

(No Model.)

D. L. COLUMBIA.

OILER.

No. 259,290.

Patented June 13, 1882.

Fig 3.

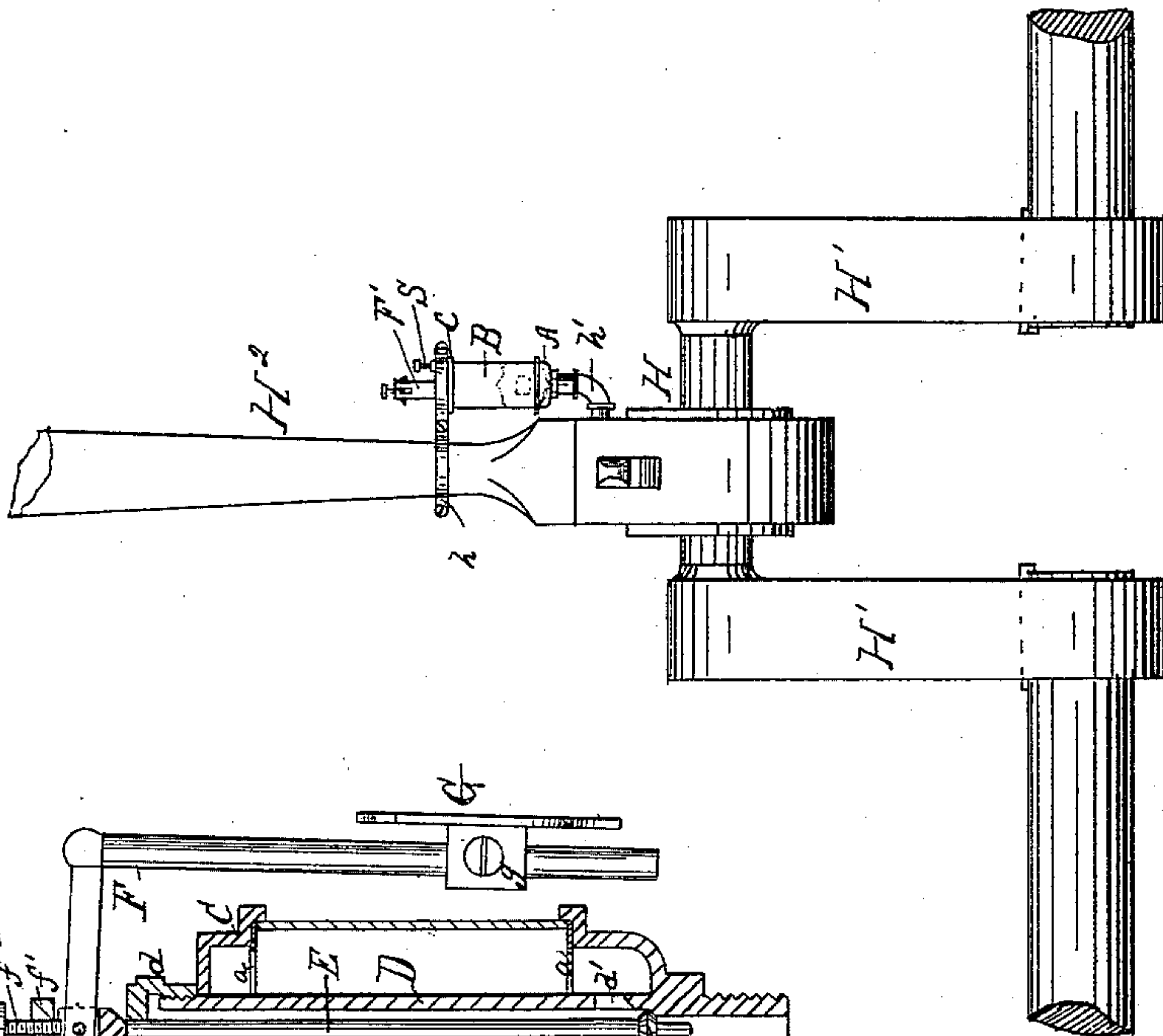


Fig 2.

