

No. 794,258.

PATENTED JULY 11, 1905.

N. A. SMITH.

BUNG.

APPLICATION FILED AUG. 8, 1904.

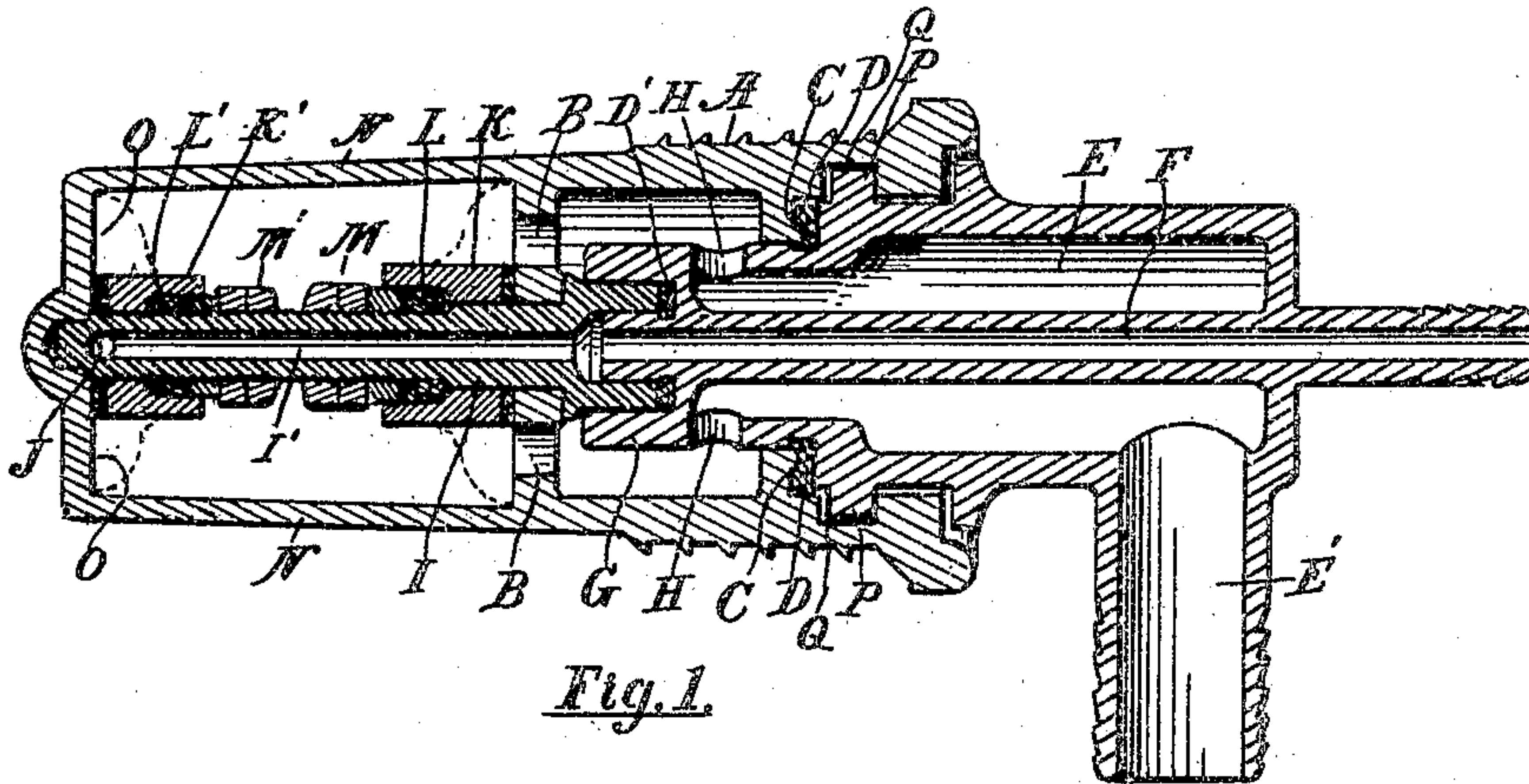


Fig. 1.

