

J. HÁRY.

PADDLE.

APPLICATION FILED NOV. 26, 1906.

948,856.

Patented Feb. 8, 1910.

2 SHEETS—SHEET 1.

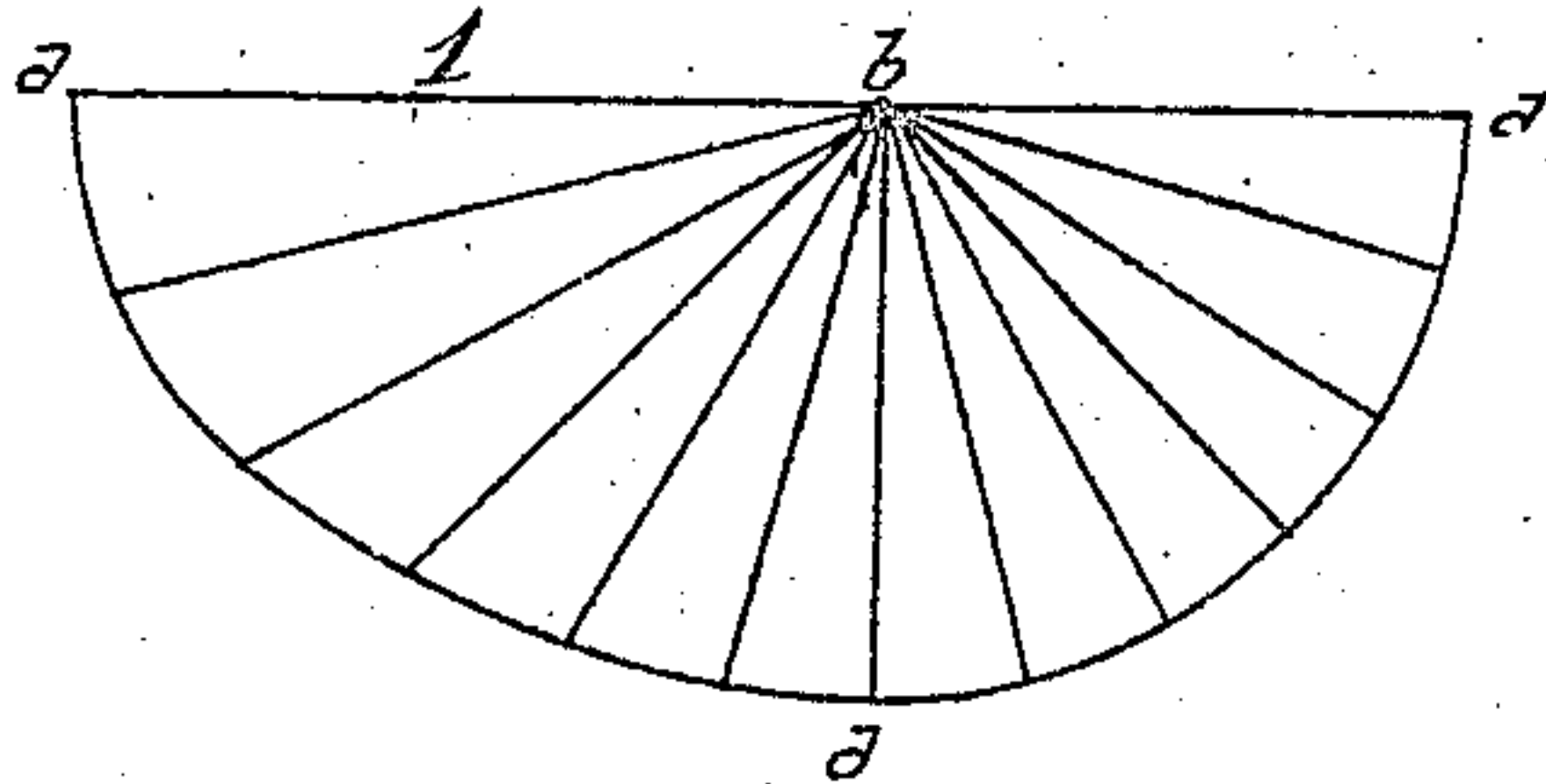


Fig. 1

