

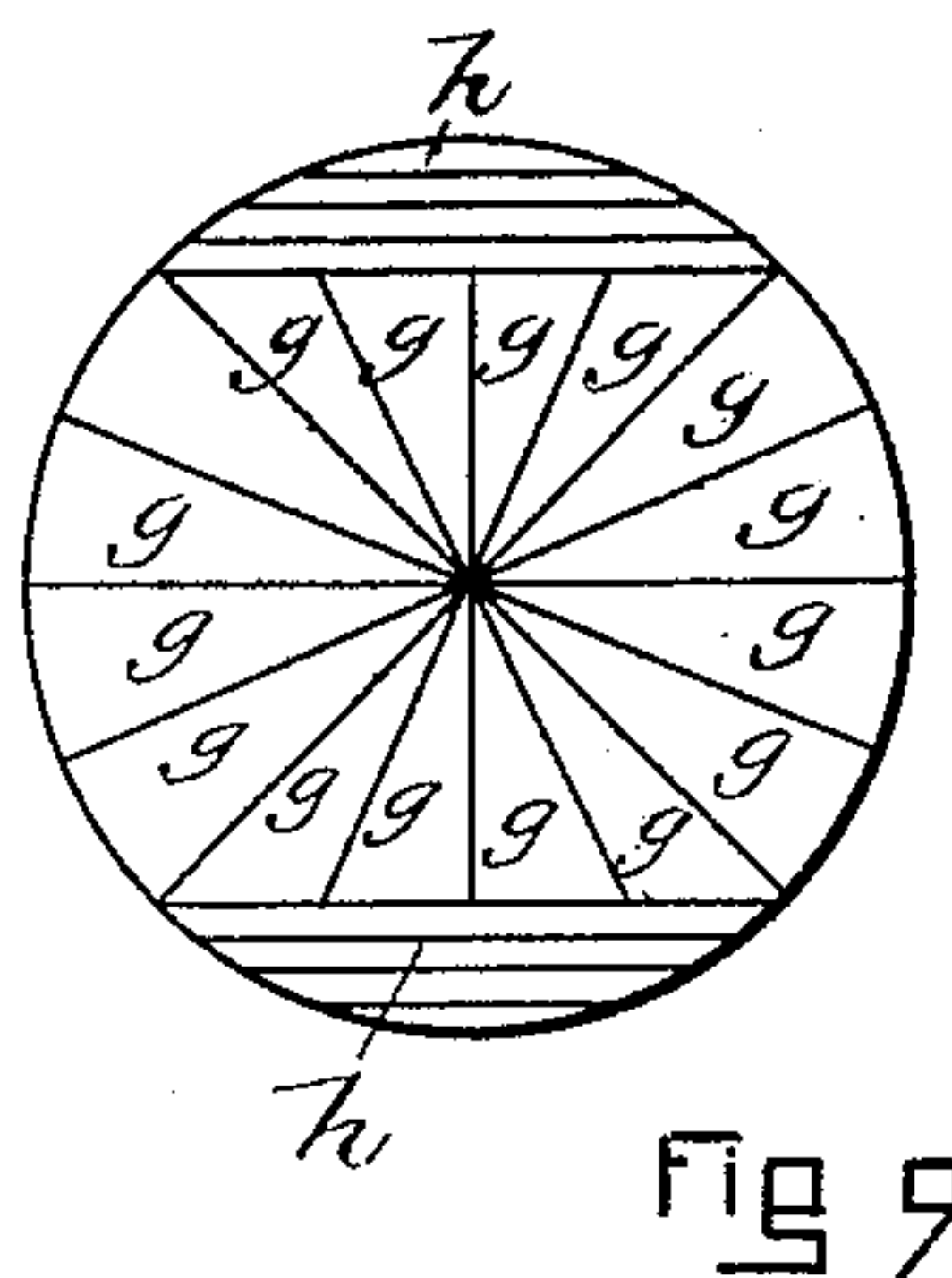
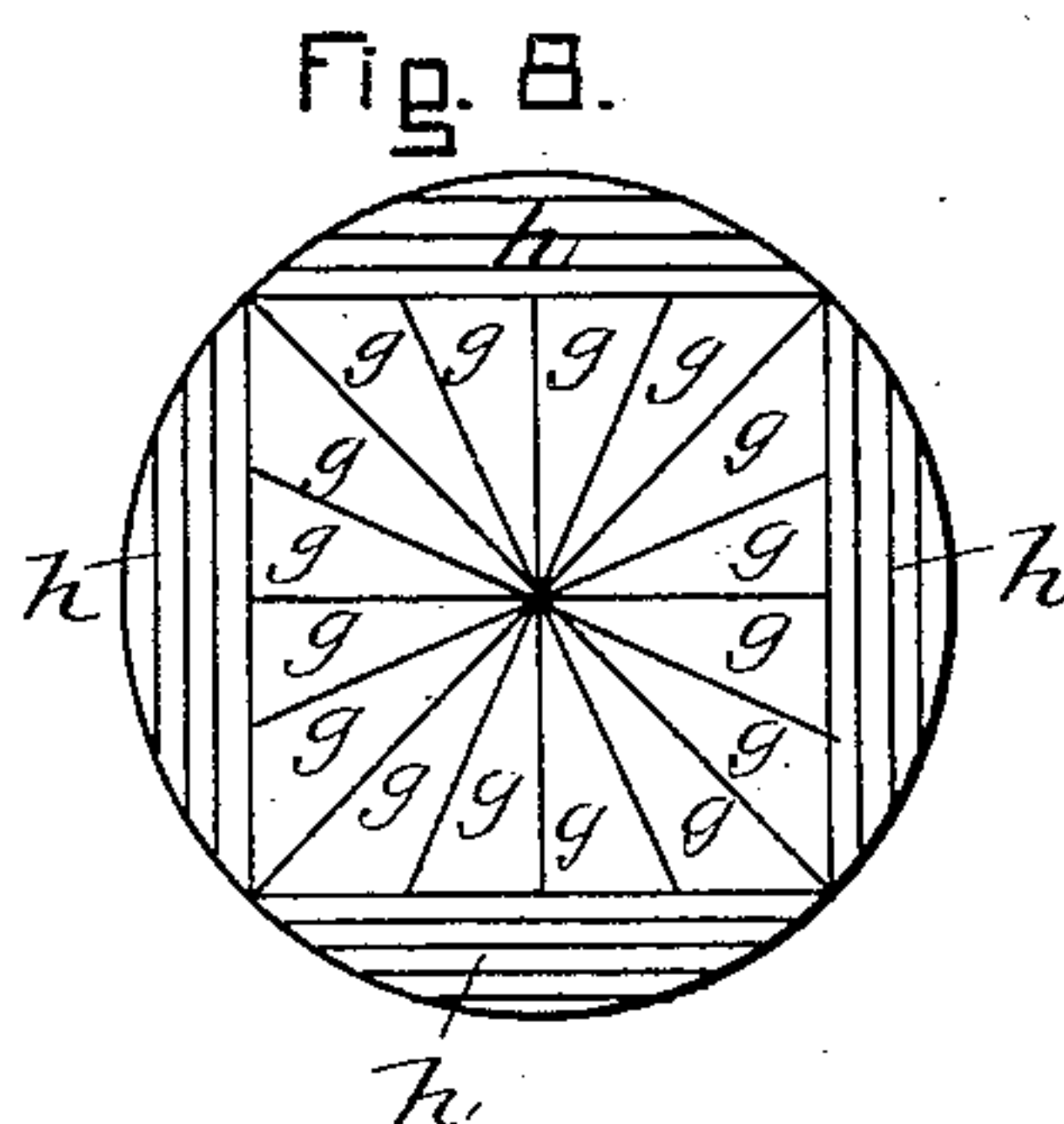
