

(No Model.)

2 Sheets—Sheet 1.

D. WICKHAM.
APPARATUS FOR FILLING AND STOPPERING BOTTLES.
No. 488,859. Patented Dec. 27, 1892.

FIG. 1.

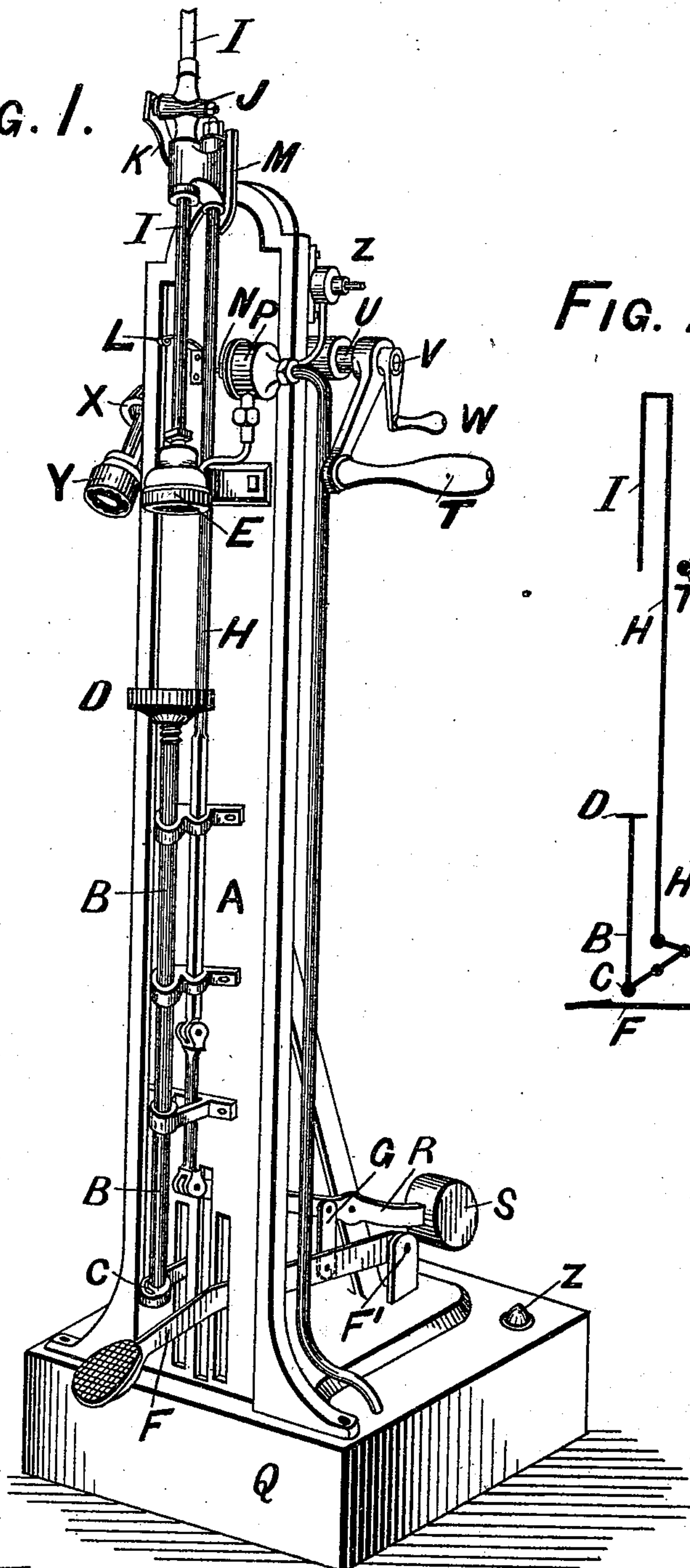
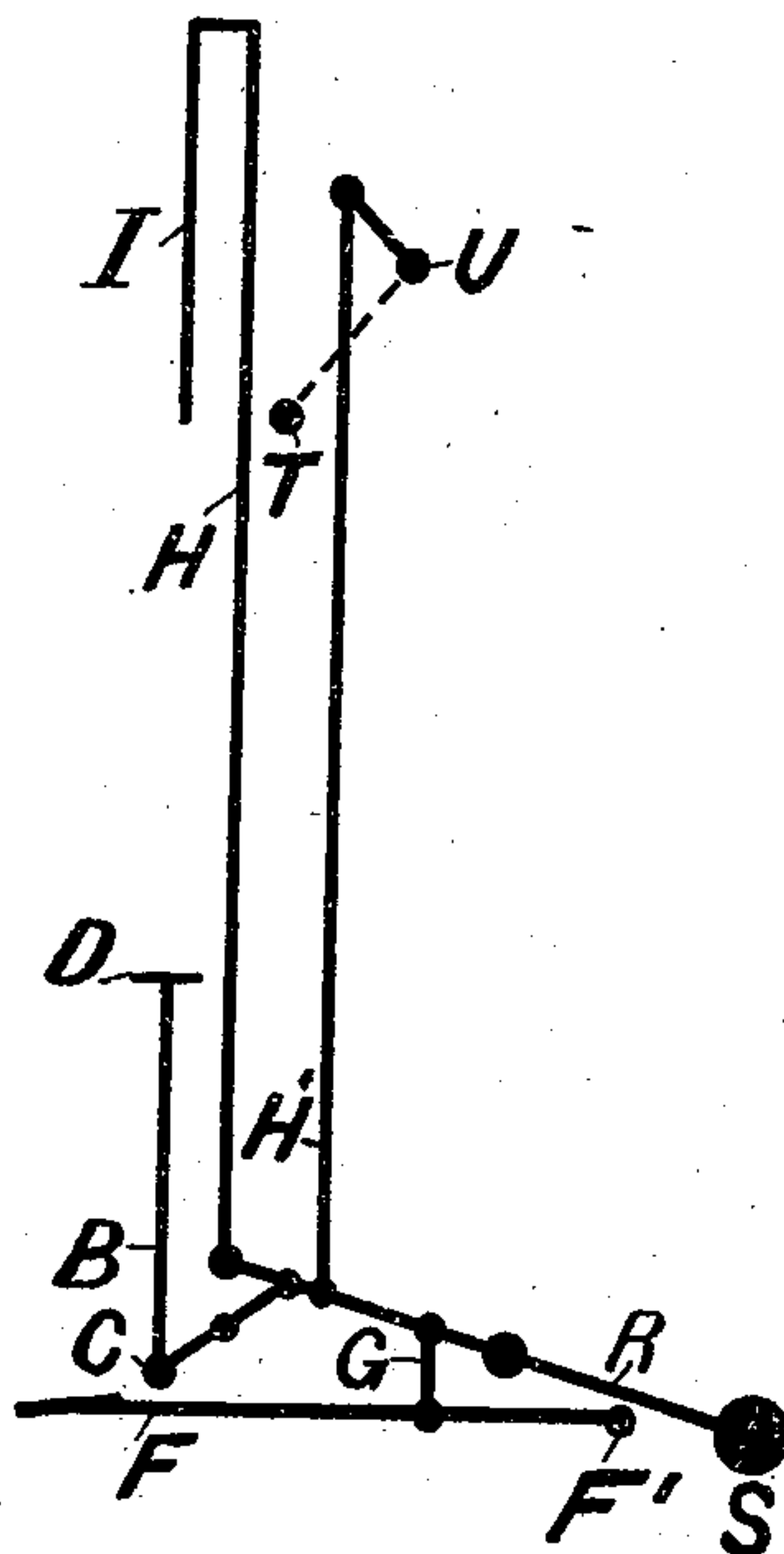


