

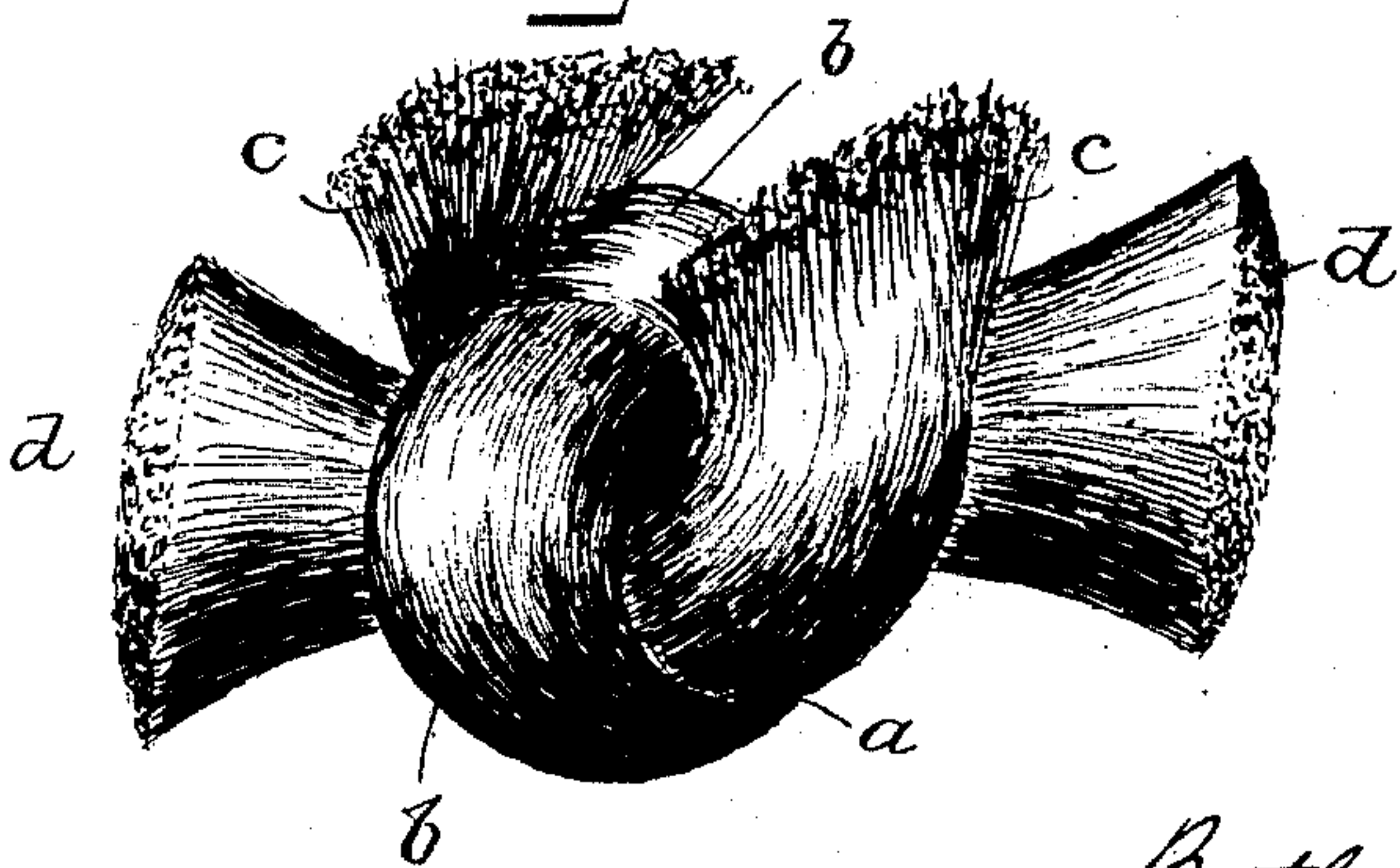
