinges connecting said sections whereby said brush may be flexed in one direction only and will automatically straighten itself.

2. A back having a passage extending therethrough at each end, a pair of spring-pressed plungers mounted in said passages, detachable handle-attaching means provided with trunnions adapted to coact with said plungers, and a handle secured to said attaching means.

3. A brush, comprising a plurality of sections, each end section having a passage extending therethrough and communicating with a lateral passage, the intermediate sec-

tions having transverse passages in line with said lateral passages, a yoke in each end section having a pair of spring-pressed plungers mounted therein, a spring connecting said yokes and passing through the transverse passages in said intermediate sections, detachable handles cooperating with said plungers, and means for hinging said sections together.

4. A brush, comprising a plurality of sections hinged together, oppositely-disposed sleeves mounted in said sections, a yoke in each end section, and a spring secured at each end to one of said yokes and passing through said sleeves.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

KAMEJIRO WATANABE.

Witnesses:

J. A. THOMAS,
N. LEWIS.