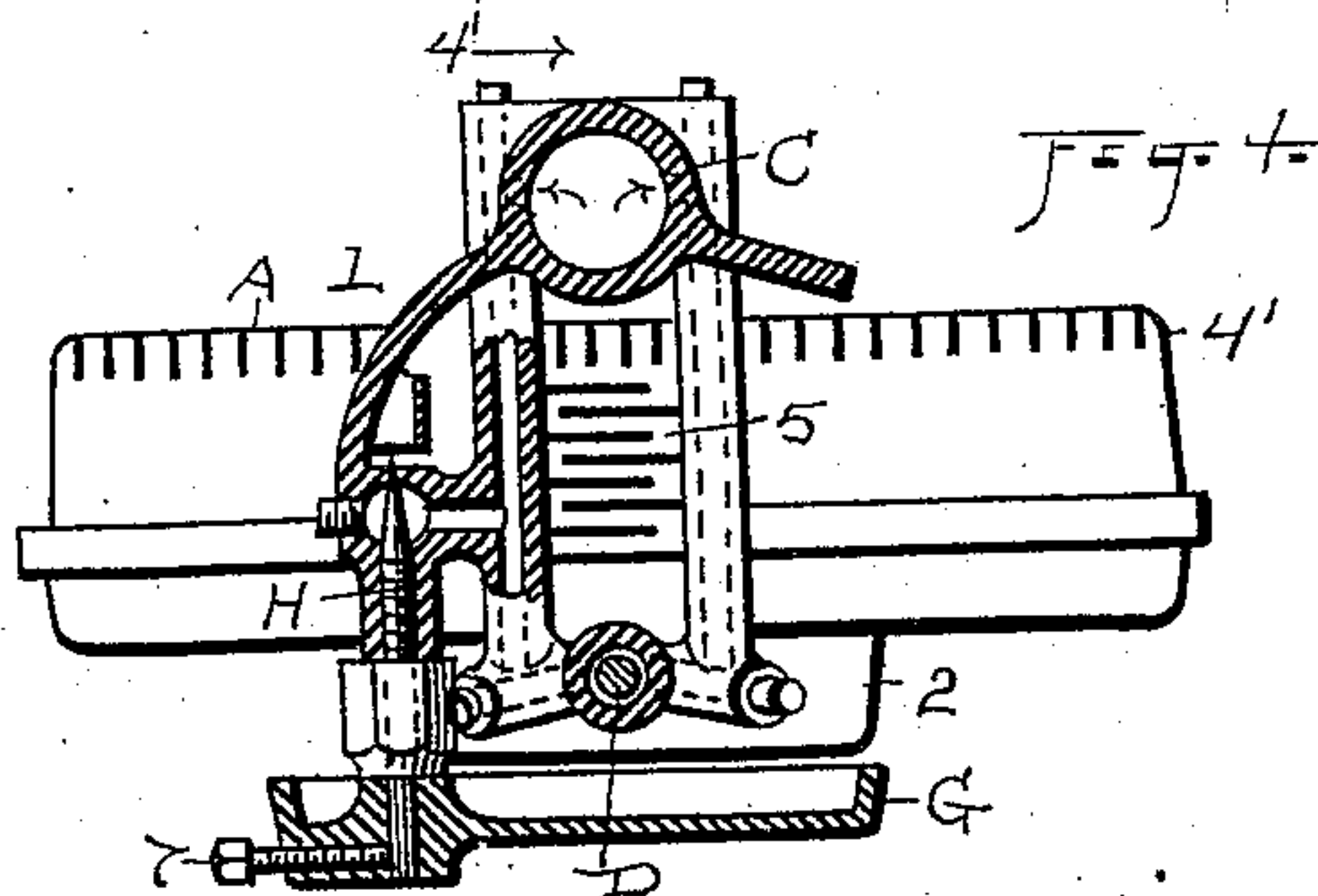