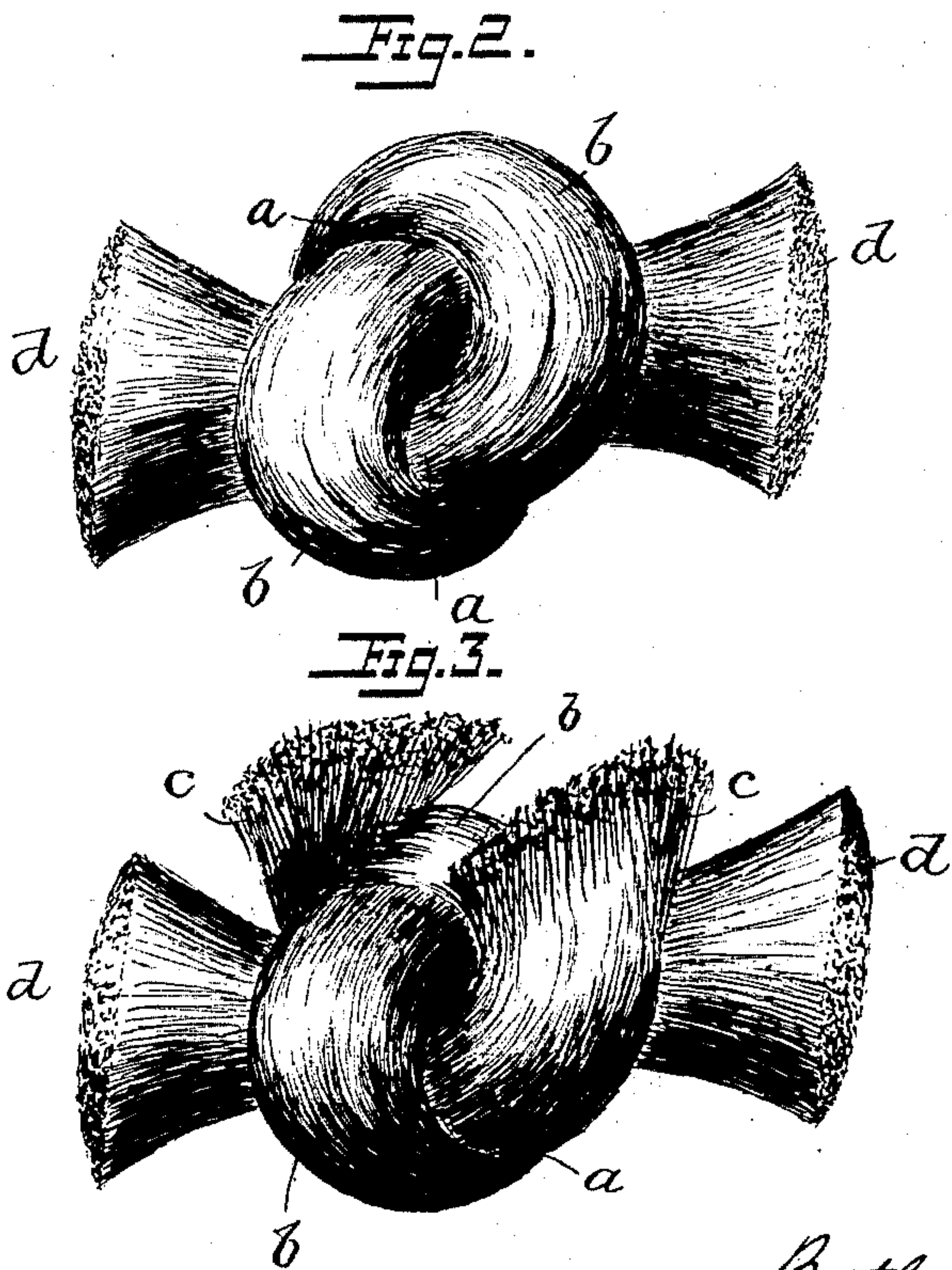
