

(No Model.)

2 Sheets—Sheet 1.

L. C. JAQUES & G. F. KESTER.
VEHICLE WHEEL.

No. 506,508.

Patented Oct. 10, 1893.

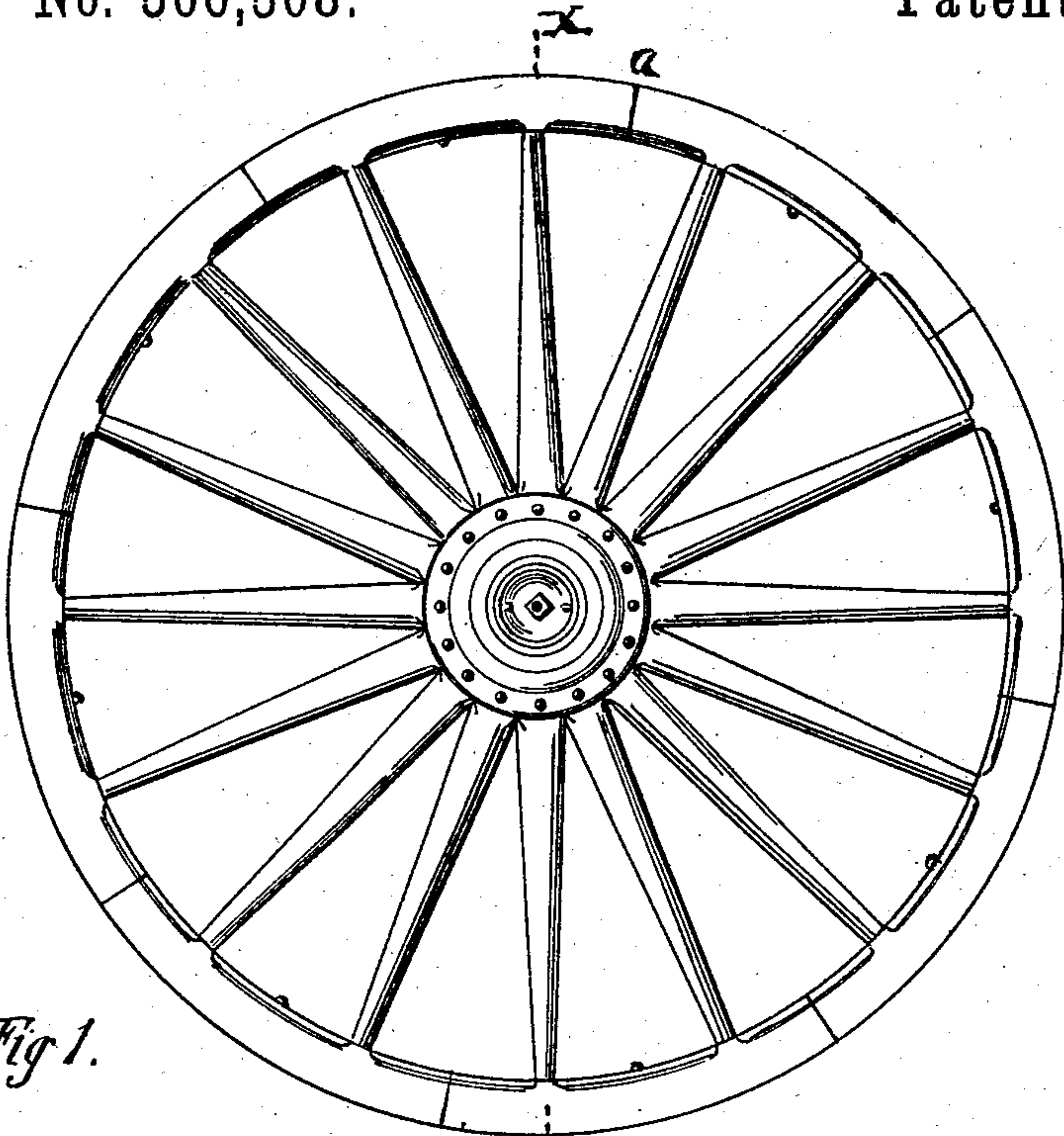


Fig 1.