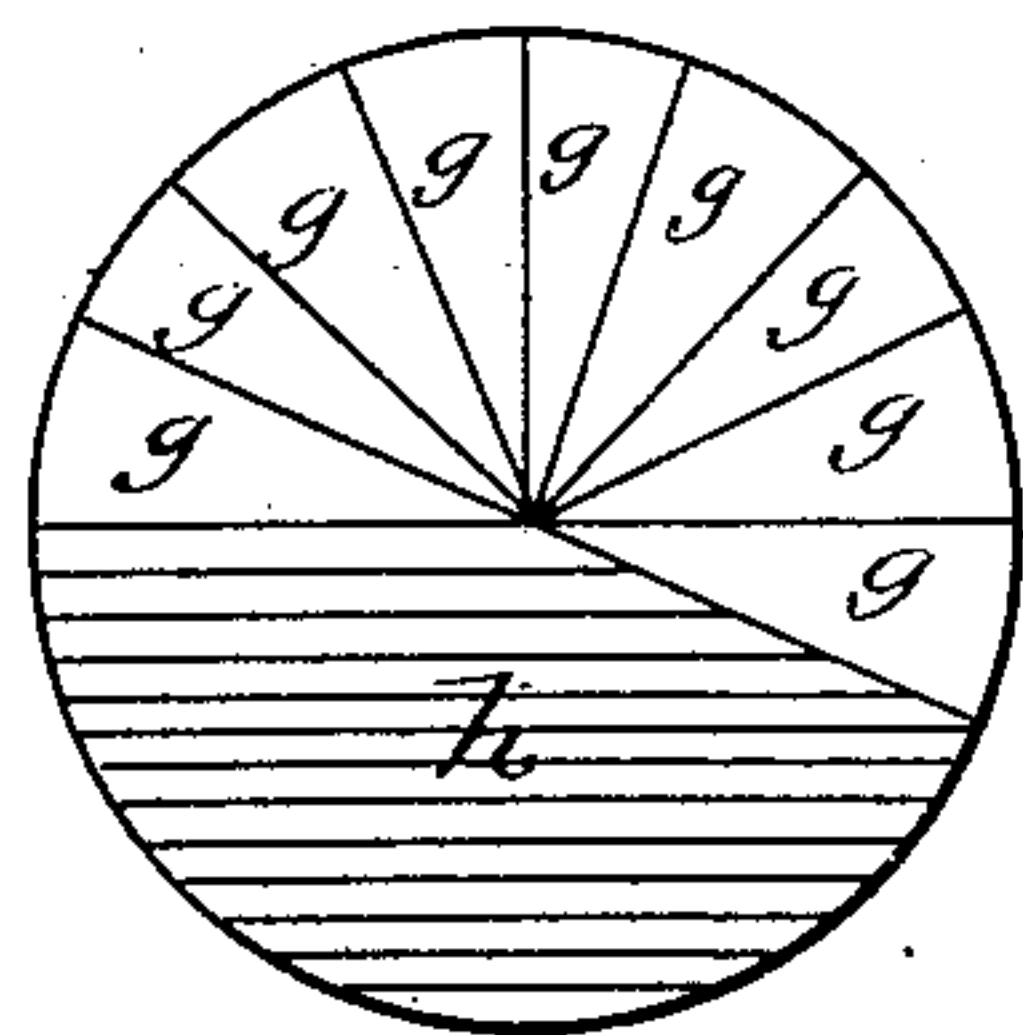