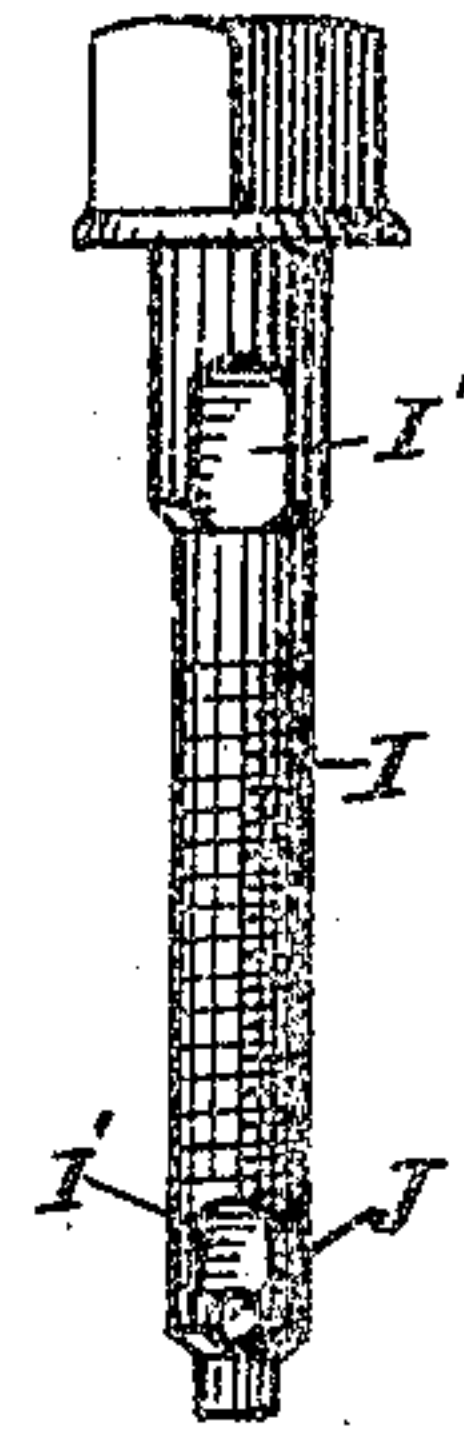


Fig. 7.