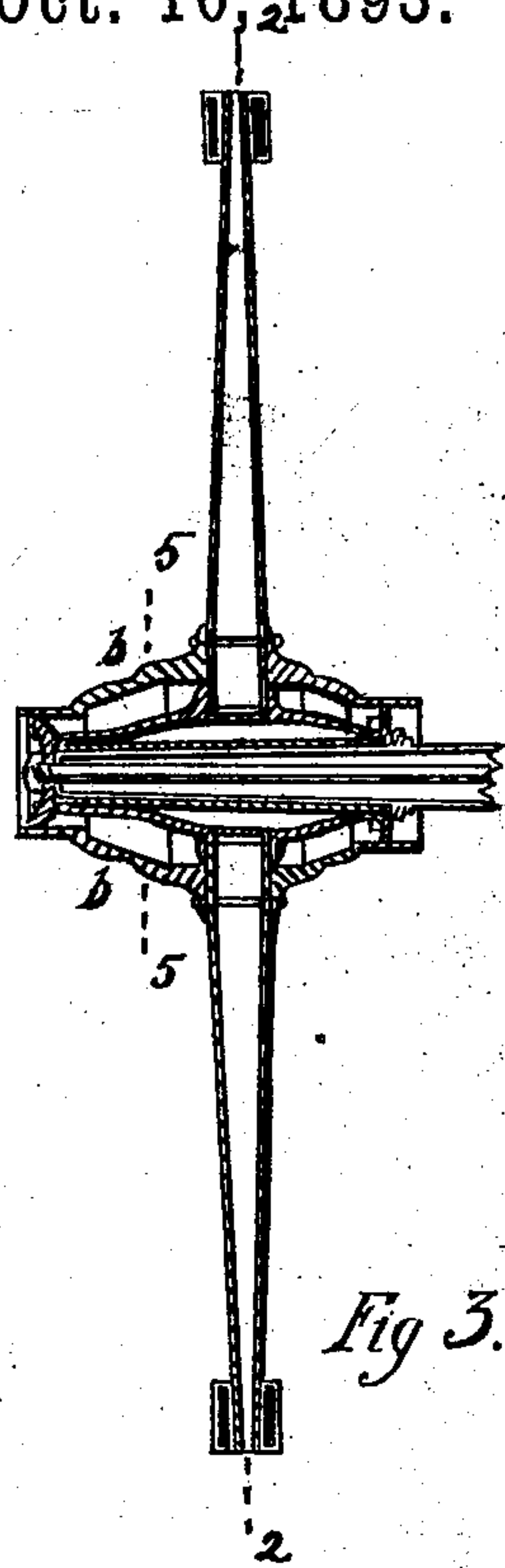


Fig 3.



Fig 4.