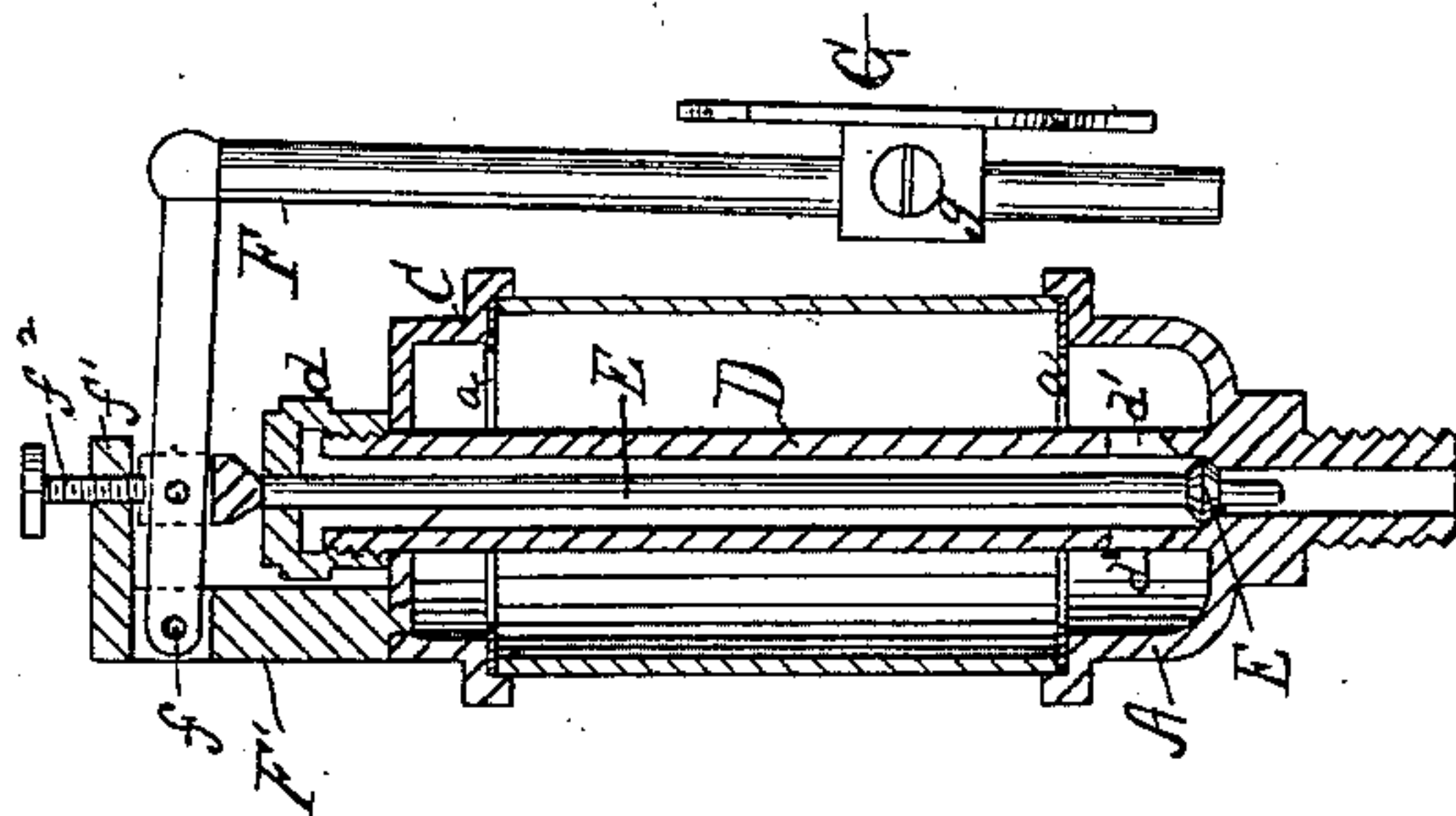