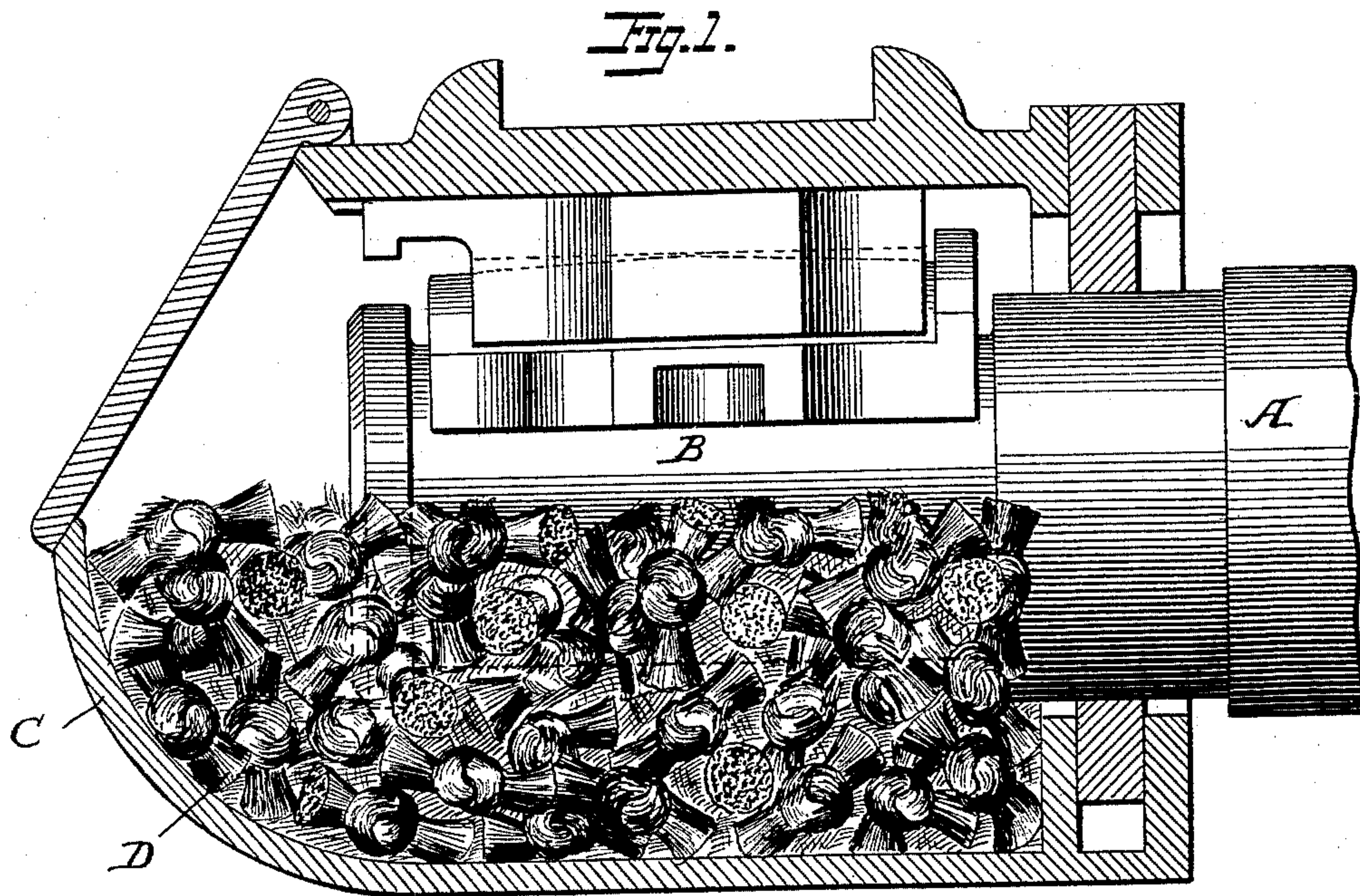
(No Model.)