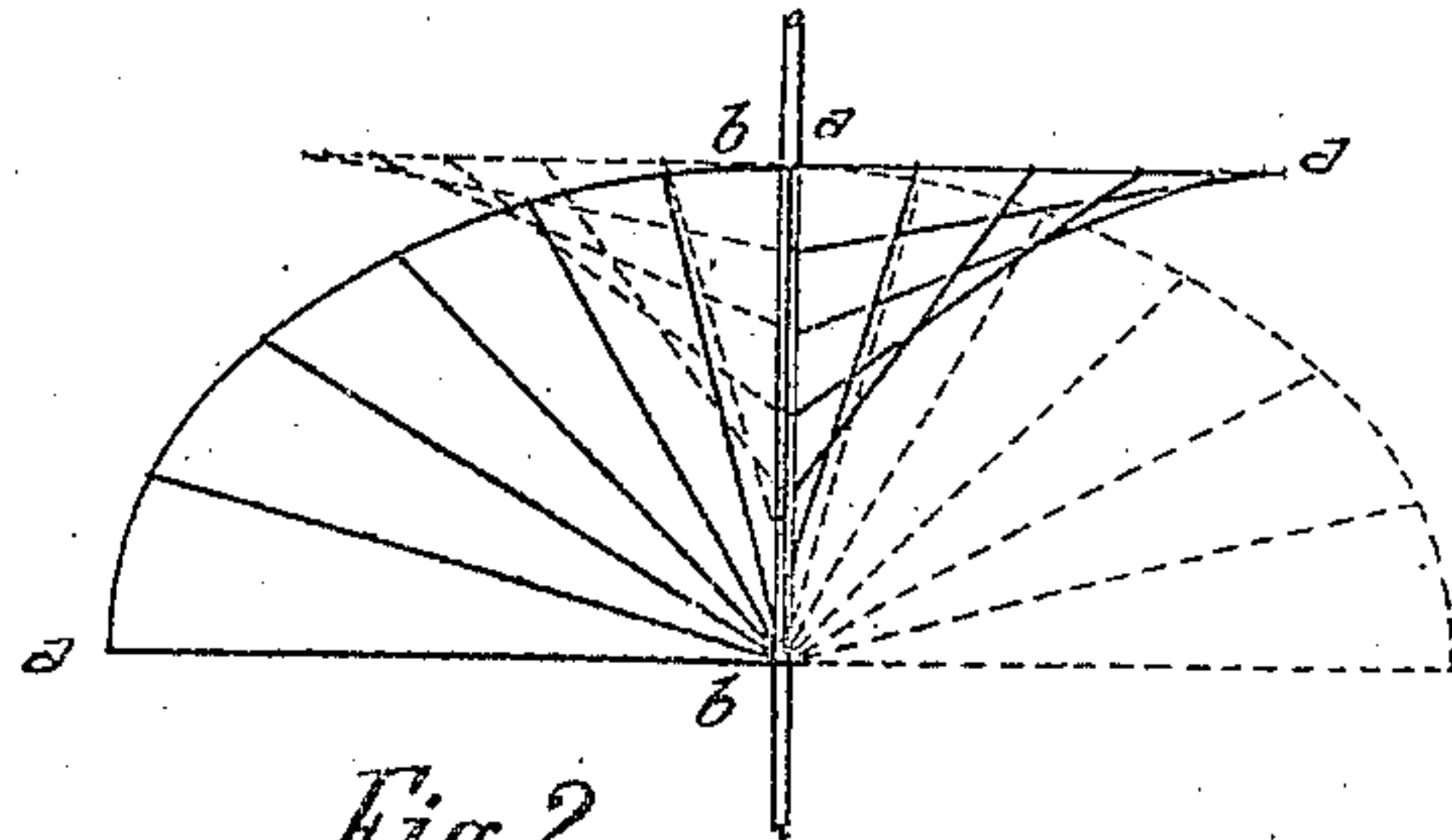


Fig. 2

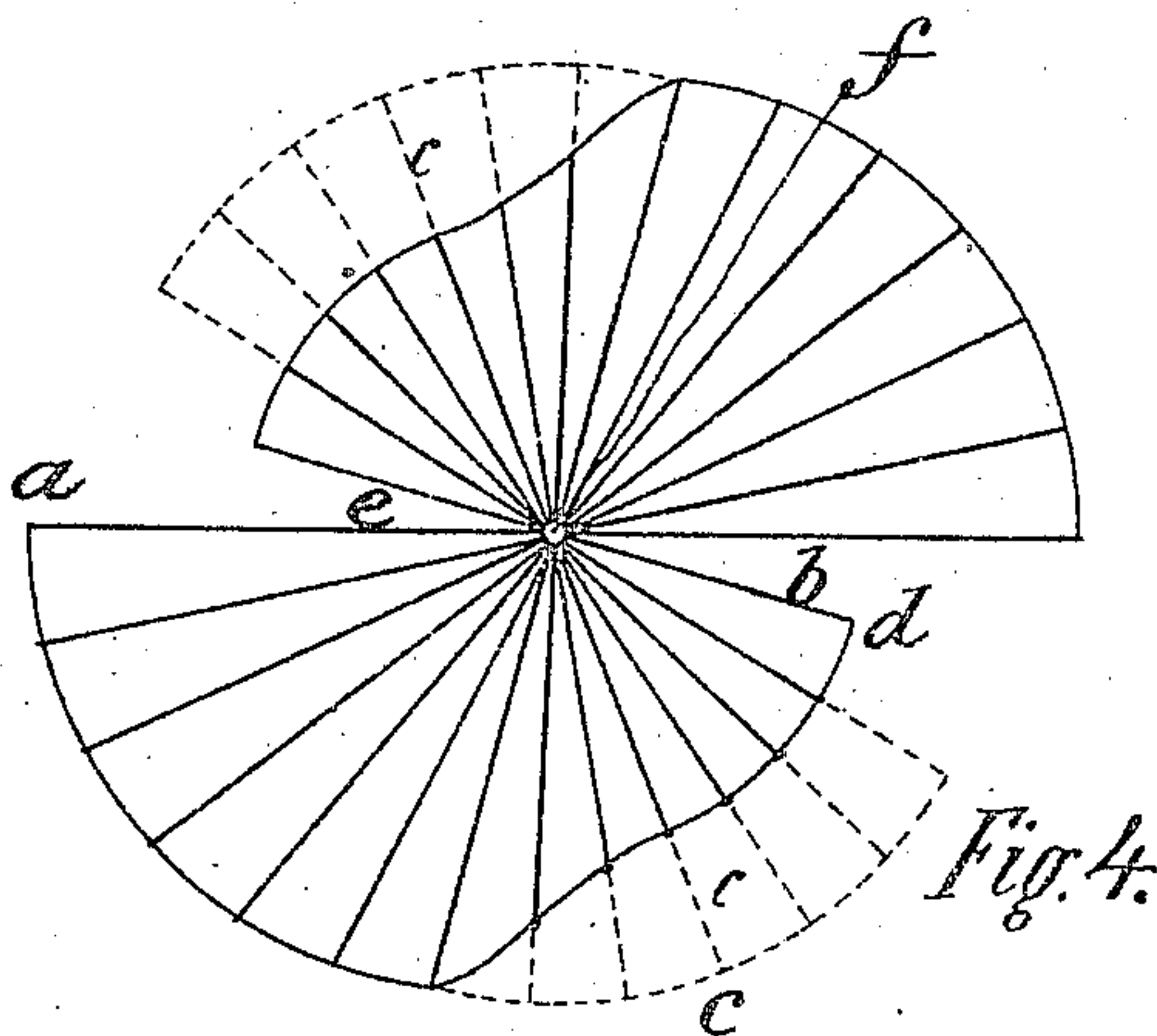


Fig. 4.