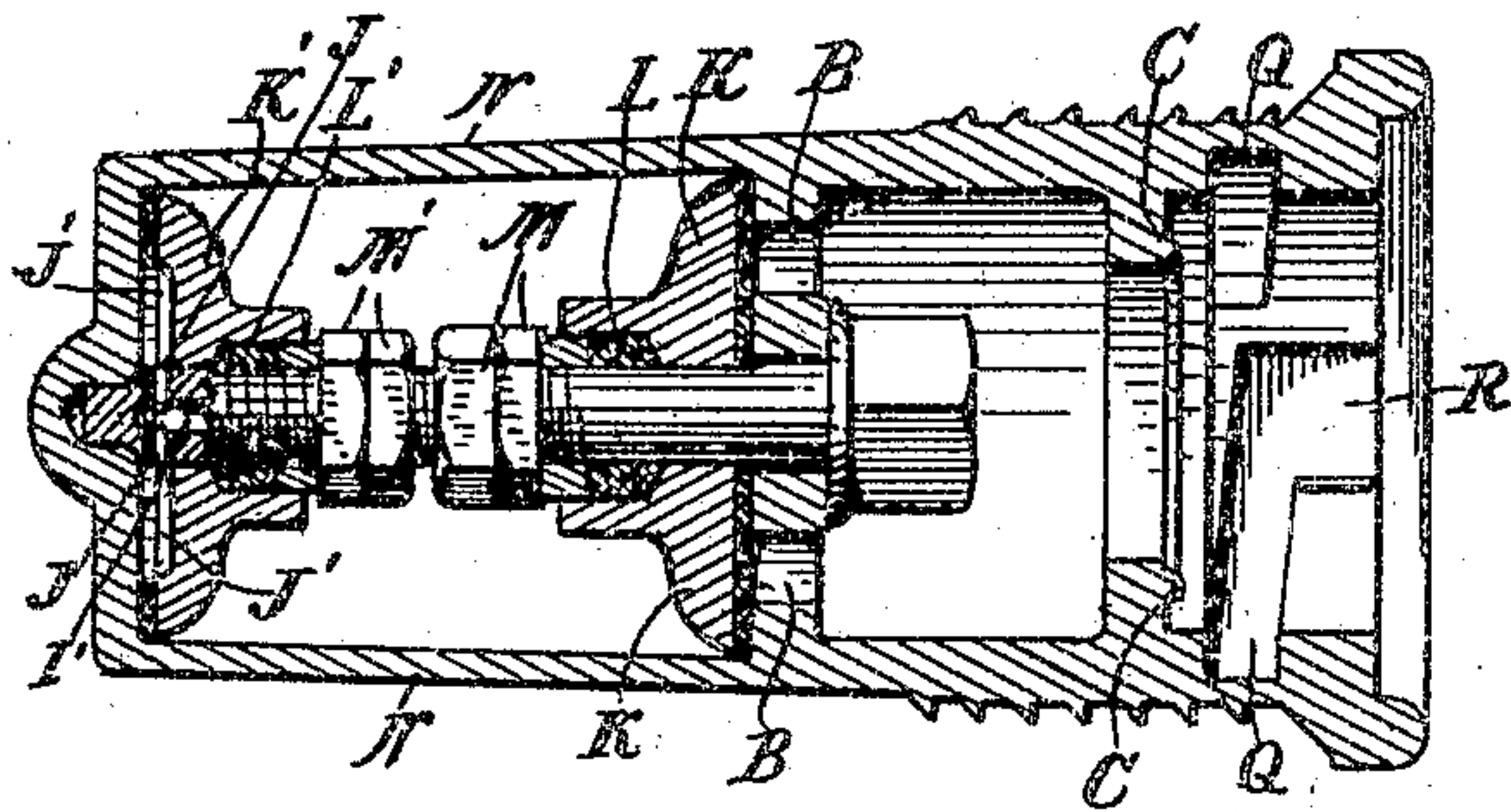


Fig. 2.