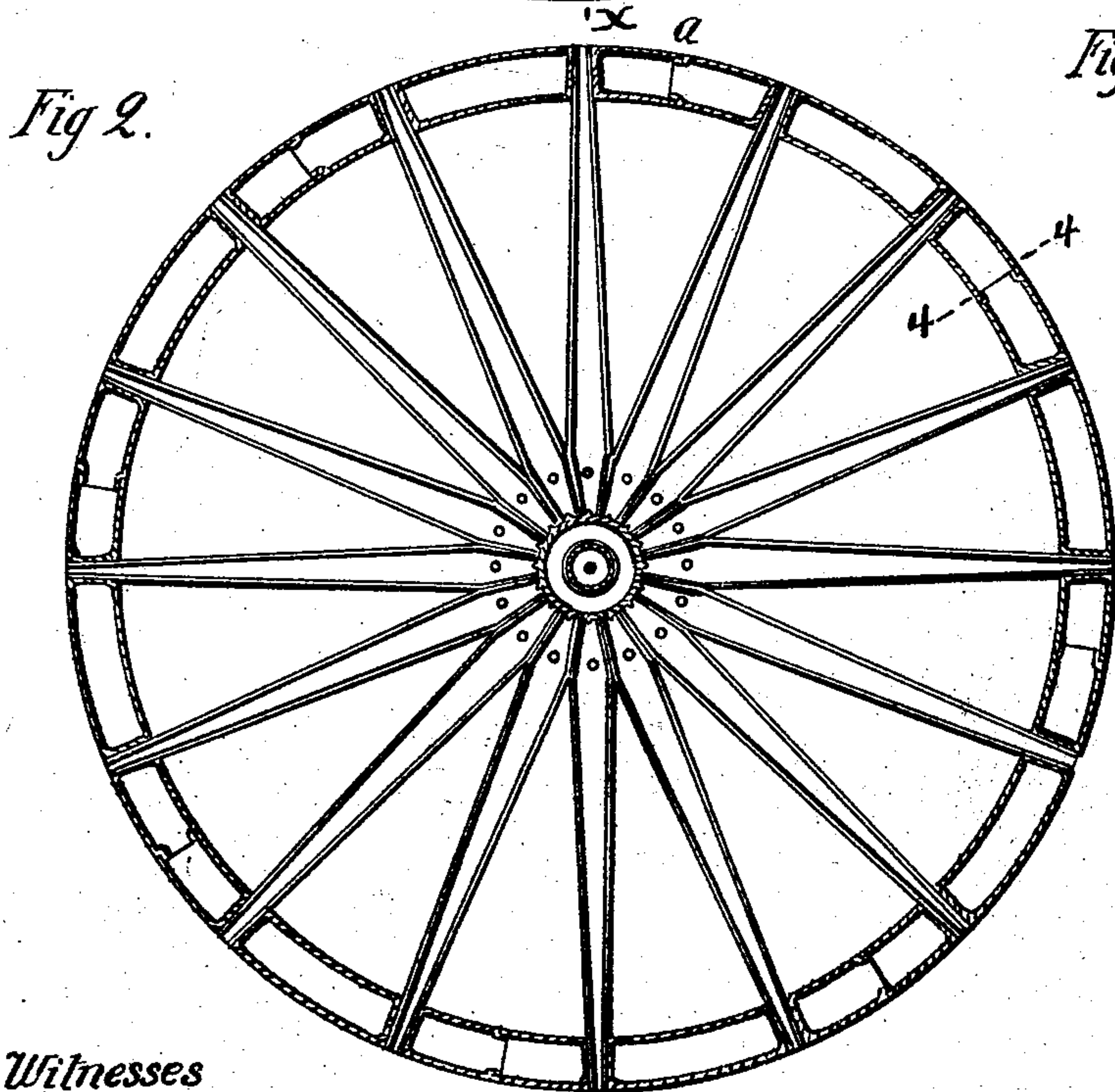


Fig 2.

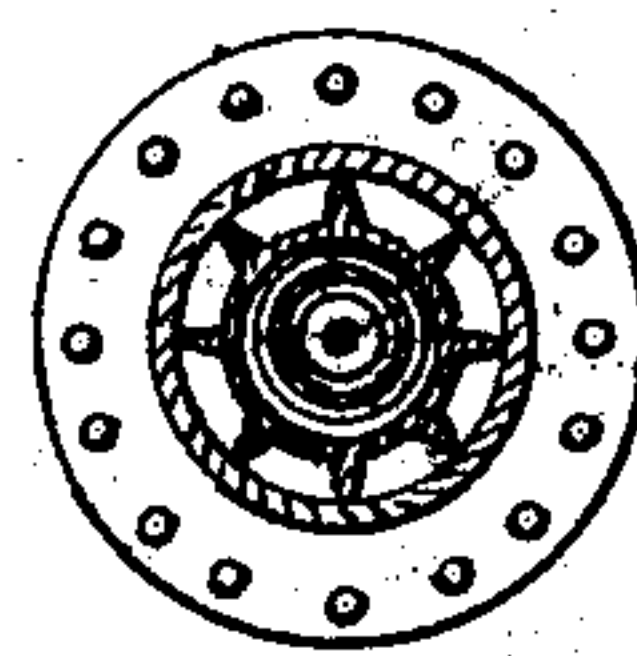


Fig 5.

Witnesses

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2 Sheets—Sheet 2.