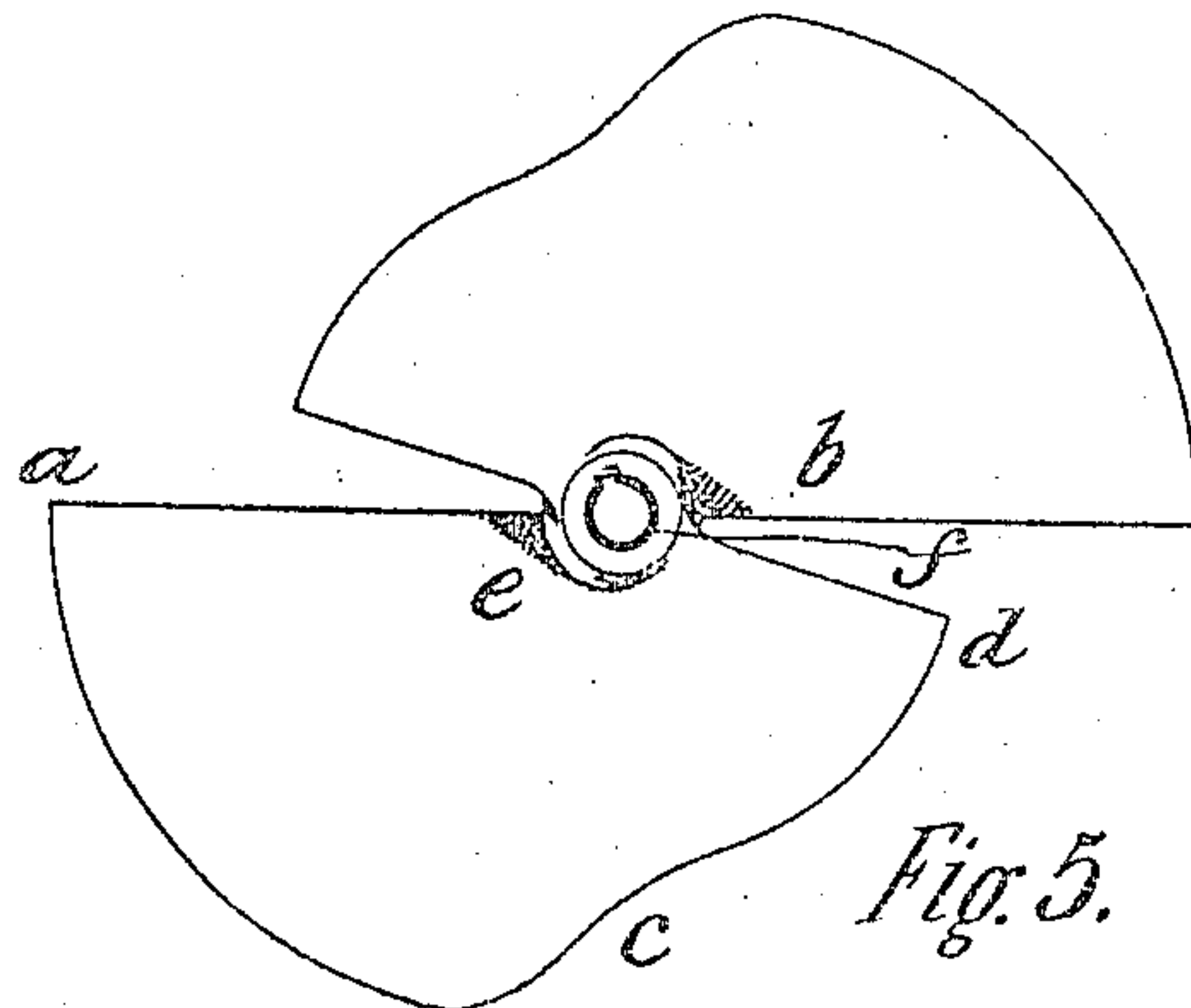


Fig. 5.

