

No. 865,238.

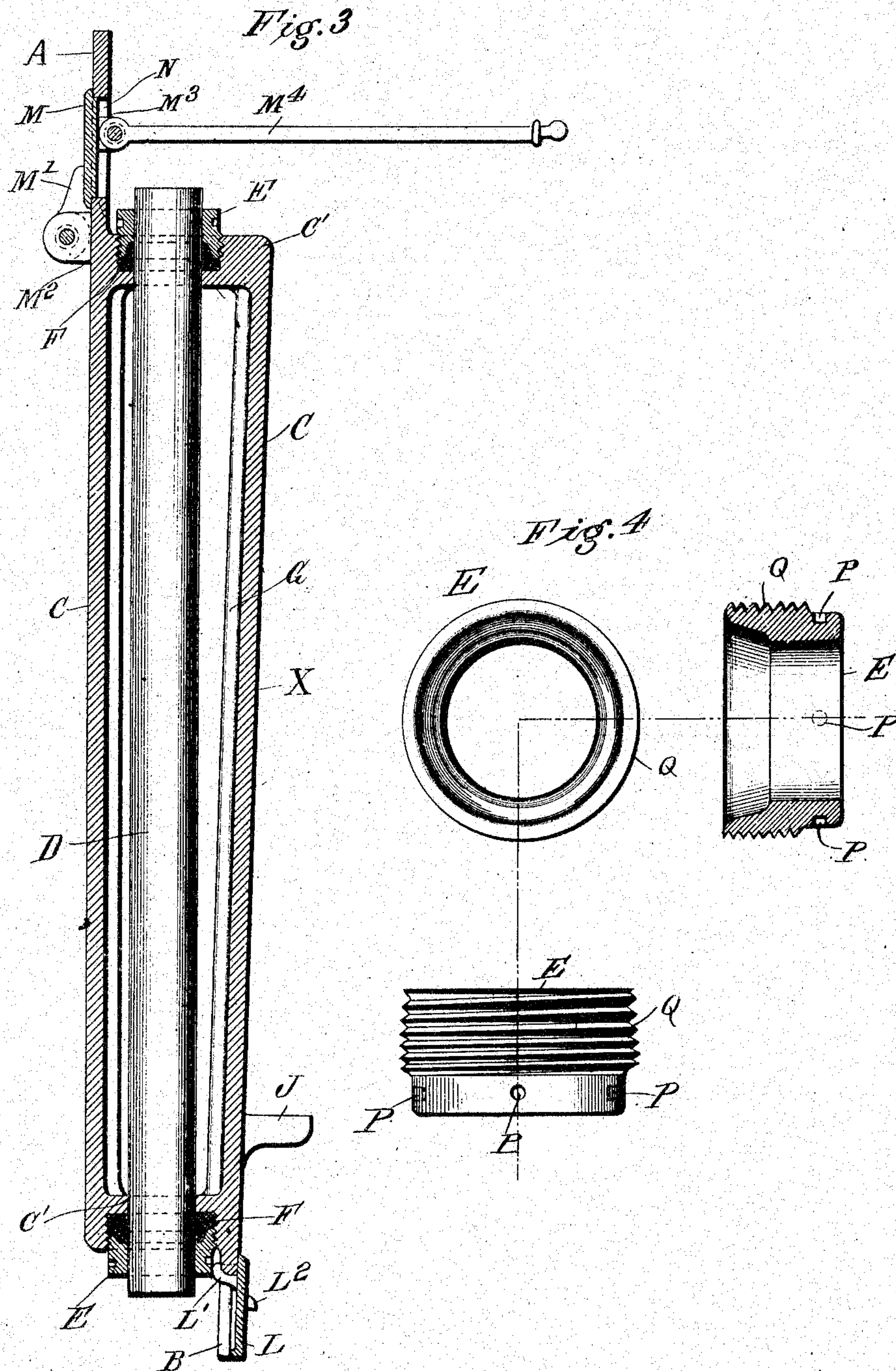
PATENTED SEPT. 3, 1907.