2 Sheets—Sheet 1.

B. EDGAR.
LUBRICATING PACKING.

No. 485,265.

Patented Nov. 1, 1892.



Witnesses
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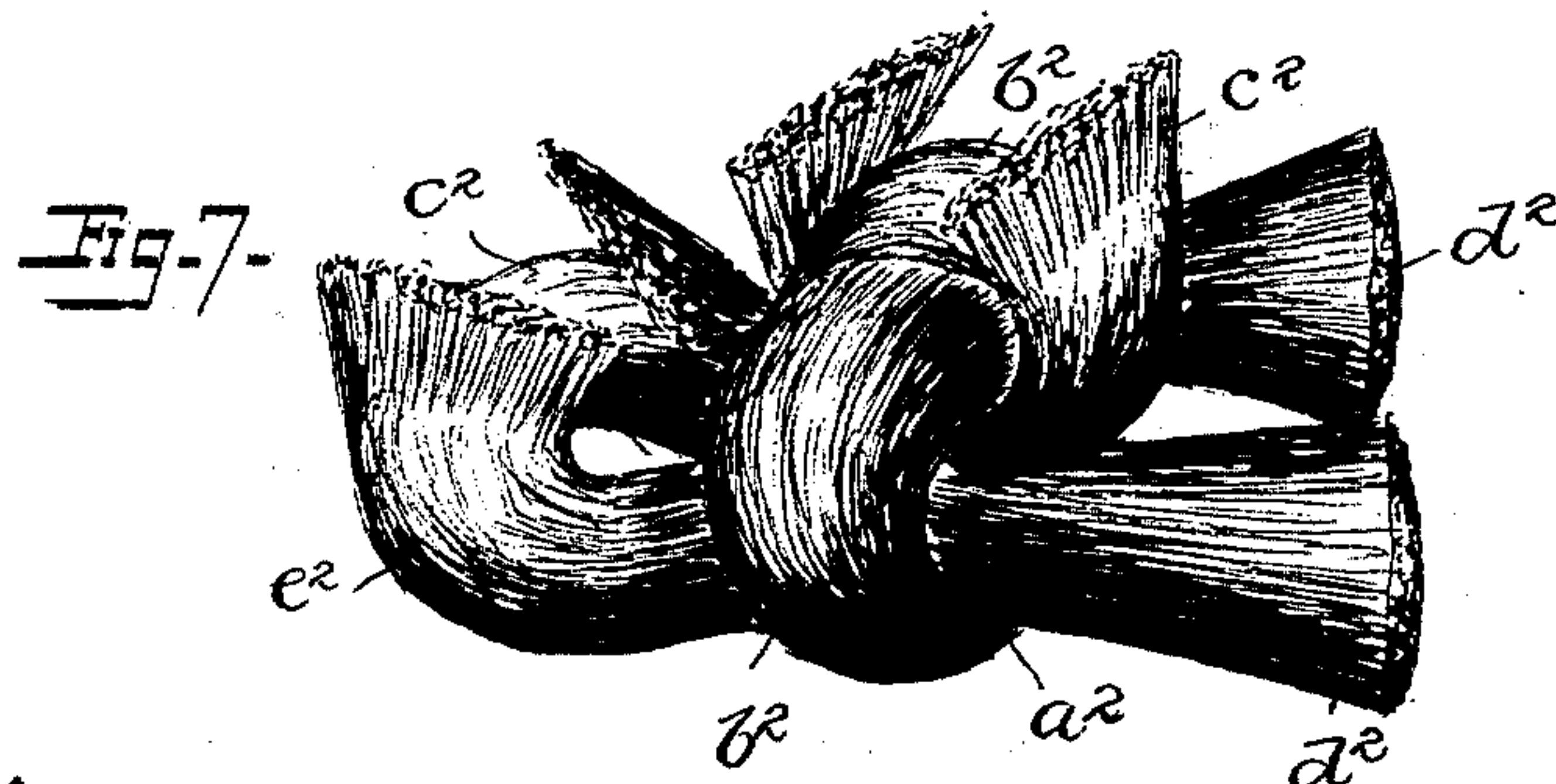
