

No. 889,422.

PATENTED JUNE 2, 1908.

E. J. WOOD & G. CARSON.

AXLE BOX.

APPLICATION FILED OCT. 8, 1907.

2 SHEETS—SHEET 1

Fig. 1

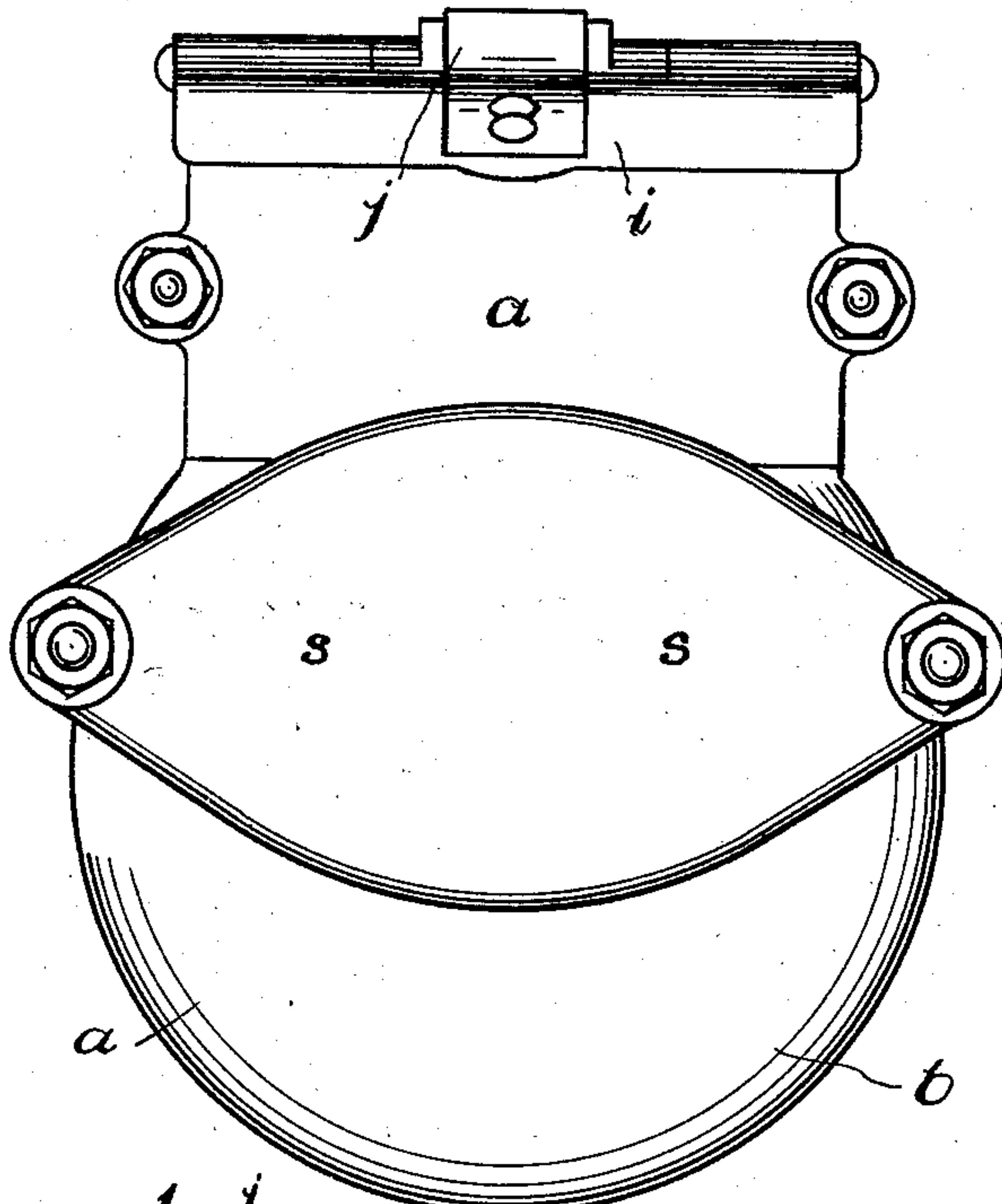
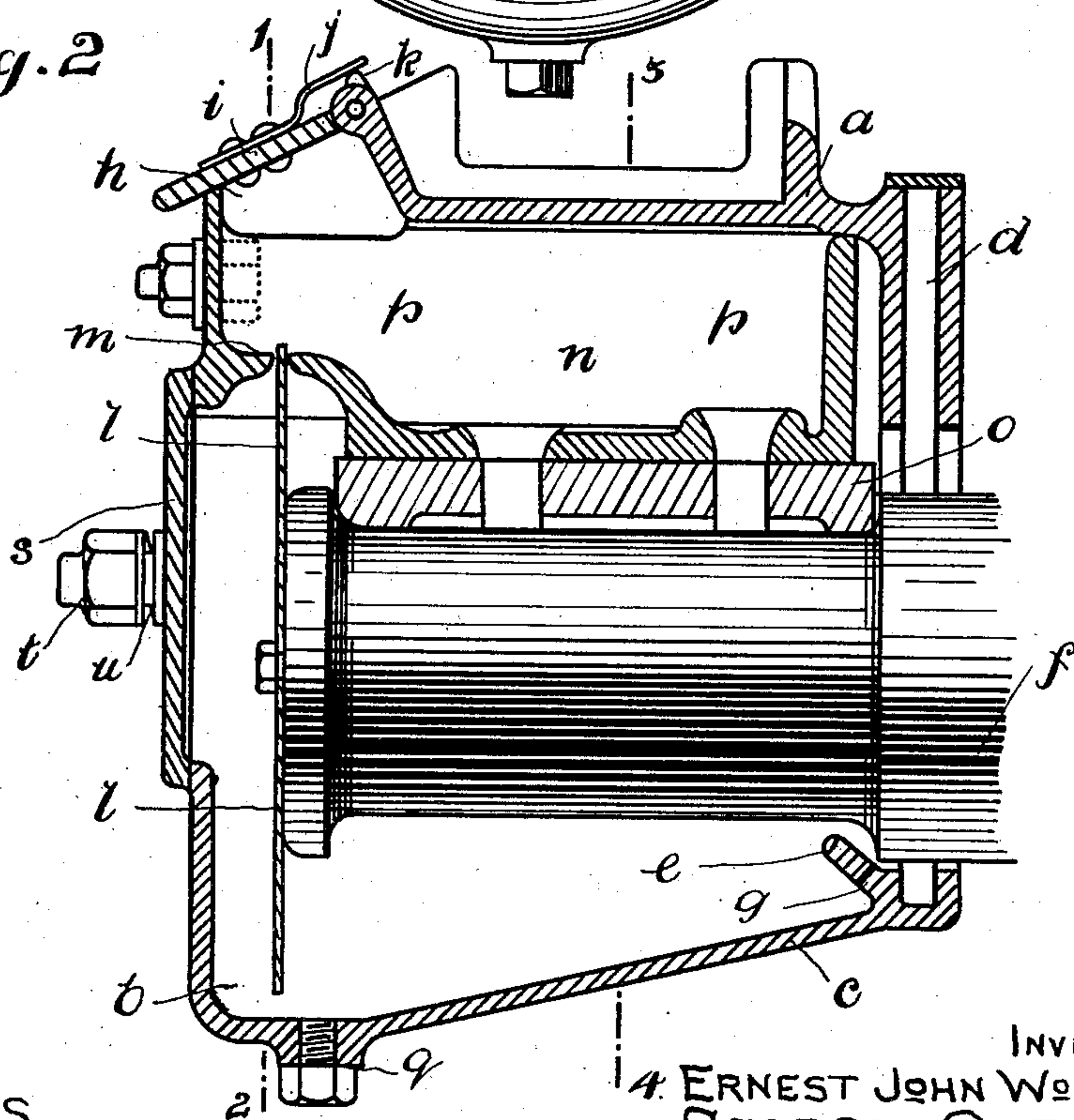


Fig. 2



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2 SHEETS—SHEET 2.