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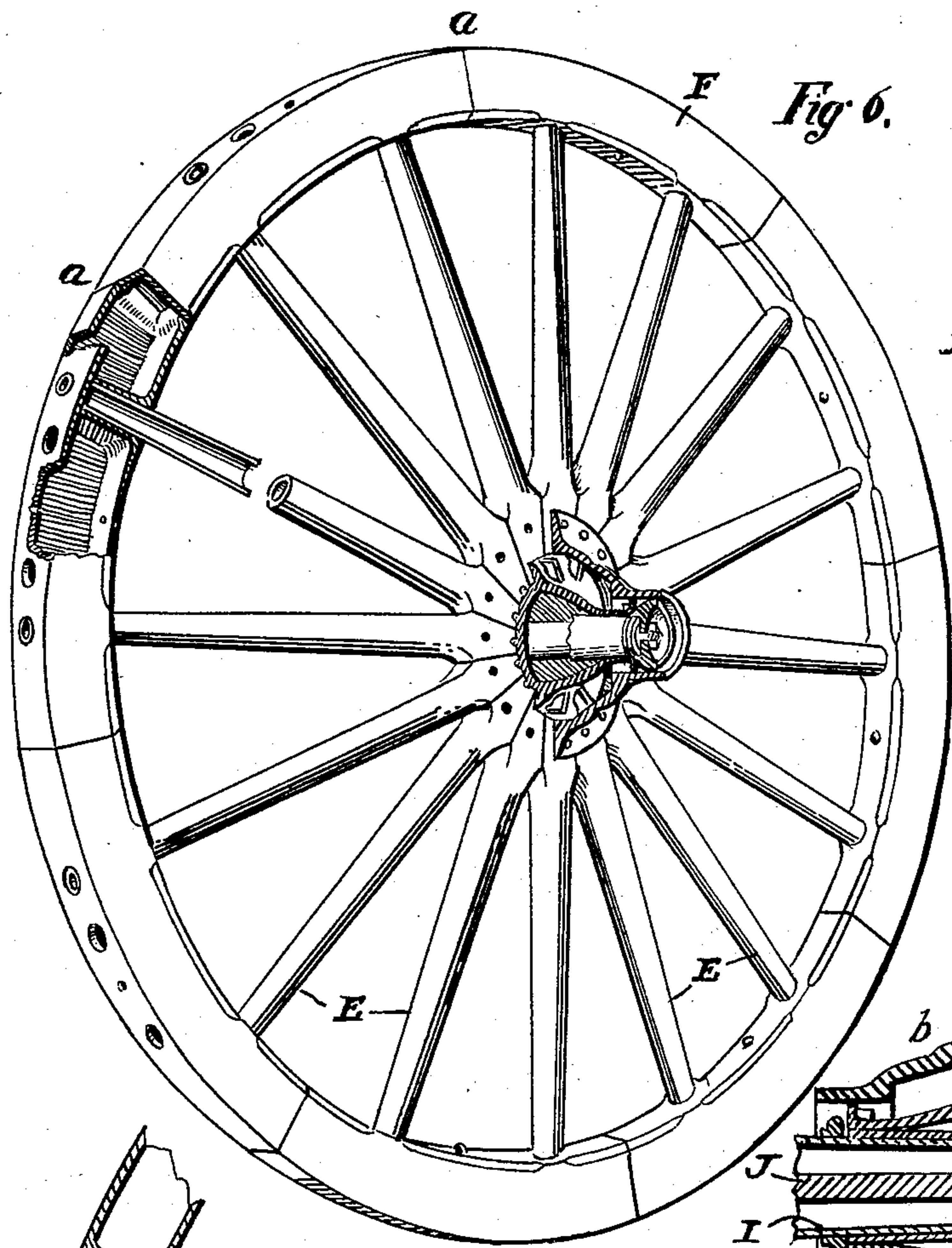


Fig 6.

