

No. 842,225.

PATENTED JAN. 29, 1907.

J. L. MONKHOUSE.

AXLE MACHINE.

APPLICATION FILED APR. 26, 1906.

FIG. I

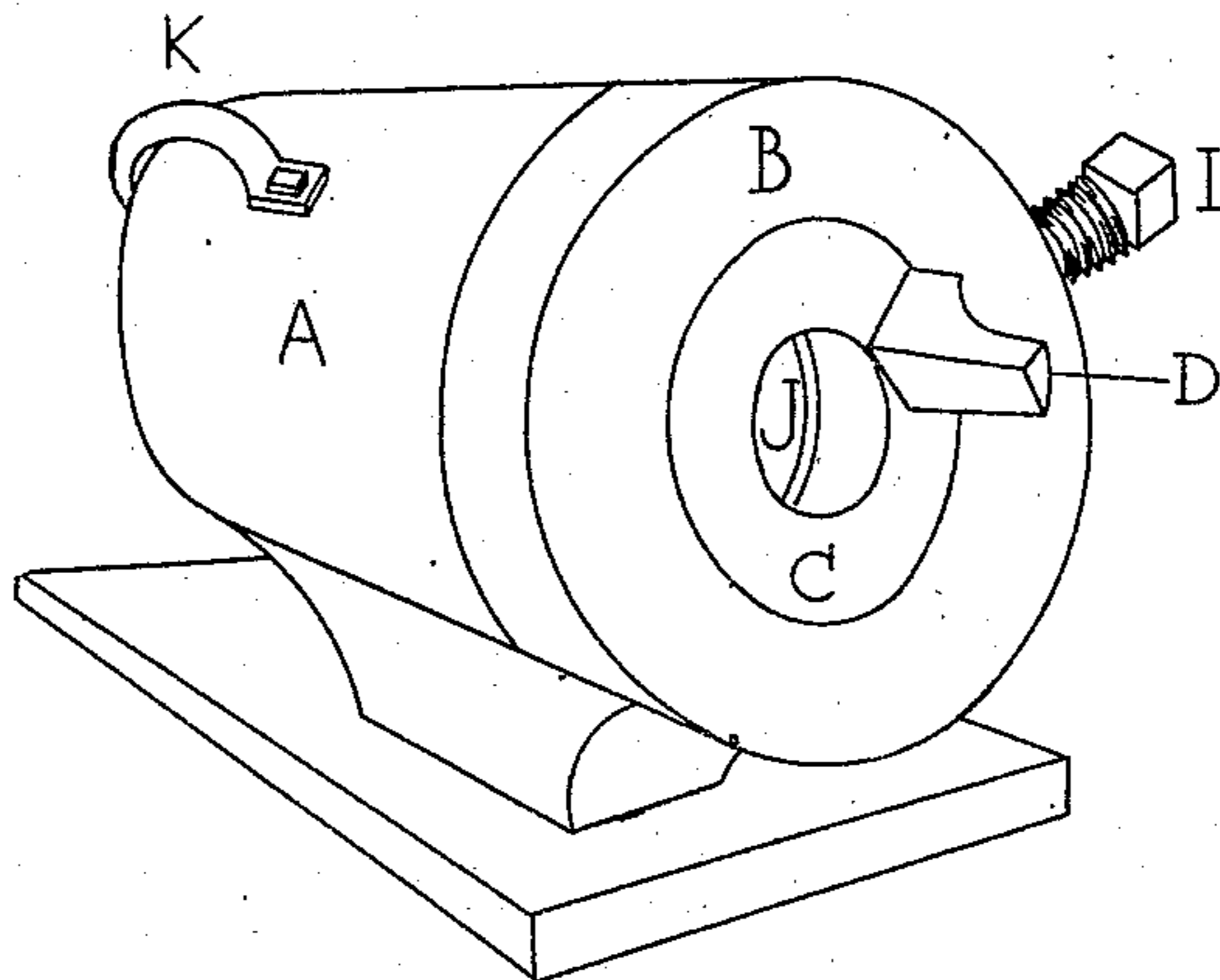


FIG. II

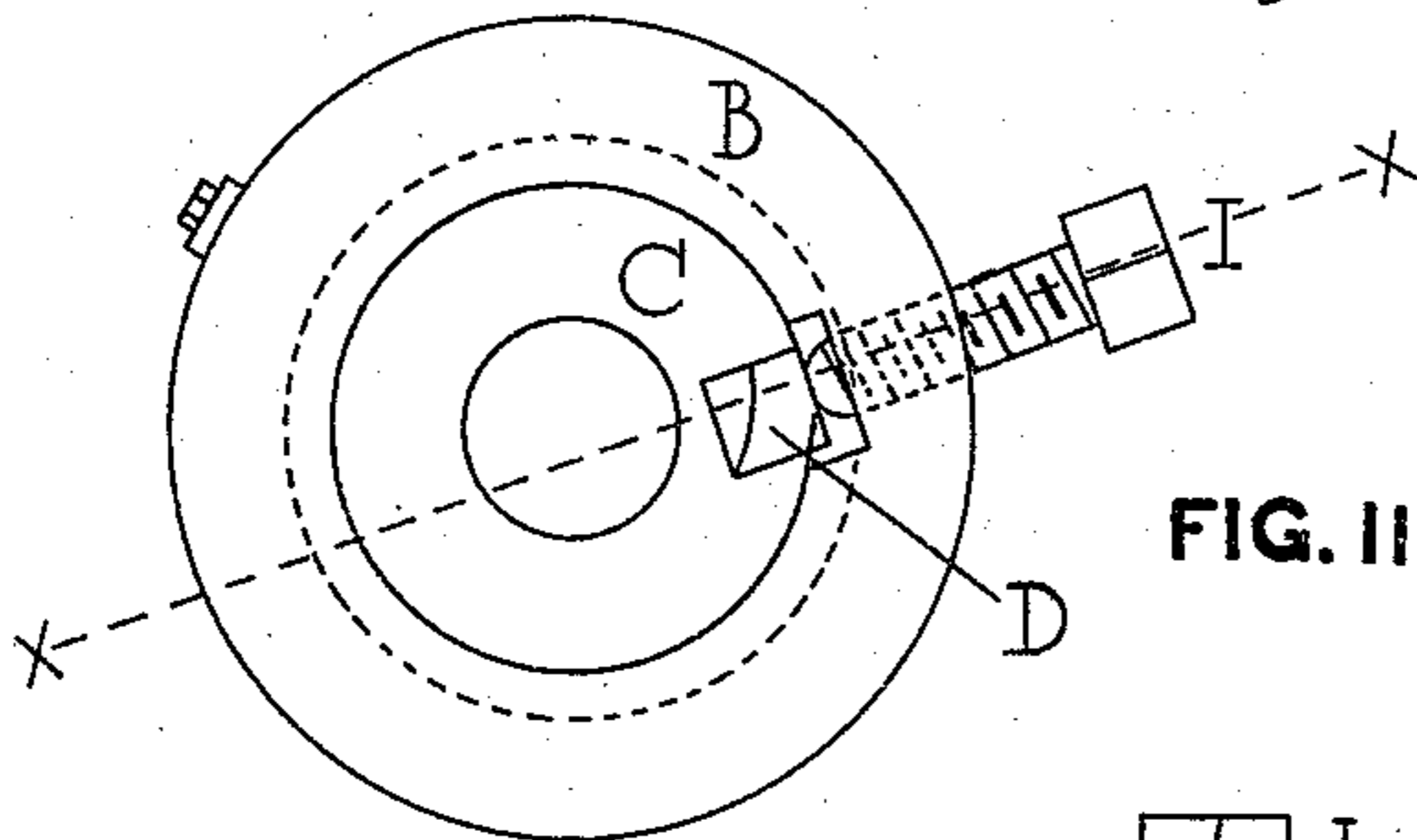


