

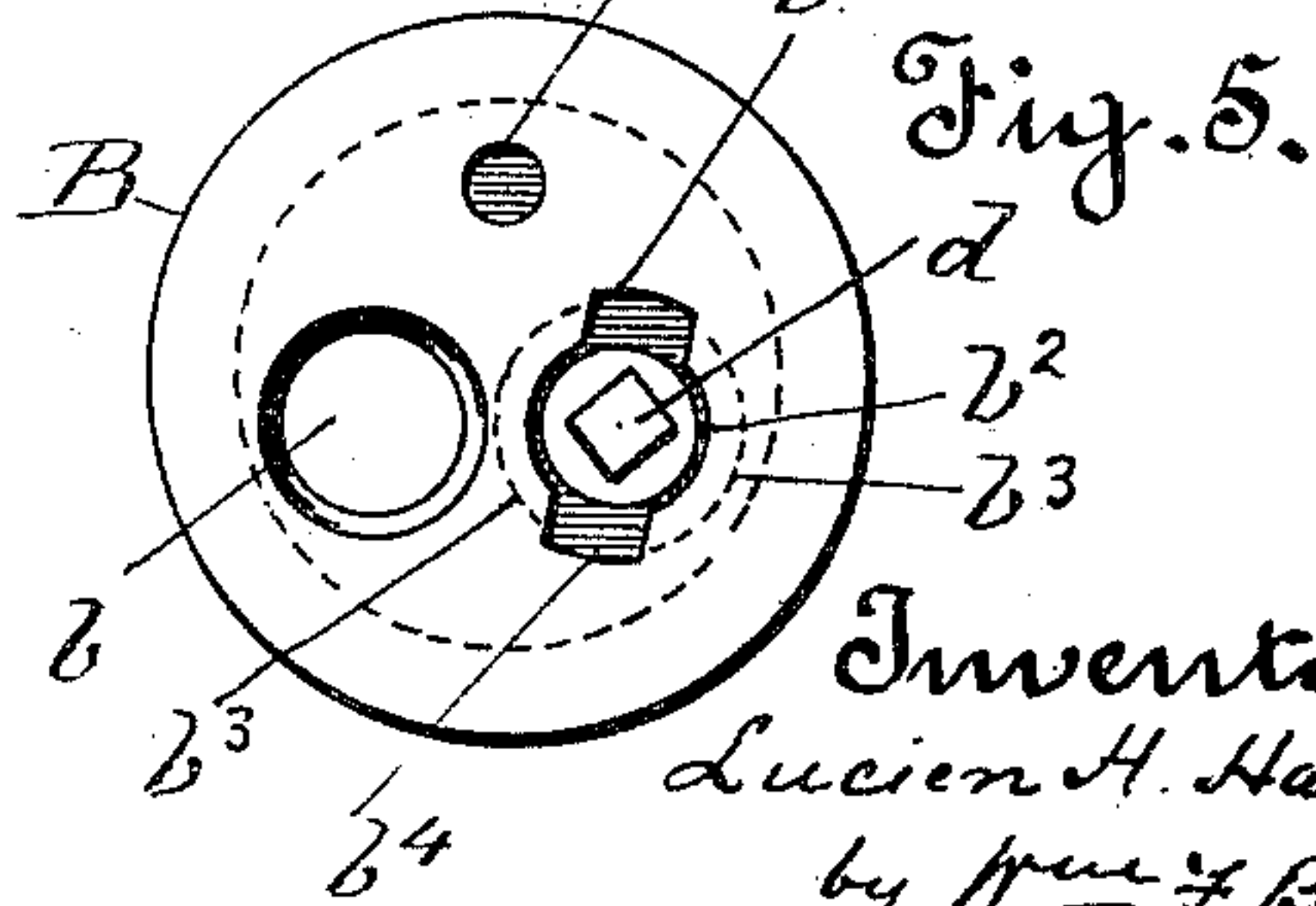