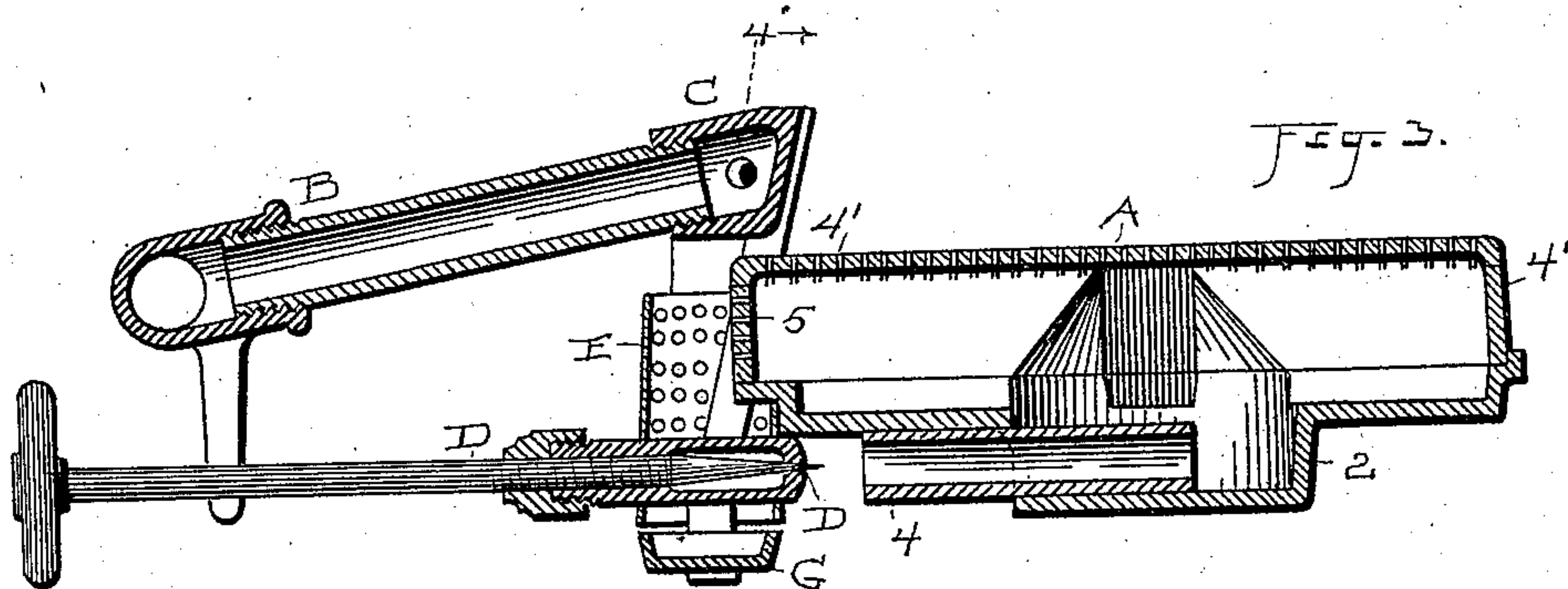
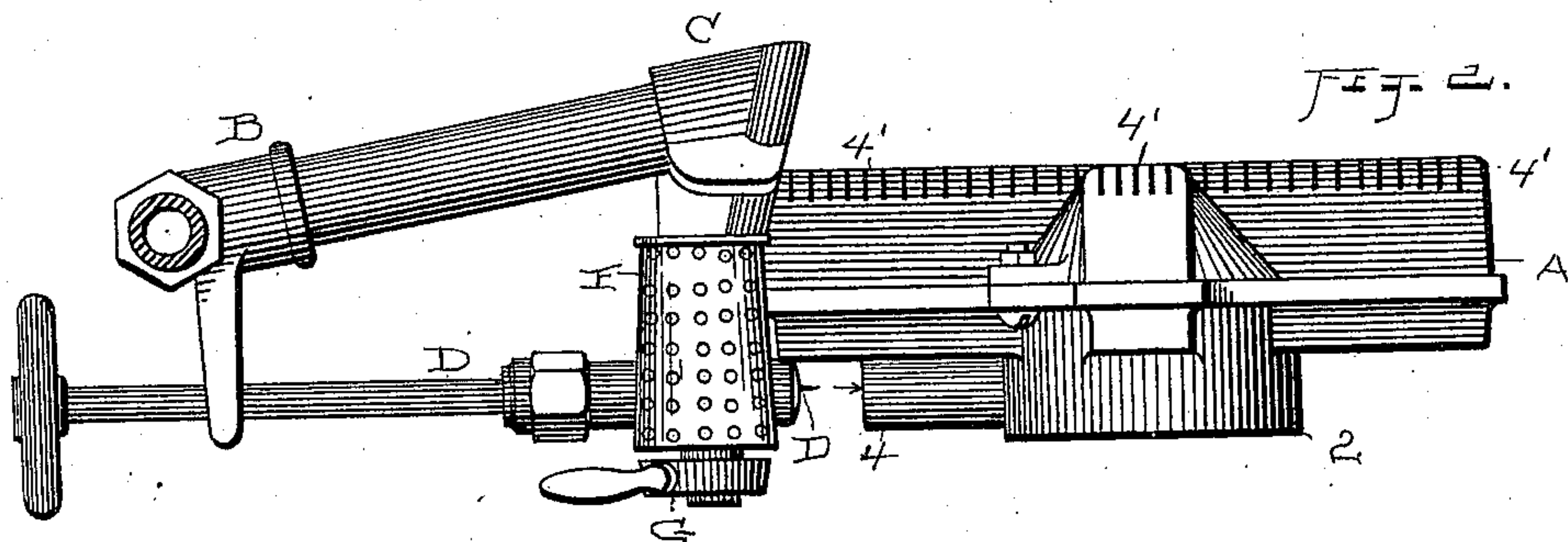
