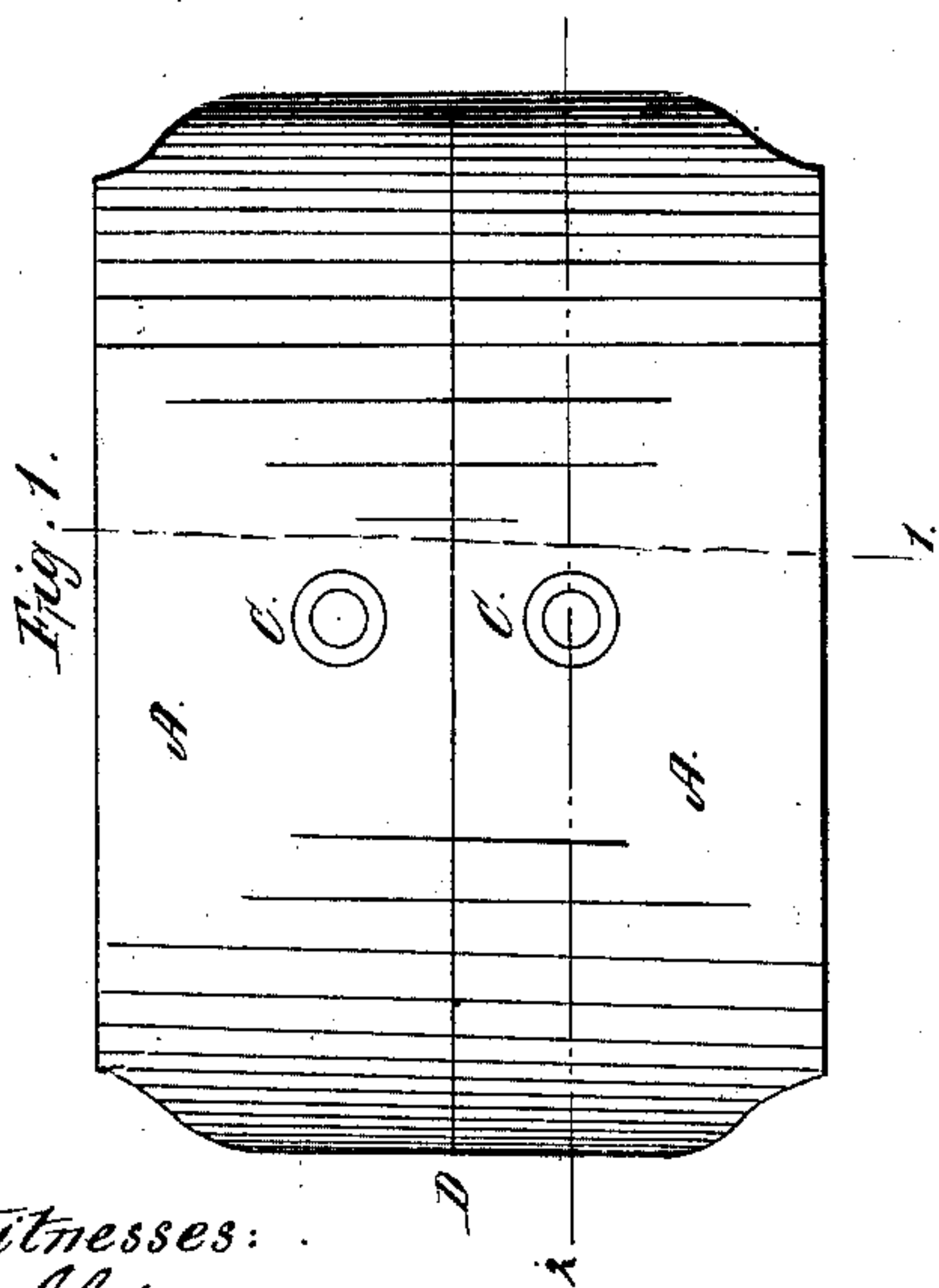
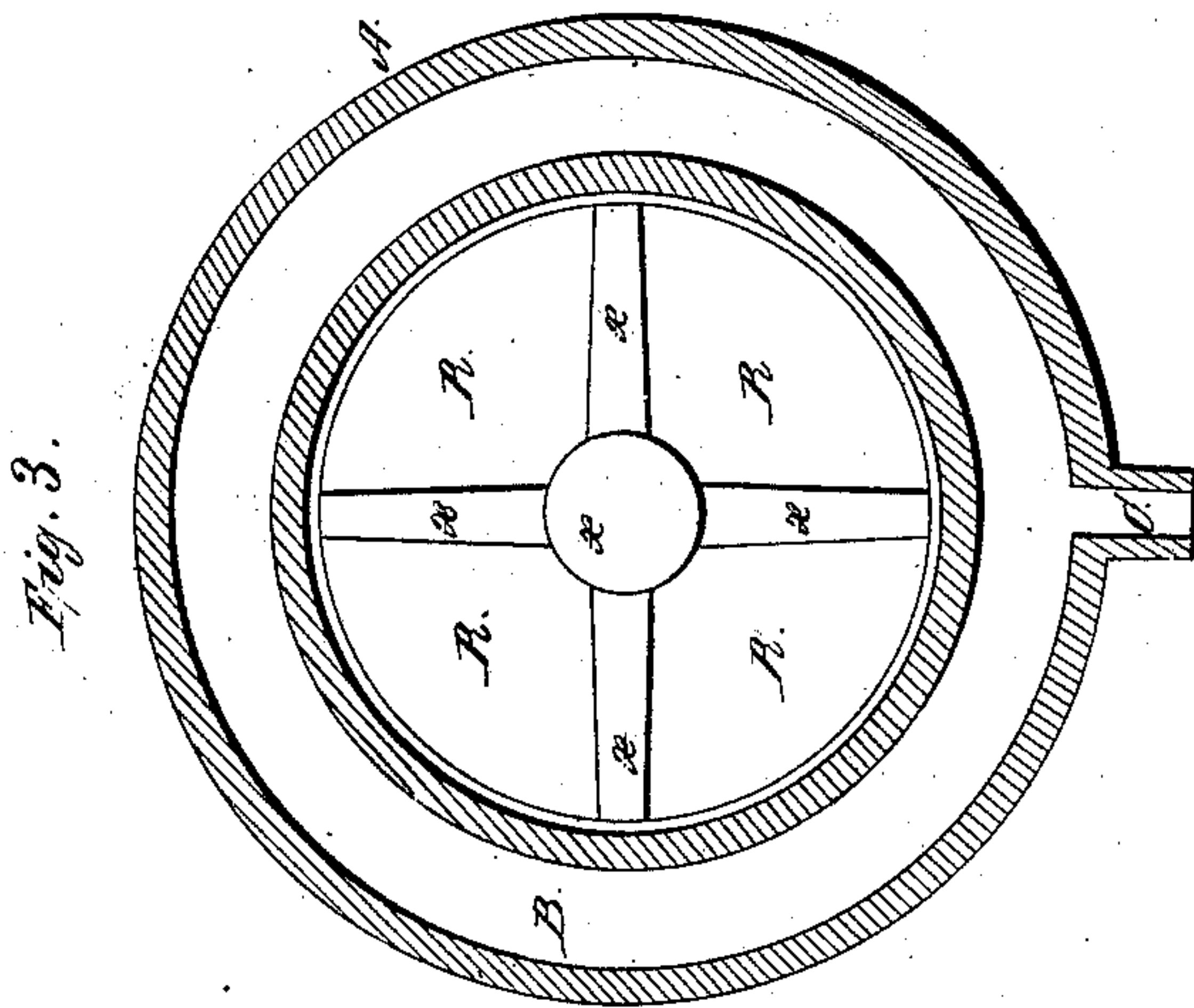