FIG. 2.



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APPARATUS FOR FILLING AND STOPPERING BOTTLES.

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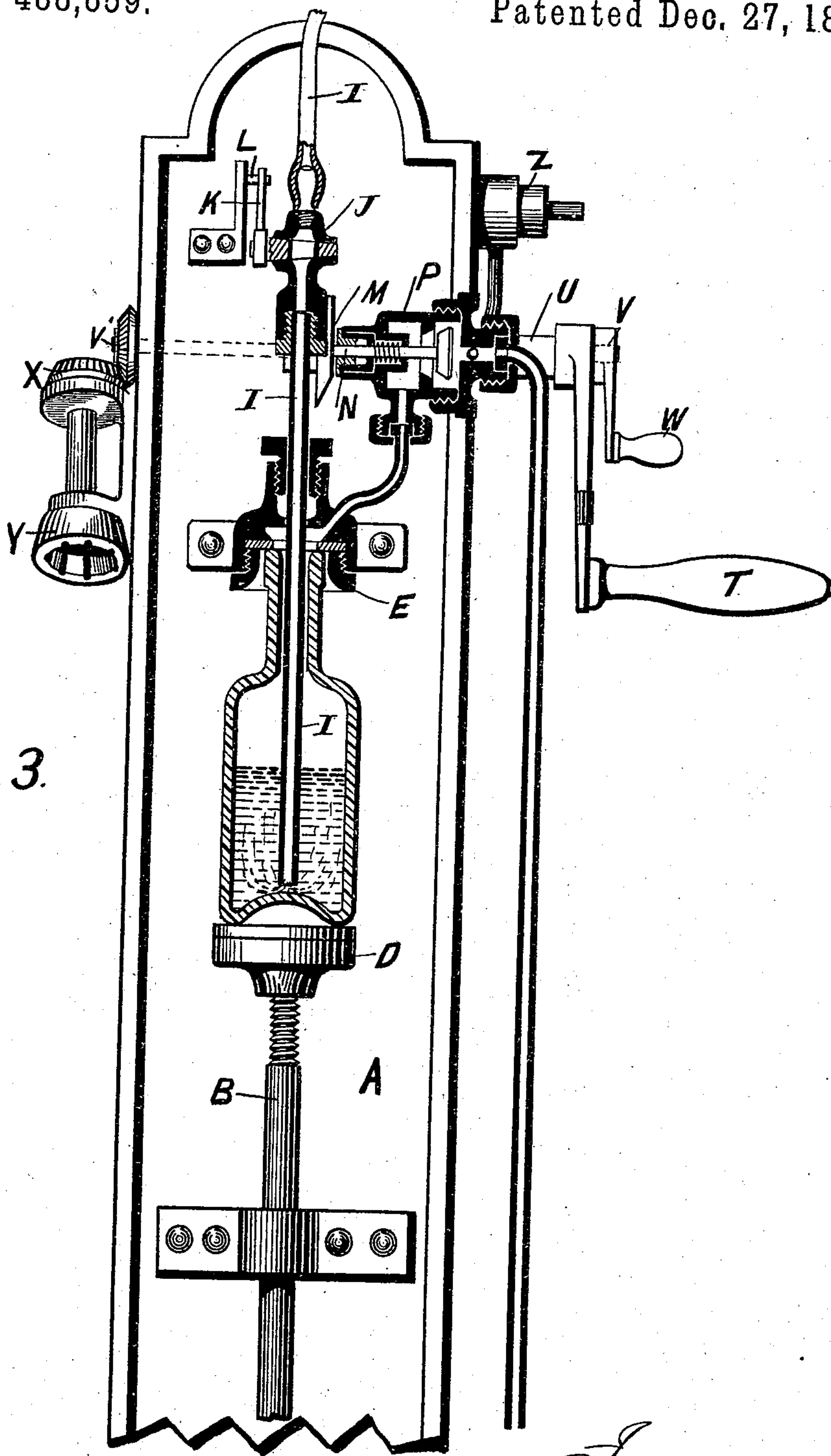


Fig. 3.

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UNITED STATES PATENT OFFICE.

DENNIS WICKHAM, OF WARE, ENGLAND.

APPARATUS FOR FILLING AND STOPPERING BOTTLES.

SPECIFICATION forming part of Letters Patent No. 488,859, dated December 27, 1892.

Application filed July 7, 1891. Serial No. 398,693. (No model.) Patented in England May 14, 1889, No. 8,037.

To all whom it may concern:

Be it known that I, DENNIS WICKHAM, a subject of the Queen of Great Britain, residing at the Star Brewery, Ware, in the county of Hertford, England, have invented new and useful improved construction of apparatus for filling bottles with liquids and a combination appliance for screw-stoppering such bottles, (patented in Great Britain, No. 8,037, May 14, 1889,) of which the following is a specification.

The object of this invention is to provide a novel apparatus whereby gas and liquid can be simultaneously, or almost simultaneously, charged into bottles, said charged bottles being afterward screw stoppered mechanically.