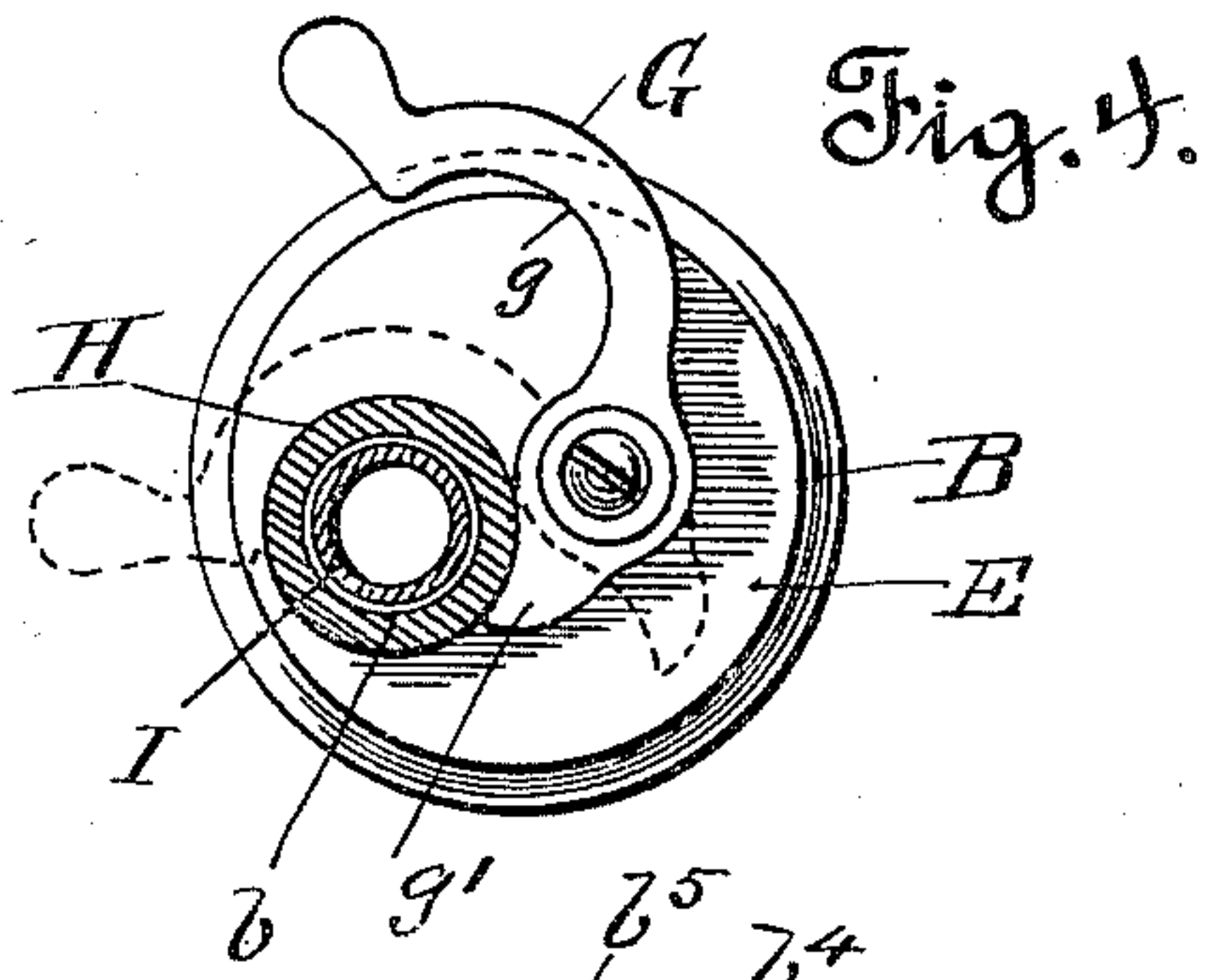
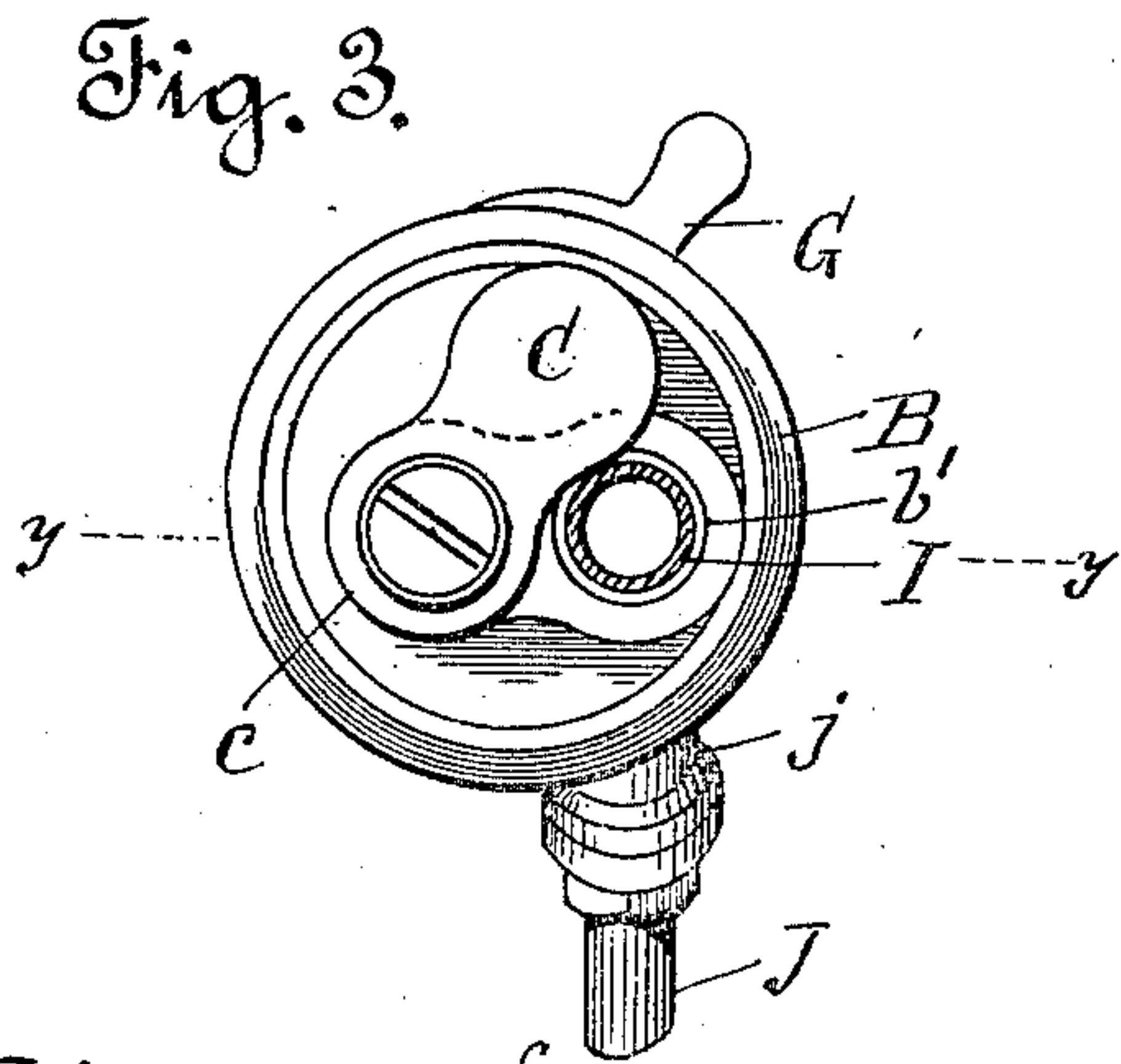
