

No. 612,689.

Patented Oct. 18, 1898.

S. WATT.
SELF OILING CAR WHEEL.

(Application filed Mar. 19, 1898.)

(No Model.)

Fig. 1.

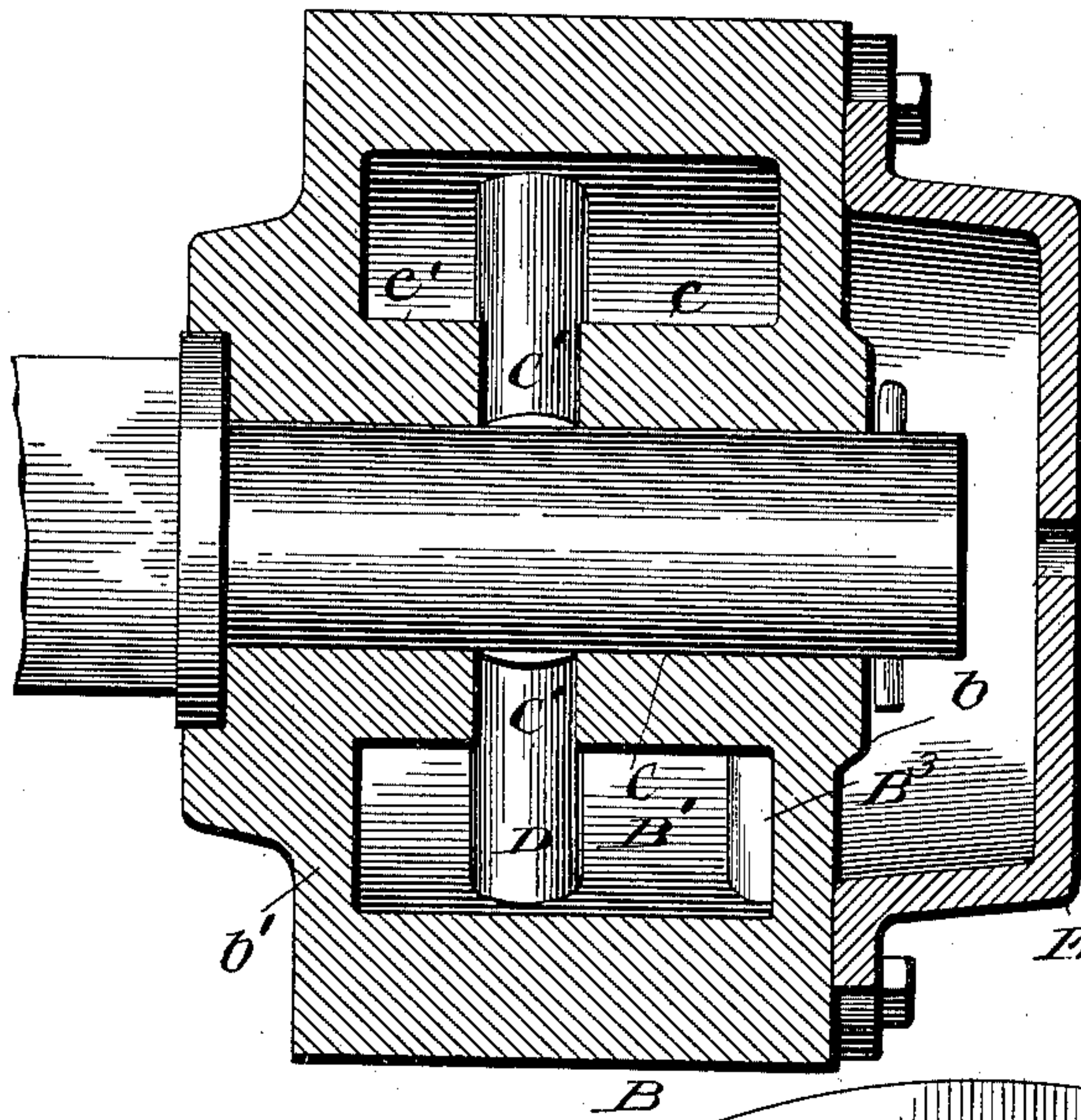


Fig. 2.