Fig. 3

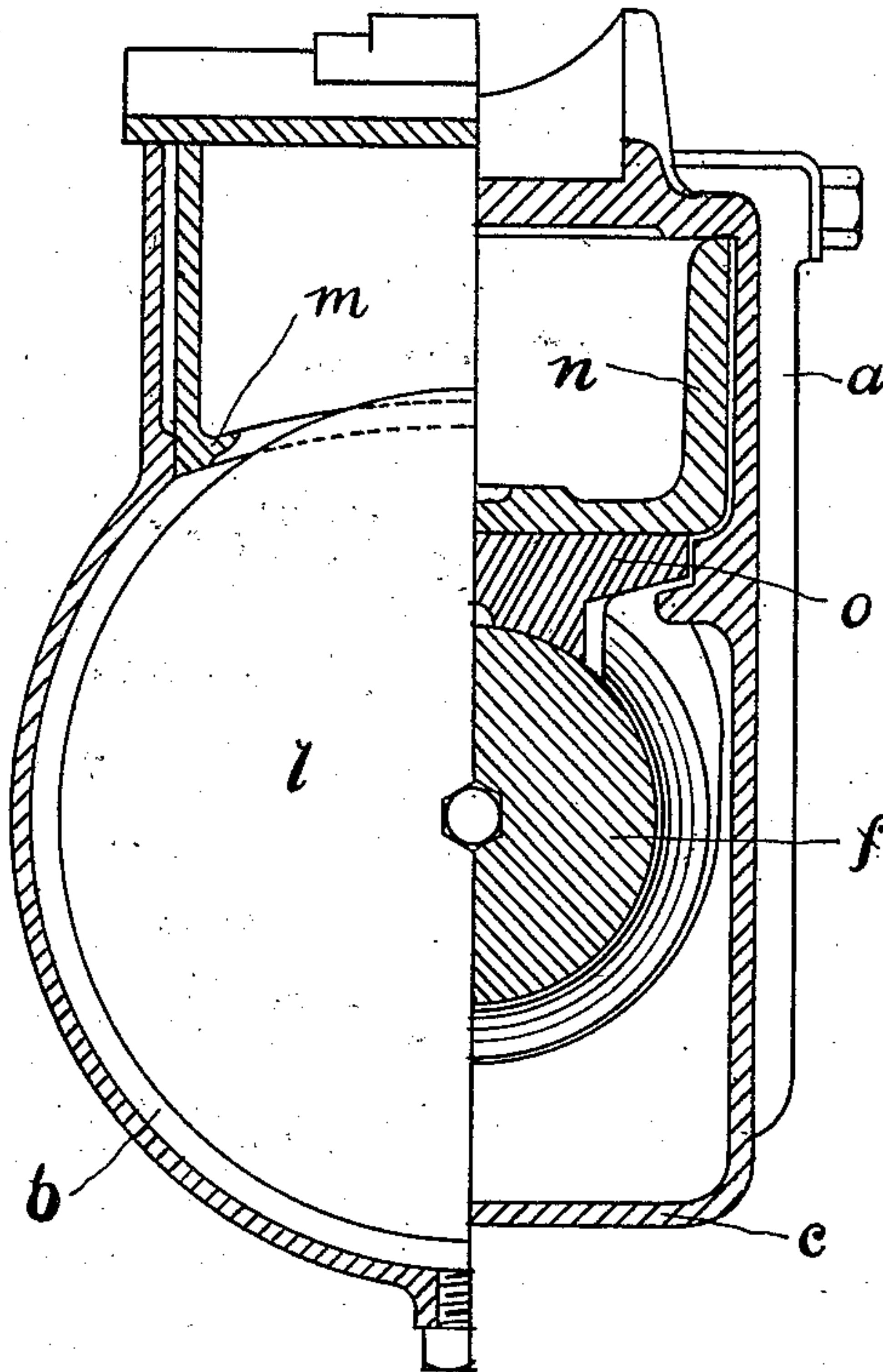