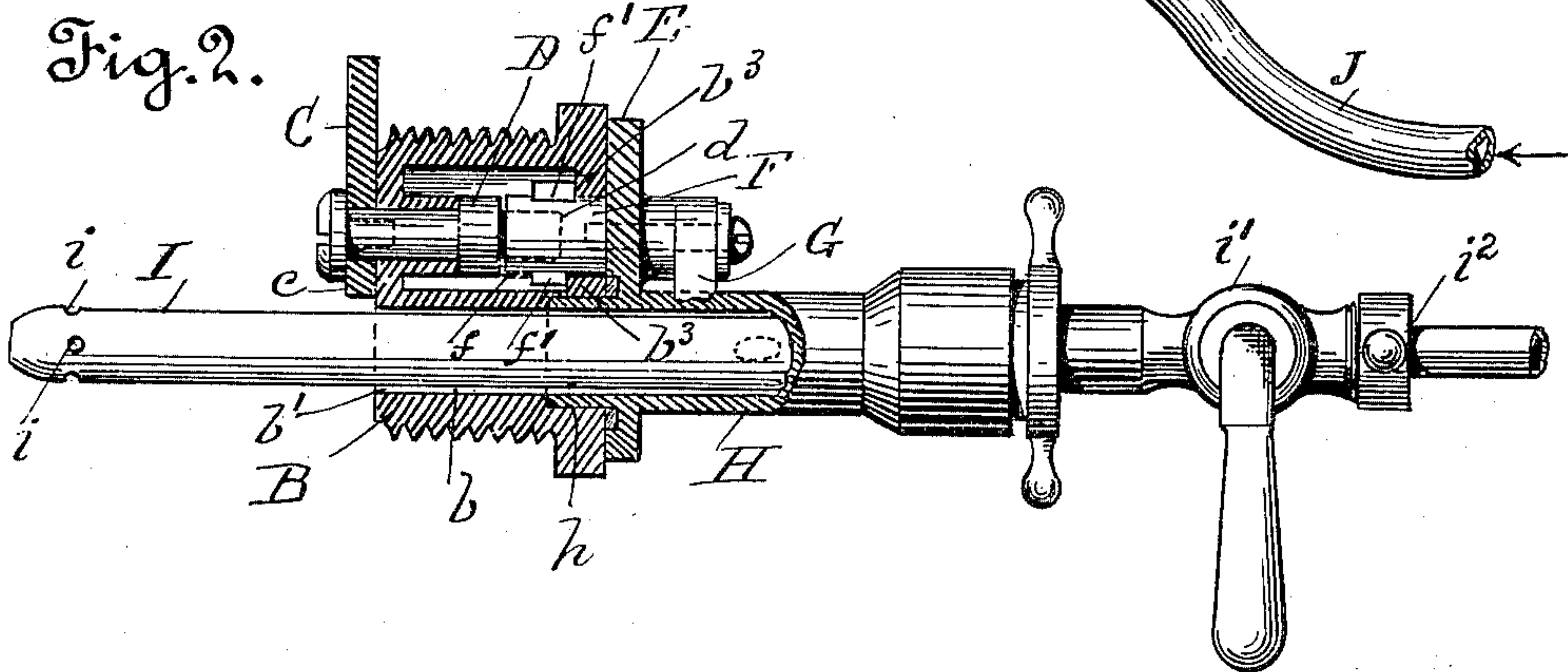