W. G. CONKLE.

FIREPLACE HEATER FOR RADIATOR SYSTEMS.

APPLICATION FILED NOV. 12, 1906.

3 SHEETS-SHEET 2



WITNESSES

C. H. Huffer
Edw. W. Byrnes

INVENTOR

WILLIAM G. CONKLE

BY *Munn & Co.*

ATTORNEYS

No. 865,239.

W. J. CONNALLY.

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WHEEL HUB.

APPLICATION FILED FEB. 25, 1907.

2 SHEETS—SHEET 2.

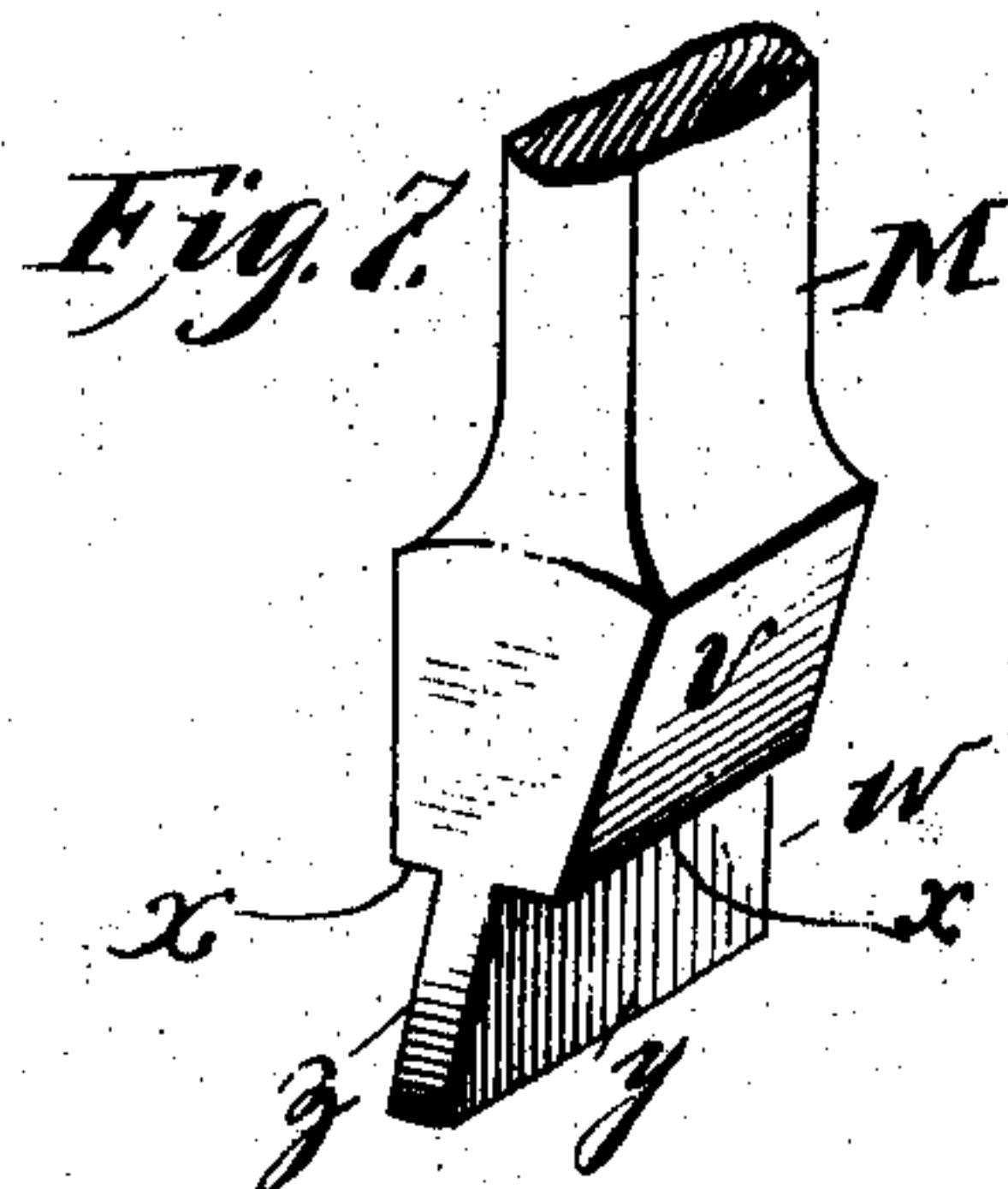