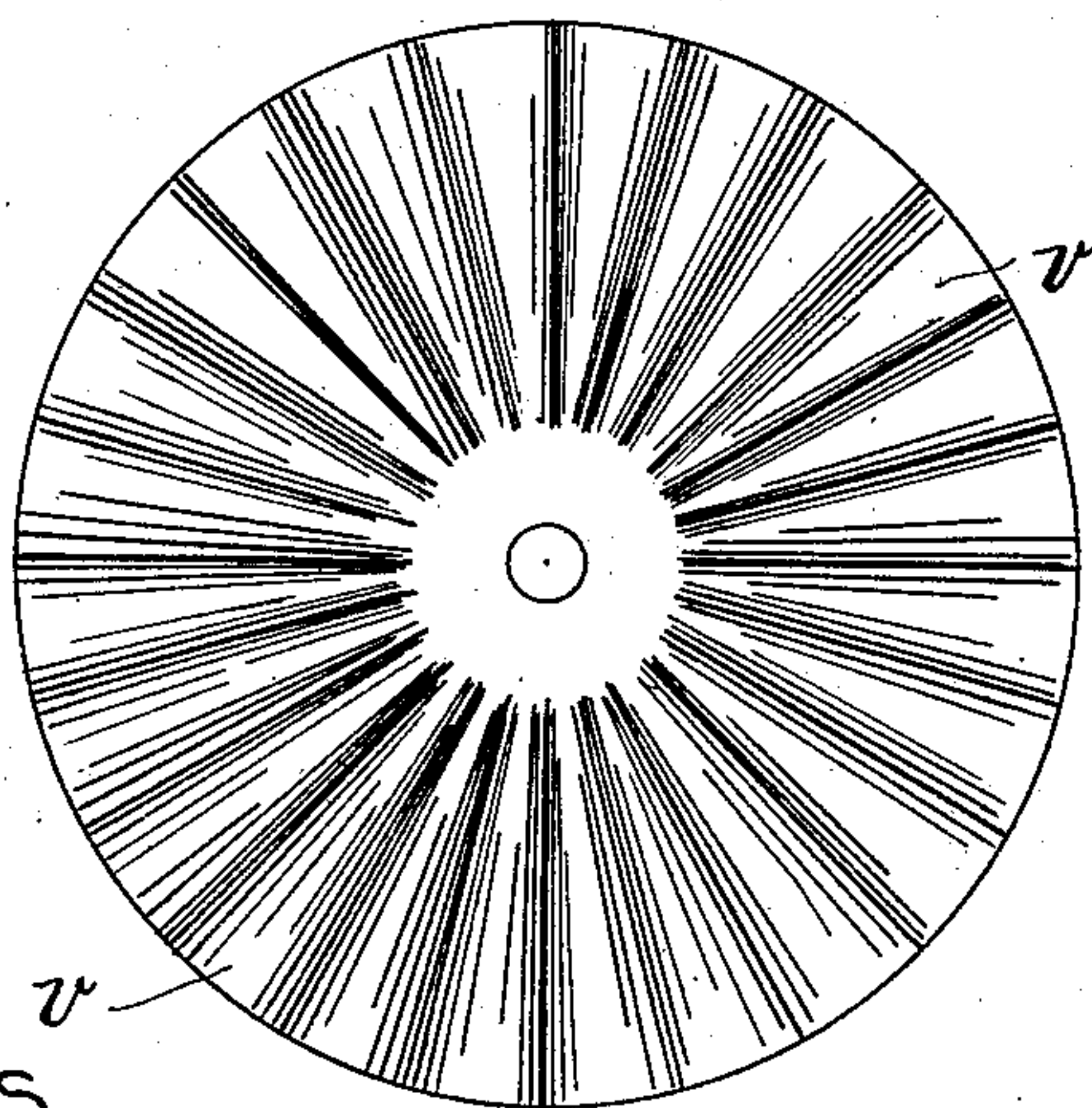