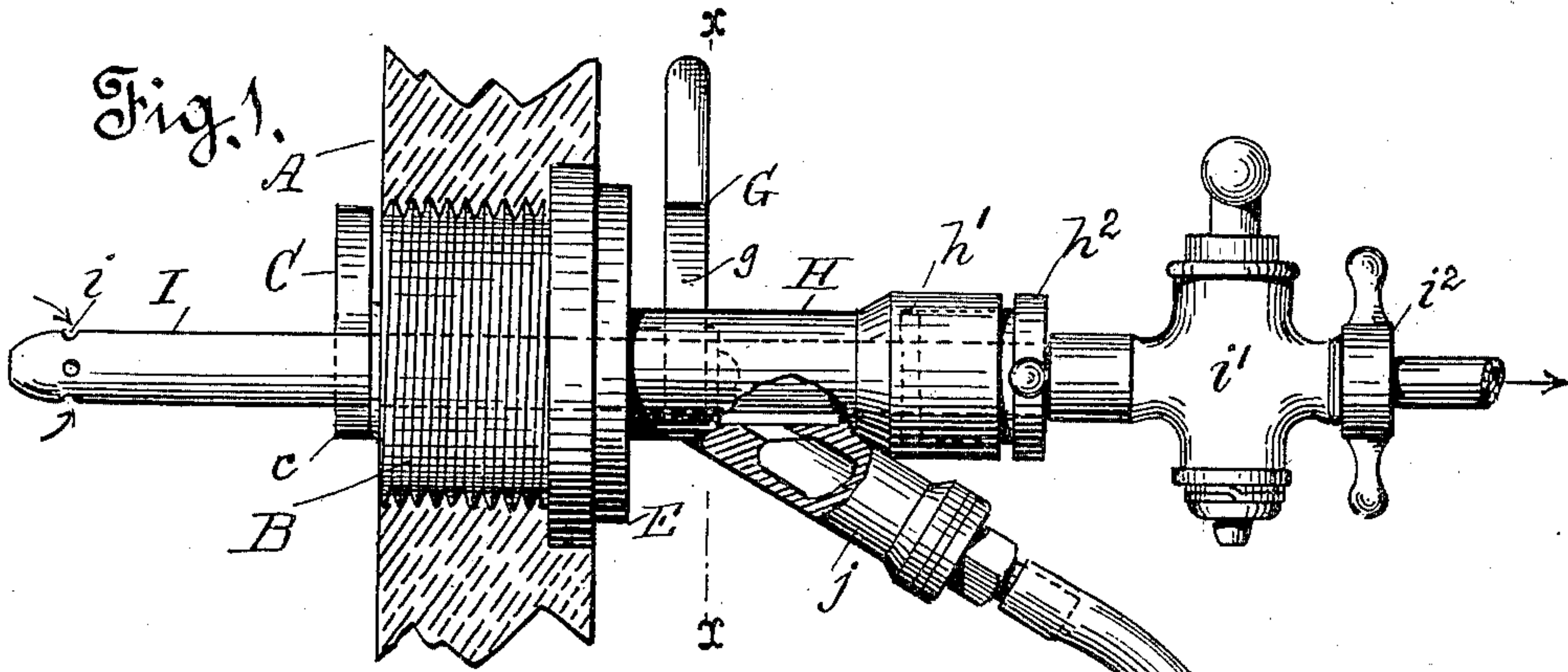
No. 701,335.