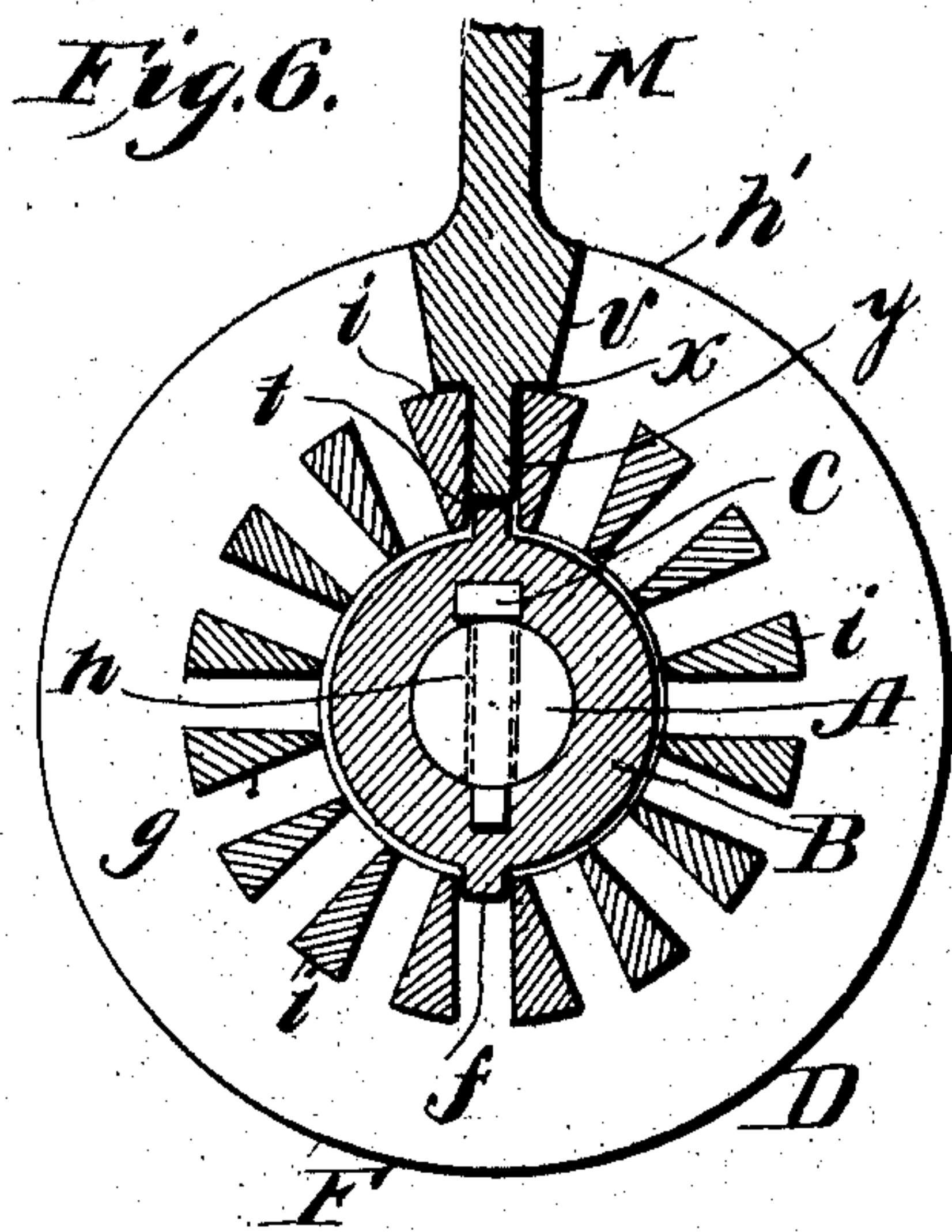
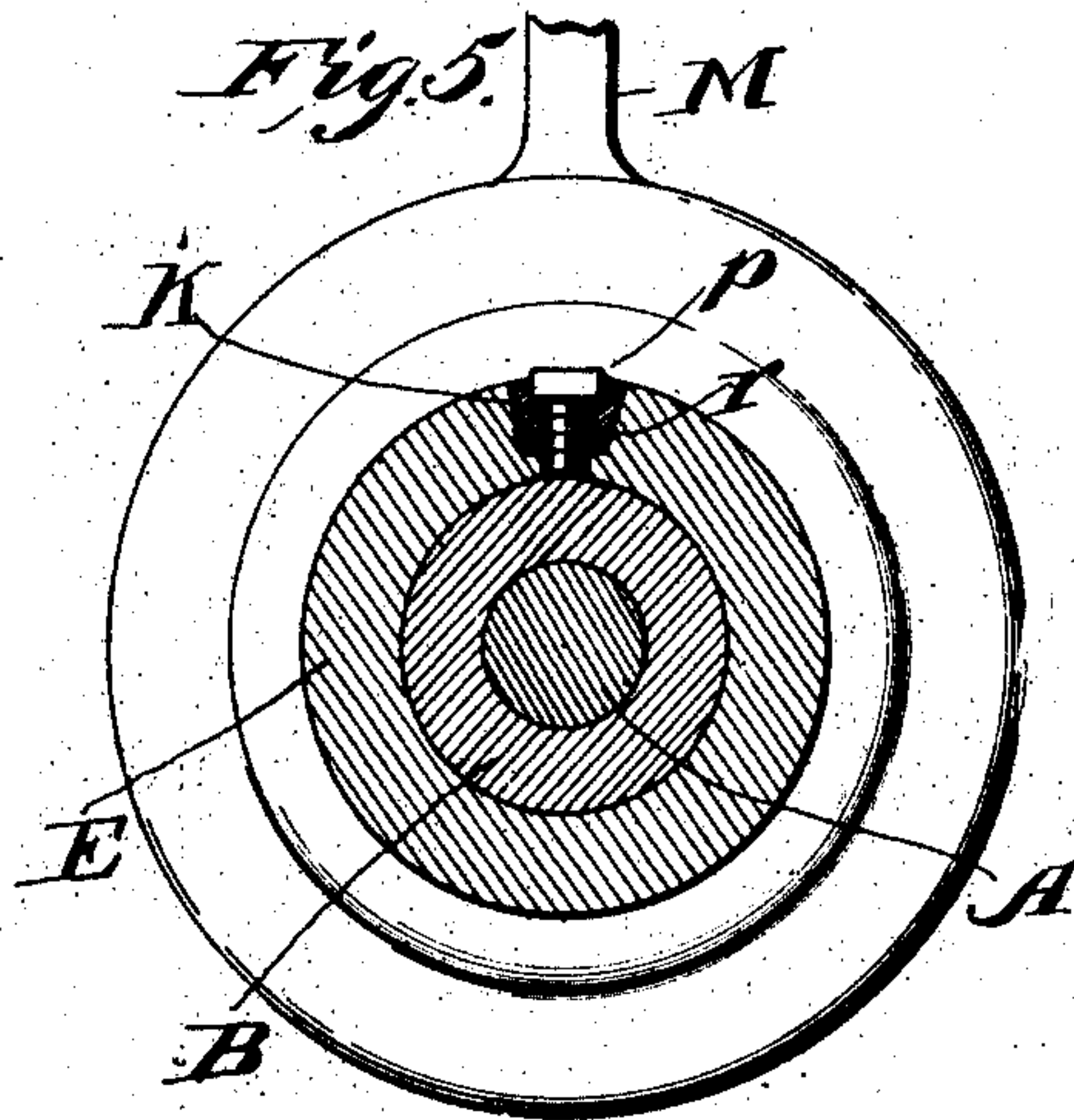
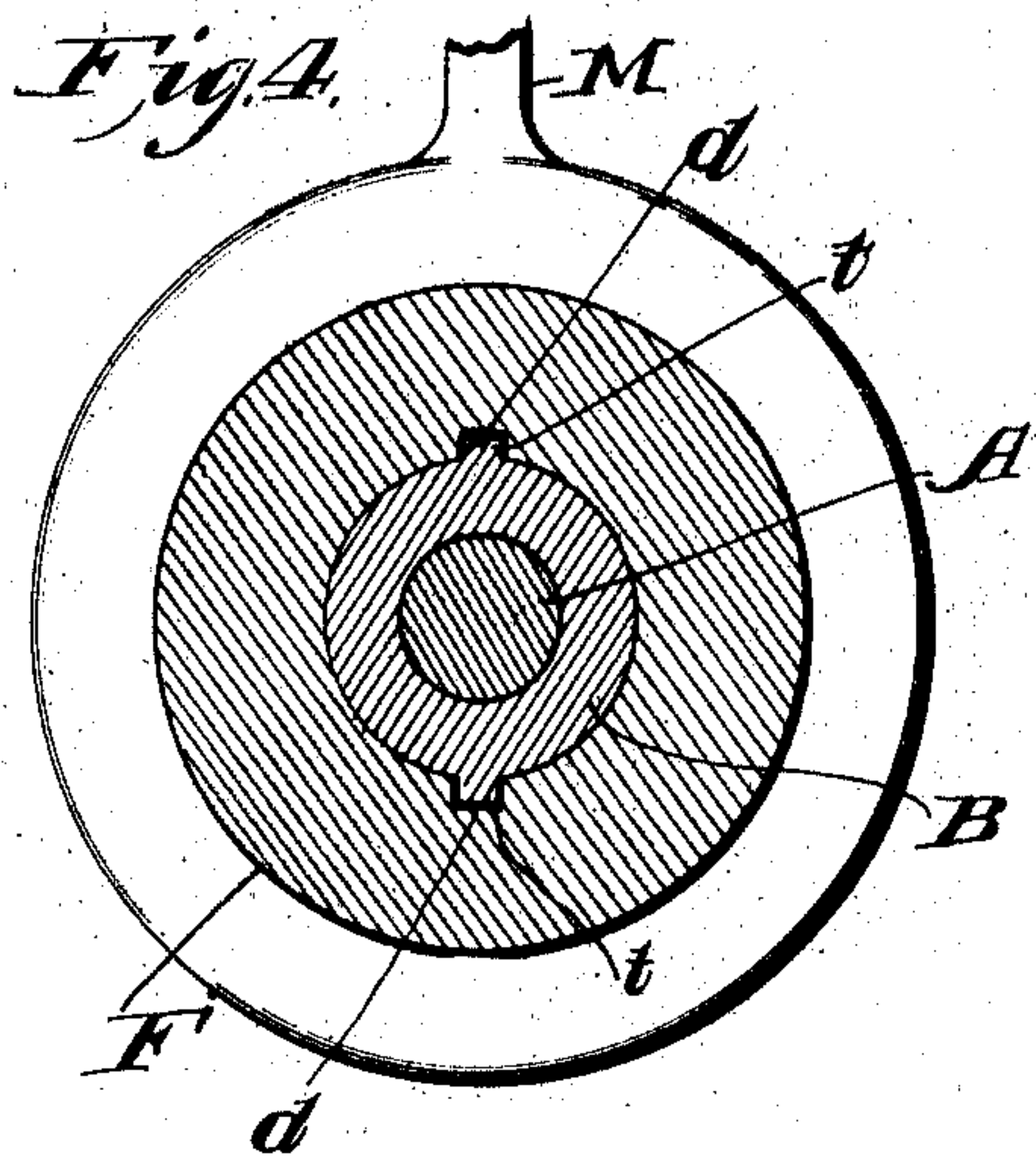


