

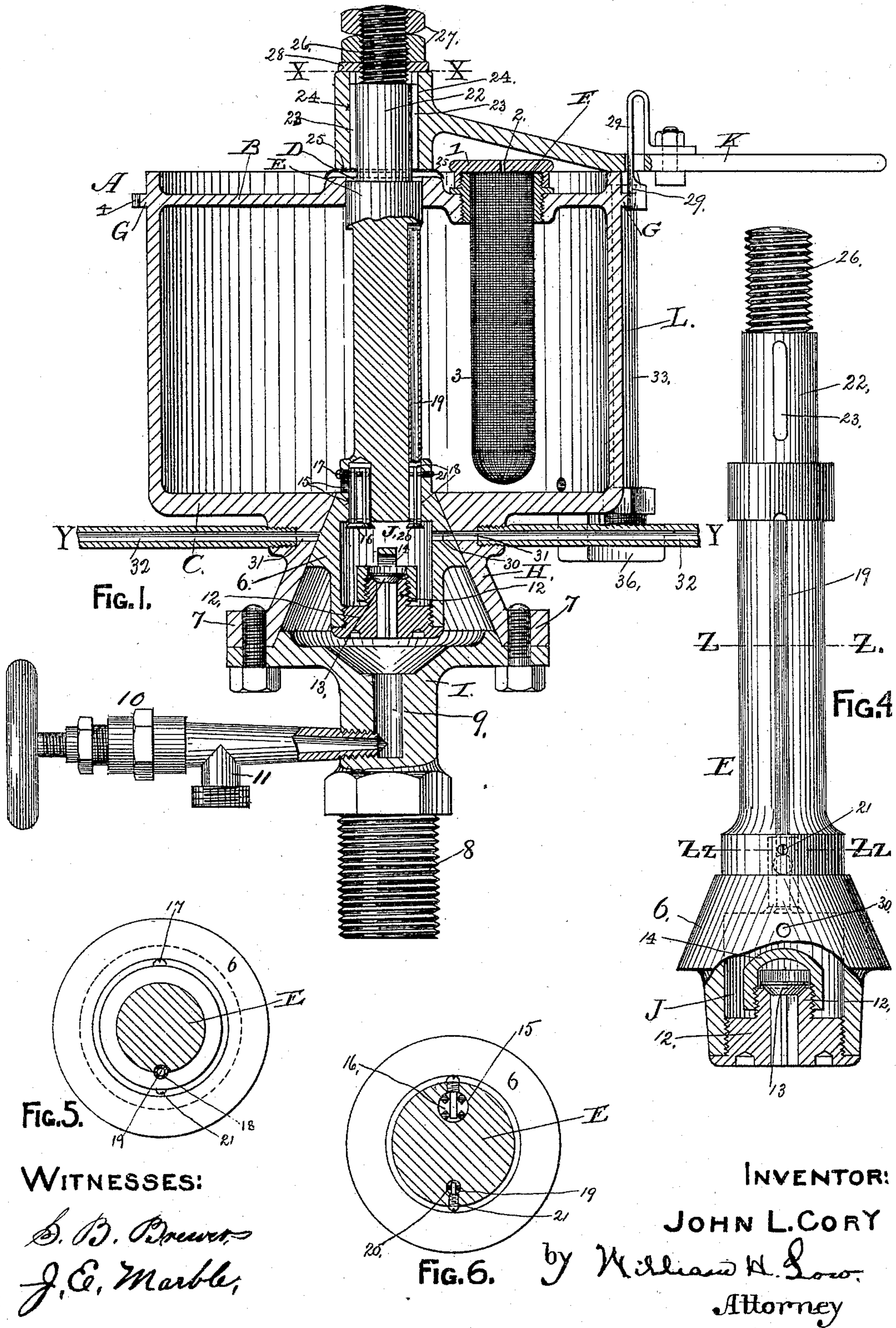
(No Model.)

2 Sheets—Sheet 1.

J. L. CORY.
LUBRICATOR.

No. 488,163.

Patented Dec. 13, 1892.



WITNESSES:

S. B. Brewster
J. E. Marble

INVENTOR:

JOHN L. CORY

by *William H. Low*
Attorney

(No Model.)