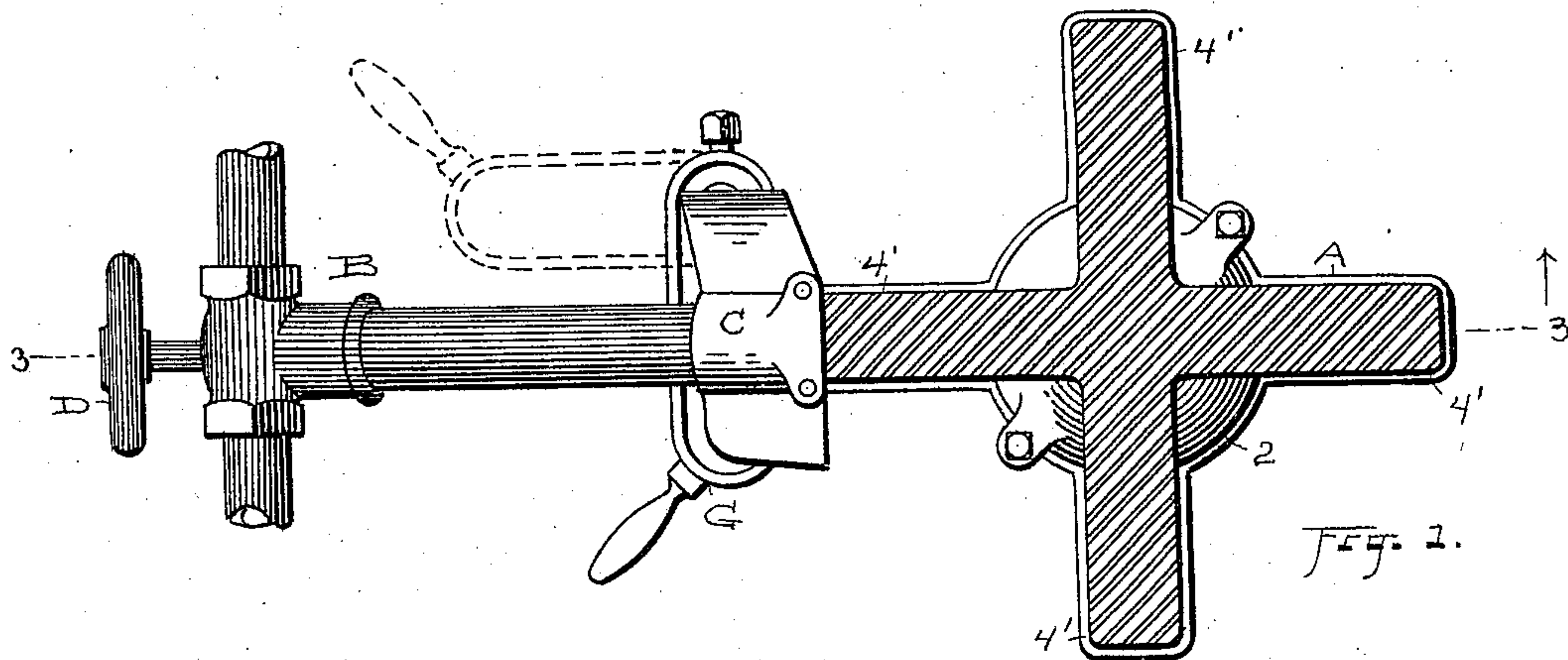