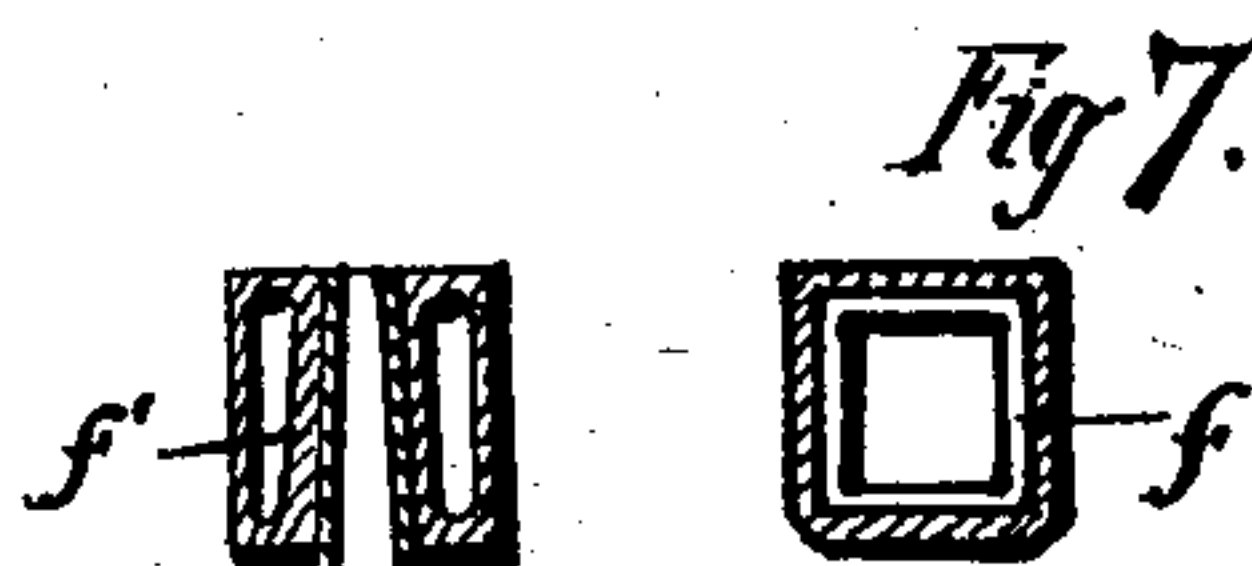


Fig 7.

