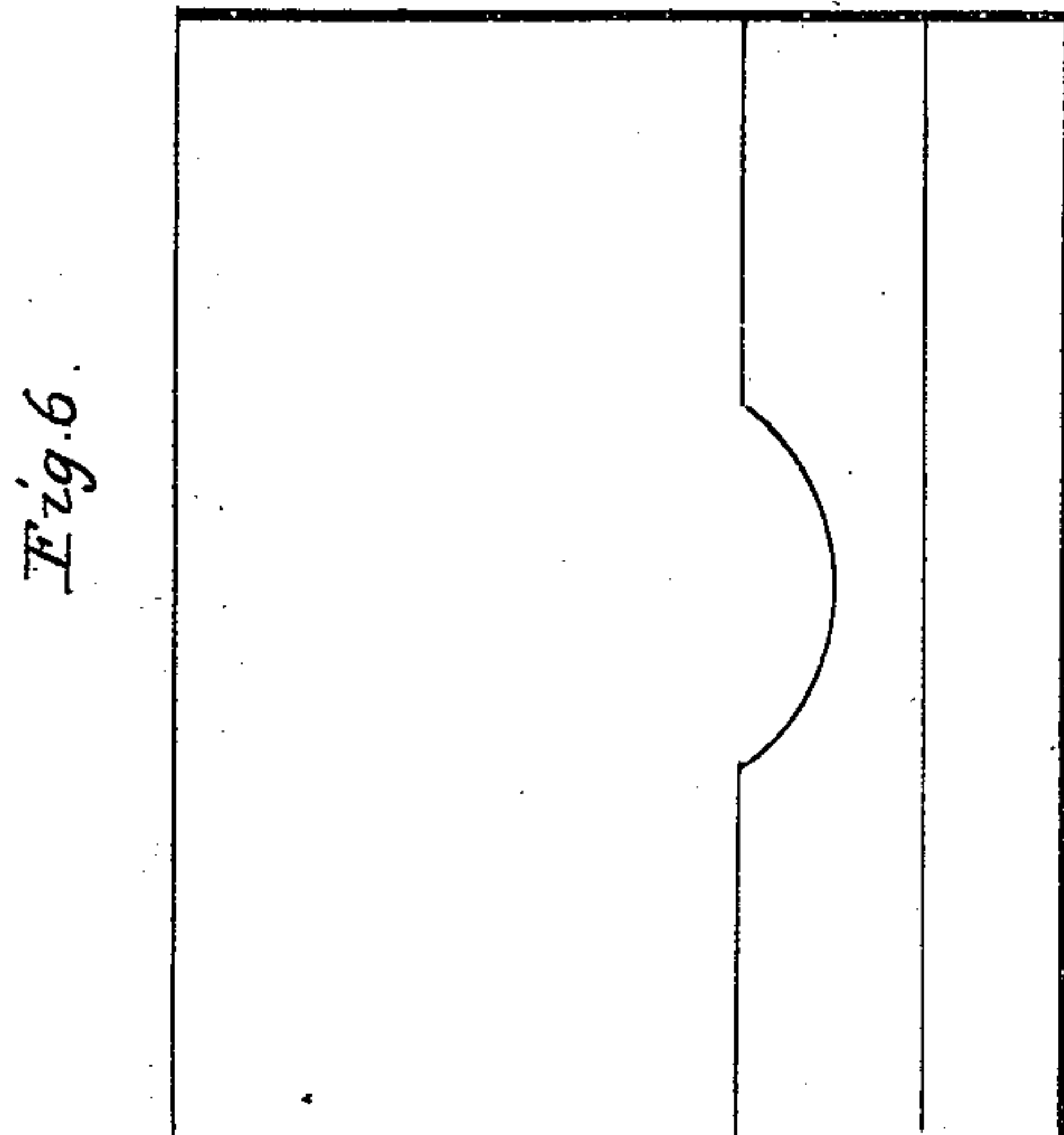