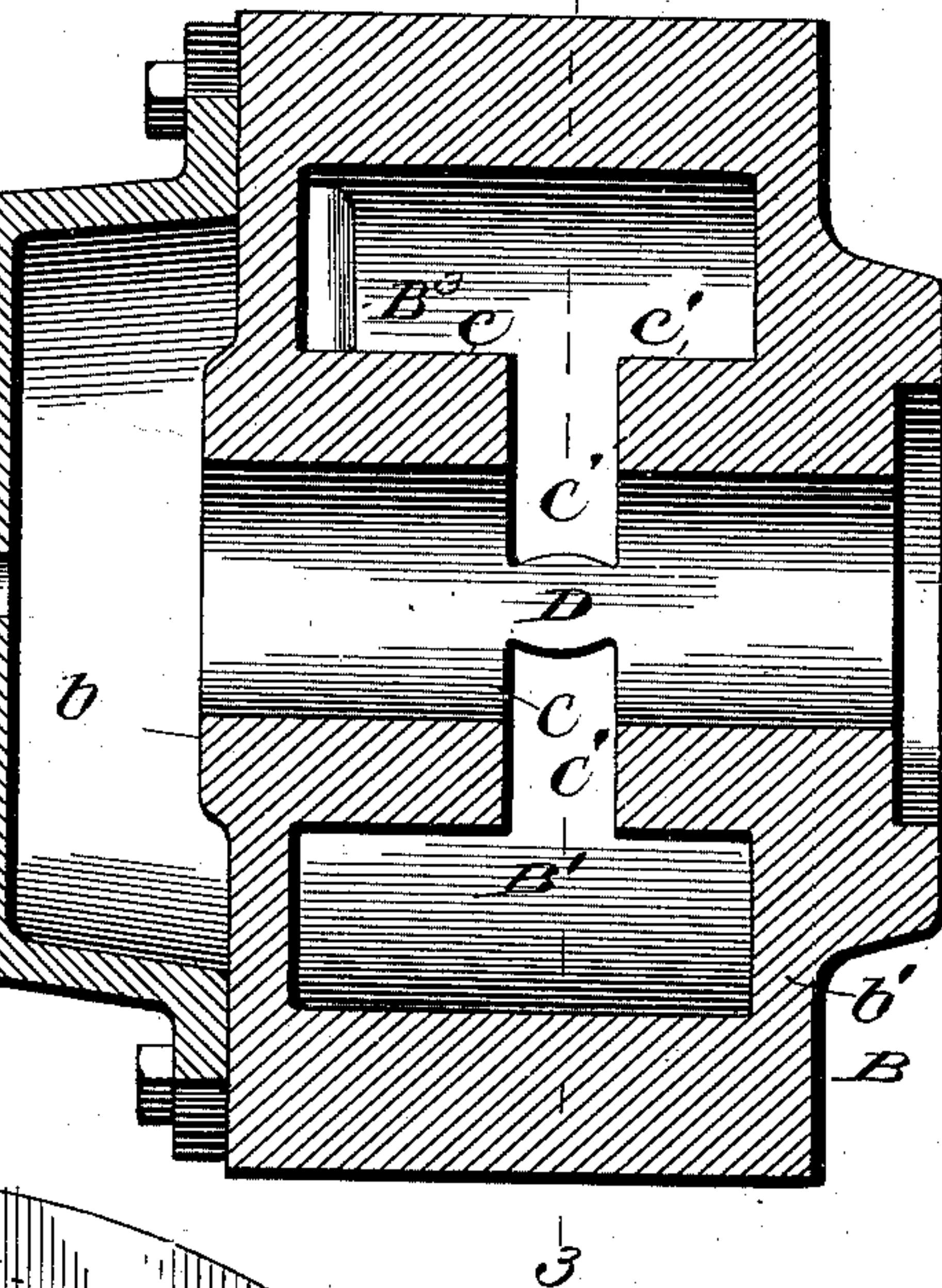