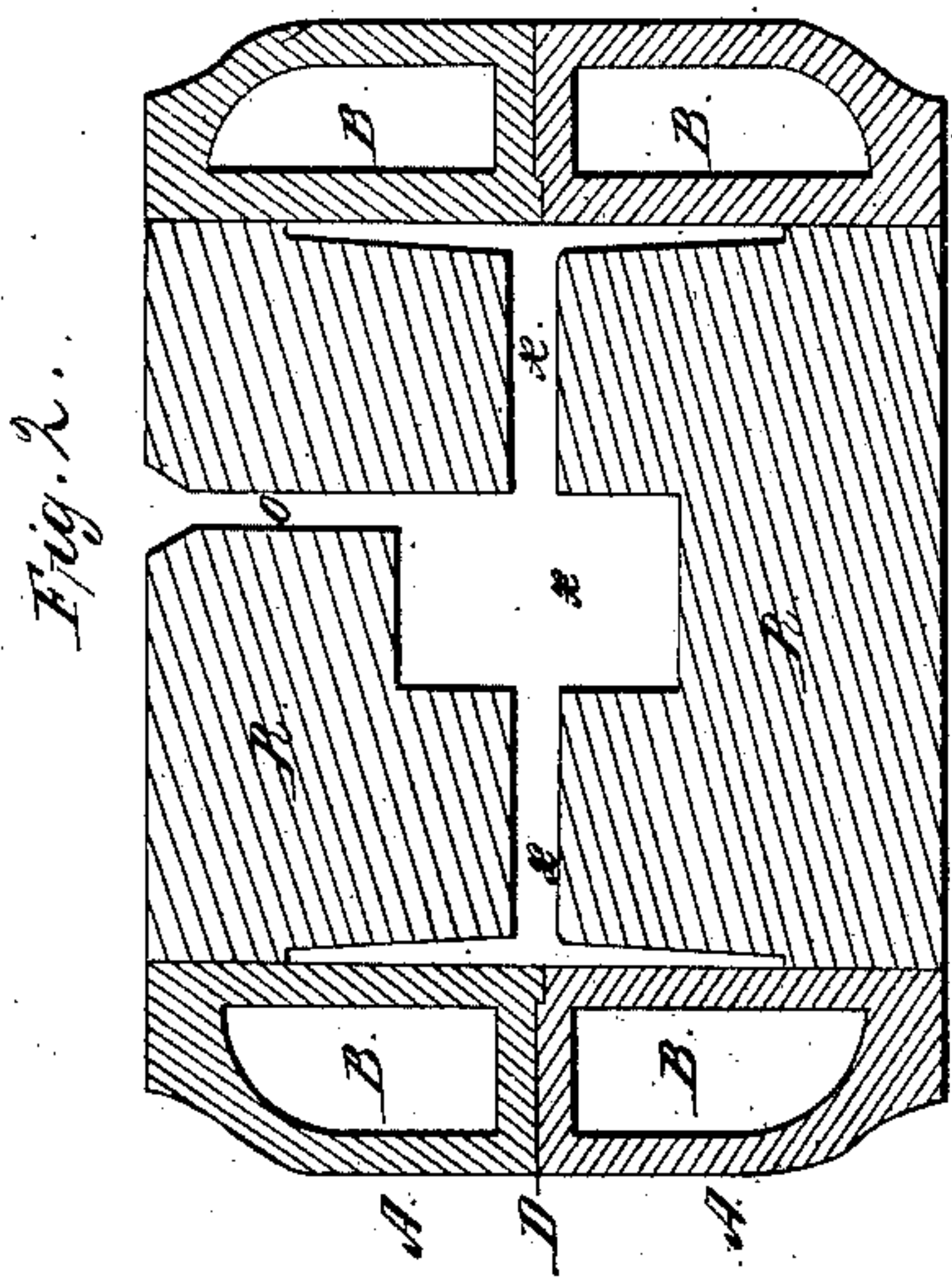