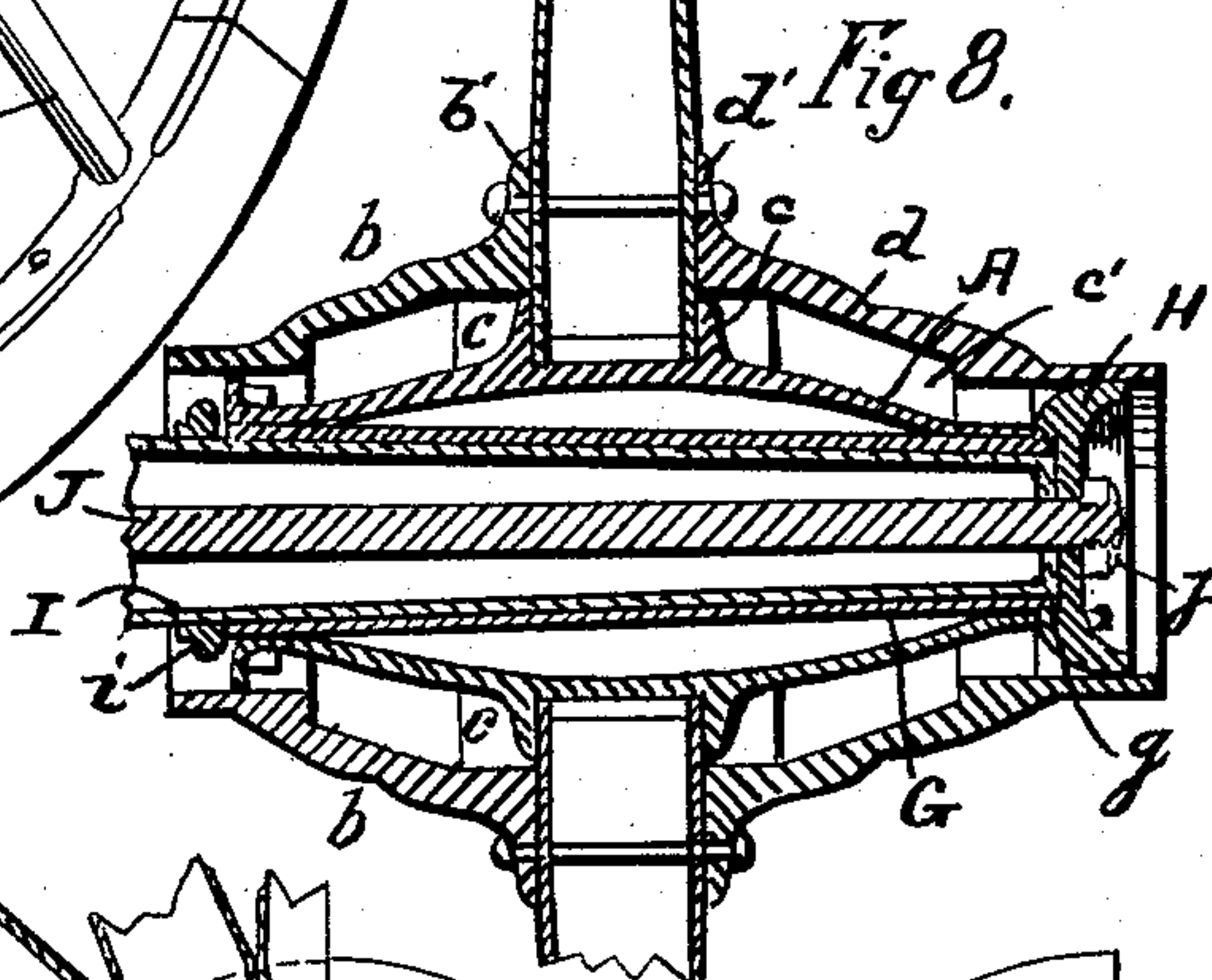


Fig 8.

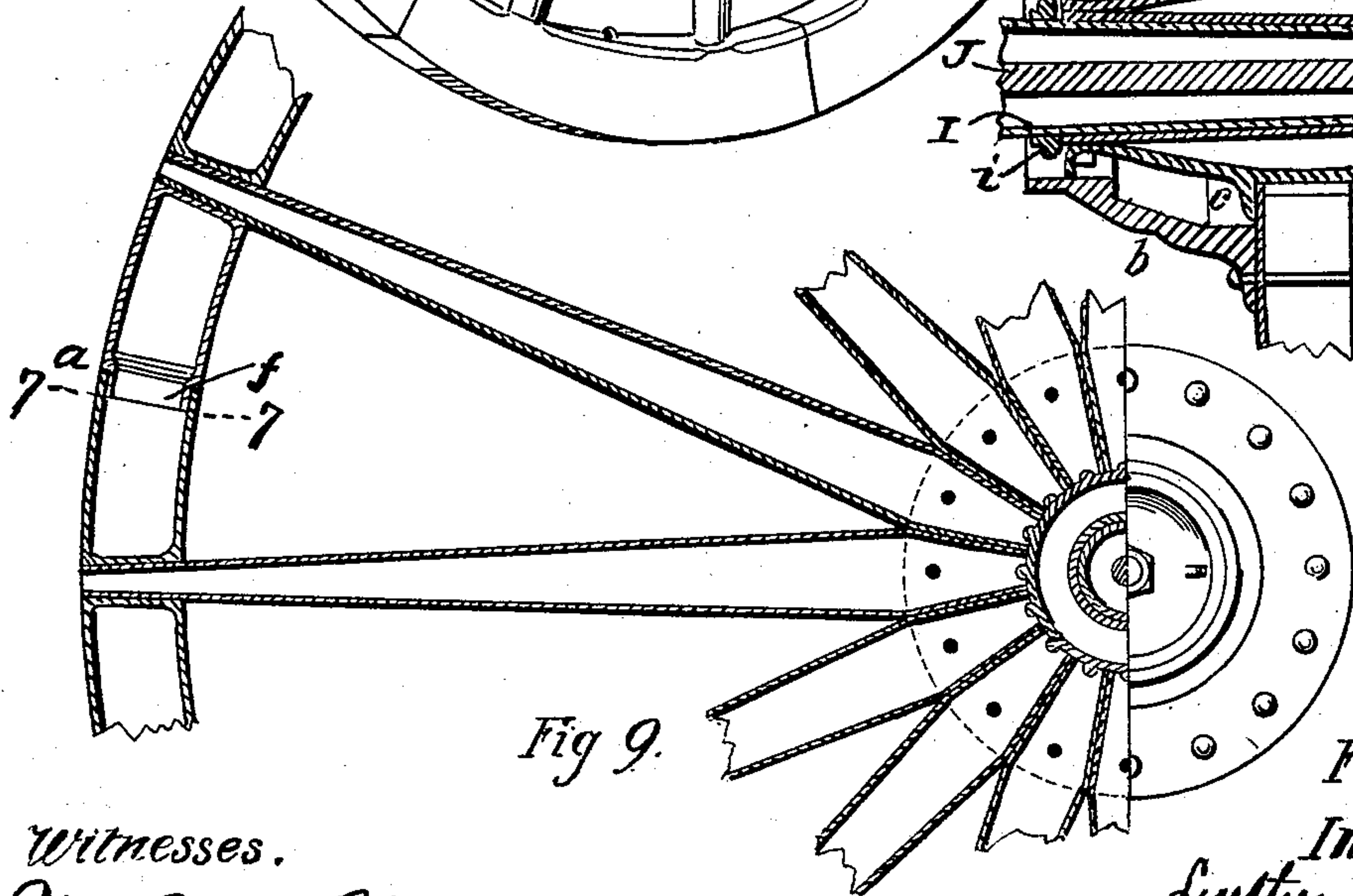


Fig 9.