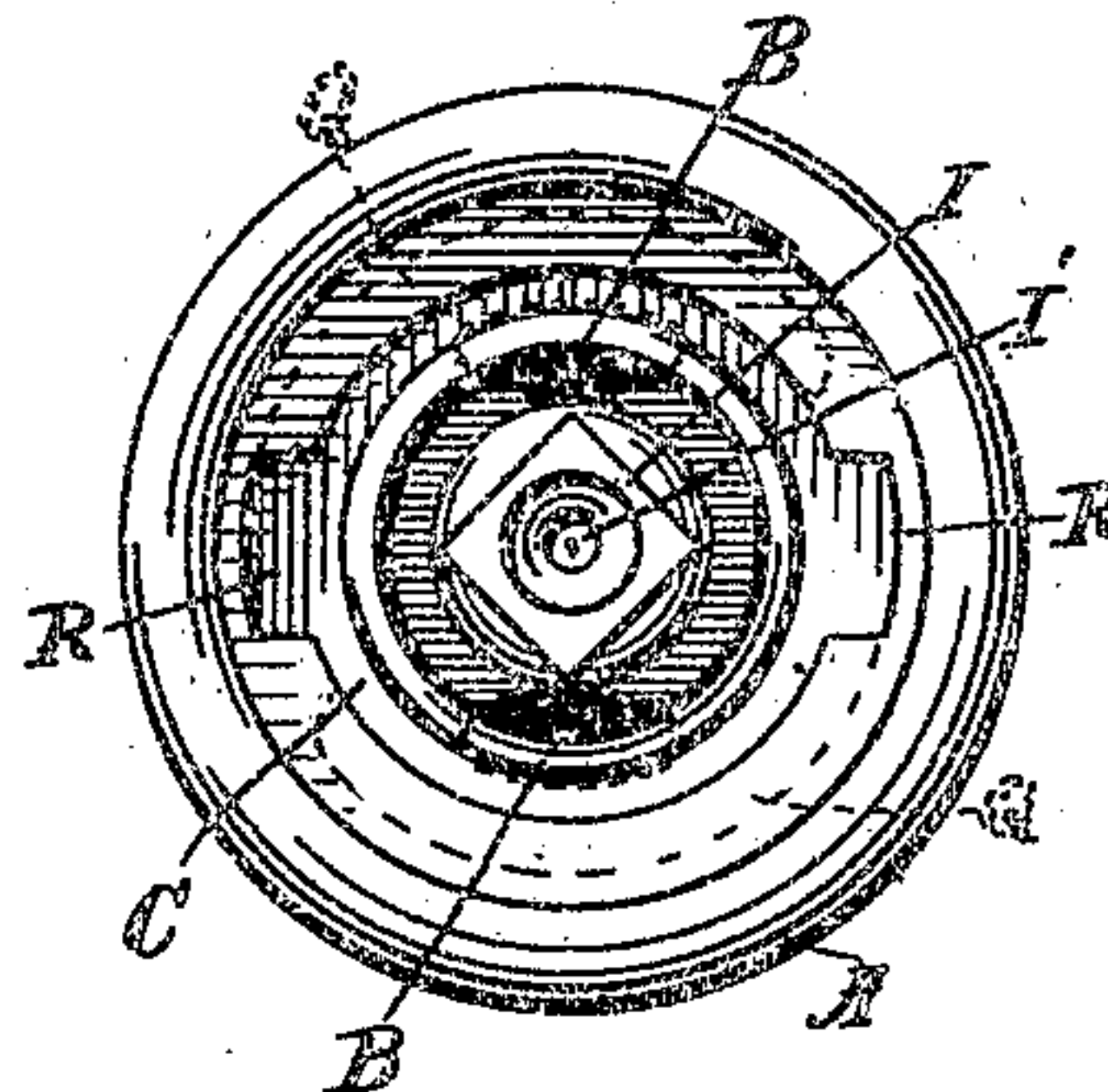


Fig. 3.