(No Model.)

I. CULVER.
GASOLENE BURNER.

No. 575,503.

Patented Jan. 19, 1897.



ATTEST

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UNITED STATES PATENT OFFICE.

IRA CULVER, OF CLEVELAND, OHIO.

GASOLENE-BURNER.

SPECIFICATION forming part of Letters Patent No. 575,503, dated January 19, 1897.

Application filed March 6, 1896. Serial No. 582,075. (No model.)

To all whom it may concern:

Be it known that I, IRA CULVER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Gasolene-Burners; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to hydrocarbon-burners; and the invention consists in a burner of the shape and having the connections substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of my newly-improved burner, and Fig. 2 is a side elevation thereof. Fig. 3 is a vertical cross-section on line 3 3, Fig. 1. Fig. 4 is a cross-section on line 4 4, Fig. 3.

A represents the burner itself. This burner is in the shape of a Maltese cross, as here shown, having four arms at right angles to each other and centering in or over a well 2 common to all of said arms. This well or bowl serves as a receptacle and commingling-chamber for the combined air and vapor, which enters through the mixing-pipe 4 in the bottom of the said bowl. This bowl also serves as an evenner and distributor for the arms 4', so that a uniform flame may be obtained therein. Four or more of the arms 4' may be used.

B represents the oil-supply pipe, and C the retort, which is arranged directly at or upon one of the arms 4' of the burner.

D is a needle-valve which controls the vapor-outlet from the retort to the burner. The retort is inclosed by a gauze or other shield E, which extends from about the base of the retort C upward, so as to shield and cover the burner-openings 5 in the end of arm 4', carrying retort C, said openings serving to maintain a flame at that point when the burner is in operation to keep the retort in vaporizing condition. The jet-opening of the valve D is in line with commingling-pipe 4 and the perforated shield or gauze extends from the initial lighting-cup G up about retort C, past the opening 5, as described, thereby protecting the flame in both the initial lighter and from openings 5 from untoward drafts, as well

as guarding against lighting the vapor at the initial end of commingling-pipe 4.

The initial lighting-pan is supported on a screw or rotary valve-pivot at one end, so as to enable it to be turned laterally into position, say as seen in dotted lines, Fig. 1, and in so turning said pan by laying hold of its handle it also turns the initial lighting-valve H. This valve is fixed to the said pan by screw 7 or its equivalent, and is threaded to open sufficiently by a quarter-turn of the pan to supply the pan promptly with lighting fluid. The rotation of the pan outward not only opens the valve, but affords opportunity to see and determine the amount of oil in the pan, which is a great advantage. Then upon applying a match and turning the pan back beneath the retort the oil is cut off and the retort will be promptly heated to vaporizing condition. Meantime the main valve remains closed and there is no further escape of oil or vapor until heating has been effected. Then upon opening the main valve the vapor will at once flow and fill the burner A, and the flame from the initial lighter will ignite the vapor escaping through openings 5 and thus promptly light the burner.

In the operation of initially supplying the pan or cup G with oil the initial oil-duct discharges the oil upward against the shield or apron L, which overhangs the retort at its front, and the oil drips back into the pan G from this point.

It will be observed that the foregoing construction is a very simple one altogether. There is no special construction of the burner-arm 4' to attach or connect the generator, except it be the openings 5, and there is no special construction in the generator to connect with the burner except as shown. The jet-orifice of the main valve D discharges directly into the mixer-tube 4 without other intervening parts.

If it be desired to maintain a so-called "sub-flame," or a flame which will keep the burner hot and in good operative condition, the pan G should be swung out and the valve H be thus opened. It may be kept open all the time the burner is in operation, if desired, and remain open after the main valve is cut off, or the valve H may be opened just before closing off the main valve, and thus keep the

burner in a vaporizing condition, ready for use at any moment.

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

5 1. The generator described, a horizontally-movable drip-pan pivoted thereon and an initial lighting-valve rigid with said pan and forming its pivot, whereby when said pan is moved outward the said valve is opened, sub-
10 stantially as described.

2. In vapor-burners, a generator substantially as described, a rotating drip-pan and a threaded initial lighting-valve rigid with one end of said pan and forming the turning-
15 point therefor, substantially as described.

3. A vapor-generator, a rotating initial

lighting-pan, and an oil-inlet valve connected with and controlled by said pan, substantially as described.

4. In the generator described, an initial 20 lighting-valve, a drip-pan connected with and actuating said valve, and an apron above said valve to deflect the oil or vapor inward, whereby when said valve is open it serves for initial lighting or as a subflame for the burner, sub- 25 stantially as described.

Witness my hand to the foregoing specification on this 2d day of December, 1895.

IRA CULVER.

Witnesses:

H. T. FISHER,

R. B. MOSER.