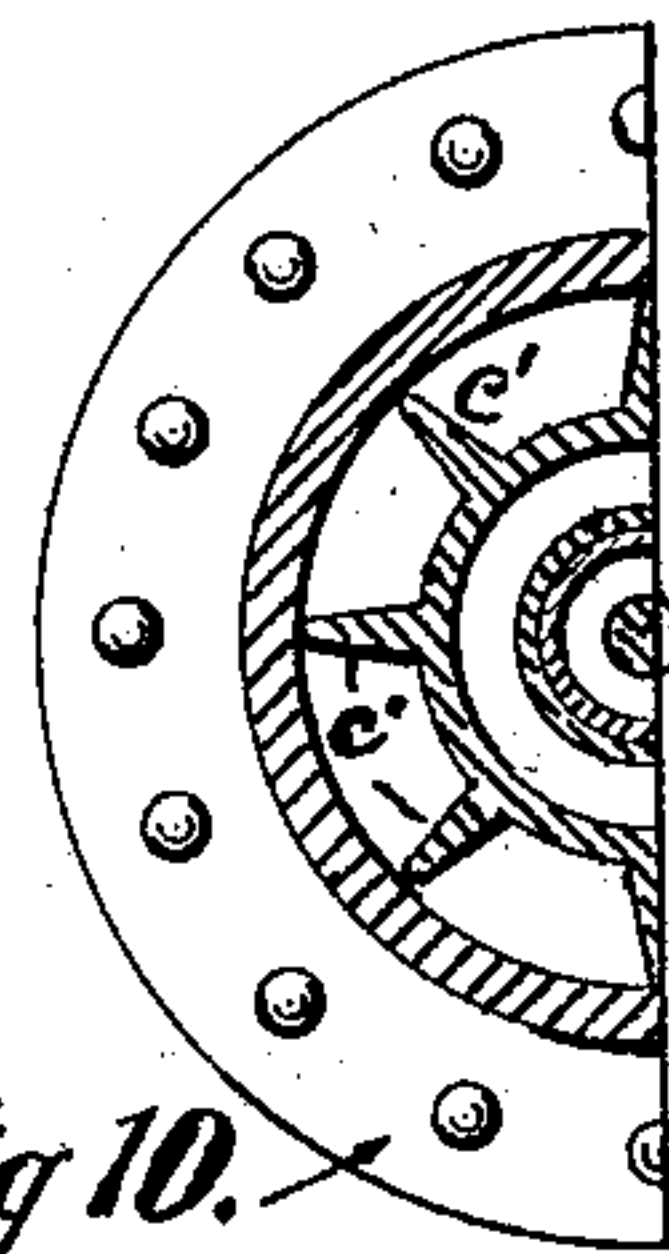


Fig 10.

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UNITED STATES PATENT OFFICE.

LUTHER C. JAKES AND GEORGE F. KESTER, OF SPOKANE, WASHINGTON.

VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 506,508, dated October 10, 1893.

Application filed June 30, 1893. Serial No. 479,286. (No model.)

To all whom it may concern:

Be it known that we, LUTHER C. JAKES and GEORGE F. KESTER, citizens of the United States, residing at Spokane, in the county of Spokane, State of Washington, have invented certain new and useful Improvements in Wheels; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to metallic wheels for vehicles; and aims to provide a wheel of light construction which will be durable and interchangeable in its parts so that repairs may be readily effected.