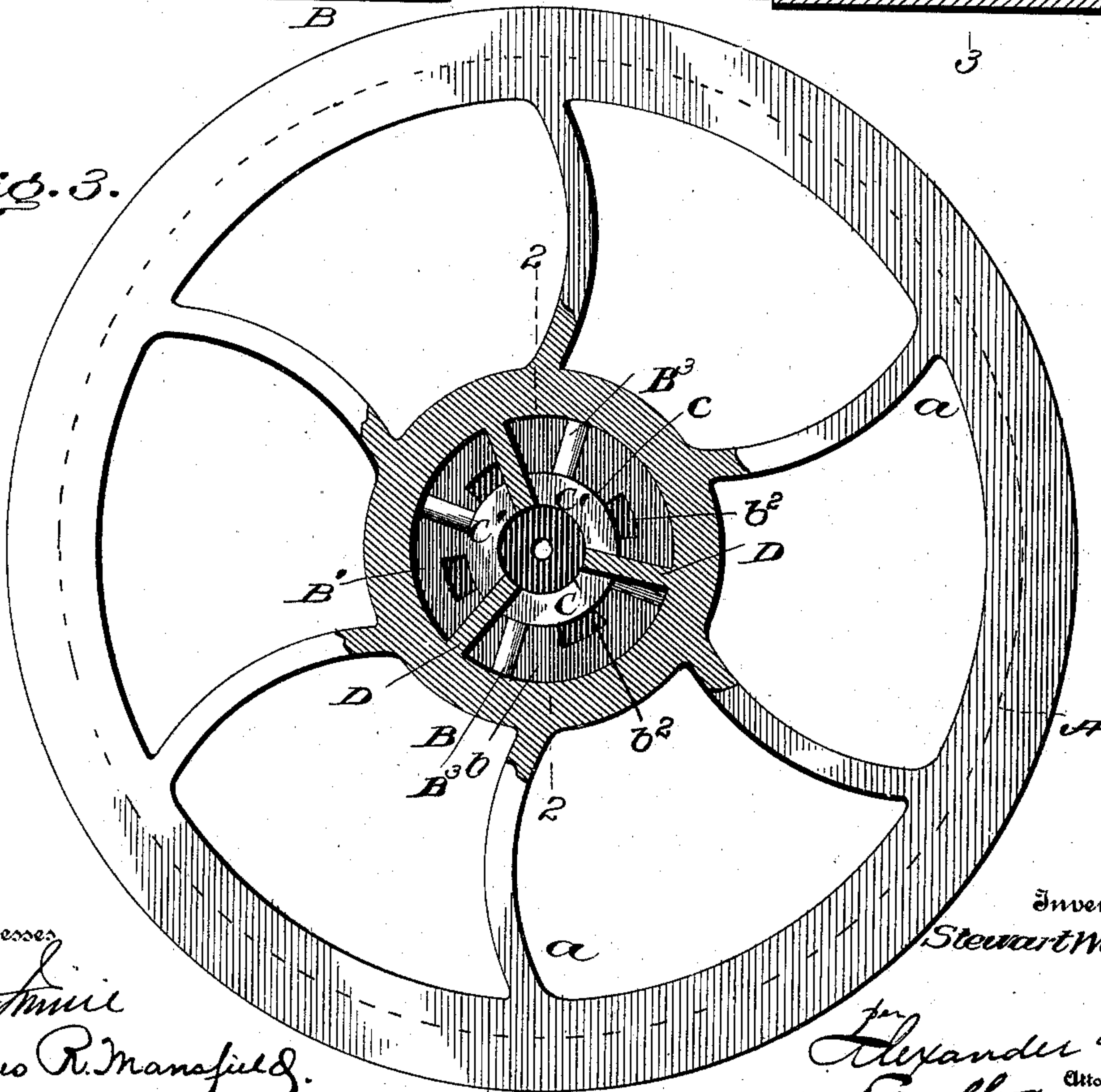