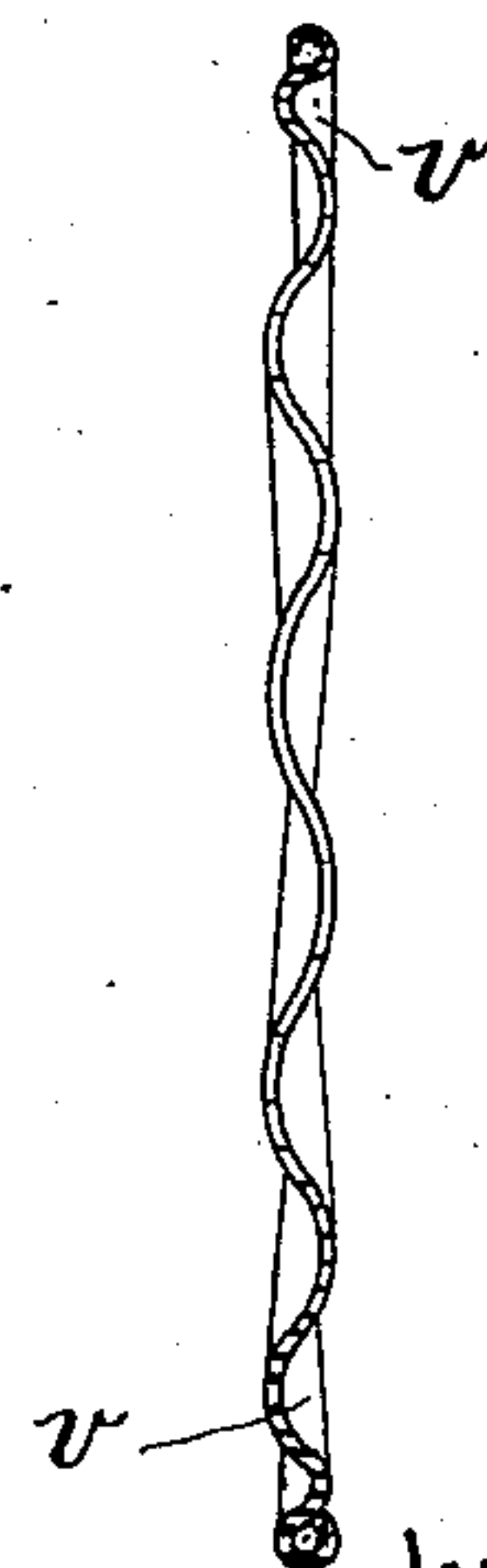
Fig. 4



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Fig. 5



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UNITED STATES PATENT OFFICE

ERNEST JOHN WOOD, OF BROMWICH, AND GEORGE CARSON, OF HULL, ENGLAND.

AXLE-BOX.

No. 889,422.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed October 8, 1907. Serial No. 396,453.

To all whom it may concern:

Be it known that we, ERNEST JOHN WOOD, a subject of the King of Great Britain, residing at Birnam, Castle Bromwich, juxta Birmingham, in the county of Warwick, England, managing director, and GEORGE CARSON, a subject of the King of Great Britain, residing at 244 Alliance avenue, Hull, in the county of York, England, locomotive-driver, have invented certain new and useful Improvements in and Relating to Axle-Boxes, of which the following is a specification.

Our invention relates to improvements in and relating to axle boxes, and refers particularly to a special construction of the box, in conjunction with means on the journal for facilitating the lubrication of the journal and forming a more effective and convenient box.

