

No. 709,986.

Patented Sept. 30, 1902.

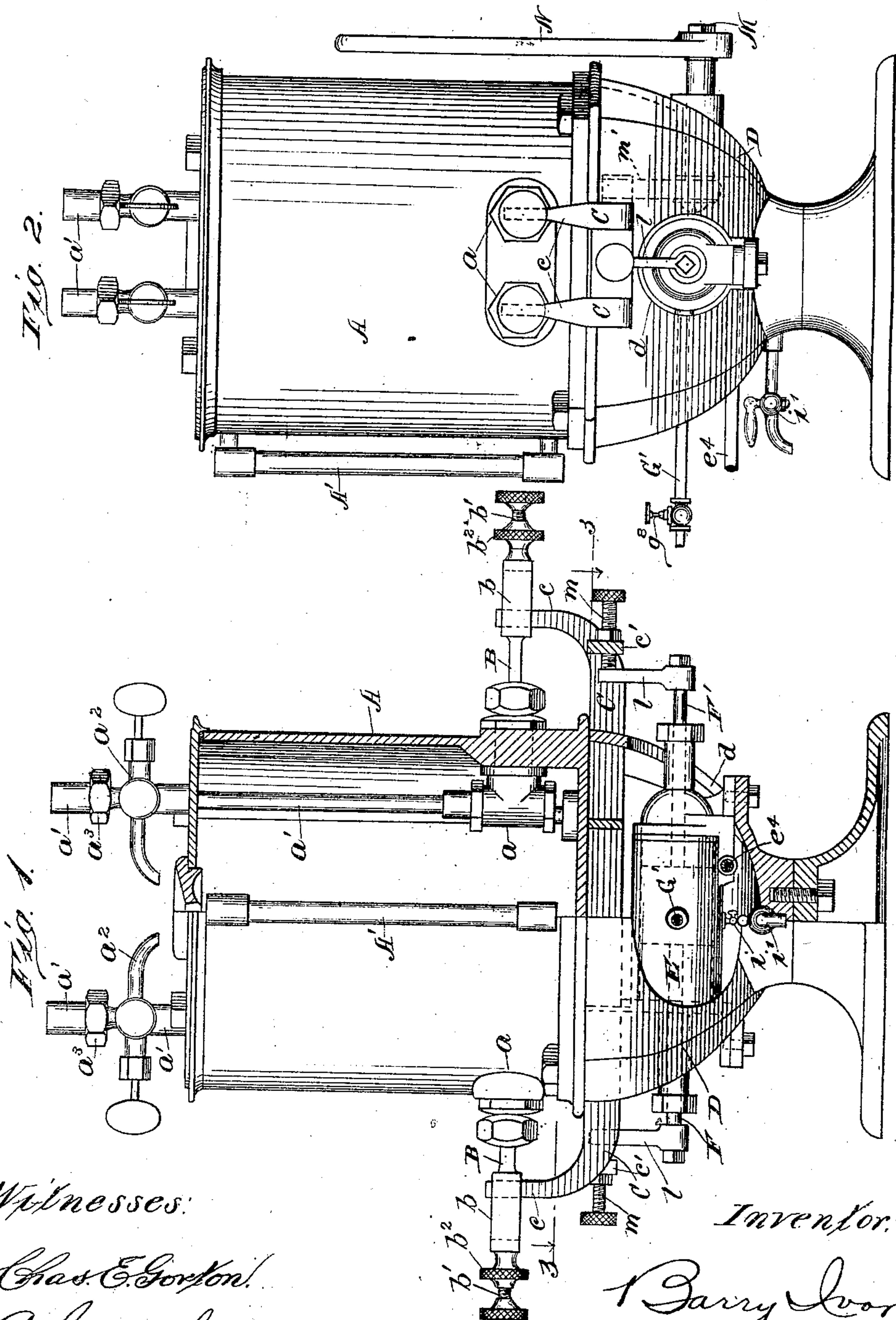
B. IVOR.

APPARATUS FOR OPERATING LUBRICATING PUMPS.

(Application filed Feb. 2, 1901. Renewed Dec. 30, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

Chas. E. Gordon.
A. Gustafson.

Inventor:

Barry Ivor.
Chas. C. Tillman
Atty.