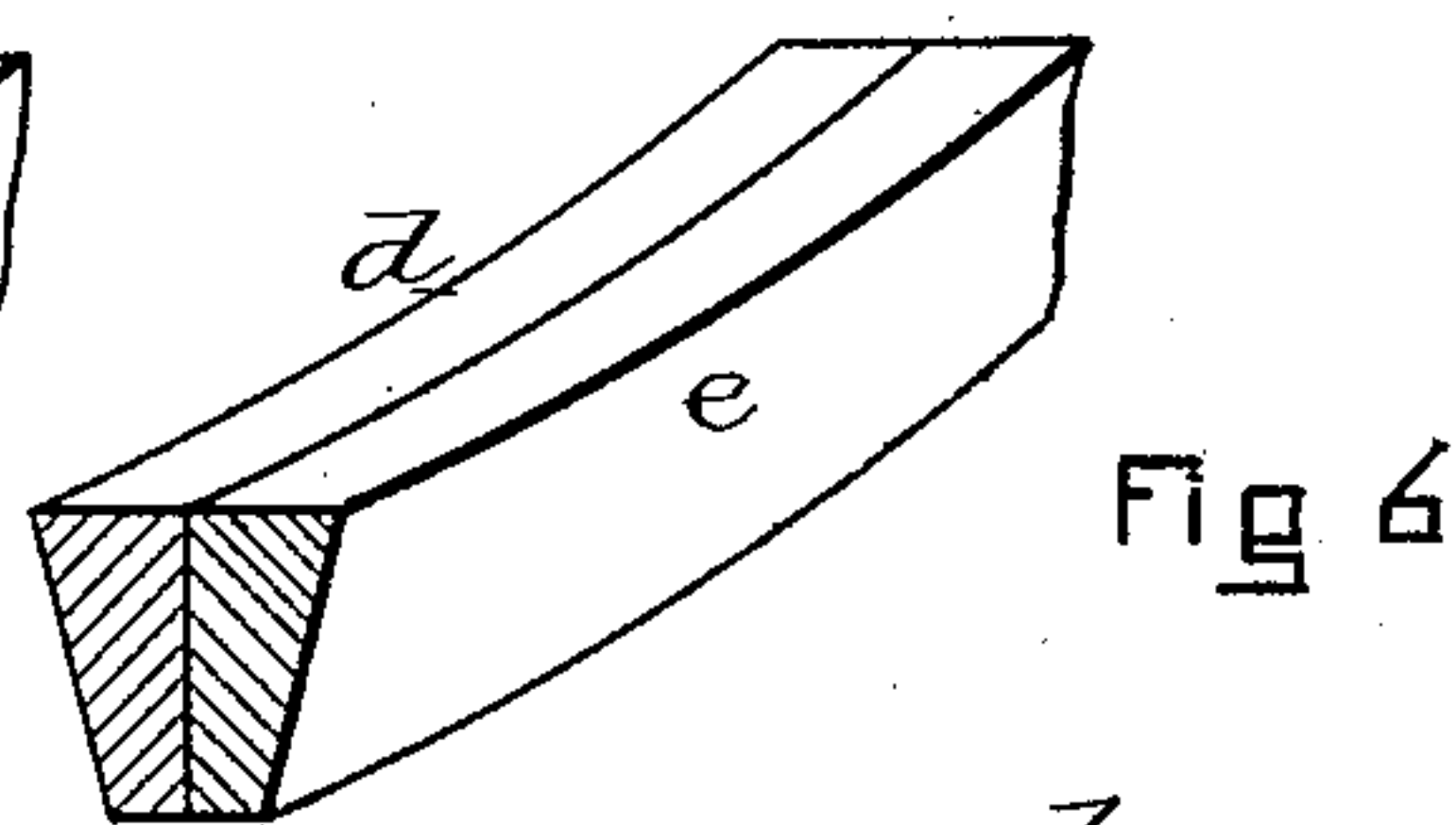
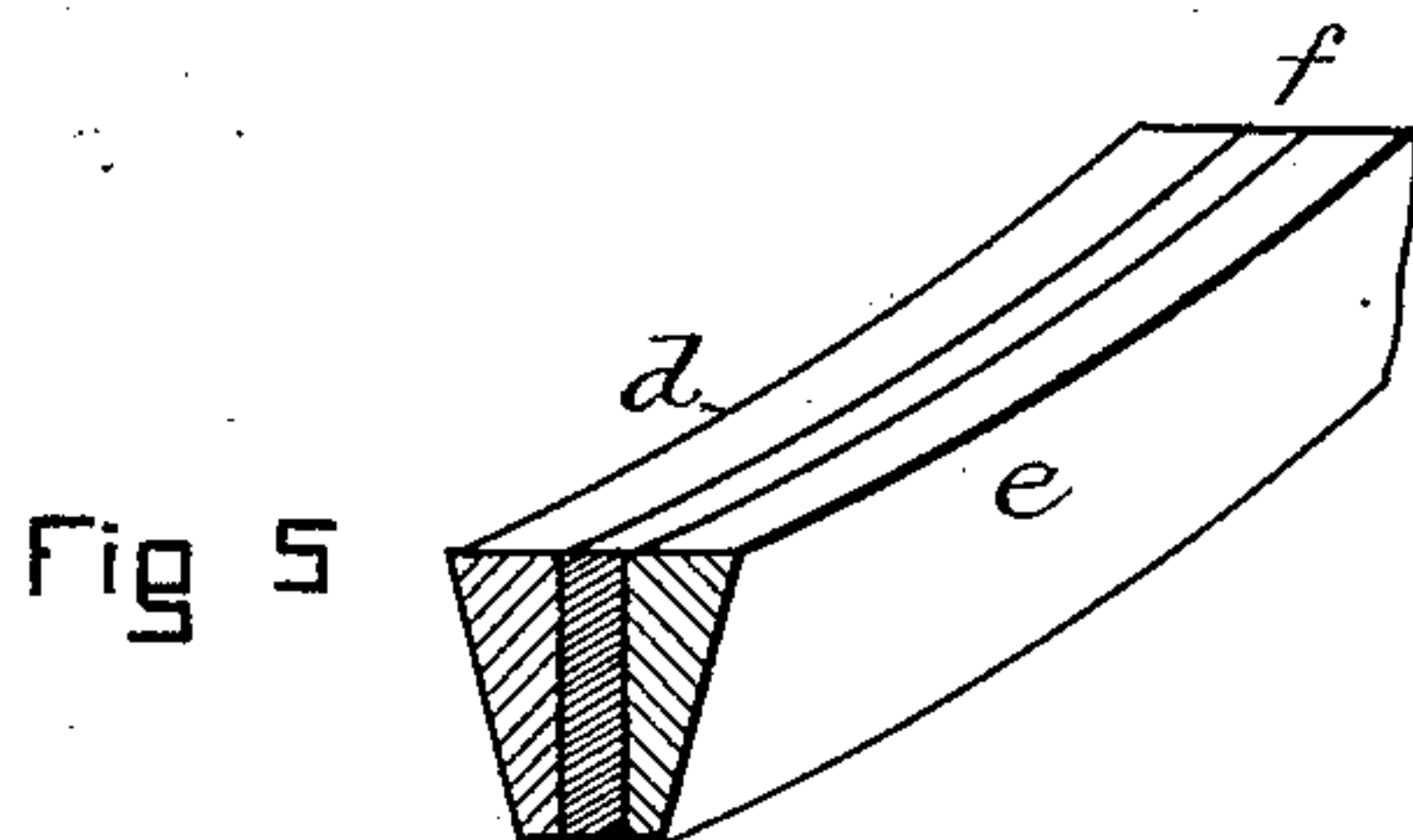