Patented June 3, 1902.

L. H. HANDY.
DEVICE FOR DRAWING LIQUIDS.

(Application filed Feb. 10, 1902.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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DEVICE FOR DRAWING LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 701,335, dated June 3, 1902.

Application filed February 10, 1902. Serial No. 93,336. (No model.)

To all whom it may concern:

Be it known that I, LUCIEN H. HANDY, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Devices for Drawing Liquids; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of devices for drawing liquids in which a faucet connection is made and broken with a permanent bung in the barrel or keg simultaneously with the operation of the bung-valve, due to said connection; and said invention is especially applicable to those devices of this type in which for the purpose of drawing lager-beer means are provided for passing a slip-pipe into the liquid in the receptacle and forcing air under pressure upon top of the liquid, whereby the latter is forced up through the slip-pipe.

My invention consists in the novel combinations of bung, controlling-valve, and faucet connection, with its locking and operating key, slip-pipe, and air-passage and in the novel details of construction and arrangement in connection therewith, which I shall hereinafter describe and claim.

The general object of my invention is to provide a simple and effective device for drawing liquids, which can be readily applied and easily and economically operated. Particular objects and advantages will appear in the course of the following specification.

Referring to the accompanying drawings, Figure 1 is a side view of the device partly broken and showing the slip-pipe inserted. Fig. 2 is a sectional elevation on line *y y* of Fig. 3. Fig. 3 is a rear view of the bung B, the valve being open and the slip-pipe cut off. Fig. 4 is a cross-section on line *x x* of Fig. 1, showing the key-lever handle G in its two positions. Fig. 5 is a front view of the bung B. Fig. 6 is a detail showing the plate E and the relative arrangement therein of the faucet-connection sleeve H and the independent rotary key F.