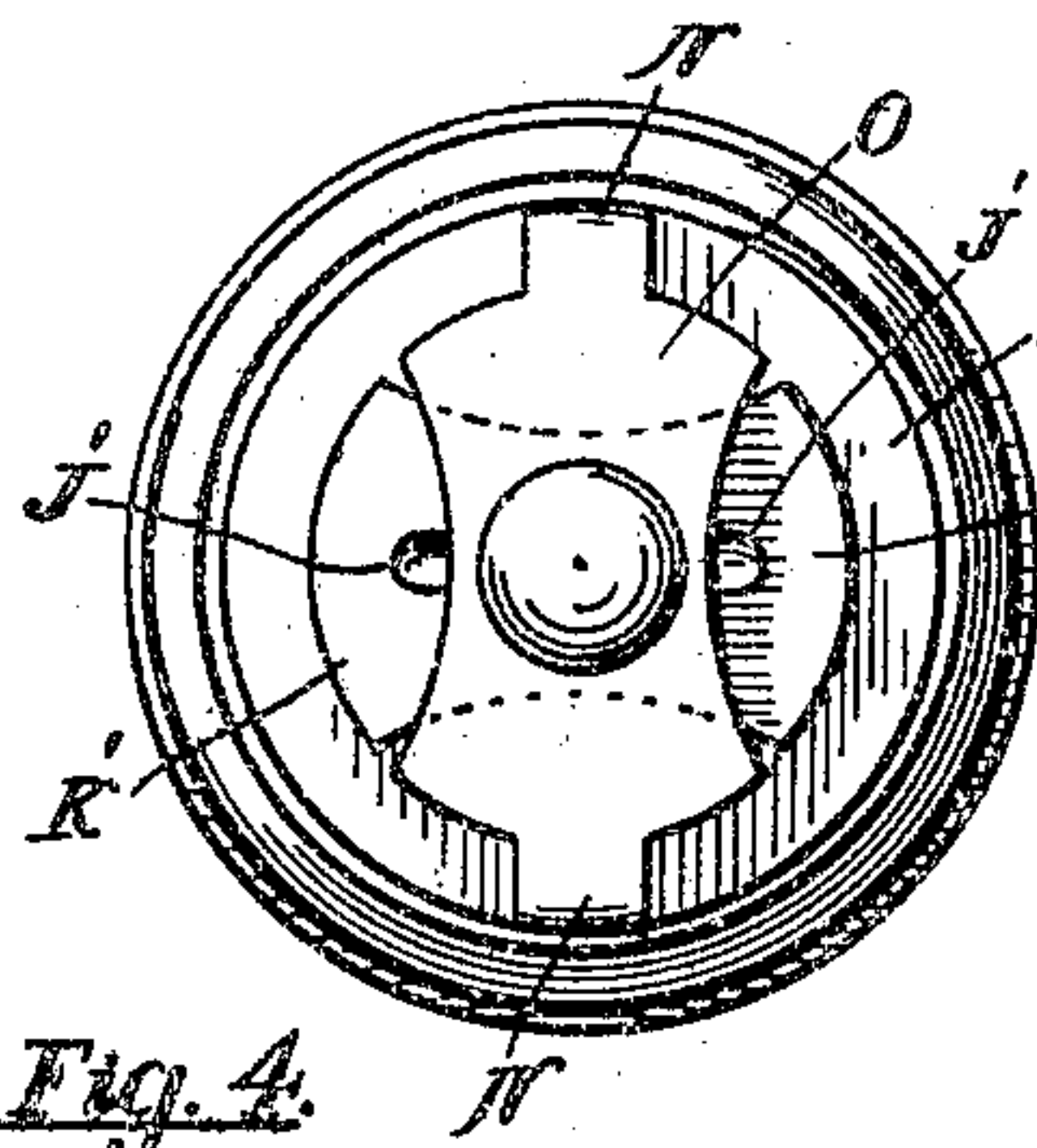


Fig. 4.