W. D. Pinehart,

Casting Pulley Wheels.

No 55,713.

Patented June 19, 1866.



Witnesses:
James F. Johnston
Alexander Hays

Inventor:
William D. Pinehart

UNITED STATES PATENT OFFICE.

WILLIAM D. RINEHART, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN MOLDS FOR CASTING PULLEYS.

Specification forming part of Letters Patent No. 55,713, dated June 19, 1866.

To all whom it may concern:

Be it known that I, WILLIAM D. RINEHART, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Molds for Casting Pulleys, &c.; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the use of a metal flask consisting of a "cope" and "drag," said cope and drag being furnished with a chamber for heated air or steam, for the purpose of heating the two parts of the flask to that degree of heat which is most suitable for receiving the melted iron without the liability of chilling it when it comes in contact with the inner surfaces of the cope and drag in the process of casting, the whole being constructed, arranged, and operating in the manner hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, Figure 1 represents a side view of my improved mold for casting pulleys. Fig. 2 represents a sectional view of the same cut through at line 1. (See Fig. 1.) Fig. 3 represents a sectional view of the mold cut through at line 2. (See Fig. 1.)

In the drawings, A represents the metal part of the mold, and answers the double purpose of flask and part of the mold.

The parts A are cored out so as to form the heating-chambers B, which are furnished with openings C, which are connected to pipes which are attached to a blast-cylinder, fan, or steam-boiler, or such other device suitable for heating air or steam.

X represents the cavity formed in the sand (which is marked R) by the pattern. O represents the gateway or opening for pouring the melted iron into the mold.

In constructing the mold for a pulley I true up the faces of the joint so that a close and perfect joint is formed at the point marked D. I then turn out the inside surfaces of the parts A to correspond to the size of the pattern and the form of the face of the pulley. I then take the two parts A and place them over the two parts of the pulley-pattern and fill and ram

them full of sand or clay, such as is used for making molds. I then remove ("draw") the pattern from the mold and "close" it so as to form what is termed "cope and drag." (The cope is the upper part and the drag is the lower part of the mold.) I then connect the mold to the pipe which is connected to the blast-cylinder or heating device, and force the heated air or steam into the heating-chambers B until the mold acquires the degree of heat and the proper condition for casting.

I have found that a temperature of 600° Fahrenheit answers well for casting light work, provided the metal part of the mold which comes in contact with the melted iron is well coated with black lead.

It will readily be observed that the molds for various articles can be made on the plan herein set forth and described. Therefore I do not confine my invention alone to pulley-molds.

The advantages of my improvement are as follows: First, I can make articles of uniform size and with a true and smooth surface; second, I can make the face or surface of the casting of various degrees of hardness by simply heating the mold to a high or low degree of heat, using a high degree of heat for making a soft face or surface and a low degree for a hard face or surface; third, I save time, labor, and expense in making molds for casting pulleys, &c.; fourth, I require less skillful hands to perform the labor of making molds for casting pulleys and like castings.

I wish it clearly understood that I do not claim a chill furnished with a chamber or chambers for steam or water; neither do I claim a metal mold composed entirely of metal and furnished with chambers for steam or water; but

What I claim is—

A flask made in two parts, (cope and drag,) each part being furnished with a chamber for heated air or steam, the whole being constructed, arranged, and operating substantially as herein described and for the purpose set forth.

WILLIAM D. RINEHART.

Witnesses:

JAMES J. JOHNSTON,
ALEXANDER HAYS.