A is a portion of the head of the barrel or keg containing the lager-beer or other liquid. Into this head is fitted in suitable manner, as

by screwing, the bung B. Through this bung is made a passage *b*, the inner end of which opening into the liquid-receptacle forms a port *b'*, which is controlled by a swinging valve C, operating upon the inner face or wall of the bung. The valve C has an extension *c*, which is properly secured upon a stem D, mounted rotatively in the bung exterior to the passage *b*, its other end extending into the bung and squared or otherwise formed to make of it a key-seat *d*, through which by the engagement of a suitable key said stem may be turned on its axis in order to swing the valve C over the port *b'* to cover the passage *b* or away from said port to open said passage. The key-seat end *d* of the valve-operating stem D terminates short of the front or outer wall of the bung, and to reach it with the key an opening *b²* is made in said wall. This opening is bounded by side flanges *b³*, which terminate in opposing notches *b⁴*. The under or inner faces of the flanges *b³* are made on an incline, thus making them cam-flanges in the usual manner of such flanges for this purpose.

E is the faucet connection and key-carrying plate. Mounted rotatively in this plate and independent of any faucet connection is the key F, the inner end of which is provided with a socket *f* or other suitable engaging device for making and breaking connection with the key-seat end *d* of the valve-operating stem D. This engaging end of the key is adapted to enter the key-opening *b²* in the outer wall of the bung and to engage with the key-seat *d* and by its axial movement to turn the stem D. To make the proper tight connection of the plate E and the parts it carries with the bung B, the key has upon the exterior surface of its inner portion the cam-lugs *f'*, which pass through the notches *b⁴* of the key-opening, and upon turning the key said lugs engage behind the cam-flanges *b³* of the key-opening, whereby the key is locked in place and the plate E is drawn up to and locked upon the face of the bung. The outer end of the key is provided with a handle-lever G, by the movement of which the key is turned. The plate E also carries a faucet connection adapted when the plate

is applied to the face of the bung to form communication with the bung-passage b . In the application of the device for the purpose of a slip-pipe this connection is the sleeve H, which is firmly fixed to plate E. The inner end h of this sleeve projects through the plate E and is adapted to enter and form a suitable washer-joint or other slip-union with the outer end of the bung-passage b . In the outer end of the sleeve is a stuffing or packing washer h' , affected by a gland-nut h^2 to form a tight joint around the slip-pipe when required.

I is the slip-pipe, having the openings i on its inner end, the controlling-cock i' on its outer end, and the coupling i^2 for the connections, which are supposed to extend up to within reach of the operator and to be provided with the usual drawing-faucet. The slip-pipe I passes through the sleeve H and through the bung-passage b and enters the liquid-receptacle, and the exterior diameter of said pipe is sufficiently smaller than the interior diameter of the sleeve and passage not only to permit it to readily pass there-through, but to leave appreciable surrounding space for the air to enter the liquid-receptacle around said slip-pipe. Air under pressure is supplied through a hose J, coupled to a branch j , carried by sleeve H and opening into said sleeve. The key-handle lever G is so located and formed that its movement in both directions is limited by contact with the fixed sleeve H. To effect this, the handle-lever is curved at g on one side of its center of movement and is provided with an extension or heel g' on the other side. When the handle-lever is moved so that its curve g comes in contact with sleeve H, the valve C is fully closed, and when moved to bring its heel g' into contact with the sleeve the valve C is fully open. By these limitations the valve may be accurately and positively fully closed and opened.

In the face of the bung is made a small hole b^5 , which, with the passage-hole b and the key-opening b^2 , forms a seat for a three-pronged wrench to screw the bung into the barrel.

The operation is as follows: The keg A is provided with bung B, and the valve C is in a closed position—that is, covering port b' of passage b —and the keg is thus tight. When the liquid is to be drawn, the plate E, with its attached parts, is applied to the bung by passing the key F into key-opening b^2 and passing the inner end h of sleeve H into the passage b . The plate E now lies against the face of the bung ready to be locked thereto. Now the lever-handle G is thrown over until its heel g' contacts with the sleeve H. This has two effects. It causes the tightening and locking together of the parts by the engagement of the cam-lugs f' and flanges b^3 and it causes also the rotation of the stem D by the key F, whereby simultaneously with the join-