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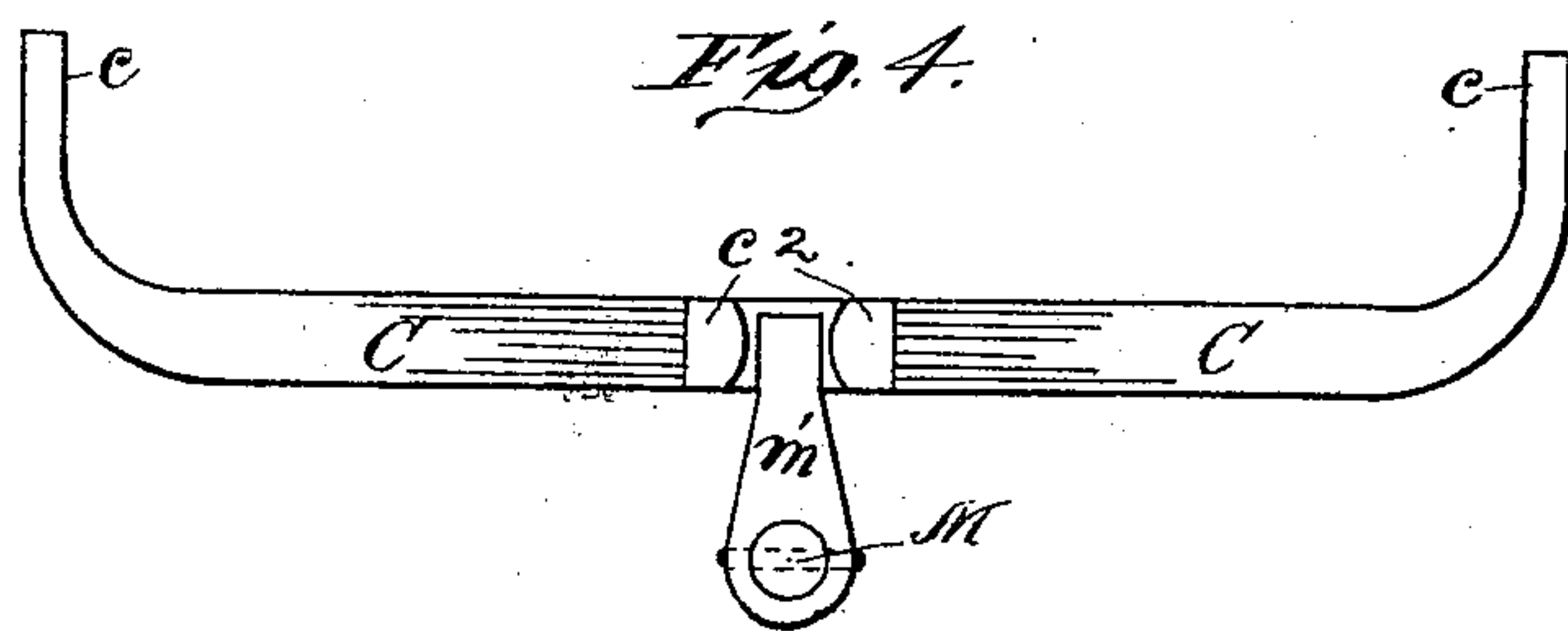
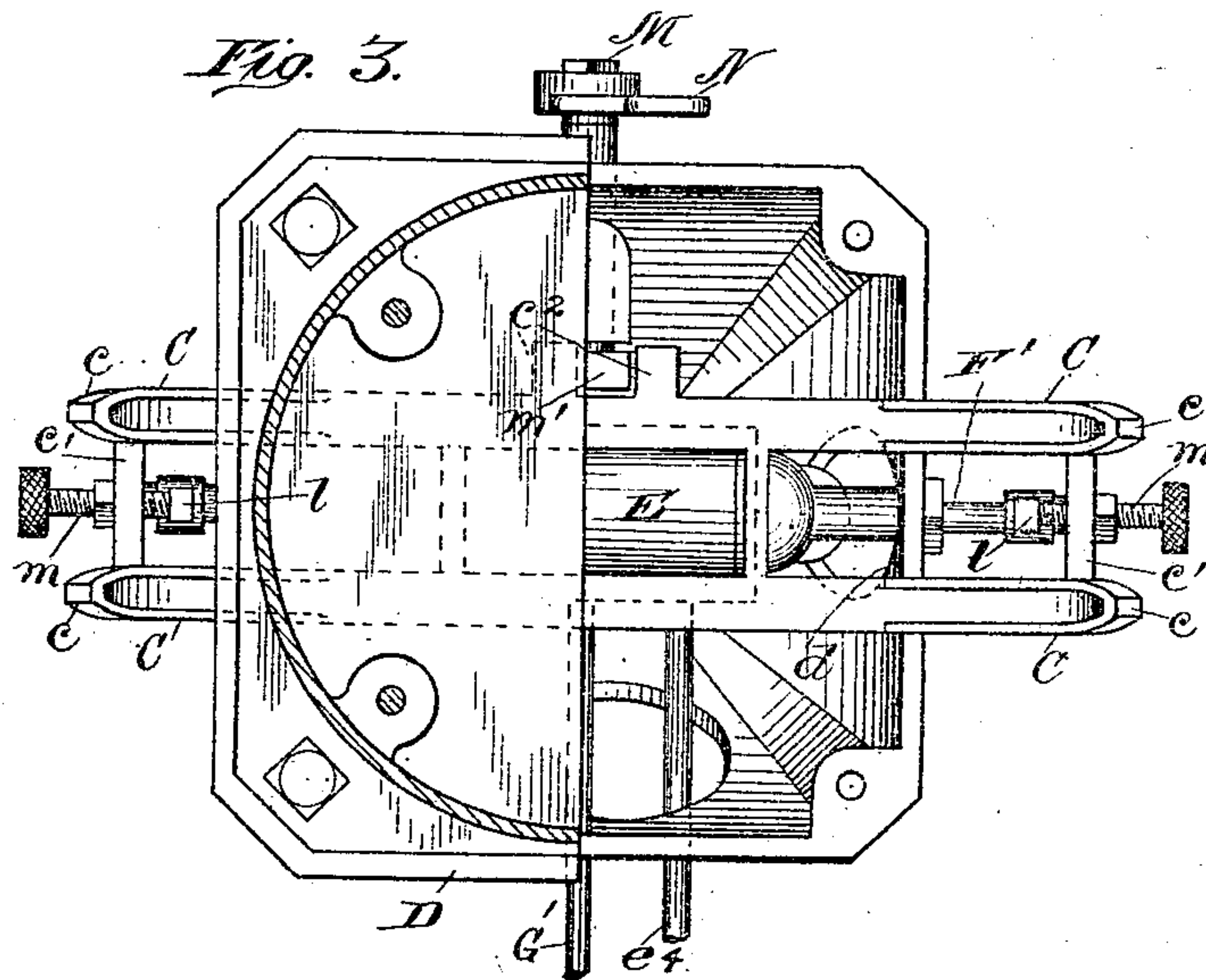
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(No Model.)

