

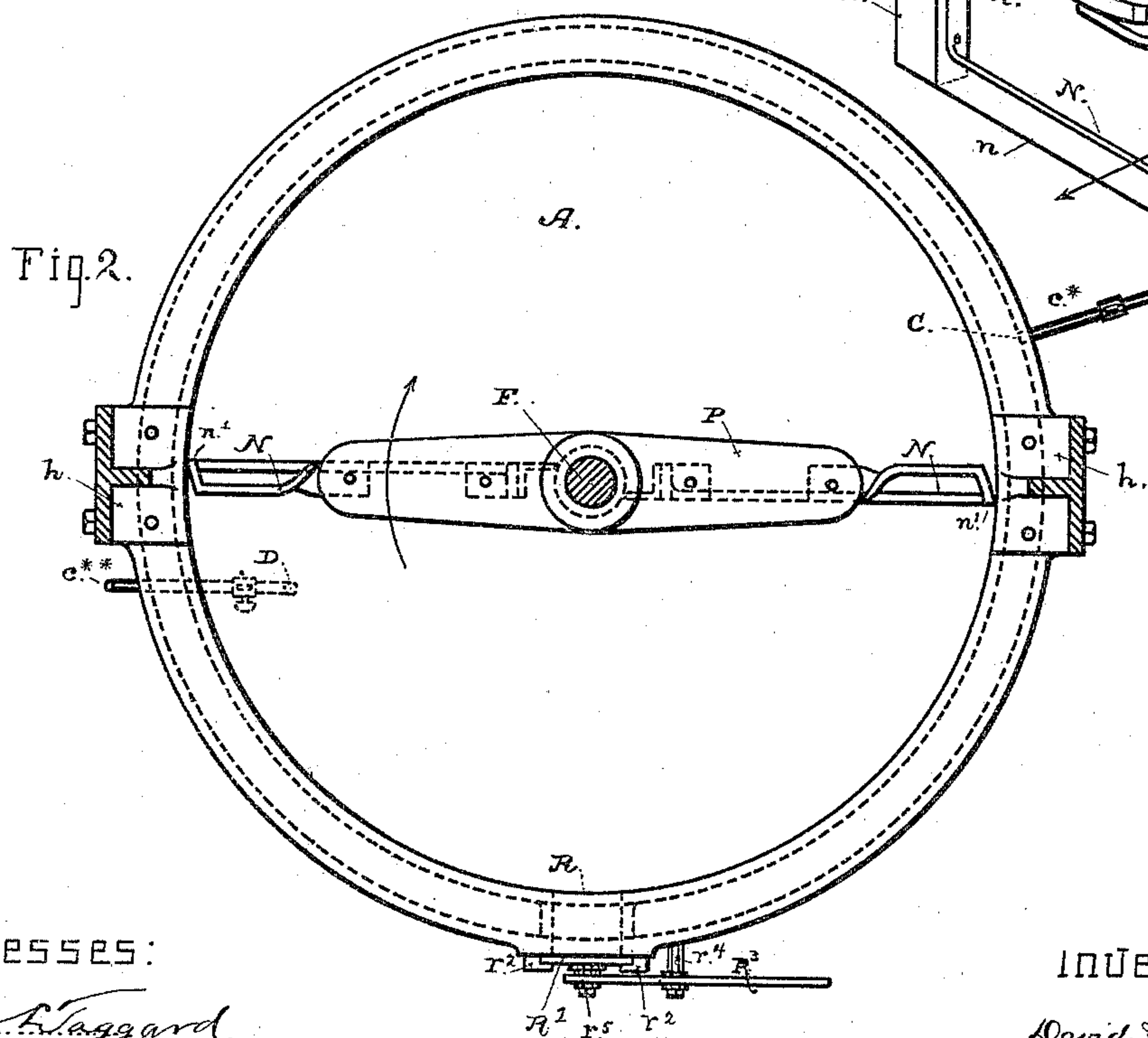
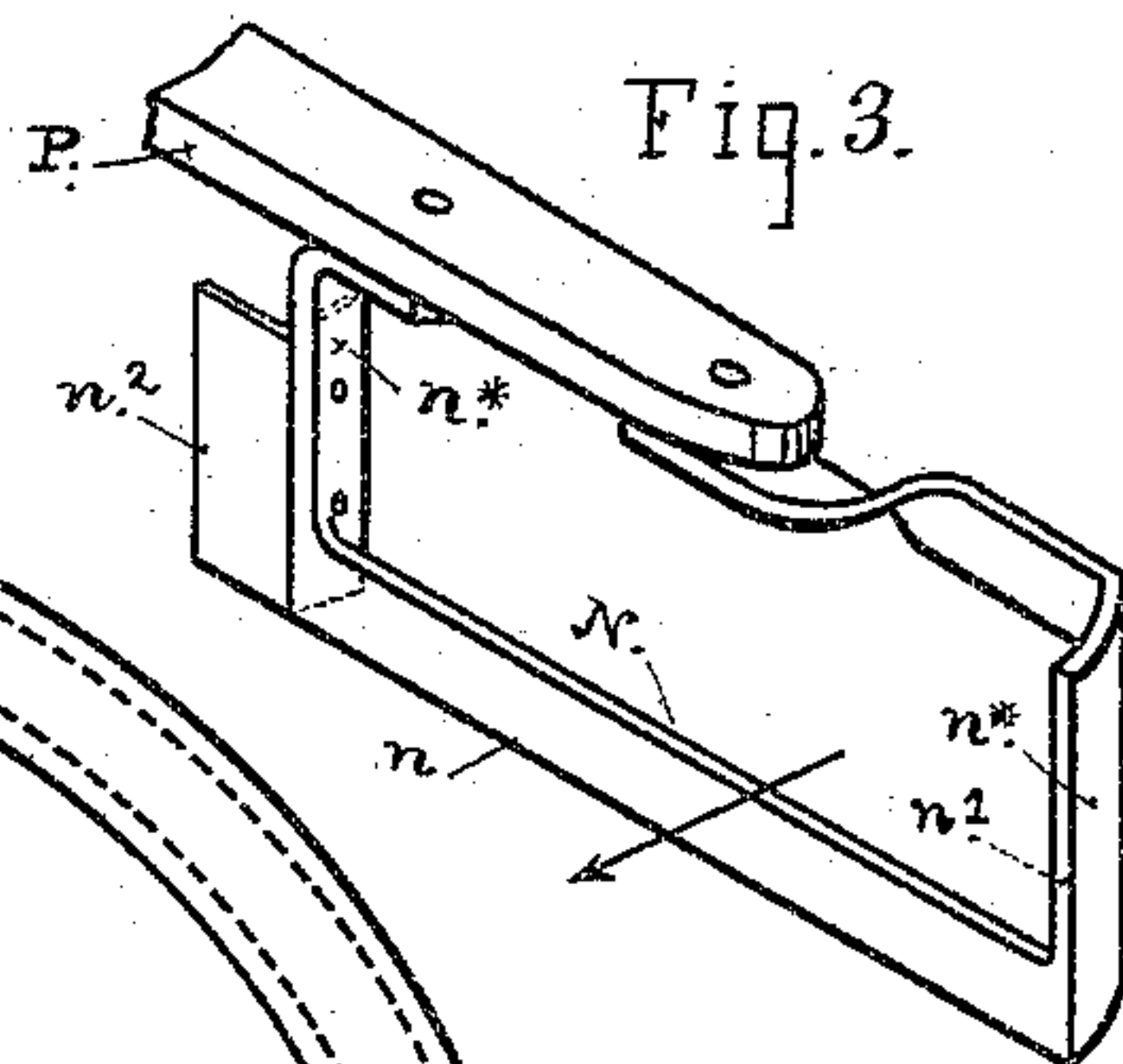