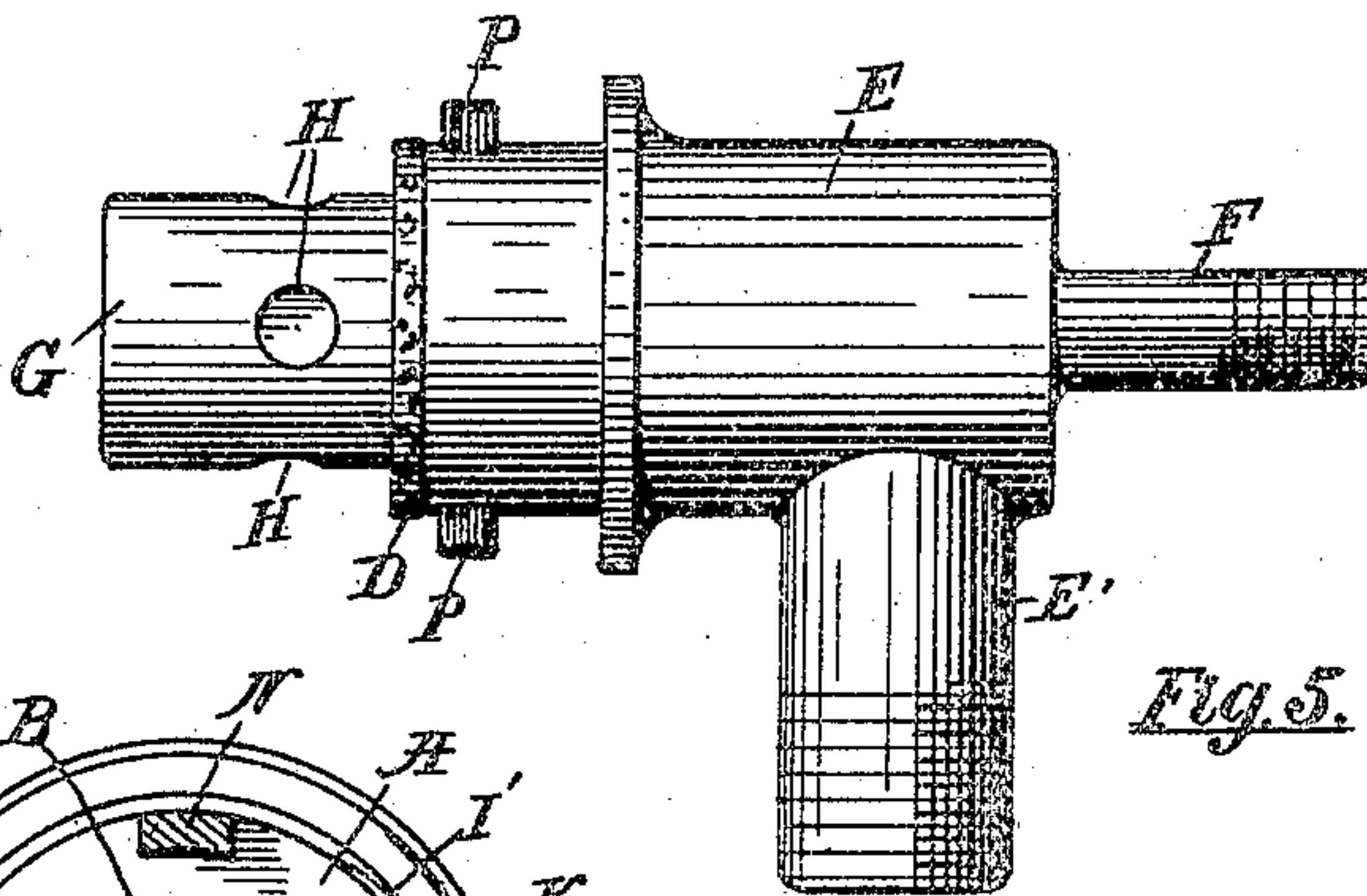


Fig. 5.