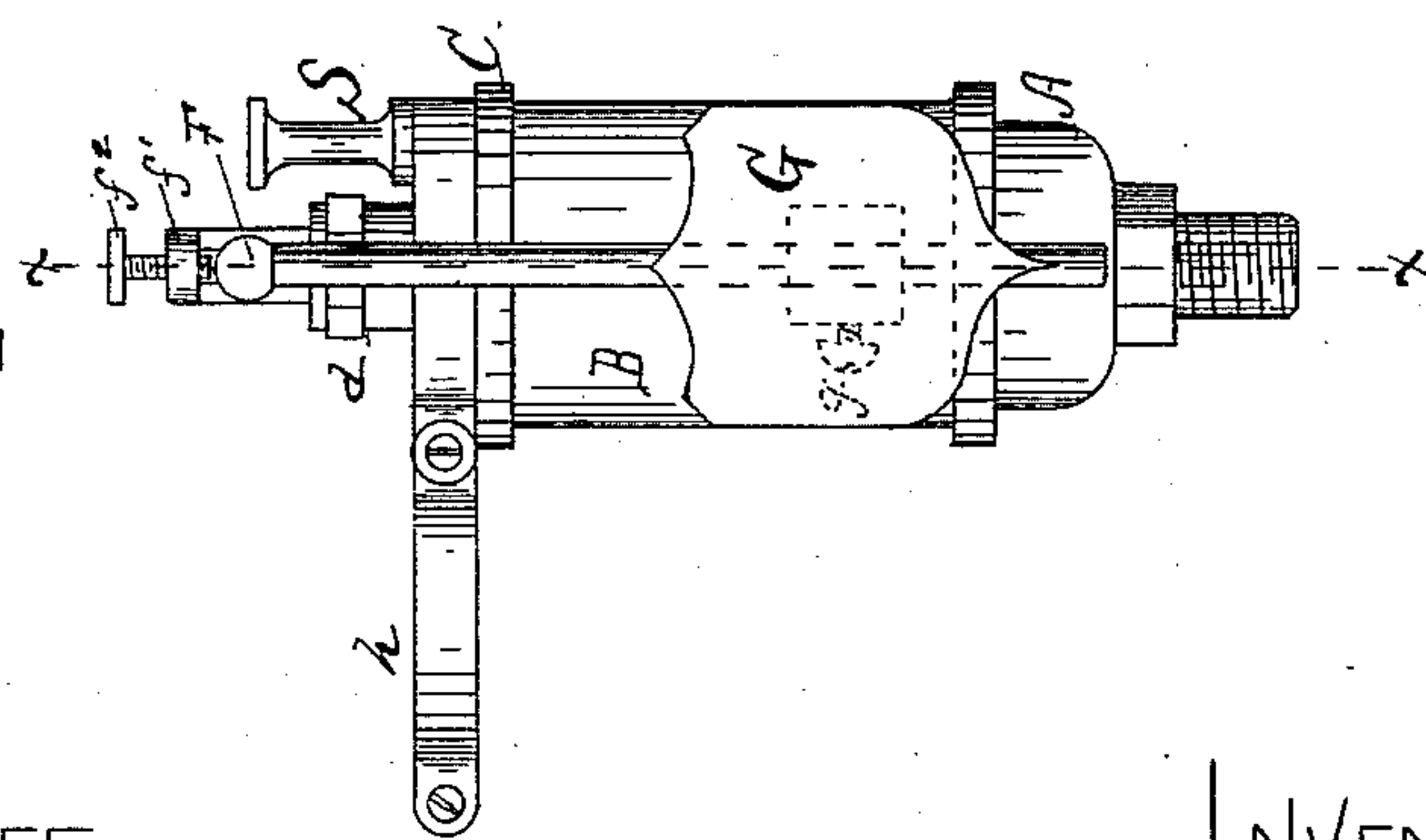