FIG. III

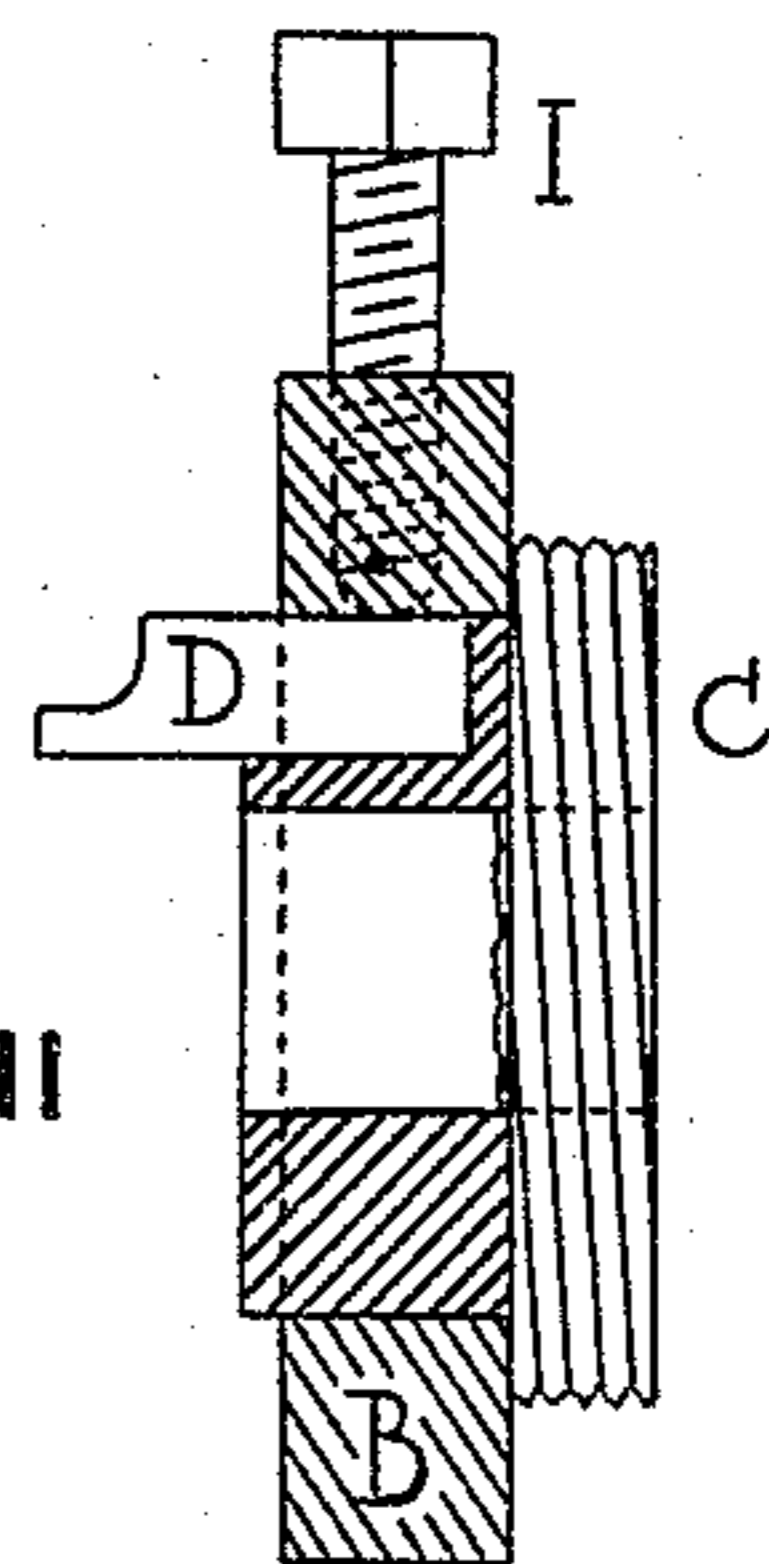
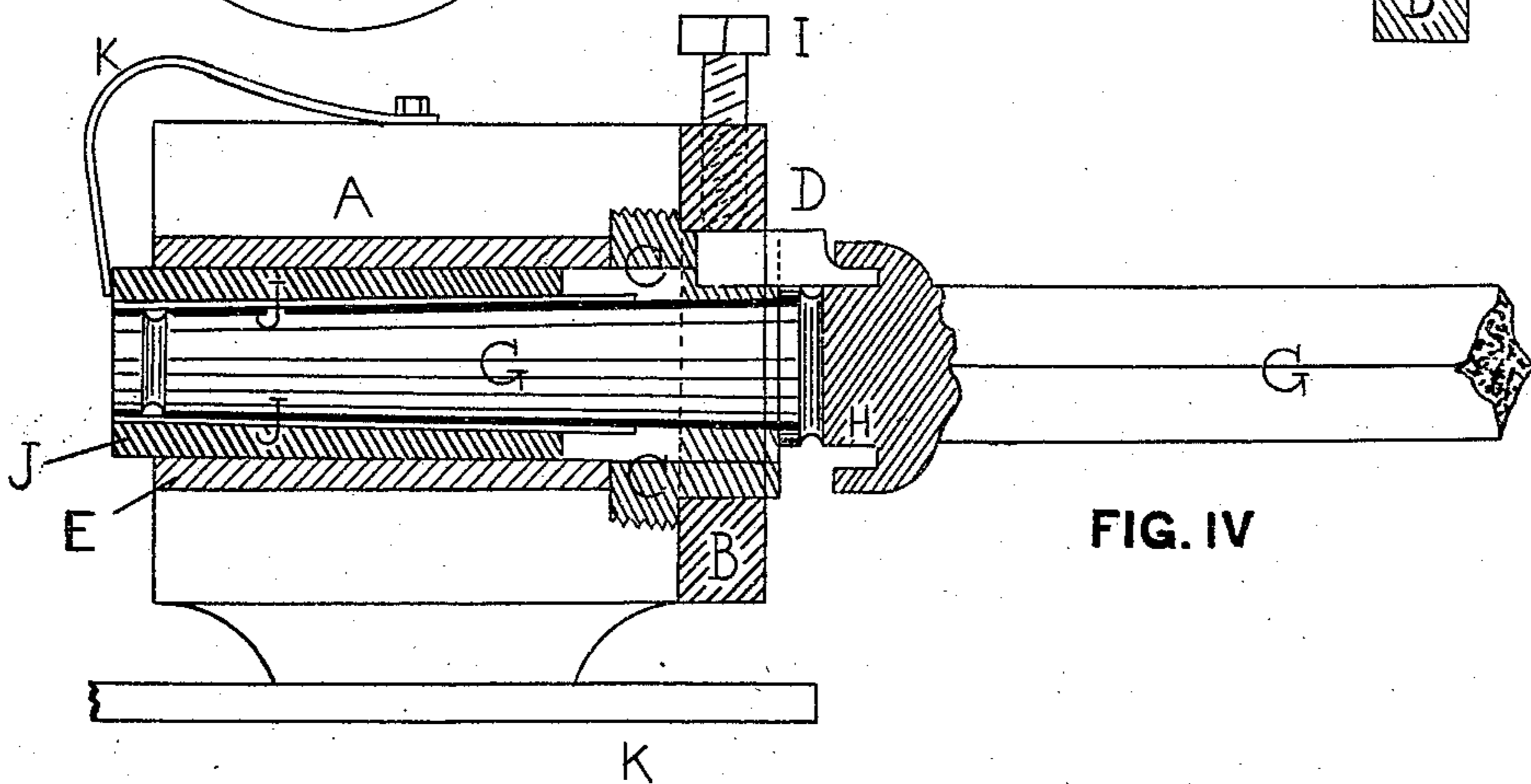


FIG. IV



Witnesses:

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JOSEPH L. MONKHOUSE, OF GUELPH, ONTARIO, CANADA.