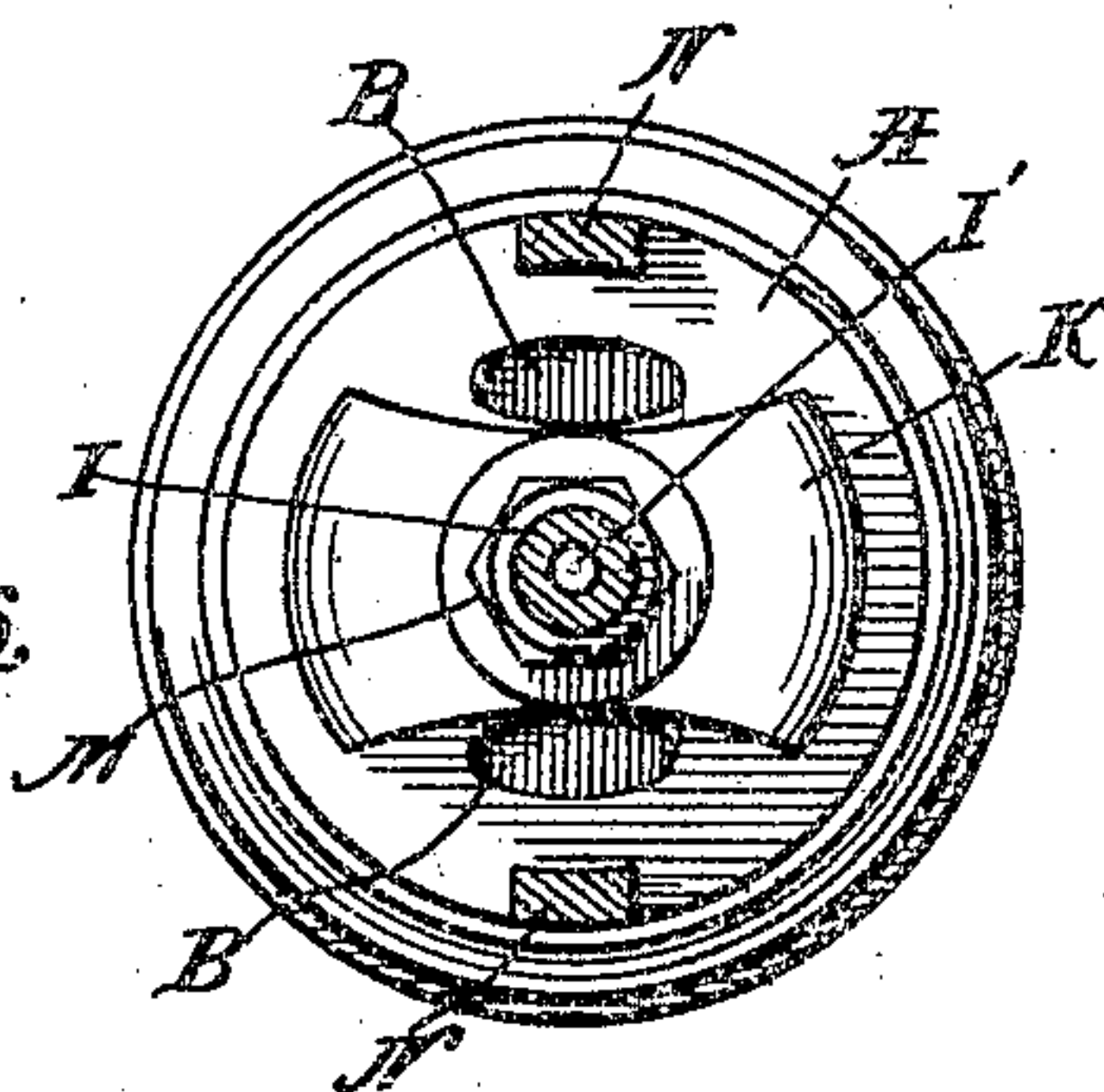


Fig. 6.

Witnesses

Edward R. Monroe.
Georgiana Chase

Inventor
Nicholas A. Smith
By Luther V. Moulton
Attorney

UNITED STATES PATENT OFFICE.

NICHOLAS A. SMITH, OF MINNEAPOLIS, MINNESOTA.

BUNG.

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To all whom it may concern:

Be it known that I, NICHOLAS A. SMITH, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Bungs; and I 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.

My invention relates to improvements in bungs for dispensing liquids from a containing vessel in which the bung is inserted; and its object is to provide a dispensing tube or faucet and a bung with means for admitting air, gas, or other fluid to the containing vessel, to provide means for automatically and simultaneously opening and closing the fluid and air passages when the dispensing tube or faucet is attached to or detached from the bung, and to provide the device with certain new and useful features hereinafter more fully described, and particularly pointed out in the claims.

My invention consists, essentially, of the combination, with a bung and a dispensing faucet or tube adapted to be attached to the bung, of air or gas induction means consisting of an air-tube in the dispensing tube or faucet, a tubular bolt adapted to both operate the valves and convey the air, an air-valve to close the air-passage, and means for automatically connecting the air-tube with the bolt, whereby an air or gas passage is provided in conjunction with the bung and dispensing-tube and the valve to close the air-passage is automatically and simultaneously operated in conjunction with the valve to close the passage for the fluid, and in the combination and arrangement of parts, as hereinafter more fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section taken through the axis of a device embodying my invention, showing the same in open position; Fig. 2, the same, showing the bung in closed position and with the dispensing attachment removed; Fig. 3, an elevation showing the outer end of the bung; Fig. 4, the same, showing the inner end of the bung with the air-

valve in open position; Fig. 5, a detail of the dispensing attachment; Fig. 6, a detail showing the fluid-dispensing valve in open position, and Fig. 7 a detail of the bolt for operating the valves.

Like letters refer to like parts in all of the figures.

A represents the bung proper and having a hollow body and also adapted to be inserted in a suitable keg, cask, or other fluid-retaining vessel. This bung is provided with a valve-seat on its inner end and with openings B to permit the escape of liquids when the valve is in open position. These openings are closed by a valve K, mounted on a bolt I, extending through the axis of the inner end of the bung and provided with an angular head within the bung, by which the bolt and valve are turned.

E is a dispensing tube or faucet by which the liquid is conveyed away to any convenient place. This tube may terminate in a faucet instead of a hose-nipple E', as shown, if preferred. To attach this tube and form a tight closure between this and the bung, the latter is provided with an annular seat C, surrounding the tube, and a packing-ring D is provided on the tube E to engage this seat and form a tight joint. The tube is attached and held in place by means of spiral grooves Q and lateral openings R in the interior of the bung and lugs P on the tube, which lugs enter the openings R and engage the grooves when the tube is rotated to place. The inner end of the tube E is closed and provided with a socket G to receive the head of the bolt I and turn the bolt as the tube is turned to place, and thus open the valve K.

H represents lateral openings to permit the liquid to pass from the interior of the bung into the tube E. The valve K is provided with a suitable gland or packing L and adjusting-nuts M, whereby no fluid can pass alongside the bolt, and the valve is also yieldingly forced against its seat and the openings B tightly closed when the valve is turned over the same. As so far described the device is not new.