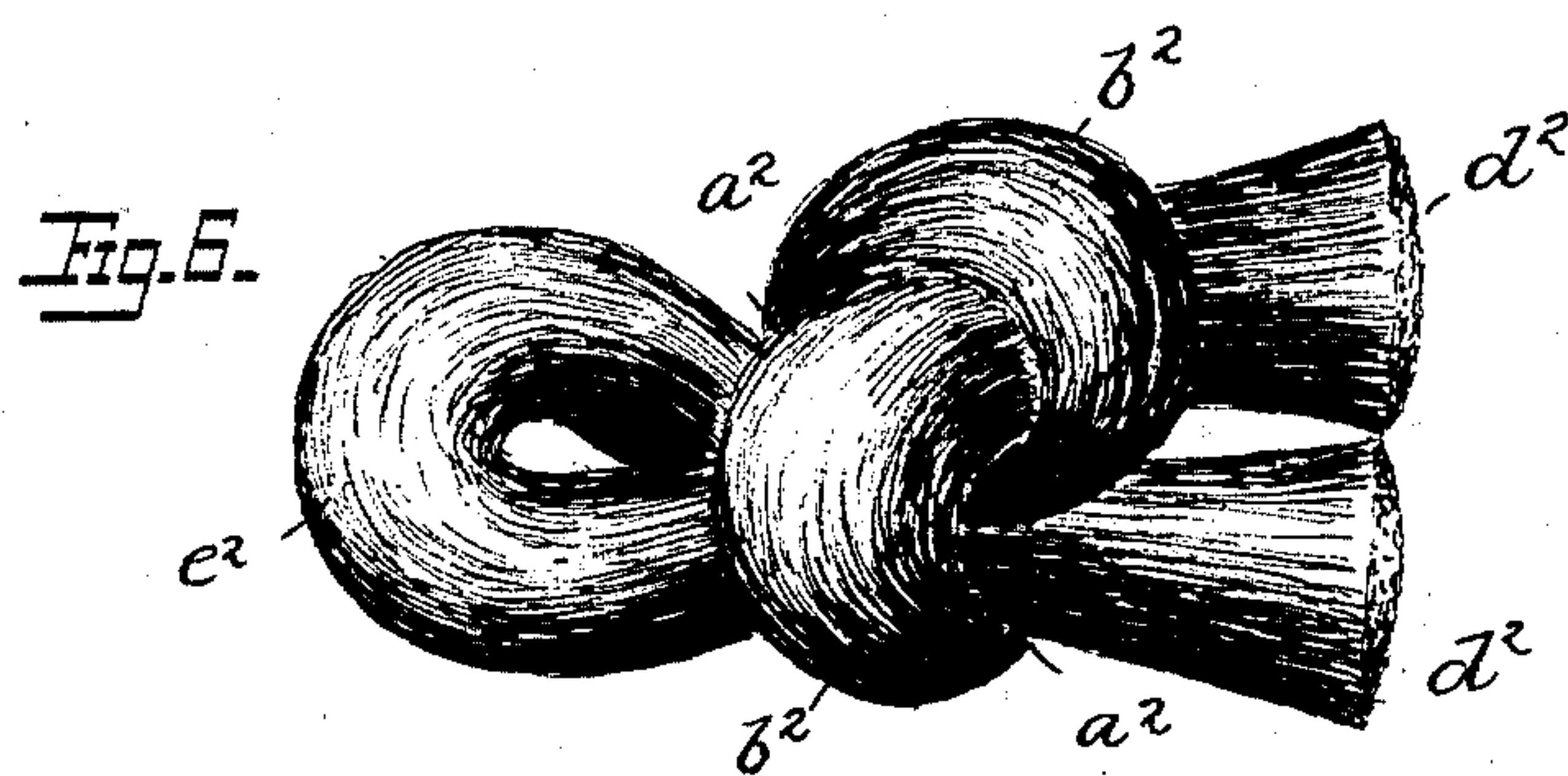
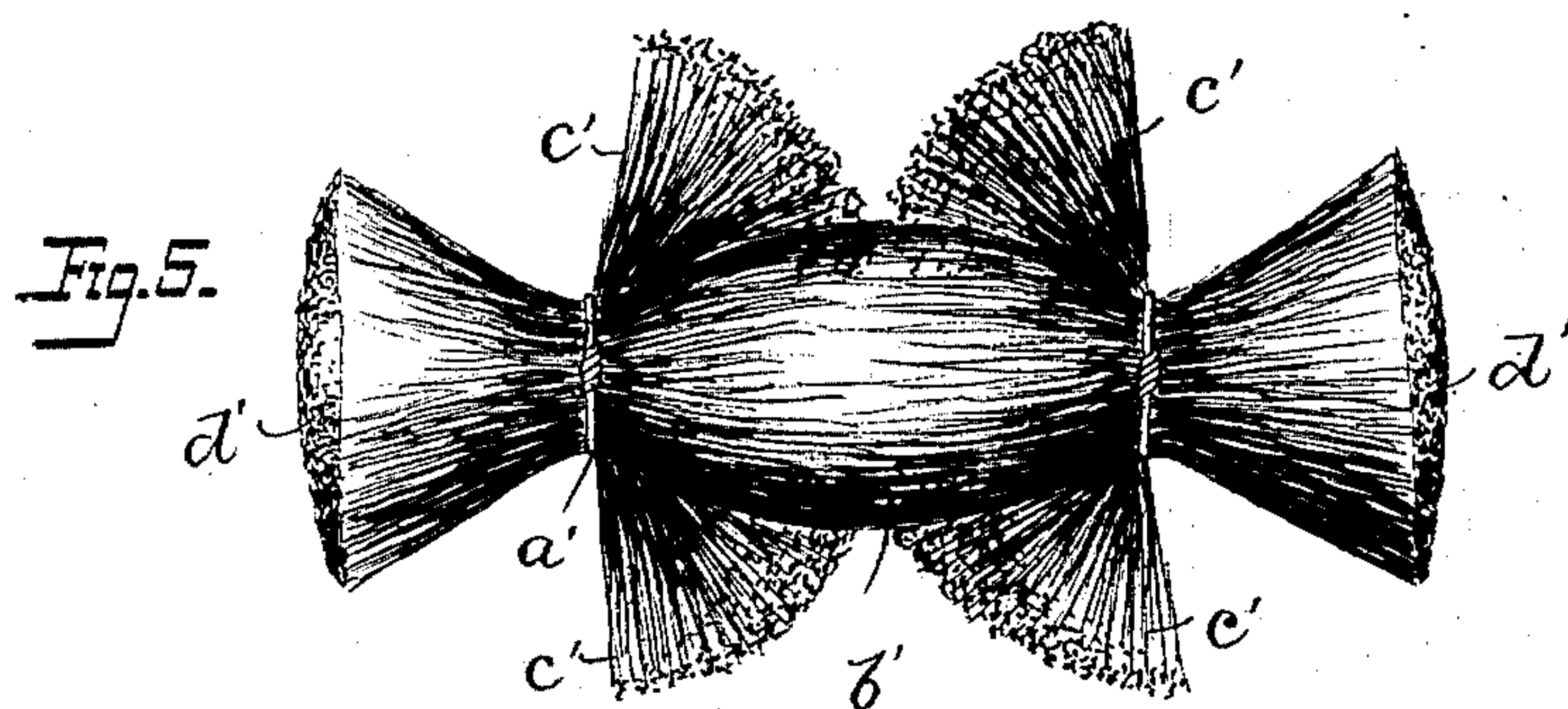