AXLE-MACHINE.

No. 842,225.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed April 26, 1906. Serial No. 313,895.

To all whom it may concern:

Be it known that I, JOSEPH LOFTOS MONKHOUSE, machinist, a subject of His Majesty King Edward VII, residing at the city of Guelph, in the county of Wellington and Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Axle-Machines, of which the following is a specification.

My invention relates to improvements in axle-machines in which the axles are operated upon by successive turret-heads, which turn them down from the "rough" to the finished axle; and it consists in attaching to the last or finishing head a cutter to make the groove in the collar of the axle and a loose centering-sleeve to center and steady the axle while this groove is being cut, in combination with means for returning the loose centering-sleeve back to its original position when the work is done and the axle is withdrawn from the head of the machine. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure I is a perspective view of the last or finishing head of an axle-machine, showing my improvements thereon. Fig. II is a front view of the same. Fig. III is a section of the outer retaining-collar of the head on line *xx*, Fig. II; and Fig. IV is a section of the complete head with an axle in position.

Similar letters of reference indicate similar parts in all the several views.

Heretofore the recessed groove in the collars of Collinge axles were cut on a separate machine from the one which turned the axles, as it was impossible to hold the tool or the axle steady enough for this to be done on the same machine; and the object of this invention is to provide an attachment for the last or finishing head of the machine that shall cut the groove, steady the axle while this is being done, and to return the revolving sleeve carrying the axle during the operation back to its original position when the work has been accomplished.

The cutter D consists of a suitably-shaped planing-tool inserted into a recess in the inner collar C of the hollow head A of the axle-machine and held in a horizontal position projecting from the front of the hollow head by means of the set-screw I, which passes through the outer retaining-collar B, thus

holding the cutter perfectly rigid while the work is being done. The cutting-tool D can be moved forward as it is worn away by being sharpened, so that it will always cut to the same depth, while by altering its cutting edge any shaped circular recess can be cut.

The hollow head A is lined with a hardened-steel bushing E, inside of which the loose centering-sleeve J revolves. It is provided with a tapered hole in the center, into which the revolving axle fits while the work is being done. These sleeves may have different-sized tapered holes in the center, so as to fit different-sized axles, and are preferably made of softer material than the hardened-steel lining of the hollow head, so that when worn too loose they can readily be replaced with new ones.

A strong flat spring K is attached to the side of the hollow head A and turned over so that its point rests against the rear end of the loose centering-sleeve, so that when driven out by the axle G, Fig. IV, it will be returned by the spring K as soon as the axle is withdrawn.

As will readily be seen, when the revolving axle is driven forward by the ram of the machine its tapered end will engage with and drive back the loose centering-sleeve J, which then revolves with the axle G, while the continued action of the ram forces the collar onto the cutting-tool D, thus cutting the circular recess H, Fig. IV, the axle all the while being centered and steadied by means of the loose revolving sleeve J, which is driven out of the end of the hollow head A, thus extending the spring K. As soon, however, as the ram has finished its stroke and the axle is withdrawn the spring K replaces the sleeve J in its original position.

I am aware that the use of a cutting-tool on a face-plate or of a steadying-sleeve is not new; but I am not aware that this combination has ever been used before my invention thereof for the purpose of cutting the circular recess in the collars of axles on the ordinary turret-head axle-machine, and

What I claim, and desire to secure by Letters Patent, is—

A lathe-tool for finishing axles, comprising a body having a cylindrical bore, a turning cutter eccentrically located at the entrance end of the body, a sleeve fitting slidably and

rotatably within said bore and provided with
a conical centering-opening having its larger
end directed toward the entrance of the
body, and a spring arranged to press the cen-
5 tering-sleeve toward the entrance, substan-
tially as described.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

J. L. MONKHOUSE.

Witnesses:

JAS. E. LESLIE,

A. E. FINNEMORE.