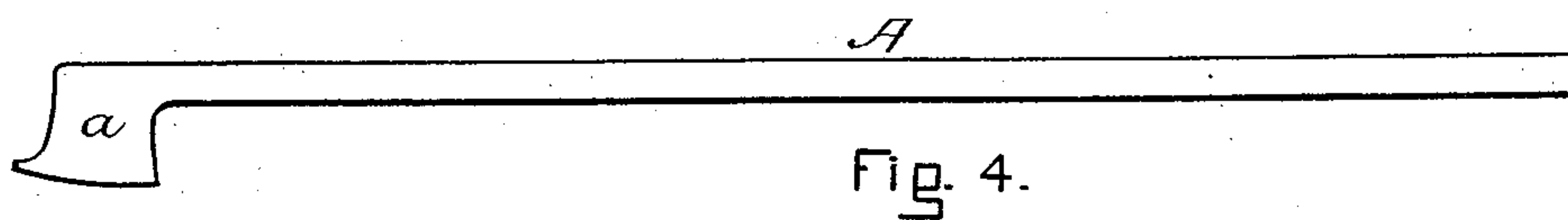
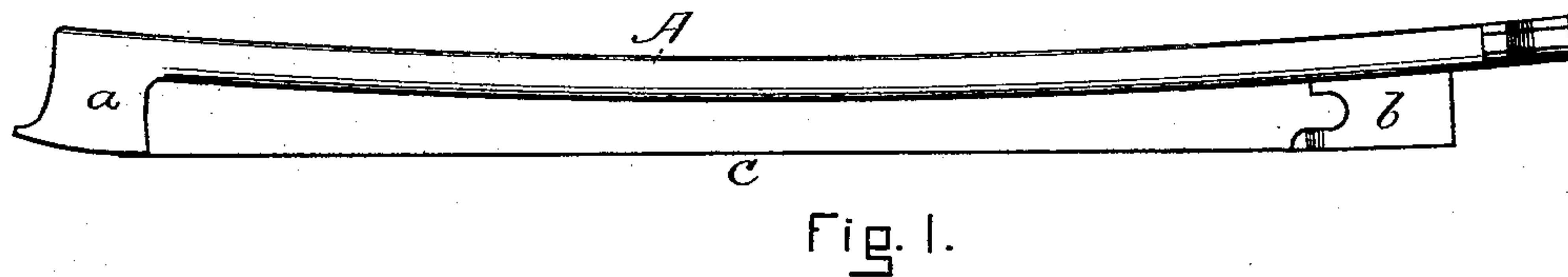
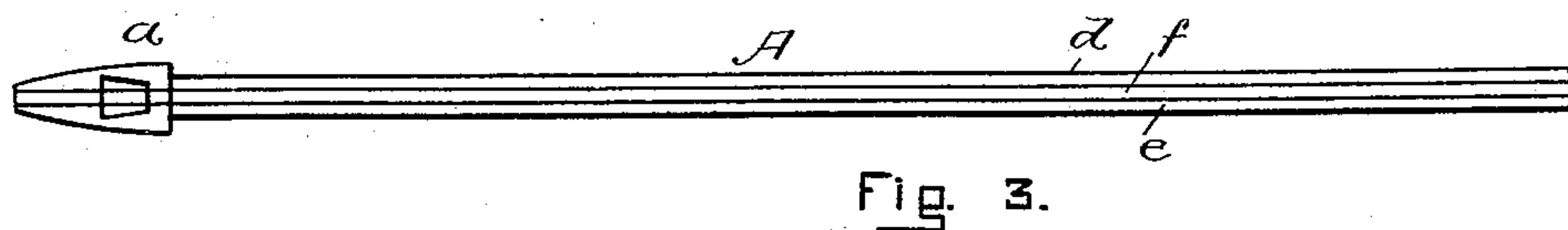
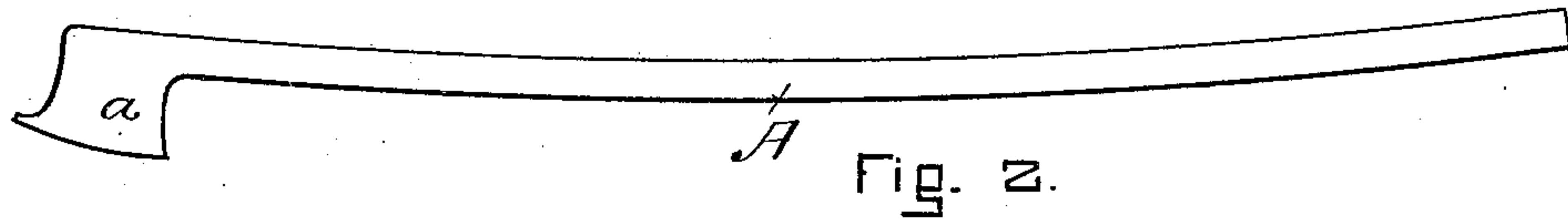
(No Model.)