ing and locking of the parts the valve C is swung open to uncover port b' and passage b . The slip-pipe I is immediately pushed in through the now open passage b and projected the required distance into the keg. The gland-nut h^2 is then set up to tighten about the slip-pipe. Now the air is forced through hose J and branch j and around the exterior of the slip-pipe, through the inner end of sleeve H, and through the passage b into the keg, and its pressure on the surface of the liquid will cause the latter to flow through slip-pipe I and thence to the operator. When the keg is empty or when the device is to be removed for any cause, the slip-pipe I is withdrawn and the handle-lever G is thrown back again until its curve g contacts with the sleeve H, thereby fully closing the valve C, so that the keg is again tight. This movement of the key-handle lever breaks the engagement of the cam-lugs and flanges f' and b^3 , and thereupon the plate E, with its attached parts, is removed, leaving the bung tight. In taps and faucets of the type in which the connection with the bung is effected by means of interengaging cams operating simultaneously with the movement of the valve the key to effect these operations is the faucet itself or parts rigidly connected therewith, in either case requiring the faucet after entering to be turned in order to lock itself and to operate the valve. This turning of the faucet is not desirable for several reasons—as, for example, the difficulty of making and keeping tight a turnable contact-joint and the indecision in determining the proper position to enter the faucet in order that when turned it shall be upright. Then, again, as the operation of the valve depends upon the turning of the faucet, and as this turning is limited only by the attainment of what the operator thinks is a tight joint, which is itself dependent upon such variably-compressible devices as washers, it may result that the full movement of the valve is not reached; but in my device the parts to be attached to form the proper faucet communication with the bung are primarily seated by a straight and accurate application and entering, positively defining their true position without rotation of any kind, and then the locking and valve operation are effected by a separate or independent key, the movement of which is accurately limited and relatively adjusted to the full operation of the valve. My invention, therefore, obviates what may be termed a “threefold” difficulty of the ordinary device of this class—to wit, the wear and tear of the joint between the front of the bung and the flange or carrying-plate of the faucet connection, due to the necessity of forming said joint by the turning of the faucet, the trouble in determining the entrance position of the faucet to secure its final upright position after turning, and the inaccuracy in the valve movement, due to the variably-defined limits of the faucet turning.

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

1. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a valve controlling said passage, and having a stem for operating it, a plate to be applied to the outer face of the bung, a faucet connection carried by said plate, and adapted to form communication with the bung-passage, and an independent key carried by said plate, and adapted to operate the valve-stem.

2. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a valve controlling said passage and having a stem mounted rotatively in the bung and adapted by its axial movement to operate the valve, a plate to be applied to the outer face of the bung, a faucet connection carried by said plate and adapted to form communication with the bung-passage, and a key carried by and rotatively mounted in said plate, and adapted to connect with and to operate the valve-stem.

3. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a swinging valve seated on the inner face of the bung and adapted to open and close the inner end of said passage, a stem rotatively mounted in the bung, and carrying the valve upon its inner end, a plate to be applied to the outer face of the bung, a faucet connection carried by said plate and adapted to form communication with the bung-passage, and a key carried by and rotatively mounted in said plate, and adapted to connect with and to operate the valve-stem.

4. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a valve controlling said passage and having a stem rotatively mounted in said bung, and adapted to operate the valve, a plate to be applied to the outer face of the bung, a faucet connection carried by said plate, and adapted to form communication with the bung-passage, a key carried by and rotatively mounted in said plate and adapted to connect with and to operate the valve-stem, and suitable locking connections between the bung and the key, adapted to be operated by the turning of the key while operating the valve.

5. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a valve controlling said passage and having a stem mounted rotatively in the bung, a plate to be applied to the outer face of the bung, a faucet connection carried by said plate, and adapted to form communication with the bung-passage, a key carried by and rotatively mounted in said plate independently of the faucet connection, and adapted to connect with and to operate the valve-stem, and an operating-handle on said key disposed to contact with

the faucet connection at its limits of movement, whereby the limits of the throw of the valve are defined.

6. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a valve controlling said passage and having a stem mounted rotatively in the bung, a plate to be applied to the outer face of the bung, a faucet connection carried by said plate, and adapted to form communication with the bung-passage, a key carried by and rotatively mounted in said plate independently of the faucet connection, and adapted to connect with and to operate the valve-stem, an operating-handle on said key disposed to contact with the faucet connection at its limits of movement, whereby the limits of the throw of the valve are defined, and suitable locking connections between the bung and the key, adapted to be operated by the turning of the key while operating the valve.

7. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a valve controlling said passage, and having a stem rotatively mounted in the bung, a plate to be applied to the outer face of the bung, a faucet connection carried by the plate and adapted to form communication with the bung-passage, a key carried by and rotatively mounted in the plate independently of and exterior to the faucet connection and adapted to connect with and to operate the valve-stem, said key having locking devices to engage the bung, and a handle-lever on the outer end of the key to operate it, said lever having an extension or heel beyond its center of movement, and said lever being so disposed relatively to the faucet connection that its limits of movement are defined by its contact on either side of its center of movement with said faucet connection.

8. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a valve controlling said passage and having a stem mounted in said bung and adapted to operate the valve, a plate to be applied to the outer face of the bung, a sleeve carried by the plate and adapted to form communication with the bung-passage, a slip-pipe carried by said sleeve, and adapted to pass through the bung-passage into the liquid-receptacle when the valve controlling said passage is open, and a key carried by said plate and adapted to operate the valve-stem.

9. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a valve controlling said passage and having a stem rotatively mounted in said bung and adapted to operate the valve, a plate to be applied to the outer face of the bung, a sleeve carried by the plate and adapted to form communication with the bung-passage, a slip-pipe carried by said sleeve and adapted to pass through the bung-

passage into the liquid-receptacle when the valve controlling said passage is open, and a key carried by and rotatively mounted in said plate and adapted to lock the plate to the bung and to connect with and to operate the valve-stem.

10. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a valve controlling said passage and having a stem rotatively mounted in said bung and adapted to operate the valve, a plate to be applied to the outer face of the bung, a sleeve carried by the plate and adapted to form communication with the bung-passage, a branch for an air-supply connection, opening into said sleeve whereby air may be forced through the bung-passage when opened, a slip-pipe carried by the sleeve and adapted to pass through the bung-passage into the liquid-receptacle when the valve controlling said passage is open, and a key carried by and rotatively mounted in said plate and adapted to lock the plate to the bung and to connect with and to operate the valve-stem.

11. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a valve controlling said passage and having a stem rotatively mounted in said bung and adapted to operate the valve, a plate to be applied to the outer face of the bung, a sleeve carried by the plate and adapted to form communication with the bung-passage, a branch for an air-supply connection opening into said sleeve, a slip-pipe carried by the sleeve and adapted to pass through the bung-passage into the liquid-receptacle when the valve controlling said passage is open, said slip-pipe having an exte-

rior diameter sufficiently smaller than the interior diameter of sleeve and passage, to permit the air to pass in around it, to the liquid-receptacle, and a key carried by and rotatively mounted in said plate and adapted to lock the plate to the bung and to connect with and to operate the valve-stem.

12. A device for drawing liquids, consisting of a bung having a passage communicating with the liquid-receptacle, a valve controlling said passage and having a stem rotatively mounted in said bung and adapted to operate the valve, a plate to be applied to the outer face of the bung, a sleeve carried by the plate and adapted to form communication with the bung-passage, a branch for an air-supply connection opening into said sleeve, a slip-pipe carried by the sleeve and adapted to pass through the bung-passage into the liquid-receptacle when the valve controlling said passage is open, said slip-pipe having an exterior diameter sufficiently smaller than the interior diameter of sleeve and passage to permit the air to pass in around it, to the liquid-receptacle, an independent key rotatively mounted in said plate and adapted to lock the plate to the bung and to connect with and to operate the valve-stem, and a handle on the exterior end of the key adapted to contact with the sleeve on either side of the center of movement to define its limits in either direction.

In witness whereof I have hereunto set my hand.

LUCIEN H. HANDY.

Witnesses:

WALTER F. VANE,
D. B. RICHARDS.