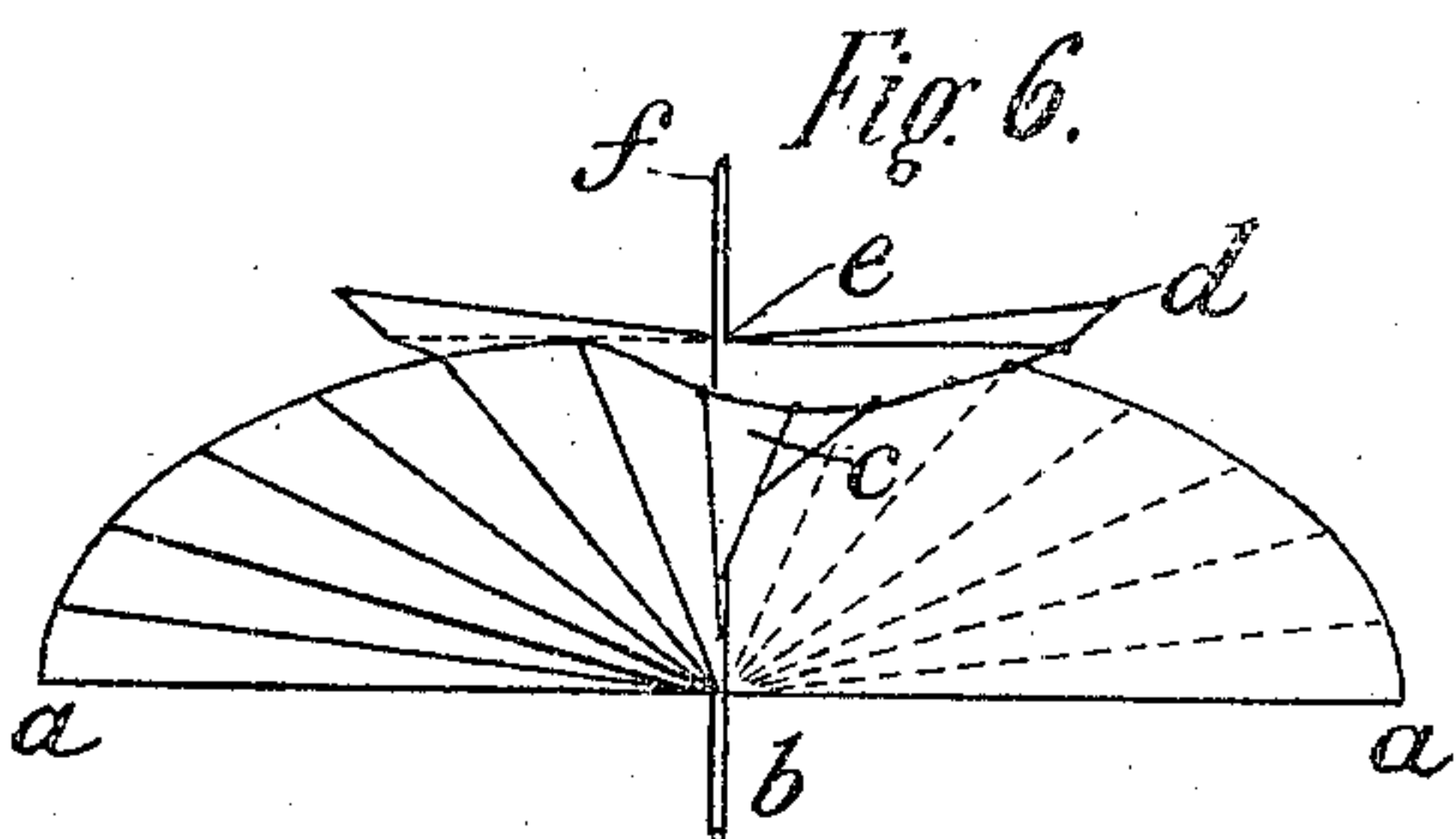


Fig. 6.