Fig. 8.



Inventor

Witnesses
R. C. Wilson
J. J. Shady Jr.

By

W. J. Connally
James Shady

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM JEFFERSON CONNALLY, OF ATLANTA, GEORGIA.

WHEEL-HUB.

No. 865,239.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed February 25, 1907. Serial No. 359,246.

To all whom it may concern:

Be it known that I, WILLIAM JEFFERSON CONNALLY, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented new and useful Improvements in Wheel-Hubs, of which the following is a specification.

My invention pertains to wheel hubs; and it has for one of its objects to provide a simple and strong hub embodying such a construction that in the event of a spoke being broken the spoke may be readily removed and replaced with a new spoke without affecting the other spokes and without injury to the felly of the wheel.

Another object of the invention is the provision of a hub that is practically dust-proof.

Another object is the provision of a hub embodying means for permitting expansion of wood spokes due to dampness and for compensating for shrinkage of the spokes.

Other objects and advantageous features of the invention will be fully understood from the following description and claims when the same are read in connection with the accompanying drawings, forming part of this specification, in which:

Figure 1 is a side elevation of the hub constituting the preferred embodiment of my invention, and showing a spoke properly positioned in the hub. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a transverse section taken in the plane indicated by the line 3—3 of Fig. 1. Fig. 4 is a transverse section taken in the plane indicated by line 4—4 of Fig. 1. Figs. 5 and 6 are similar views on the lines 5—5 and 6—6, respectively, of Fig. 1. Fig. 7 is a detail perspective view of the inner portion of one of the spokes employed in combination with the hub. Fig. 8 is a detail section taken at the inner side of the head of the linch pin.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

A is an axle spindle having a collar *a* at its inner end and a diametrical aperture *h* at its outer end.

B is the box of my novel hub which receives the said spindle and is provided at its inner end with a boss *c* and on its side with two (more or less) ribs *d*, and C is a linch pin arranged in the aperture *h* of the axle spindle and against the outer end of the box B to hold the box on the spindle.

As best shown in Figs. 2 and 8, one side of the head of the linch pin is flush with the shank of the pin while the other sides of said head are arranged at gradually increased distances from the shank. The first mentioned side of the head is initially presented to the end of box B, but when wear takes place one of the other sides of the head is presented to the end of the box according to the amount of wear to be taken up.

As best shown in Fig. 2, the body of my novel hub is made up of an inner metallic section D, an outer me-

tallic section E, and a metallic annulus F; and the inner end of the hub is rendered dust-proof by a dust band G threaded into the inner end of the section D, while the outer end is rendered dust-proof by a cap H threaded into the outer end of the section E. Interiorly the inner section D of the hub body is provided with a shoulder *e* to bear against the boss *c* on box B, and longitudinal grooves *f* to receive the box ribs *d*, whereby the box is held against turning in the section, and exteriorly said section is provided with a square outer end *g* surrounded by a flange *h'*, and a circular series of spaced and equi-distant, longitudinally-disposed projections *i* extending from the end *g* and having their outer ends slightly beveled as indicated by *j*, Fig. 2, for a purpose presently set forth. Said inner section D is also provided at *k* with a diametrical aperture, and through this aperture loosely extends a tube I which is detachably threaded through the box B and is normally closed at its outer end by a screw cap J. When this cap is removed, lubricant may obviously be conveniently supplied through the tube I to the spindle A.

The outer section E of the hub body which like the section D and annulus F is made of suitable metal, is threaded at *l* on the box B and is provided on its inner end with a shallow projection *m* fitted in a corresponding recess *n* in the outer face of the annulus F. Said section E is also provided at *p* with a longitudinal groove *r*, Figs. 2 and 5, of dovetail form in cross-section, and with this groove is designed to be alined a notch *s* in the cap H so as to receive a removable fastening bar K. This bar K holds the cap H against casual disconnection from the body section E; and it is connected to said section E by a screw L which extends through a threaded aperture in the section E and is set against the box B so as to hold the section E against casual turning thereon. When it is desired to turn the section E on box B, the screw L must be turned out of engagement with box B, while when it is desired to turn the cap H out of the said section E, the fastening bar K must be disconnected from the section E and removed from the groove and notch in the section and cap, respectively. The annulus F of the hub body is provided at *t* with grooves to receive the ribs *d* on box B, whereby the annulus is held against turning on the box; and said annulus is also provided with an inclined inner face *u*, Fig. 2, for an important purpose presently set forth.