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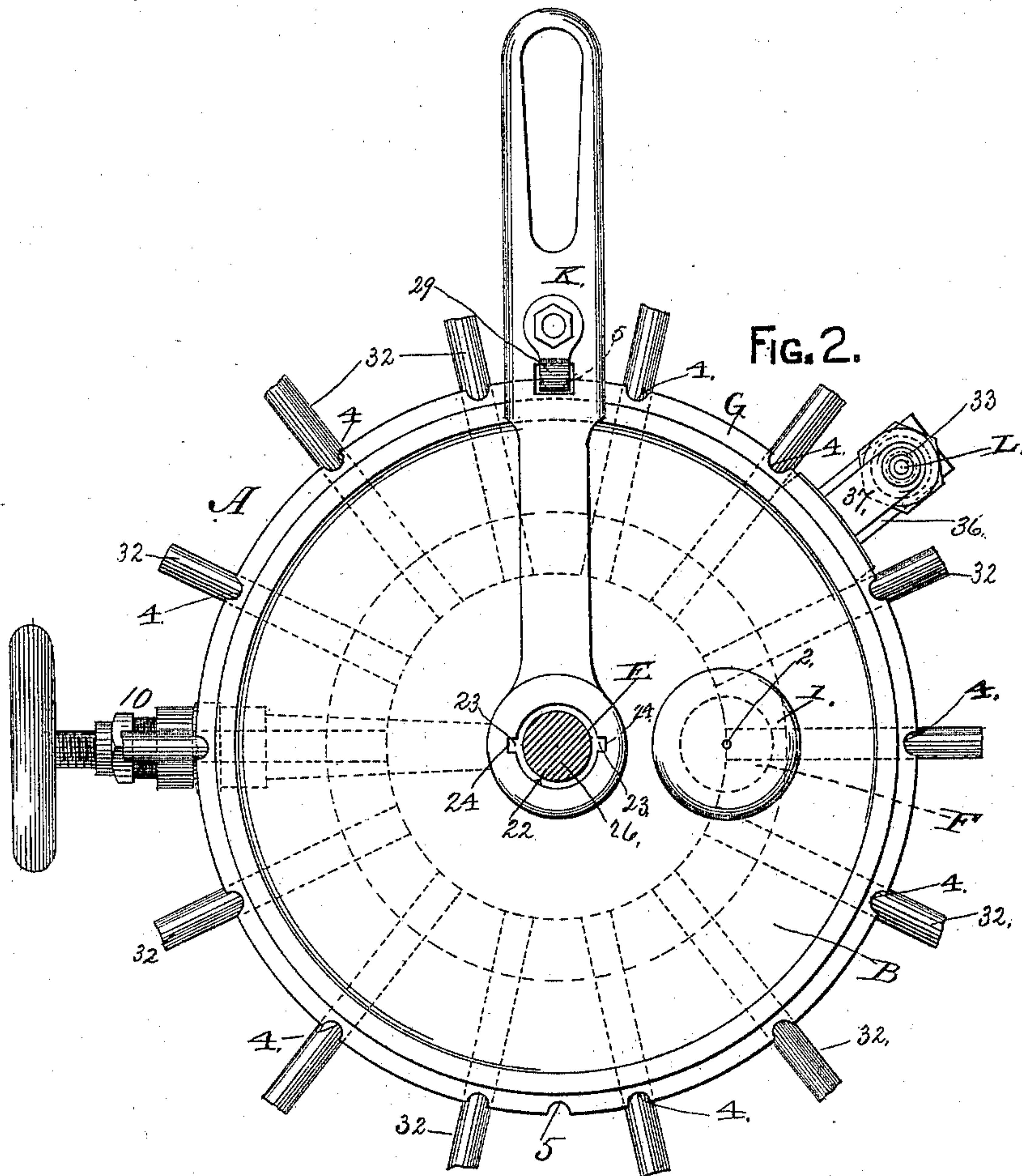


FIG. 2.