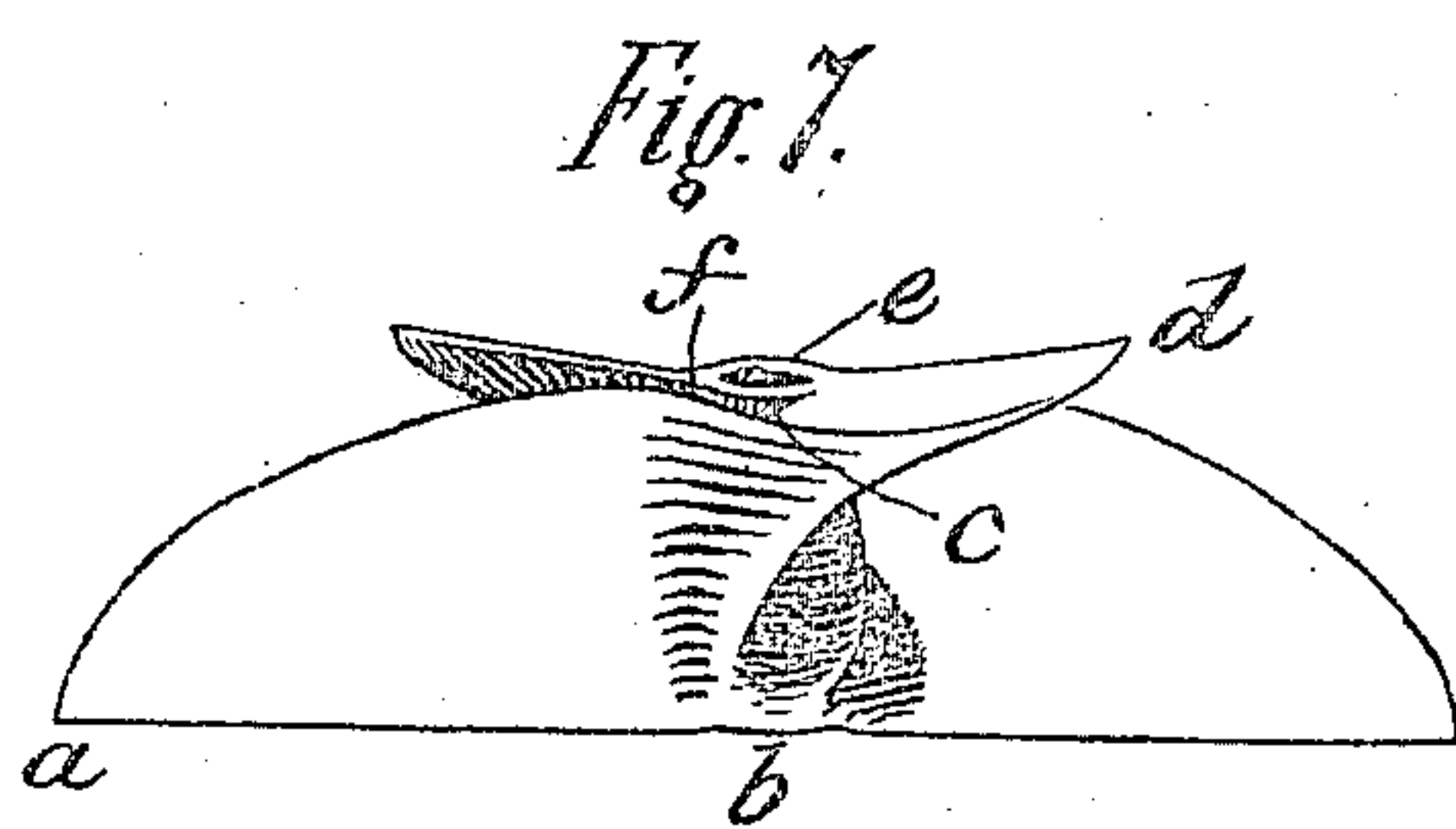


Fig. 7.