My invention consists in the following additions and modifications, to wit: In the axis of the tube E, I provide an air-tube F, hav-

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ing its outer end adapted to attach a hose, through which air or gas under pressure or otherwise is admitted. The inner end of this air-tube projects within the socket G, and the bolt I is made tubular throughout all but the extreme inner end, as at I', and provided with lateral openings J near its inner end. The air-tube F connects with this tubular bolt by being inserted in the head of the same, and a packing D', surrounding the air-tube, engages the end of the bolt and forms a tight joint between the bolt and the air-tube. A yoke N is attached to the inner end of the bung A in any convenient manner and is provided with a valve-seat O opposite the end of the bung, and the bolt I is prolonged inward, and journaled in the axis of this yoke and mounted on this bolt is an air-valve K', provided with a gland or packing L' and adjusting-nuts M', acting in the opposite direction to the corresponding valve, packing, and nuts, that operate to close the openings B.

In the valve K' are radial grooves J', located opposite the openings J, into which grooves the air escapes, and when the valve is open these grooves extend beyond the edge of the valve-seat O, as in Fig. 4, and when closed the said grooves are opposite the said seats, so that no air can escape therethrough. The bolt is flattened at opposite sides opposite the valves, as at I', and the valves provided with openings to fit the same, (not shown,) whereby the valves are turned by the bolt.

When the tube E is inserted and turned to place, the socket G engages the bolt-head and turns the bolt and valves and opens both valves at the same time. The packings D and D' are compressed and form tight joints between the bung and tubes and the air-tube and bolt. The air or gas will then flow in through the air-tube and bolt and escape through the grooves J', and the liquid will flow out through the openings B into the interior of the bung and thence through the openings H, tube E, and nipple E'. When the tube E is detached, it must be turned back until the lugs Q are opposite the openings R, and this turns the bolt and valves to closed position and effectually closes both the air and liquid passages.

I claim—

1. The combination of a bung, a dispensing-valve rotative on the inner end of the bung, a yoke attached to the bung, an air-valve engaging the yoke, a tubular bolt to operate both of said valves, a dispensing-tube adapted to be attached to the bung, and having a socket to turn the bolt, and an air-tube in the axis of the dispensing-tube and engaging the bolt.

2. The combination of a bung having end openings and an annular seat, a valve rotative on the end of the bung and closing the said openings, a yoke attached to the bung and having a valve-seat opposite the end of the bung, an air-valve engaging the seat on the yoke, a tubular bolt to operate the valves, a dispensing-tube having a packing to engage the seat in the bung, and also having a socket to engage the bolt, and an air-tube in the axis of the dispensing-tube and connected with the bolt.

3. The combination of a bung having end openings, a rotary valve to close said openings, a yoke attached to the bung and having a valve-seat opposite the end of the bung, a rotary air-valve engaging the seat and having radial grooves, a bolt in the axis of the said valves and operating the same, said bolt having an axial opening and radial openings opposite the grooves in the air-valve and a dispensing-tube having a socket to engage the exterior of the bolt, and an air-tube to engage the interior of the bolt.

4. The combination of a bung having spiral grooves and lateral openings, an annular seat, and end openings, a rotary valve to close the end openings, a yoke attached to the bung, an air-valve engaging the yoke, a tubular bolt in the axis of the valves and operating the valves, a dispensing-tube having a socket to engage the bolt and also having lugs to engage the spiral grooves, a packing on said tube to engage the seat, a packing in the socket to engage the end of the bolt, and an air-tube in the axis of the dispensing-tube and socket and inserted in the end of the bolt.

5. The combination of a bung having spiral grooves and lateral openings, and also having an annular seat and end openings, a rotary valve to close said openings, a yoke attached to the bung and having a valve-seat opposite the end of the bung, an air-valve engaging said seat and having radial grooves, a bolt in the axis of the said valves and operating the same, and also having an axial opening, and lateral openings opposite the said grooves, packing and lock-nuts for said valves, a dispensing-tube having lugs to engage the spiral grooves and also having a socket to engage the bolt, an air-tube in the dispensing-tube and inserted in the bolt, packing on the dispensing-tube, and packing in the socket.

In testimony whereof I affix my signature in presence of two witnesses.

NICHOLAS A. SMITH.

Witnesses:

FRANK R. HUBACLEM,
ALBERT G. A. PETERSON.