M M are the spokes employed in combination with the hub, which spokes are of wood. The base portions *v* of said spokes are vertical at one side *w* and are inclined at their opposite sides to conform to the inclined face *u* of the annulus F, while the other sides of said base portions are slightly converged toward the axis of the hub so as to permit the plurality of spokes to rest one against the other as best shown in Fig. 6.

Said base portions *v* are also shouldered at *x* to bear on the outer edges of the projections *i* of the body section D, and are provided with integral reduced portions *y* to occupy the space between the projections *i*; the outer edges *z* of said reduced portions being also inclined in conformity with the inclined inner face of the annulus F.

Surrounding the projections *i* of the body section D and interposed between the square end of said section and the vertical sides of the base portions of the spokes M is an annulus N of rubber or other suitable resilient material.

By virtue of the construction described, it will be apparent that the base portions of the spokes M present solid wood sides to the metallic annulus F and the rubber annulus N as is desirable for the sake of strength and durability; also, that the inclined face of the annulus F opposed to the inclined sides of the base portions of the spokes, enables the operator by adjusting the annulus F through the medium of the outer section E of the hub body to maintain the base portions of the spokes tight and solid against the resilient annulus N or against the square end of the inner section D of the hub body.

It will further be apparent that in the event of any one of the spokes being broken, the section E of the hub body may be turned outward, and then the broken spoke may be readily removed and replaced with a new spoke without affecting the other spokes or injuring the felly (not shown) of the wheel.

The resilient annulus N may be omitted from my novel hub without involving departure from the scope of my invention as claimed. I prefer, however, to employ the said resilient annulus since it serves to compensate for shrinkage of the wood spokes, and also permits expansion or swelling of said spokes due to dampness without liability of the spokes being injured by the metallic sections of the hub body.

The dust band G may be formed in one piece as shown, or in two semi-circular sections; the latter being designed for use when it is desired to employ my improvements on an old axle.

It will be noted from the foregoing that the box B is readily removable and may, therefore, be expeditiously

and easily replaced with a new box when necessity demands. It will also be noted that the hub as a whole is strong and durable and hence well adapted to withstand the shocks and strains to which wheel hubs are ordinarily subjected.

The construction shown and described constitutes the preferred embodiment of my invention, but I desire it understood that in practice such changes or modifications may be made as fairly fall within the scope of my invention as claimed.

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

1. A wheel hub comprising a box having a boss at its inner end and also having one or more exterior longitudinal ribs, an inner body section arranged on the box in engagement with the rib or ribs thereof and having a square outer end and also having a circular series of projections extending longitudinally from the inner portion of said square end and beveled at their free ends, an annulus arranged on the box and in engagement with the rib or ribs thereof and having its inner side inclined or beveled, an outer body section arranged at the outer side of the annulus and threaded on the box, spokes interposed between the body sections and having straight sides presented to the inner body section and inclined sides presented to the annulus or intermediate body section and also having reduced ends or tongues disposed between the projections of the first mentioned section; a dust cap threaded in the inner end of the inner body section, a dust cap threaded in the outer end of the outer body section, and fastening means on the outer body section detachably engaged with the last mentioned dust cap and arranged to hold the same against casual displacement.

2. The combination in a wheel hub, of a box, a body section arranged on the box, an annulus arranged on the box, spokes interposed between the section and the annulus, an outer body section arranged at the outer side of the annulus and threaded on the box and having a longitudinal groove in its outer portion, a dust cap threaded into the outer end of the outer body section and having a notch adapted to be aligned with the groove in said section, a fastening bar removably arranged in said groove and notch, and a screw extending through said bar and outer body section and arranged to be set against the thread on the box.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM JEFFERSON CONNALLY.

Witnesses:

H. F. LUCKETT,
WM. C. MASSEY.