Fig 1.



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UNITED STATES PATENT OFFICE.

DANA L. COLUMBIA, OF CHICAGO, ILLINOIS.

OILER.

SPECIFICATION forming part of Letters Patent No. 259,290, dated June 13, 1882.

Application filed October 26, 1881. (No model.)

To all whom it may concern:

Be it known that I, DANA L. COLUMBIA, of Chicago, Cook county, State of Illinois, have invented certain new and useful Improvements in Oilers, of which the following is a specification.

My invention relates to the devices for automatically and intermittently operating the valve of lubricators or oilers, and is more especially adapted to use upon the wrists of cranks and other parts where the oiler moves with the parts.

The invention consists in the novel combination and construction of the devices, as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is an exterior view of my improved oiler, and Fig. 2 is a vertical section thereof on the line $x x$ of Fig. 1. Fig. 3 shows the invention applied to the crank of an engine.

Similar letters of reference indicate like parts wherever they are used in the several figures.

In said drawings, A represents the metal base, B the glass cylindrical body, and C the metal top, constituting the oil-containing reservoir of my lubricator, rubber or leather gaskets a being inserted between the glass and the metal at both top and bottom to insure tight joints. The top and base are held together by means of an interior tube, D, which is preferably integral with the base, and extends up through the top, where it is provided with a cap, d , which is screwed down thereon so as to set squarely upon the upper surface of the top C and close the joint between the tube and top, and at the same time clamp the top and base firmly upon the glass body. The tube has one or more openings at its lower end, (lettered d'), through which the oil passes to the interior of the tube where the valve is located.

E is the valve and stem, and it is loosely jointed to the horizontal arm of an elbow or bent lever, F, which is fulcrumed at f in the standard F' , cast upon or secured to the top C. Said standard has a horizontal arm, f' , reaching out over the lever, and in said arm is a set-screw, f'' , by means whereof the amount of movement of the lever may be limited to any desired degree, and as the valve-stem is

lifted and depressed by the lever such regulation of the lever causes a corresponding regulation of the valve, as will be readily understood. The automatic movement of this lever, whereby the valve is intermittently opened, is obtained by weighting the lever, aided by atmospheric resistance, perhaps. Thus, in Fig. 3, where H represents the wrist of an engine-crank, H' the crank, H² the pitman, h a brace for steadying the oiler, and h' a conduit for carrying the oil to the oil-passage in the pitman leading to the wrist-bearing, when the oiler is passing through the upper part of its circle of travel, the point of the lever will be thrown as far as its prescribed range will permit in a direction contrary to the direction in which the oiler may be moving, and when the movement of the oiler is reversed—that is, when it is passing through the under portion of its circuit—the point of the lever will also reverse and move back against the movement of the oiler to the opposite extreme of its range. Moving thus back and forth through a limit prescribed by the set-screw f'' , in obedience to the movements of the crank each time it describes a circle, the lever causes the valve to be once opened and once closed in each revolution. When the parts reciprocate instead of rotate, the action is substantially the same. The weight necessary to obtain this result may be in the lever itself, or in a weight, G, added to it, and such weight may be adjustably secured thereon, as by a set-screw, g . I prefer, as adding an auxiliary force to insure the proper movement of the lever, to make the weight in the form of a vane or shield, as shown, whereby it catches the air upon its broad surfaces, and the resistance offered to it by the air is made to assist in throwing the lever in the right direction, both in opening and closing the valve. In this use of the oiler, the actuating of the valve being caused by the movement of the crank, it necessarily follows that as soon as the crank stops its revolution the valve closes, and remains closed, no matter what may be the position of the crank at the instant of stoppage.

While my invention is more especially intended to be applied to moving parts so as to move with them, as in Fig. 3, yet it is also

well adapted for application to hangers and other stationary bearings, the actuating of the lever being obtained in the latter use by a cam upon the shaft, which will give the requisite movement to the lower end of the vertical limb of the lever, or which will move the lever one way so as to open the valve, leaving the return to be accomplished by weighting the lever.

10 No special packing is needed at the point where the valve-stem passes through the cap *d*, because the oil in the tube is so closely confined that it cannot be subject to any great agitation, and no waste of oil occurs there.

15 *S* represents the stopper closing the opening whereby the cup is filled.

The weight or vane *G* may be dispensed with in the construction shown, when the oiler is applied to parts which move with sufficient rapidity to throw the lever.

I claim—

1. In an oiler adapted to be secured to and

move with the joint to be lubricated, the combination, with the valve and its stem extending through the top of the oiler, of a weighted fulcrumed lever, to which said stem is jointed and by which it is raised and lowered, said lever being located outside the oiler, and being itself automatically thrown or actuated by the movement of the part to which the oiler is secured, substantially as specified.

2. The combination, with the valve-stem of an oiler, of the pivoted elbow or bent lever *F*, the stem being jointed to the horizontal portion of the lever, substantially as specified.

3. The oiler composed of the metal base, the cylindrical body, the metal top, the tube for uniting the top and base, the valve and its stem, and the lever for operating the valve, substantially as specified.

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Witnesses:

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NÜ. LEHARLÉ.