Witnesses:

J. L. Lacey
Perl

Inventor:

Jules H. Hary

J. HÁRY.

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2 SHEETS—SHEET 2.

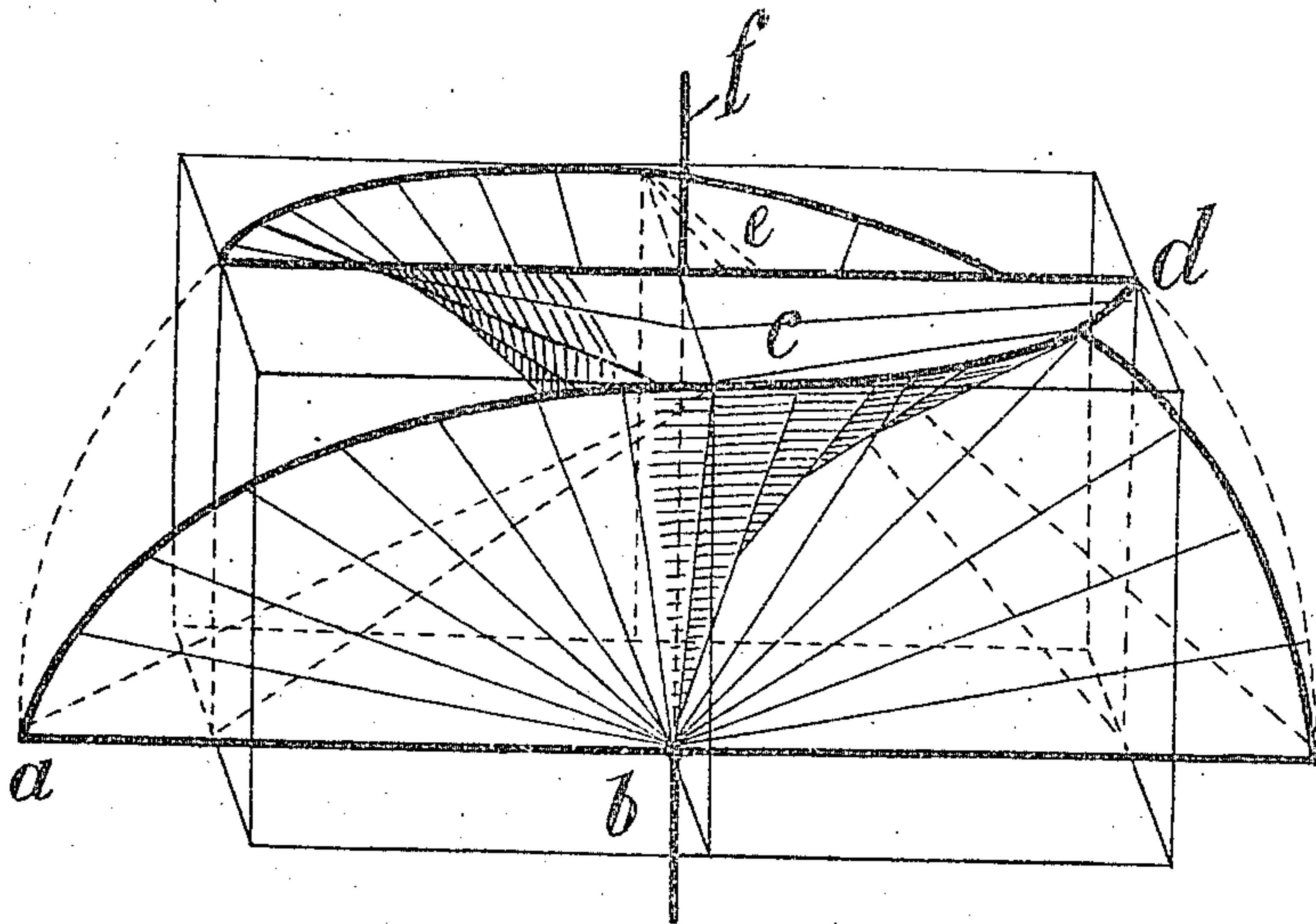


Fig. 3.

Witnesses:

Max Kirsch

Rudolf Leibold

Inventor:

Julius Hary

by Eustace W. Hopewell
Attorney

UNITED STATES PATENT OFFICE.

JULIUS HÁRY, OF BUDAPEST, AUSTRIA-HUNGARY.

PADDLE.

948,856.

Specification of Letters Patent.

Patented Feb. 8, 1910.

Application filed November 26, 1906. Serial No. 345,236.

To all whom it may concern:

Be it known that I, JULIUS HÁRY, a subject of the King of Hungary, and resident of Budapest, Austria-Hungary, have invented
5 new and useful Improvements in Paddles, of which the following is a specification.

The present invention relates to screw propellers for propelling either liquid or gaseous currents or for propelling bodies in air or
10 water and comprises the details of construction herein set forth and pointed out in the claim.

In order to render the present specification easily intelligible reference is had to the accompanying drawings in which similar letters of reference denote similar parts
15 throughout the several views.

Figure 1 is a plan diagram of a propeller blade, Fig. 2 a side elevation of the same
20 and Fig. 3 a perspective view of two blades. Figs. 4 and 5 are diagrams showing the generation of the blade surfaces. Fig. 6 is an elevation of a modified form of blade and Fig. 7 a similar elevation showing the combination of two blades.
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The screw propeller consists of a flat sector shaped part $a b c$, to which is added along the line $b c$ a conoidally bent portion $b c d e$, the free edge of which lies substantially
30 parallel to the free edge of the sector portion, perpendicular to the shaft f but a suitable distance in the rear of the same along the said shaft. The incline of the flat sector surface determines practically the pitch of the screw, while the distance $b e$ denotes the