In the annexed drawings illustrating the invention—Figure 1 is a perspective of a bottle filling apparatus provided with my improvement. Fig. 2 is a diagrammatic view of the principal rods and levers. Fig. 3 is an enlarged front elevation of the upper part of the apparatus.

The appliances for accomplishing the several purposes of the invention are combined in one structure as shown in Figs. 1 and 2.

In front of the stand A is arranged a vertical rod B that is operated from a foot lever C for lifting a bottle rest D to a given height or until the mouth of the bottle on said rest D comes into contact with a fixed head E. The lever C is attached to a pedal F. (fulcrumed at F') by which it is operated, and as the pedal is depressed it draws on a link G. and brings down the rod H and also a liquid supply pipe I which is attached thereto. The said pipe I is thus caused to enter the bottle for the purpose of supplying it with liquid. The pipe I is provided with a tap J and as the pipe descends, the tap lever or key K bears against a tappet L to open the tap, another lever or cam M on the rod opening the gas passage, the plug N of which is in a head P supplied with carbonic, or other gas from the reservoir Q which I here show as supporting the stand A for convenience. The link G is also attached to a lever R having a weight S in balance with the rods and levers before referred to and with a back rod H' that is also attached to said lever R, as shown,

so that the several rods and levers will remain stationary after depression of the pedal F. The back rod H' connects with a crank on a shaft U having a crank handle T. After the bottle has been charged the crank handle T is pushed backward to reverse the position of the rods H H' and pipe I, simultaneously, the cams M L escaping from the taps which then close.

In connection with the shaft U of the crank handle T which is hollow, I arrange another shaft V workable by a separate handle W. This second shaft V has a bevel pinion V' in gear with another pinion X on a socket or cup Y in which a screw stopper has been placed so that when the charged bottle is removed from the rest D its mouth is placed into contact with the stopper and the handle W being turned, the stopper becomes screwed into the bottle neck. By a reverse action of the socket a screw stopper which has become fixed, can be easily unscrewed. I prefer to aerate the liquid before passing it into the bottle, the additional supply of gas being to equalize the pressure in the bottle at the time of charging.

The pressure of gas in the reservoir is lower than that of the liquid container and as this supply, by the arrangement of the cam M, is admitted to the bottle in advance of the liquid the superior pressure from the liquid container forces said gas out of the bottle back into the storage cylinder or reservoir along with the air that was at that time in the bottle at the ordinary atmospheric pressure, thus the pressure in storage cylinder is slightly increased at the charging of each bottle but by a valve arrangement at Z in the storage cylinder, the slight additional pressure is allowed to escape. This escape valve Z may be arranged at the upper part of the stand A for the handle T to open when the handle T is pushed round far enough at the will of the attendant.

The arrangement of the rods and levers is more particularly shown in the diagram, Fig. 2, and if desired the pedal F can be dispensed with, in which case the handle T can be operated in both directions by hand, and if the cam M be removed bottles can be charged

with liquid only for an after stoppering by the appliances W. V. X. Y. said appliances constituting part of the apparatus for the purposes referred to.

5 What I claim and desire to secure by Letters Patent is

1. The combination of the stand A having a fixed head E, the vertically movable rod B having a bottle rest D, the pedal F, the
10 weighted lever R, the link G connecting said pedal and weighted lever, the foot lever C connecting the weighted lever with the vertically movable rod B, the vertically movable rod H attached to said weighted lever R, and
15 the liquid supply pipe I connected to the rod H, substantially as described.

2. The combination of the stand A having the fixed head E, the vertically movable rod B provided with a bottle rest D, the pedal F,
20 the foot lever C, the weighted lever R con-

nected with said pedal and foot lever, the rods H H' carried by the said weighted lever, the liquid supply pipe I connected to the rod H and provided with a tap J having a lever K, the tappet L, the gas head P having a plug 25 N, said gas head being adapted to establish communication between the bottle and a gas reservoir, the cam M located on the rod H to operate the plug N, and the shaft U connected to the rod H and provided with a crank handle T substantially as described. 30

In witness whereof I have hereto signed my name, in the presence of two subscribing witnesses, this 17th day of April, 1891.

DENNIS WICKHAM.

Witnesses:

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Great Cozens, Ware, Herts.

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