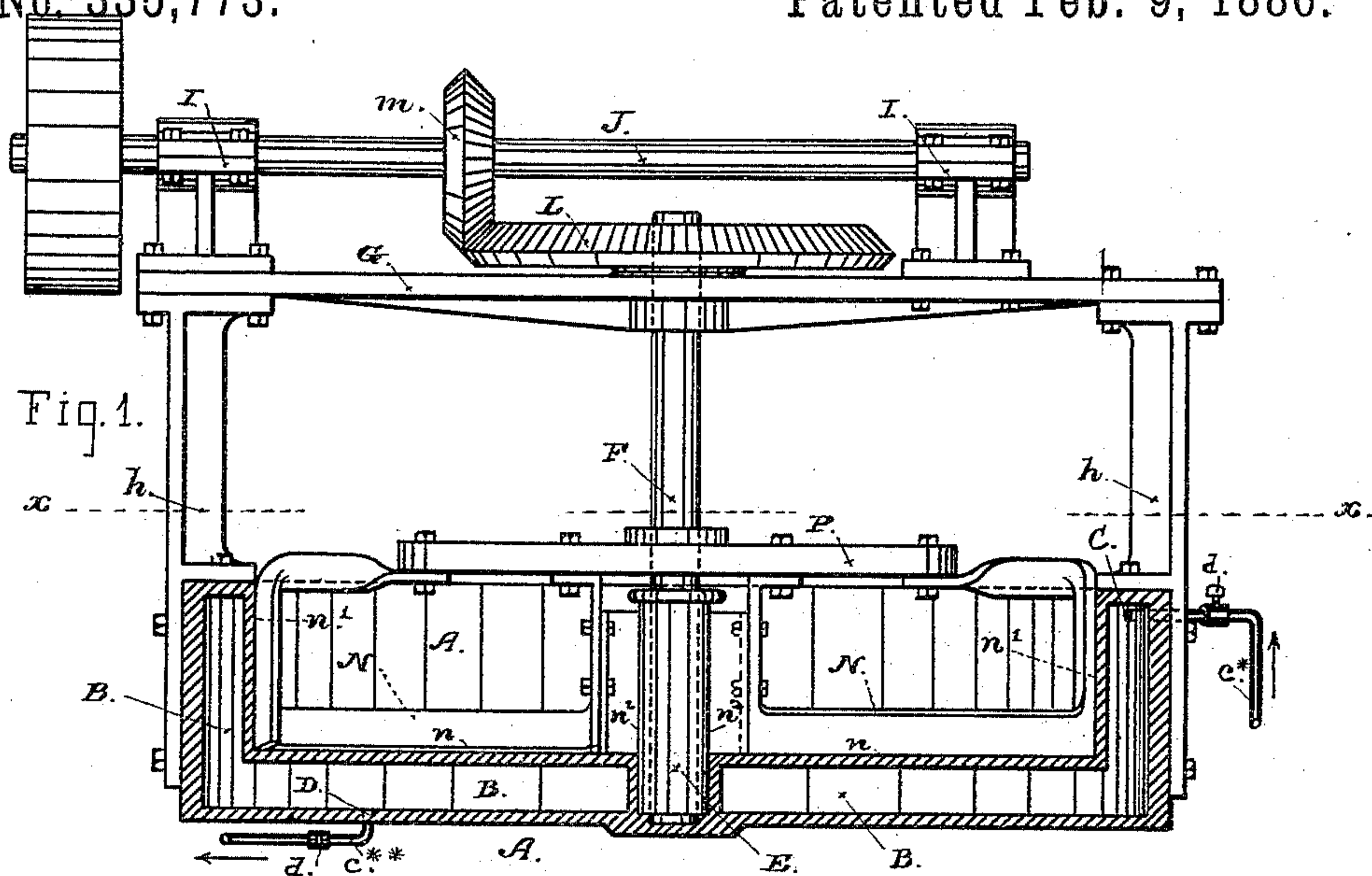
(No Model.)