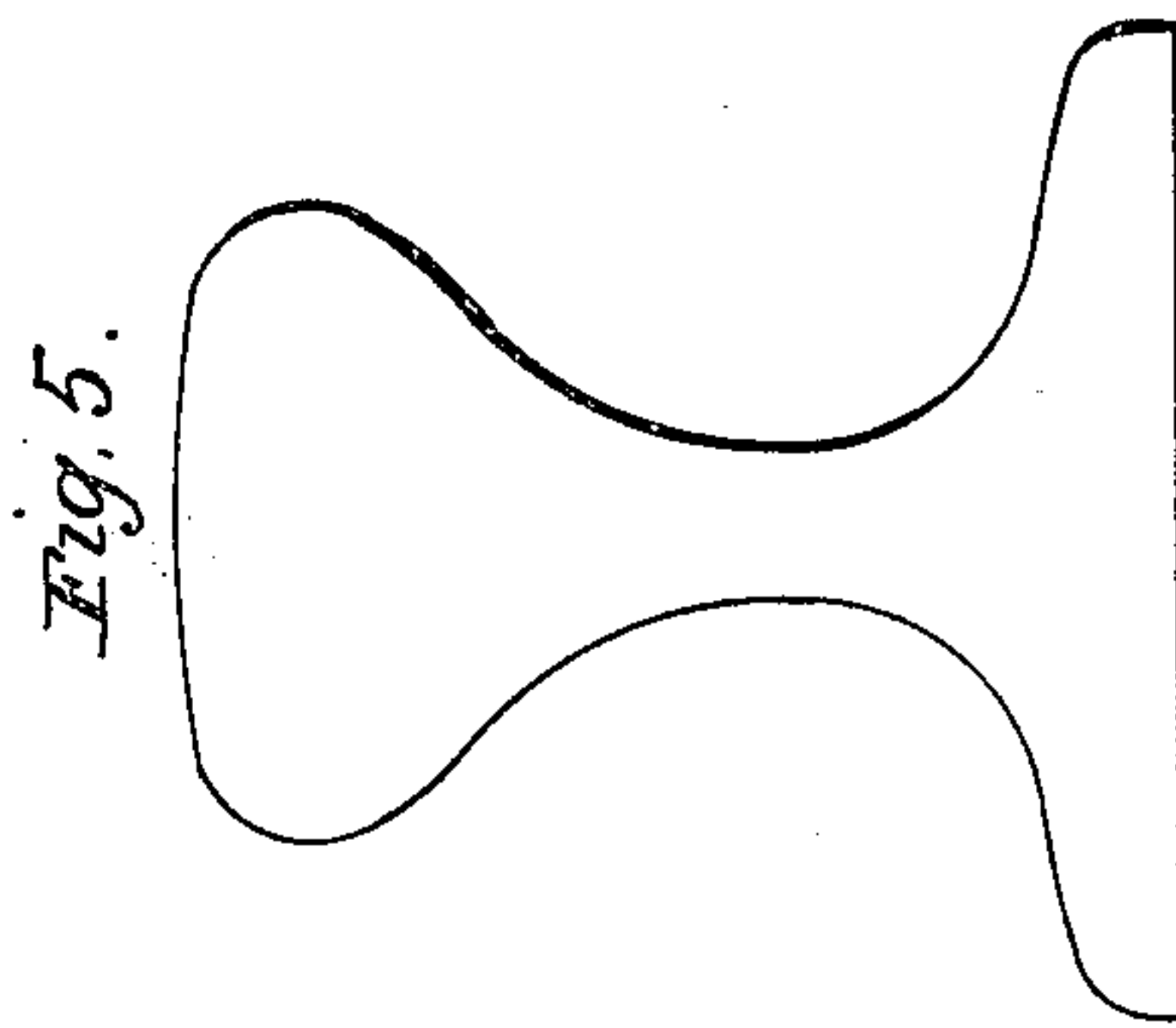
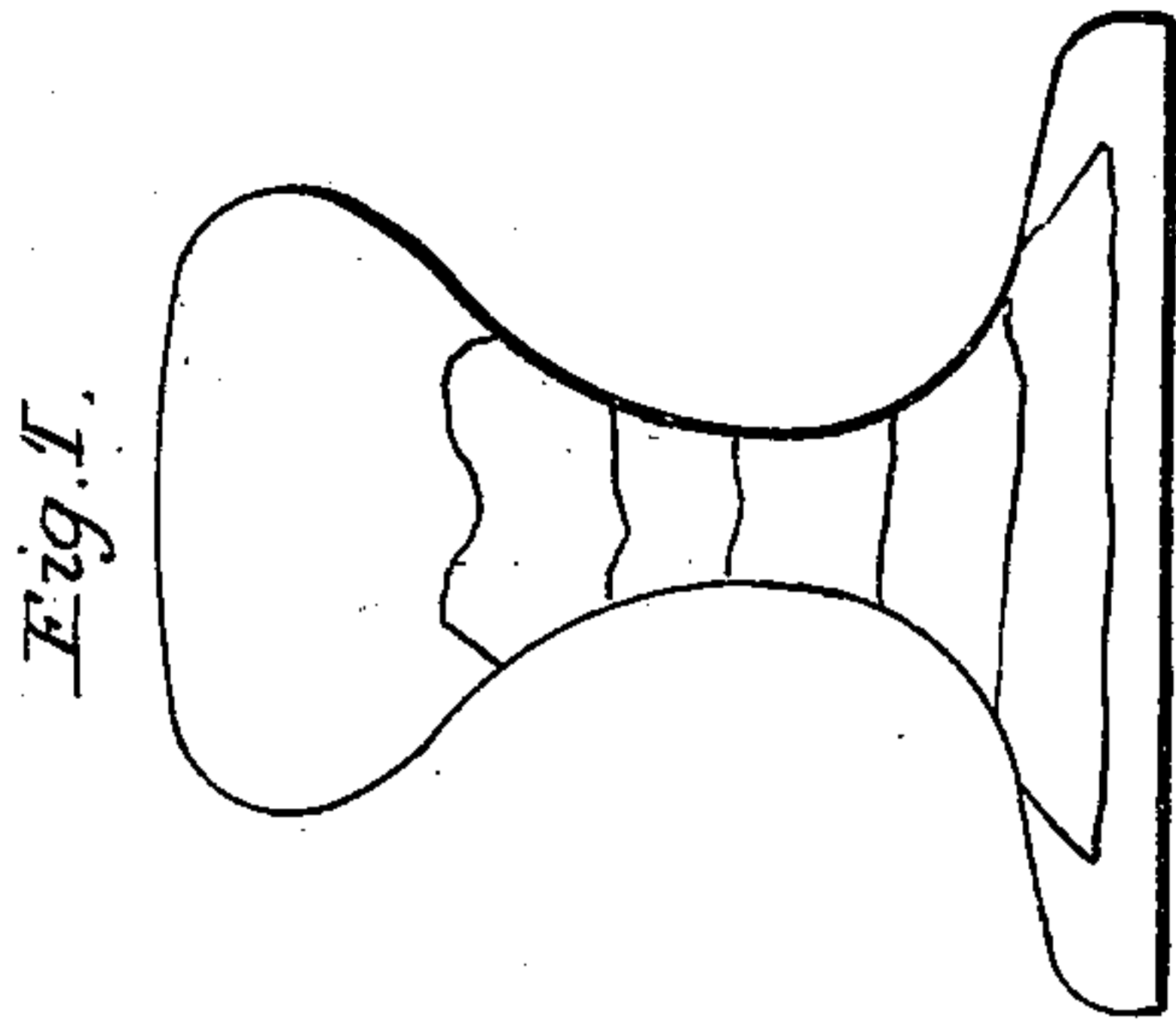