2 Sheets—Sheet 2.



Witnesses:

Chas. E. Gordon.
A. Gustafson

Inventor:

Barry Ivor.
By Chas. C. Fittman
Atty.

UNITED STATES PATENT OFFICE.

BARRY IVOR, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHARLES M. ROGERS
AND LOUIE C. ROLLO, OF CHICAGO, ILLINOIS.

APPARATUS FOR OPERATING LUBRICATING-PUMPS.

SPECIFICATION forming part of Letters Patent No. 709,988, dated September 20, 1902.

Application filed February 2, 1901. Renewed December 30, 1901. Serial No. 87,848. (No model.)

To all whom it may concern:

Be it known that I, BARRY IVOR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have
5 invented certain new and useful Improvements in an Apparatus for Operating Lubricating-Pumps, of which the following is a specification.

This invention relates to improvements in
10 an apparatus to be used for operating lubricating-pumps, which are small pumps employed to pump oil to any point or parts that it is desired to have constantly and uniformly lubricated; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The principal object of my invention is to
20 provide a mechanism or apparatus for operating the reciprocating bars or slides of lubricating-pumps by means of steam directly applied to said reciprocating bars or slides, thus dispensing with the shafts and eccentrics ordinarily employed for such purpose.

In the accompanying drawings I have shown
25 a lubricating-pump of the ordinary or well-known type with my apparatus in position thereon; but as I do not claim anything new in the pump itself I will describe such parts thereof only as will be necessary for the proper understanding of the operation of my apparatus for operating the pumps upon which my claims are based.

35 In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

40 Figure 1 is a view, partly in elevation and partly in section, of a lubricating-pump with my apparatus for operating the same in position thereon. Fig. 2 is a view in elevation thereof looking toward the ends of the reciprocating bars or slides. Fig. 3 is a plan view,
45 partly in section and partly in elevation, taken on line 3 3 of Fig. 1. Fig. 4 is a detached view in elevation of the reciprocating bars or slides and a portion of a mechanism for operating the same by hand.

Similar letters refer to like parts throughout the different views of the drawings.