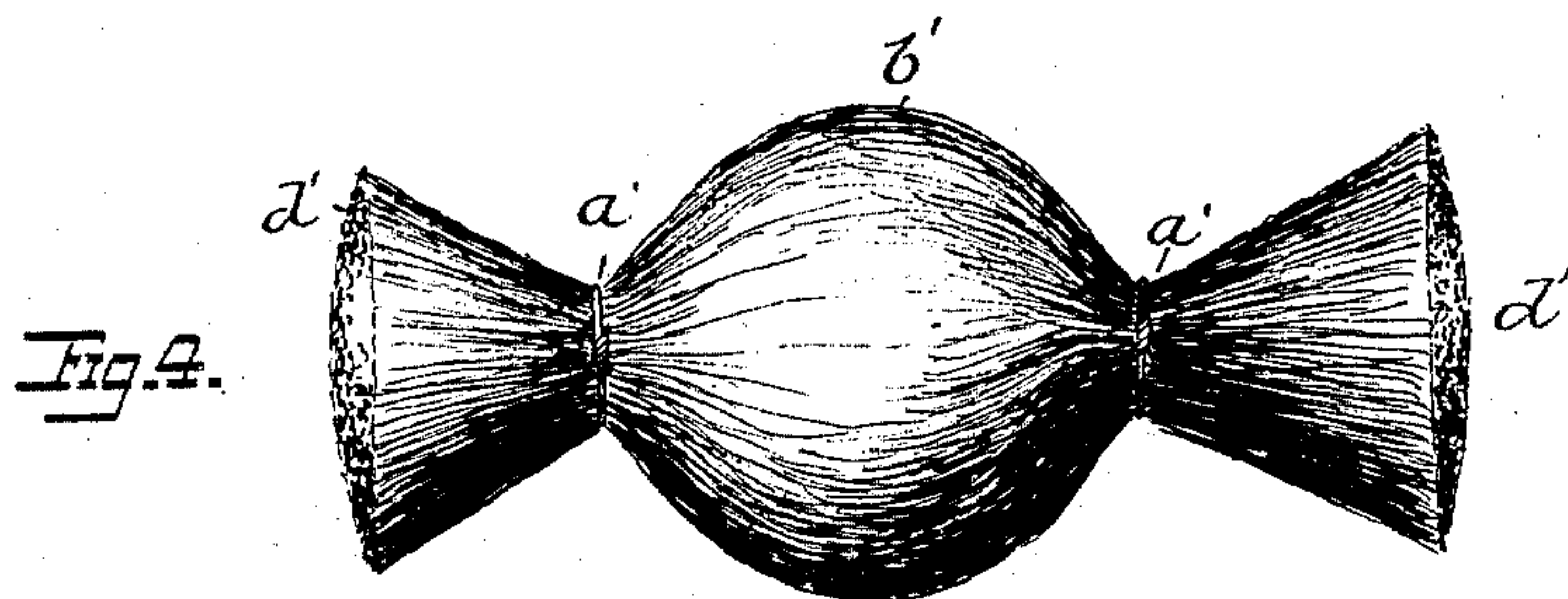
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2 Sheets—Sheet 2.