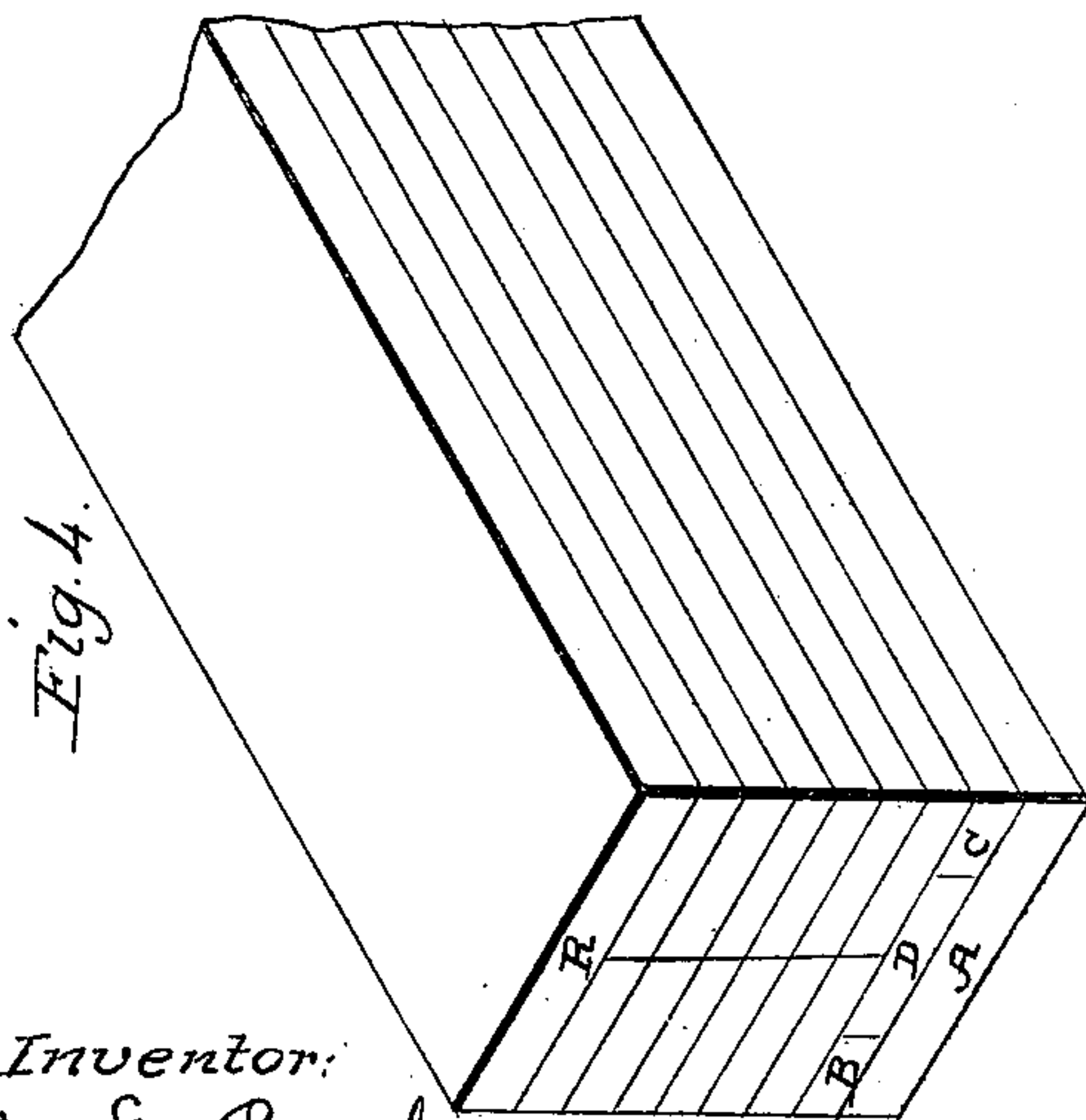