The improvement consists of the novel features and the peculiar construction and combination of the parts which will be hereinafter more fully described and claimed and which are shown in the annexed drawings, in which—

Figure 1 is a side elevation of a wheel embodying the invention. Fig. 2 is a vertical section of the wheel on the line 2 2 of Fig. 3. Fig. 3 is a central section on the line X—X of Fig. 1. Fig. 4 is a cross section of the rim or felly on the line 4 4 of Fig. 2. Fig. 5 is a cross section of the hub on the line 5 5 of Fig. 3 looking to the right. Fig. 6 is a perspective view of the wheel on a larger scale, a portion of the rim, a spoke and the hub being broken away to show the details of construction. Fig. 7 is a cross section of the rim or felly on the line 7 7 of Fig. 9. Fig. 8 is a view similar to Fig. 3 on a larger scale, the lower portion being broken away. Fig. 9 is a detail view of a portion of the wheel taken on the same line as Fig. 2 but on a larger scale. Fig. 10 is a view similar to Fig. 5 of one half of the hub on a larger scale.

The hub proper is composed of three cases A, b and d of malleable cast iron. The inside part A is cast in cylindrical form with two ribs c encircling it near the center about one inch in height forming the necessary space to receive the inner end of the spoke E. On either side of these ribs c are longitudinal ribs c' which extend outward to the ends of the hub and vary in height to support the outer shell. These longitudinal ribs c' in addition to supporting and racing the outer

shell strengthen the cylindrical part A thereby admitting of the casting being made light.

The parts b and d constitute the outer shell 55 of the hub and have flanges d' and b', respectively, at their inner ends which abut against the side of the spoke and brace the same laterally and also receive the rivets which secure the said parts and the spokes together, the 60 rivets passing through the flanges b', d' and the spoke.

The spokes E are hollow or tubular and are preferably tapering, the inner ends being pressed to the shape of the usual wooden 65 spokes so as to lie close together and fit between the ribs c c' and the flanges b' and d'. The spokes are preferably made of drawn steel tubing and gradually taper from the hub to the rim end, the outer end being made 70 tapering and passing through corresponding tapering openings in the rim or felly.

The rim or felly is composed of a number of sections F. One end of each section is provided with a reducing flange f to enter the 75 corresponding end of the other section to form a firm joint a at the meeting or opposing end of the said section. The rim or felly is hollow, being of malleable cast iron. At the points where the spokes pass through the rim, 80 the latter is cast with a tapering socket f' to receive the tapering ends of the spokes. These sockets f' are formed wholly within the side of the rim and embrace the sides of the tapering ends of the spokes and strengthen and 85 brace the rim at the points where the spokes attach thereto.

The axle box G is of usual construction and is inserted within the cylindrical part A of the hub and is prevented from turning therein in any of the well known ways. The front end of the axle box is provided with a thread g to receive a nut H which is screwed thereon to draw the axle box to place within the hub. The nut H is cup shaped and gives a finished 95 appearance to the outer end of the hub.

The axle I is tubular and provided a short distance from its end with a collar i to engage with the inner ends of the axle box and limit the inward movement of the hub and is closed 100 at its outer end, which end touches the inner side of a nut H. A tie bar J passes through the tubular axle and is threaded at its ends, the latter projecting through the closed end

of the axle and through an opening in the nut H and receiving a nut j on the threaded end by means of which the wheel is held on the axle.

5 Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a wheel a hub composed of an inner cylindrical part A having annular ribs c c to
10 receive the inner ends of the spokes, and having longitudinal rib c' to strengthen and brace the said part A, and the outer shell made up of the two parts b and d which are supported on the said rib, and which have flanges b' and
15 d', respectively, at their inner ends to bear laterally against the side of the spoke, substantially as set forth.

2. In a wheel the combination of a hub an axle box passing through the hub and having
20 its outer end threaded, a nut mounted on the threaded end of the axle box, a hollow axle, and a tie bar passed through the said nut and

having its end threaded to receive the small nut, substantially as and for the purpose set forth.

3. The herein shown and described wheel
25 composed of a hub comprising sections, and constructed to receive the inner ends of the spokes, a tubular rim composed of sections which have their ends held together by a
30 socket joint, and having sockets which strengthen and brace the inner and outer walls, and tubular metal spokes having their inner ends inserted in the hub and having their outer ends tenoned and inserted in the
35 said socket in the rim.

In testimony whereof we affix our signatures in presence of two witnesses.

LUTHER C. JAKES.
GEORGE F. KESTER.

Witnesses:

P. J. DWYER,
A. S. DIBBLE.