B. EDGAR.
LUBRICATING PACKING.

No. 485,265.

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UNITED STATES PATENT OFFICE.

BUTLER EDGAR, OF SUNBURY, PENNSYLVANIA.

LUBRICATING-PACKING.

SPECIFICATION forming part of Letters Patent No. 485,265, dated November 1, 1892.

Application filed May 23, 1892. Serial No. 434,100. (No model.)

To all whom it may concern:

Be it known that I, BUTLER EDGAR, a citizen of the United States, residing at Sunbury, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Axle-Lubricating Packing and Methods of Making the Same, of which the following is a specification.

My invention relates to car-axle lubricators; and it consists in a new article of manufacture and its application to the lubrication of the journals of car-axles, as more fully set forth in the following specification.

In the accompanying drawings, in which like reference-signs refer to similar parts throughout the several views, Figure 1 is an elevation of a journal-box with the side removed to show the fibrous material and the journal. Figs. 2, 4, and 6 show different forms in which the fiber may be put up in accordance with my invention; and Figs. 3, 5, and 7 show the same forms, respectively, after the fiber has been partly worn by contact with the journal.

The common method of lubricating the journals of car-axles is to pack the interior of the journal-box with a heterogeneous mass of cotton, wool, or other fiber or thread, commonly known as "waste." This waste packing requires frequent attention to keep it in operative contact with the journal, for the reason that it sinks away from the journal partly on account of wear and partly on account of its own weight and loss of elasticity, thus oftentimes letting the journal get dry and hot while there is plenty of oil in the bottom of the box.

The object of my invention is to provide a packing of any suitable fibrous material which will remain in contact with the journal for a considerable period of time without any attention whatever, and even after portions of it have been worn away. I accomplish this object by forming the fiber into loose strands or ropes and confining the strands at certain points so as to leave intermediate loops. I then preferably cut the rope or strand into sections, each section having one or more of the loops. Many expedients more or less complicated or complex have been tried for the purpose of supplying oil continuously and effectively to the journals of cars; but none of

them have been permanently adopted, for the reason that they do not fill several important requirements of railway service. In the first place, any successful lubricator or lubricating material must be such that it can be applied, adjusted, and attended to quickly and by unskilled labor, and, secondly, it must be cheap and durable and suitable for long runs without attention. In my improved lubricating-packing these conditions are fulfilled and I am enabled to use cotton or even cheaper fiber instead of the wool waste now sometimes employed, for the reason that by my improvement a tendency to expand is given to the cheaper fibers which causes them to spread even more than the wool does from its natural spring. As the wool fiber is quite expensive a great saving in cost of material may thus be effected, or if wool be employed in accordance with my invention it will be rendered much more durable and effective than when used in the form of waste, and therefore much cheaper in the end.

Referring to the drawings, A indicates the axle; B, the journal; C, the journal-box, and D the packing beneath and around the journal.

In Figs. 2 and 3 I illustrate one form in which my improved packing may be put up. In this form a simple knot is tied in the strand, thus confining the fibers at points *a a*, where it passes through the knot and leaving an intermediate loop *b* extending around the knot. Several of these knots may be formed close together upon the strand and the continuous strand thus knotted used to pack the journal-boxes. I prefer, however, to cut the strand on either side of the knot, as shown. The fibers at the free ends *d d* spread and thus prevent the knot from untying, and also form brush-like extensions which have great capillary power and are valuable for applying the oil to the journal. As the loops *b* wear away by contact with the journal the fibers of the loops are cut in two and spread apart, as shown at *c* in Fig. 3, thus forming additional brush-like extensions, which increase the volume of the material and prevent it from sinking away from the journal. By occasionally inserting a rod into the box and stirring up the packing, as is now customary in using waste, new portions of the loops will be

brought in contact with the journal, which will also cut and expand. In this way a car may be run for a very much longer period without having the journal-boxes repacked than is possible with the ordinary waste now in use.

In Figs. 4 and 5 the fiber is confined at a' by means of cord or wire bands, thus forming the intermediate loops or expansive portions $b' b'$ and the brush ends c' . Fig. 5 shows the manner in which the loops b' break up and separate into the auxiliary brushes c' .

In Figs. 6 and 7 another form of knot is shown, in which there are two loops b^2 and e^2 , having their ends confined at $a^2 a^2$, and their brush ends b^2 extending in the same direction. This is an ordinary form of knot and need not therefore be described in greater detail. Its operation under wear is shown in Fig. 7.

While I have shown but three forms in which my prepared lubricating-packing may be embodied, it will be evident that many other equivalent ways of knotting or tying the strands so as to form loops could be readily devised without departing from the spirit

of my invention, and therefore I do not wish to be understood as limiting myself to the precise forms shown and described.

What I claim, and desire to secure by these Letters Patent, is—

1. As a new article of manufacture, lubricating-packing consisting of sections of loose strands or ropes of fiber knotted or tied to form compressed portions and intermediate expansive portions, substantially as described.

2. In car-axle lubrication, the combination, with the axles and axle-boxes, of fibrous lubricating-packing arranged to bear upon the journals, said packing being knotted or tied to form compressed portions and expansive portions, which enlarge to compensate for wear when the fibers are worn through by the journals, substantially as described.

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

BUTLER EDGAR.

Witnesses:

J. A. WATSON,
WILL E. NEFF.