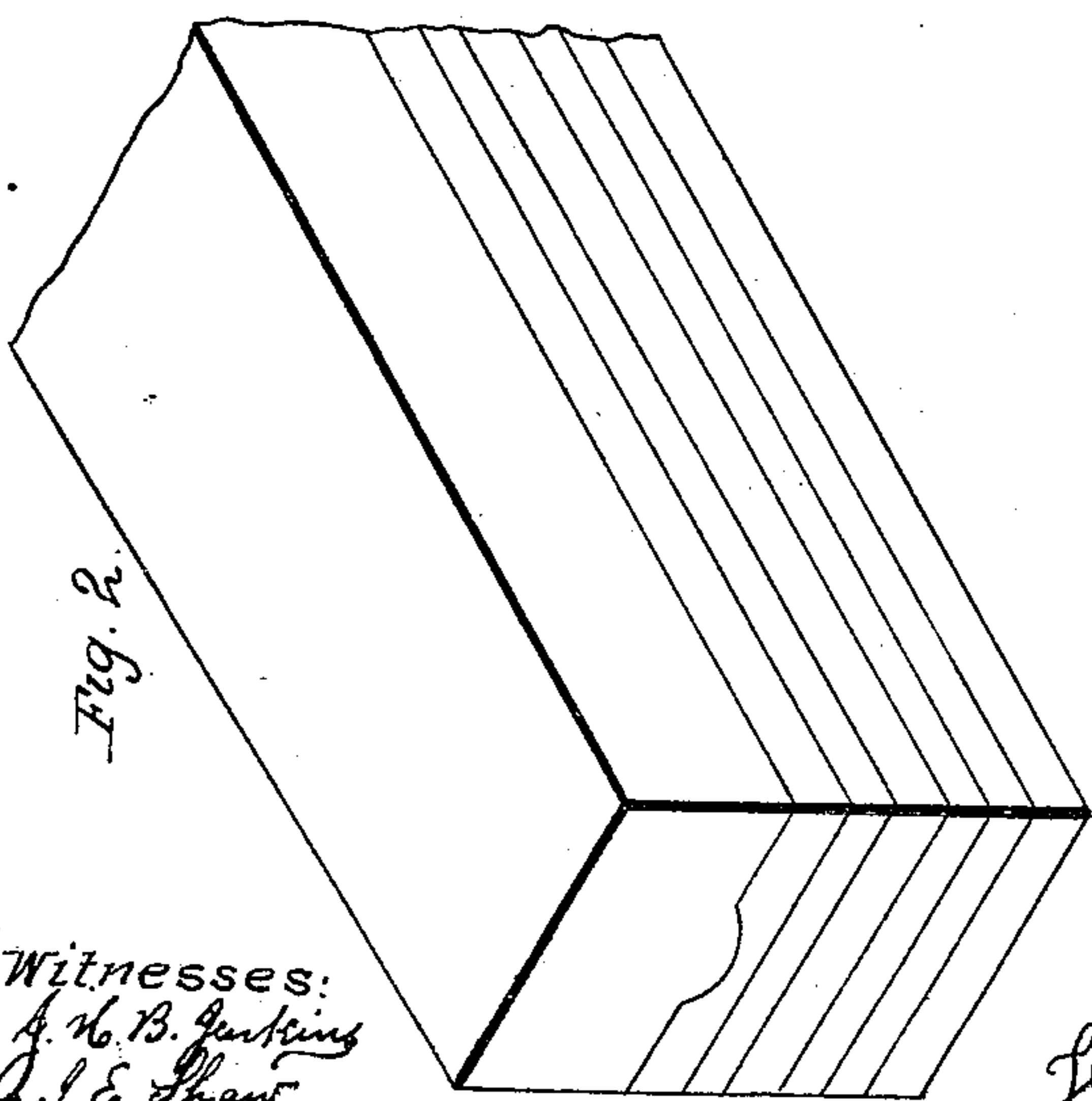