D. RAVEKES.

APPARATUS FOR COOLING WHITE LEAD.

No. 335,773.

Patented Feb. 9, 1886.



Witnesses:

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By his Atty.,

UNITED STATES PATENT OFFICE.

DAVID RAVEKES, OF SAN FRANCISCO, CALIFORNIA.

APPARATUS FOR COOLING WHITE LEAD.

SPECIFICATION forming part of Letters Patent No. 335,773, dated February 9, 1886.

Application filed March 12, 1885. Serial No. 158,631. (No model.)

To all whom it may concern:

Be it known that I, DAVID RAVEKES, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Machinery or Apparatus for Cooling White Lead; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the accompanying drawings, that form a part of this specification.

My invention has for its object to produce a machine or apparatus for cooling white lead after grinding in its manufacture; and the same consists in the construction and combination of parts, as hereinafter particularly described and pointed out. These parts comprise a pan or receptacle, of cylindrical form, with hollow sides and bottom for circulation of a cooling-liquid, a scraping device to travel around against the sides and bottom of the receptacle, and suitable mechanism for working this device. The following description fully explains the construction of these parts and the general operation of the machine or apparatus produced by combining them together, the accompanying drawings being referred to by figures and letters.

Figure 1 is an elevation of the apparatus with the receptacle in section to show the chamber or space for circulation of the cooling-liquid. The pipes for inflow and outflow are broken away from their connection with suitable supply and waste. Fig. 2 is a top view of the receptacle and the device for stirring the matter under treatment in the receptacle, the driving mechanism and the standards or supporting-frame being removed at about the horizontal line xx , Fig. 1. Fig. 3 is a detail view in perspective of a construction of scraping device and its attachment to the revolving arm for carrying it around.