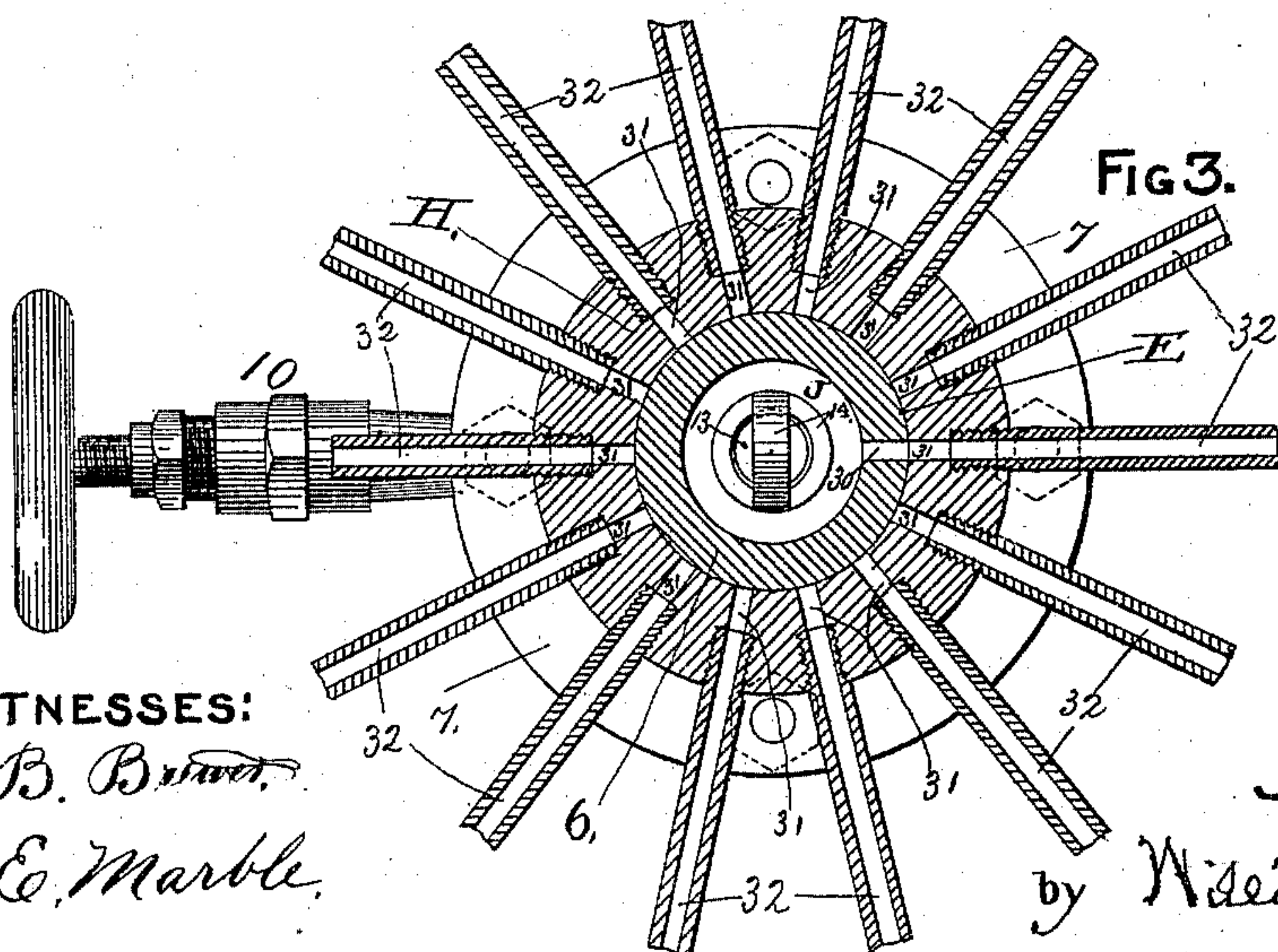


FIG. 3.

WITNESSES:

S. B. Brown.

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UNITED STATES PATENT OFFICE.

JOHN L. CORY, OF GREEN ISLAND, ASSIGNOR OF ONE-HALF TO ROBERT C. BLACKALL, OF ALBANY, NEW YORK.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 488,163, dated December 13, 1892.

Application filed August 9, 1892. Serial No. 442,587. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. CORY, of Green Island, in the county of Albany and State of New York, have invented new and useful
5 Improvements in Lubricating Apparatus, of which the following is a specification.

This invention is an improvement on the invention for which an application for Letters Patent, Serial No. 435,241, was filed in the
10 United States Patent Office on the 2d day of June, 1892, and is now pending before said office.

The object of my present invention is to remedy certain defects of the earlier invention; and I attain this object by the mechanism illustrated in the accompanying drawings, which, being herein referred to, form part of
15 this specification.