Fig. 3.



Witnesses
for Invention
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UNITED STATES PATENT OFFICE.

STEWART WATT, OF BARNESVILLE, OHIO, ASSIGNOR TO THE WATT MINING CAR WHEEL COMPANY, OF SAME PLACE.

SELF-OILING CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 612,689, dated October 18, 1898.

Application filed March 19, 1898. Serial No. 674,494. (No model.)

To all whom it may concern:

Be it known that I, STEWART WATT, of Barnesville, in the county of Belmont and State of Ohio, have invented certain new and
5 useful Improvements in Car-Wheels; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

10 This invention is an improvement in self-lubricating hubs whereby the journal or spindle will be continually and thoroughly lubricated in the most efficient manner.

The invention is particularly designed for
15 mine-car wheels, and my object is to improve the construction of the hubs thereof and of the wheels, pulleys, &c.; and it consists in the novel construction and combination of parts hereinafter described and claimed, and
20 illustrated in the drawings, in which—

Figure 1 is a sectional view of a mine-car wheel mounted on its axle-spindle. Fig. 2 is an enlarged longitudinal section of the wheel-hub on the line 2 2, Fig. 3. Fig. 3 is a trans-
25 verse section on line 3 3, Fig. 2.

In said drawings, A designates the tread of a car-wheel of any suitable construction, and a the web or flange thereof connecting the tread to the hub B. This hub is hollow and
30 of considerably larger internal diameter than the spindle upon which the wheel is journaled and has an inner annular wall C, which is formed in two parts $c\ c'$, springing from the opposite end walls $b\ b'$ of the hub. The in-
35 ner ends of parts $c\ c'$ are connected and supported by radial spokes D, which extend from the wall C to the outer wall of hub B, as shown. The parts B, C, and D are preferably cast integral.

40 The spokes D extend to the inner or wearing surface of the wall C, as shown, and the spaces between the adjoining ends of the arms D and between the adjoining ends of parts $c\ c'$ of the hub form radial slots C' , which are
45 arranged in an annular series in the hub at about the center thereof. The annular space in the hub forms an oil-chamber B' , into which oil can be admitted through openings b^2 in the outer end b of the hub, which openings
50 are inclosed within a shell E, bolted to the hub, as shown, and provided with a central

oil-opening, through which the shell can be filled with oil, which oil will then pass through openings b^2 into the chamber B' . The outer end wall b of the hub B may also be stiffened 55 by radial ribs B^3 inside the oil-chamber, as shown in Fig. 2. By this construction when the chamber B' is filled with oil and the wheel rotated the arms D will whip the oil around in chamber B' and cause it to pass through 60 slots C' to the center of the spindle, and it is equally distributed toward both ends thereof over the entire bearing-surface. The advantages of admitting the oil to the center of the spindle instead of at the ends thereof will be 65 obvious.

The slots C' substantially divide the hub into two parts and allow free admission of oil all around the spindle, and the arms D facilitate the lubrication of the spindle by taking 70 up oil and directing the same thereto, and no matter in what position the wheel stops one or more of these arms will be in such position that the oil thereon will flow down the sides thereof through slots C' onto the upper 75 sides of the spindle within the hub C, so as to effectively lubricate the spindle.

By this device the spindle is oiled thoroughly while the wheel is in motion, and whenever the wheel stops a supply of oil is directed 80 onto the upper portion of the spindle by the arms. This construction is, moreover, very strong, because the outer extremities of parts $c\ c'$ are rigidly and solidly connected throughout to the end walls of the hub, while the slots 85 C' are located near the center of the hub, where the least strain can come and where it is most advantageous to admit the lubricant to the spindle.

Having thus described my invention, what 90 I therefore claim as new, and desire to secure by Letters Patent thereon, is—

1. The combination of the hub having an annular oil-chamber and an interior transversely-divided inner wall, the opposite sec- 95 tions of said wall extending inwardly from the opposite end walls of the hub and rigidly connected thereto, and the inner end portions of said wall-sections being connected by radial arms which extend outward and are con- 100 nected to the outer walls of the hub, for the purpose and substantially as described.

2. The herein-described self-lubricating hub B having an annular oil-chamber and an inner wall formed in two opposite sections *c*, *c'*, respectively extending from the end walls 5 of the hub to near the center thereof; and a series of radial arms connecting the adjoining ends of said sections and extending outward and connected to the outer walls of the hub, substantially as described.
- 10 3. The herein-described hollow hub B having an annular oil-chamber B', an inner wall or bearing C therein formed of the opposite sections *c*, *c'*, respectively connected to the opposite end walls of the hub, radially-disposed arms D having their inner ends interposed between and connected to the adjoining inner ends of the sections *c*, *c'*, and their outer ends connected to the outer walls of the hub, and strengthening-ribs B³ on the outer 20 wall of the hub but within the oil-chamber, all substantially as and for the purpose described.
4. The herein-described hub B having an annular oil-chamber B', openings *b*² in the outer end walls of the hub, the strengthening-ribs B³ on said wall within the oil-chamber, 25 an inner wall formed on the opposite portion *c*, *c'*, respectively extending from the end walls of the hub to near the center thereof, and the radially-disposed arms D having their inner ends interposed between and connected to the adjoining ends of the sections *c*, *c'*, and their outer ends connected to the circumferential walls of the hub, thus forming an annular series of oiling-slots C' near the center 35 of the journal; and the shell attached to the outer end of the hub; all substantially as and for the purpose described.
- In testimony that I claim the foregoing as my own I affix my signature in presence of 40 two witnesses.
- STEWART WATT.
- In presence of—
I. E. STUBBS,
B. F. STEWART.