T. E. PURCHASE.
Fagot for Railroad Rails.

No. 19,261.

Patented Feb. 2, 1858.

[illegible]

Witnesses:
A. H. B. Jenkins
Q. J. E. Shaw

Inventor:
Thos. E. Purchase

UNITED STATES PATENT OFFICE.

THOS. E. PURCHASE, OF READING, PENNSYLVANIA.

MAKING RAILWAY-BARS.

Specification forming part of Letters Patent No. 19,261, dated February 2, 1858; Reissued March 24, 1868, No. 2,902.

To all whom it may concern:

Be it known that I, THOMAS E. PURCHASE, of the city of Reading and State of Pennsylvania, have invented a new and useful Improvement in the Manufacture of Railroad-Rails; and I do hereby declare the following to be a full and exact description of the same, reference being had to the annexed drawings, in which—

10 Figure I represents a vertical section of a rail constructed on the plan of my improvement. Fig. II a perspective view of the pile formed on my improved plan. Fig. III the same shown in section. Fig. IV a
15 perspective view of the pile formed in the ordinary method. Fig. V a vertical section of a rail made from the ordinary pile. Fig. VI represents the two upper layers shown in Fig. II in increased size showing accurately the proportions of the parts.

Heretofore it has been customary to make the pile for rails of a number of flat bars placed in a series of parallel layers, as shown in Fig. IV. It will be seen on reference to
25 this figure that the common pile is made up of nine layers of bars the quality of the iron of which is varied to suit its position in the pile. Thus the bars A, B, C, which form the flange of the rail are of reworked or
30 granular iron; the bar D and other middle bars, which form the stem of the rail are of an inferior quality of iron; the top bar R which covers the head of the rail and is most liable to wear and tear is also of the granular iron. Each of the middle layers is made
35 up of two separate bars. But in my pile these middle layers are single bars, which I have found to increase the strength of the rail. The top layer in my pile is the thickness of three layers in the ordinary pile.

Preparatory to the operation of rolling the pile, it is introduced into a heating furnace by means of a peel. In withdrawing the peel the layers of the pile being loose are
45 liable to be displaced. This displacement is of frequent occurrence and can be but im-

perfectly remedied by the operator, who knocks or presses the displaced layers into something near their proper position. A slight displacement of this kind in the top
50 layer of the pile produces a most injurious effect on the wearing quality of the rail, since by making said bar oblique to the body of the pile it is spread unequally and imperfectly over the head of the rail in the
55 operation of rolling. Thus at some points it will form the side or stem of the rail and the inferior iron of the middle bars of the pile will be rolled into the head of the rail rendering it more liable to disintegration
60 and lamination.

My improvement consists in forming a hollow or groove in the top layer of the pile which is to be of sufficient size to form the entire head of the rail, and providing the
65 layer in contact with the top with a projection conforming to and fitting into such groove, as shown in Fig. I, or vice versa. The shape of the groove is immaterial the object being to prevent displacement of the
70 layers in charging the pile into the heating furnace.

The pile above described is for a sixty-five pound rail.

The advantages of my mode of piling are
75 that I can produce a rail of less liability to lamination and greater average durability than can be produced by the ordinary modes of piling.

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

The manufacture of rail-road rails from a pile, the top bar of which is of a superior quality of iron, immovable laterally, and sufficiently heavy to give the rail, when
85 rolled, a consolidated head, connecting with the lower layers in the stem of the rail, substantially as above set forth.

THO. E. PURCHASE.

Witnesses:

I. E. SHAW,

J. H. B. JENKINS.