In said drawings, Figure 1 is a central vertical section of my apparatus with certain parts shown in side elevation. Fig. 2 is a plan view of my apparatus with the turning-plug in horizontal section at the line X X on Fig. 1. Fig. 3 is a horizontal section of Fig.
20 1 at the line Y Y. Fig. 4 is an enlarged side elevation of the turning-plug detached from the apparatus with the lower part in vertical section; and Figs. 5 and 6 are transverse sections of Fig. 4 at the lines Z Z and Zz Zz, respectively.
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As represented in the drawings, A designates the body of my apparatus, which also forms the reservoir for containing a liquid lubricant. Said body is preferably made in cylindrical form, with a top B and bottom C integral with its sides. Said top is provided with a central opening D for receiving the upper part of the turning-plug E, that is fitted to rotate in said opening, and said top is also
30 provided with a filling-hole F, for which a screw-cap 1 forms a closure. Said cap is provided with a vent 2, which allows air to flow into the reservoir to fill the space vacated by the outflow of lubricant. A strainer 3, of
35 woven wire or foraminated metal, is preferably fixed in said filling-hole for the purpose of removing sediment and solid impurities from the lubricant.

The body A has on its periphery, at or near
40 its upper end, a circumferential flange G, which is provided with a series of notches 4

and one or more intermediate notches 5, for purposes hereinafter explained.

The bottom C is provided with a coniform neck H, having a central opening which corresponds to the opening D in the top C. Said neck is bored to receive the conical body of the turning-plug E, so that said body will form an oil-tight joint therewith. The larger diameter of the bore of said neck is at the base of the latter, which is provided with a circumferential flange 7 for the purpose of securing a seat-piece I thereto, and said seat-piece is provided with a screw-neck 8 or other suitable provision for securing the apparatus
55 in a required place. The seat-piece I is provided with a vertical opening 9, which communicates with the bore of the neck H. A stop-cock 10, whose opening communicates with the opening 9, is provided with a branch neck 11 for receiving a pipe, by which steam or compressed air may be conveyed into the chamber of the turning-plug E for the purpose of ejecting lubricant therefrom, as hereinafter explained, and steam for that purpose
60 may be conducted through said pipe directly from a boiler or from a system of steam-heating pipes, whereby the railway-cars are heated, (this apparatus being more particularly designed for use on trains of railways,) or when
65 compressed air is employed for ejecting the lubricant the pipe connecting with the branch neck 11 may be connected with a tank for containing compressed air for operating the air-brakes of a railway-train.
70

The turning-plug E is provided with a conical body 6, which is fitted to rotate in the bore of the neck H and is provided with an oil-chamber J, whose lower end is provided with a removable valve-seat 12, which forms
75 an annular closure for the bottom of said chamber. An upwardly-opening valve 13 is fitted to close the opening in said valve-seat, and a guard 14 is attached to said valve-seat to prevent said valve from being dislodged from the valve-seat, said guard affording ample space for the passage of steam or compressed air into the chamber J when the valve
80 13 is raised from the seat 12. From the upper end of the chamber J a passage 15 leads into the lower part of the lubricant-chamber formed in the body A, and said passage is
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100

provided with an upwardly-closing valve 16 for controlling the flow of lubricant from said reservoir into the chamber J, and a check-pin 17 is fitted to prevent the valve 16 from dropping too far from its seat. An air-passage 18 leads from the upper end of the chamber J and through a tube 19 extends to the upper part of the reservoir of the body A, so as to allow the air contained in the chamber J to escape therefrom as fast as the lubricant fills said chamber. Said air-passage is provided with a downwardly-opening valve 20, whose descending movement is restricted by a check-pin 21, which takes against the upper end of a slotted opening in the guide-wings of said valve. Normally the valves 16 and 20 will be at the lower point of their movement, as shown in Fig. 1, so as to open the passages 15 and 18; but the moment that the pressure is admitted into the chamber J to eject the lubricant contained therein the valves 16 and 20 will thereby be forced upwardly to close the passages to which they are respectively assigned. The upper end of the turning-plug E is fitted to rotate in the opening D and it is provided with a neck 22 for receiving an arm K, by which said plug can be operated as occasion may require. The neck 22 is provided with splines 23 or other suitable provision, and the hub of the arm K is provided with seats 24 or such other provision as will engage positively on said neck. A disk spring 25 is interposed between the hub of the arm K and the top B for the purpose of retaining the conical body 6 of the turning-plug closely to its seat in the neck H. A screw-stem 26 is formed on the upper extremity of the turning-plug E, and screw-nuts 27 are fitted to engage on said stem and to bear upon a washer 28, placed upon the upper face of the hub of the arm K, and by screwing said nuts onto the stem 26 the turning-plug can be drawn upwardly as occasion requires. The lever K is provided with a spring-catch 29, which is fitted to engage in the notches 4 and 5 for the purpose of retaining the turning-plug E at any required point of its rotative movement. From one side of the chamber J an outlet-port 30 is formed for allowing the lubricant to pass out from said chamber under the conditions hereinafter explained. Corresponding to the level of said outlet-port a series of openings 31 is formed, and from each of said openings there is an independent lubricant-conductor 32, leading to the point where the lubricant is to be applied when the turning-plug E has been adjusted to correspond with any particular opening 31. By turning the turning-plug E the outlet-port 30 can be carried into correspondence with either of the openings 31, and it can be retained at such place by engaging the spring-catch 29 in the corresponding notch 4. By engaging said spring-catch in a notch 5 the outlet-port 30 will be carried intermediately between two of said openings, so as to prevent an ejection of the lubricant from the