A. W. WHITE.

VIOLIN BOW.

No. 358,315.

Patented Feb. 22, 1887.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

ASA W. WHITE, OF BOSTON, MASSACHUSETTS.

## VIOLIN-BOW.

SPECIFICATION forming part of Letters Patent No. 358,315, dated February 22, 1887.

Application filed December 27, 1886. Serial No. 222,594. (No model.)

*To all whom it may concern:*

Be it known that I, ASA W. WHITE, of Boston, in the county of Suffolk and State of Massachusetts, a citizen of the United States, have  
5 invented a new and useful Improvement in Violin-Bows, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.  
10

It is well known that the great improved violin-bow introduced about a century ago, and known as the "Tourte bow," is still the standard of excellence; but it has defects. It  
15 is made of one piece of wood, and is originally straight, and has its hollow-backed curvature made by heating and bending by one of the usual bent-wood processes. It is still somewhat flexible laterally, particularly when the  
20 touch is near the head, and this flexibility at times interferes with the certainty, uniformity, and continuity of the tones. An increase of the weight of the bow, to obtain greater lateral stiffness, would introduce a new trouble for the  
25 player.

My invention has for its object to cure this defect of the bow without increase of weight.

It consists in making a blank for the bow of  
30 two or more pieces glued together vertically and longitudinally, and then cutting this blank to the ultimate shape of the bow.

In preparing the wood for this bow, I do not take planks or joists, but logs. When the bow is of two pieces only, I cut these logs endwise  
35 on lines which radiate from the center to the circumference of the log, so as to make strips which are of wedge-shaped or nearly wedge-shaped cross-section, and then unite two of these strips, which should be taken from different parts of the log not adjacent in their  
40 natural position, or if adjacent naturally, then with their grains reversed. These are first finished to true surfaces and then glued and clamped; but I prefer to use more than two  
45 pieces. In such case a log is wholly or partly divided into thin planks, and another or part of the same log is divided by the radial cuts, before described, and one of the thin planks is faced on each side by a strip of wedge-shaped  
50 cross-section and all glued and clamped together.

Of course a greater number of pieces than three may be used; but a three-piece bow seems to answer every purpose and embody all the advantages that a four or five piece bow would  
55 do, although a bow made on this plan of more than three pieces would embody the invention. After the composite blank is fixed and set I saw or cut it into proper shape, as the Tourte bow is bent into, and finish it as if it were all  
60 of one natural piece.

The accompanying drawings illustrate the invention.

Figure 1 is a side elevation of a bow with its head *a*, its frog *b*, and its horse-hair *c*, and its  
65 arc rod *A*. Fig. 2 is a similar elevation of the arc rod *A* and head *a* of the bow. Fig. 3 is a plan of the parts of a bow shown in elevation in Fig. 2, but made in my improved plan of three pieces, *d e f*. Fig. 4 is a side elevation  
70 of the arc rod and head of a Tourte bow before it is bent to the shape of Fig. 2. Fig. 5 is a perspective of part of a blank for a three-piece bow of my improved sort. Fig. 6 is a perspective of part of a blank for a two-piece bow.  
75 In these the curvature is represented as already sawed. Figs. 7, 8, and 9 show different ways of cutting a log into sections for use in this manufacture.

The plankwise cuts are represented at *h*.  
80 The pieces cut on lines radiating from the center are marked *g*.

The workman will of course work his wood to as great advantage as he can. The heraldic, ordinary the "gyron," well describes the section of the wood, that being a wedge which  
85 terminates in the center of a field, and the figure of cutting would be described properly as "gyronny."

I claim and desire to secure by Letters Patent—  
90

1. The described method of making a violin-bow, consisting of cutting from the body of a log or stick strips of nearly wedge-shaped cross-section, then of uniting these pieces side by  
95 side lengthwise, and then of working the bow from the composite strip, substantially as described.

2. The composite blank for a violin-bow, composed of a central longitudinal piece cut  
100 boardwise from a log or stick and of two lateral longitudinal pieces cut on lines radiating



from the heart of the log, united together side by side lengthwise along thin adjacent sides, substantially as described.

3. The composite blank for a violin-bow,  
5 composed of two longitudinal pieces of wood of gyron-formed cross-section, which pieces are united to each other along two adjacent sides, substantially as described.

4. The shaped violin-bow with its grain of

the wood of its several pieces lying naturally, 10 made of two or more pieces of wood of gyron-formed cross-section united lengthwise side by side, substantially as and for the purpose described.

ASA W. WHITE.

Witnesses:

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J. M. DOLAN.