The invention consists in the construction of a box embodying several known features in a novel and convenient arrangement which in use gives perfect lubrication of the journal and a convenient, handy, and readily made box.

The features which, in themselves, individually are not new, and which we use in our combination, are the circular box, the sloping floor and the disk, together with a tray of suitable construction for collecting the oil. In order that our invention may be particularly understood and readily carried into practical effect, we have appended hereunto a sheet of drawings illustrating the same.

Figure 1 is a front elevation of the box. Fig. 2 is a central vertical section. Fig. 3 shows at the left half a section at 1—2 and at the right half a section at 3—4 of Fig. 2. Figs. 4 and 5 show respectively elevation and edge view of a specially formed oil raising disk.

The axle box *a* is formed circular at the front as at *b* and has a floor or base *c*, sloping down toward this front as clearly seen at Fig. 2.

The back of the box through which the journal enters is formed with two walls *d* having a space between in which any suitable packing shield may be inserted for preventing the escape of lubricant from the box around the journal. At this part of the box, the floor is provided with an upturned projecting lip *e* forming a trough in which oil from an adjacent part of the journal *f* is caught and passed through perforations *g* to the bottom of the box. The circular portion of the box in conjunction with the sloping base forms an oil well or bath; the lubricant

is poured into this well through an opening *h* near the top of the box. The opening *h* is covered with a suitably hinged plate or cover *i* secured by a spring *j* bearing at its heel against a projection *k* against opening or movement when the vehicle is in motion.

On the end of the journal *f* a disk *l* is secured and this disk rotates in the circular portion *b* of the box, its lower part dipping in the lubricant in the bottom or oil well and carrying it up delivers it at its upper part by throwing it off at its edges. The box is provided with projecting troughs *m* at the upper part which are directed toward the edge of the disk and also toward its sides as seen at Figs. 2 and 3. The lubricant thus thrown by centrifugal force from the disk is caught by the troughs and delivered into a sink or tray *n* arranged on the brass *o* of the box. The sink *n* has perforations *p* which are in alinement with perforations in the brass so that the oil accumulating on the tray gradually percolates through to the journal thereby constantly and thoroughly lubricating the same. The oil well has a drain *q* for emptying when required. The front of the box *a* has an opening covered with a plate *s* secured by pins *t* fitted with nuts preferably having locking rings *u*. This opening enables the various parts to be readily got at when necessary.

The disk *l* is formed by stamping from very thin metal so that should there be any end movement of the journal the disk will "give" to accommodate itself to this movement and being of steel or similar material having considerable elasticity it is not in any way damaged or permanently altered in shape.

In some cases we may corrugate the disk with slight radial or other corrugations such as at *v*, Figs. 4 and 5; this would be particularly useful in dealing with heavy oils.

The circular construction of the axle box at the front enables the oil to be picked up by the disk in much greater quantities and in much less time. That is, in starting with a disk in an old square box, some considerable speed had to be obtained before the oil was picked up, but with the circular box following the edge of the disk little space is left, and the oil clings and is not so apt to fall off and is raised much more quickly on the starting of the vehicle. Moreover the circular box with its sloping floor is much more effective at all speeds, and has a better appearance.

I claim:

An axle box, for rolling stock, having a circular front portion and a floor which slopes towards said circular front portion, a tray
5 above said floor and provided with percolation openings, and a plurality of lubricant-collecting means leading to said tray, in combination with an axle journal within the box below said tray and with a rotatable
10 thin spring metal disk secured to the end of said journal and having the part above the journal adjacent the lubricant-collecting

means aforesaid, and formed to accommodate itself to end movement of the journal.

In testimony whereof, we, ERNEST JOHN 15 WOOD and GEORGE CARSON, have signed our names to this specification in the presence of two subscribing witnesses, this 27th day of September, 1907.

ERNEST JOHN WOOD.
GEORGE CARSON.

Witnesses:

F. G. BRETTELL,
J. BEAUMONT PERCIVAL.