chamber J should a pressure be admitted into said chamber while the turning-plug is turned into the position last described.

L designates a gage for showing the level of the lubricant in the reservoir of the body A. As shown in the drawings, said gage consists of a glass tube 33, whose lower end is held in a bent pipe or bracket 36, which is secured to the bottom C. The upper end of said tube is preferably left open and is held by a bracket 37, secured to the body A. The pipe 36 is open to the interior of the reservoir of the body A, so that the lubricant can readily flow into the gage L.

My invention is operated in the following manner: The lubricant-conductors 32 being arranged so that each will conduct the lubricant to a different point, with the reservoir of the body A properly charged with liquid lubricant, the turning-plug E is turned by the arm K and held by the spring-catch 29 in a position where its outlet-port 30 will be in correspondence with the opening 31, which leads to the part of the machinery to which the lubricant is then required to be applied. The stop-cock 10 is now opened to allow pressure—either steam or compressed air—to enter the opening 9, whereby the valve 13 will be raised from its seat, thereby allowing the pressure to enter the chamber J and effect the ejection of the lubricant from said chamber, thence through the lubricant-conductor, which is in correspondence with the outlet-port 30, to the part of the machinery to which the lubricant is to be applied. Simultaneously with the admission of pressure into the chamber J the valves 16 and 20 will be closed by the pressure operating against their lower faces, so that the pressure will not enter the lubricant-reservoir and be diffused therein. Either the entire charge of the lubricant in the chamber J or any part of said charge can be ejected from said chamber, the quantity discharged therefrom being dependent upon the time said stop-cock remains opened and the extent to which it is opened. As soon as the pressure is excluded from the chamber J the valves 16 and 20 will descend by gravity and the lubricant from the reservoir will flow into said chamber until the latter is refilled, thereby restoring said chamber to its normal condition.

My invention can be used for lubricating the axle-bearings of freight or passenger cars on railways, one apparatus for each car being placed in a suitable position where it can be manipulated from the interior of the car by any authorized person.

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

1. An apparatus for forcibly applying lubricant, which consists of a lubricant-reservoir provided with a series of lubricant-conductors extending therefrom and a turning-plug fitted to rotate in a neck of said reservoir and provided with a lubricant-chamber having an outlet-port which can be moved into correspondence with either one of said lubri-

cant-conductors, the lower end of said chamber being provided with an upwardly-opening valve, whereby fluid under pressure can be admitted into said lubricant-chamber to effect the ejection of the lubricant therefrom, as and for the purpose herein specified.

2. A turning-plug provided with a lubricant-chamber having an upwardly-opening valve in its lower end and two downwardly-opening valves in its upper end, one of the latter being arranged to close a lubricant-passage leading into said chamber and the other being arranged to close an air-passage which leads into said chamber, the latter having an

outlet-port leading from it, in combination with a lubricant-reservoir provided with a neck in which said turning-plug is fitted to rotate and a series of lubricant-conductors arranged in relation to said turning-plug in such manner that the outlet-port of the latter may be moved into communication with any one of said conductors, as and for the purpose herein specified.

JOHN L. CORY.

Witnesses:

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S. B. BREWER.