35 length along which the blade is attached to the shaft or boss and $b d$ the bend of the conoidal portion.

The incline of the flat sector or segmental
40 part may be varied at will according to the desired pitch. The conoidal portion is generated by moving the point b along the axis f at a constant speed (the line $b c$ being assumed to be the initial generatrix of the

conoidal surface) and simultaneously moving the generatrix forward in a curve $c d$ lying perpendicular to the axis, so that the point of intersection of the generatrix and of the curve $c d$ will also move at a constant speed, but at a speed different generally
45 from that of the point b .

In the modification of the blade shown in Figs. 6 and 7 the edge of the conoidal part need not necessarily be parallel to the edge of the flat segmental part, but may be shortened if desired.
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As illustrated in Figs. 3 and 7 two blades are advantageously combined on the shaft with the free edges of the conoidal portions adjacent and those of the flat segmental portions opposite.
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By the present arrangement of the blades a very effective movement of the current or of the body in air or water is attained, with the least possible friction.
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I claim as my invention:—

A propeller blade consisting of a perfectly flat segmental shaped portion extending substantially a quarter of a circle and inclined to a degree, as respects the shaft corresponding substantially to the pitch of the screw,
70 and a conoidal portion extending from one edge of the said segmental portion in a curve toward a point farther along the shaft and affixed to the boss along the distance from
75 the point of contact with the said shaft of the segmental portion to the end of the said conoidal part, which latter lies in a plane substantially parallel to the edge of the segmental part.
80

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JULIUS HÁRY.

Witnesses:

A. HALIAM,
ENGEL JANSORY.