A represents the reservoir, which contains the oil or other lubricant and which may be cylindrical in shape or any other desired form
55 and of any suitable size. In the present instance I have shown the reservoir as being provided with four pumps α , which may be of the ordinary or any desired construction, each of which is furnished with a pipe α' ,
60 leading through the top of the reservoir, for the distribution of the lubricant to any parts of a machine which it is desired to lubricate. The reservoir is furnished on its outer surface with a sight-gage A' , which communi-
65 cates with the interior of the reservoir and is for the purpose of showing the quantity of oil contained in the reservoir. Extending from each of the pumps outwardly through the reservoir is a piston-rod B, which may be
70 provided at its inner end with a suitable piston to operate in the pump-cylinder and has on its outer end a slotted portion b to receive the upturned end c of the reciprocating bars or slides C, which are united together near
75 their ends by means of cross-pieces c' and have on one of their sides, about their middle, lugs c^2 for engagement with an operating-arm, as will be presently explained. In the
80 outer ends of the yokes or portions b on the piston-rods B are located screws b' and jam-nuts b^2 , the inner ends of said screws adapted to contact with the upturned ends c of the slides or reciprocating bars, thus regulating
85 the movement of the pistons, for it will be understood that by moving said screws inwardly or outwardly the lost motion in the slides and pistons may be regulated so that
90 it shall vary from no lost motion to one in which all of the motion is lost—that is, in which the operation of the slides does not affect the pistons. The upper portions of the
conducting-pipes α' may be provided with
95 cocks α^2 and valves α^3 , which are preferably gravity ball-valves to ascertain and regulate, respectively, the flow of oil through said
pipes. The reservoir A is mounted on a hollow base D, which is provided in its upper
100 portion with openings for the reception and operation of the slides or reciprocating bars

C and below the same with suitable openings d for the operation of the piston-rods F and F' of the steam-engine, which is located in the cavity of the base and may be of any
 5 suitable kind, having a valve operating automatically without the use of an eccentric. Communicating at one of its ends with the cylinder E is a supply-pipe G', which may be provided with a regulating-valve g^8 to control the supply of steam to the cylinder and
 10 whose other end is connected to a boiler. (Not shown.) Communicating with the lower portion of the cylinder is an exhaust-pipe e^4 , which may lead to any suitable point.

15 The bottom of the cylinder may be provided with a drain-cock i , through which the water from the condensation may be removed, and the lower portion of the base D may also be provided with a cock i' for the removal of
 20 water or oil therefrom.

Secured to each of the rods F and F' is an upwardly-extending arm l , which project between the slide-bars C, near the cross-pieces c' thereof, each of which cross-pieces is provided with a screw m to impinge on the arms
 25 l , so that in the movement of the piston-rods F and F' the reciprocating bars or slides C will be moved therewith. It is evident that the cross-pieces c' , carrying as they do the adjusting-screws m and receiving an intermittent motion due to the reciprocatory motion of the arms l , constitute a tappet mechanism for operating said slide. Journaled in
 30 the base D at right angles to the sliding bars is a shaft M, which has on its inner end an arm m' , which projects between the lugs c^2 on one of said sliding bars. The outer end of the shaft M is provided with a handle or lever N for operating said shaft.

40 From the foregoing and by reference to the drawings it will be seen and readily understood that by admitting steam to the engine-cylinder E the piston-rods therein will be caused to move back and forth, which operation will carry therewith the reciprocating
 45 bars or slides C, which will operate the pistons of the pumps. As the pump may sometimes be so located that it is not convenient

to reach the adjusting devices on the piston-rods B for its slide or bar, my construction
 50 affords another adjustment which may be used instead thereof and the same result attained. It is further evident that under certain other circumstances this double adjustment will be found advantageous and that
 55 one or both adjustments may be employed. When it is desired to operate the pumps without the use of the engine, the lever N may be moved back and forth, which will reciprocate the bars C, and thereby operate the
 60 pumps.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus for operating lubricating-pumps, the combination with the pump-body, of a slide comprising two parallel bars movably located in the lower portions of the body for the purpose of reciprocating the
 65 pistons of the pump, means at the ends of the slide to adjustably secure it to the piston-rods of the pump, a steam-engine located beneath the pump-body, reciprocating piston-rods extending from each end of said engine, an arm
 70 on each of said rods extending upwardly and between the bars of the slide, and adjustable means located at each end of the slide whereby the movement thereof imparted by the arms may be changed.

2. In an apparatus for operating lubricating-pumps, the combination with the pump-body, of a slide for the purpose of reciprocating the pistons of the pump, means at the ends of the slide to adjustably secure it to the piston-rods of the pump, an engine for
 80 operating the said slide, said engine comprising an expansion-chamber and a reciprocating piston-head therein, arms connected to and operated by means of said piston-head, and adjustable means engaged by said arms where-
 85 by the range of movement imparted to said slide may be changed.

BARRY IVOR.

Witnesses:

CHAS. C. TILLMAN,
 A. GUSTAFSON.