A is a pan-like receptacle with flat bottom and perpendicular sides.

B is a hollow space extending beneath the bottom, and also upward in the perpendicular sides, and C D are inlet and outlet apertures into and out from this space. C is the inlet, having connection with a supply of cooling-liquid. when the apparatus is set up for operation, through a pipe, c^* , and D is the outlet, hav-

ing also a pipe, c^{**} . These two pipes have suitable valves or cocks, $d d$.

The cooling-liquid flowing from a suitable supply passing into the hollow space B, and thence out through the waste-pipe, the flow or circulation is regulated by means of the cocks before described.

E is a hollow post or pillar, fixed upright in the center of the receptacle, and forming a step and socket for the end and lower part of an upright shaft, F. At the upper end this shaft passes through and has a bearing in a cross beam or plate, G, that extends over the receptacle, and rests at its ends upon upright supports $h h$, secured to the sides of the receptacle.

I I are boxes fixed upon this beam, and J is a pulley-shaft carried in said boxes. By means of bevel wheel and pinion L m —the one fixed on the upright shaft, the other on the cross-shaft—the two shafts are connected, and movement of the one drives the other.

The scraping devices N are blades or plates having straight scraping-edges $n n' n^2$, and fixed to a carrying-arm, P, that is fast on the upright shaft. Their edges are set to run against the surfaces within the receptacle, so that when in motion they keep removing the matter under treatment off from the cooling-surfaces and bringing other portions of the matter into contact with such surfaces. In Fig. 3 of the drawings is represented a construction of such scraping device from wrought metal and principally out of a single piece. The upright members $n^* n^*$ hold the lower scraper, n , in position to run against the bottom of the receptacle, and the outer one of these members has a vertical edge, n' , set to run against the perpendicular sides of the receptacle. On the back or inner side of the other upright is fixed a scraping-blade, n^2 , with a vertical edge to run against the surface of the center pillar around the shaft. The ends of the uprights $n^* n^*$ are bent over at right angles to come flatwise against the under side of the carrying-arm, and secured by screws or other suitable fastening means to the arm.

In the apparatus which I have constructed in accordance with my invention I have found that two scraping devices set diametrically opposite to each other will operate well; but

I do not confine myself to the use of this particular number of such scraping devices.

The operation of the apparatus as thus constructed is as follows: The driving-shaft receives motion through the belt and pulley or other suitable means from an engine-shaft or line of shafting, and the scraping devices are kept revolving in the receptacle around the shaft and through the material being treated. A circulation of the cooling-liquid—such as water at suitably low temperature—is produced through the hollow space beneath the bottom and behind the perpendicular walls of the receptacle, so that the heat is constantly being absorbed and carried off by the liquid. The movement of the scraping devices through the mass of matter in the receptacle brings other portions or particles into contact with the cooling-surfaces as fast as the scraping-edges remove the matter from the surfaces, and in this action the devices are stirrers as well as scrapers. The operation continues until the contents of the receptacle are brought to the desired condition. To facilitate the removal of the contents, a discharge-opening is provided at one side of the receptacle. This discharge is shown at R in Fig. 2 of the drawings by the dotted lines extending from the outside to the inside and across the space between the two walls. These lines represent a tubular passage extending across the hollow space. The opening is closed by a sliding gate, R', that is movable in guides r^2 r^2 on the outside of the receptacle, and is worked by a lever, R³. The fulcrum of this

lever is at r^4 on the receptacle, and one end is attached to the gate at r^5 , while the outer end forms a handle wherewith to move the gate.

Having thus described my invention, what I desire to claim and secure by Letters Patent is—

1. An apparatus for cooling white lead, consisting of a pan or receptacle having a hollow space beneath its bottom and behind its walls connected together to form a single chamber, and an inlet and an outlet aperture, and connections for passage and circulation of a cooling medium, as water, a rotating shaft set upright in said receptacle and provided with a scraping device the edges of which are set to run against the surfaces of the said receptacle, and mechanism, substantially as specified, for imparting rotation to said shaft, as set forth.

2. A white-lead cooler having flat bottom and perpendicular sides with a hollow space or chamber surrounding the bottom and sides of said cooler to contain a cooling medium, as water, an inlet and an outlet in the said space or chamber, with connections having cocks to control the flow of the cooling medium, and a scraping device on which are scraping-edges set to work against the interior surfaces of the receptacle, and mechanism for imparting motion to said scraping device, substantially as herein specified, to operate as set forth.

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Witnesses:

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