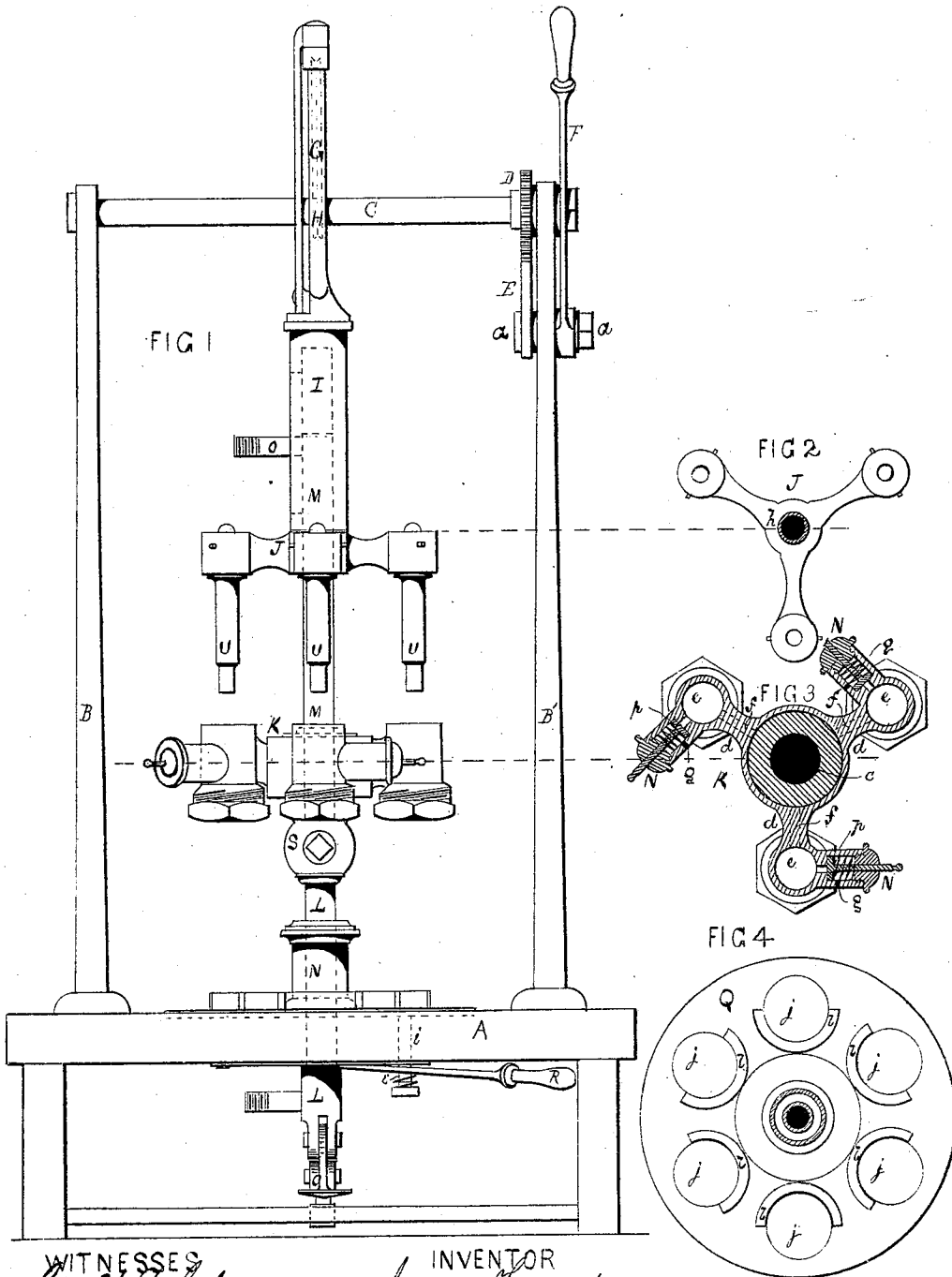


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No. 148,198.

Patented March 3, 1874.



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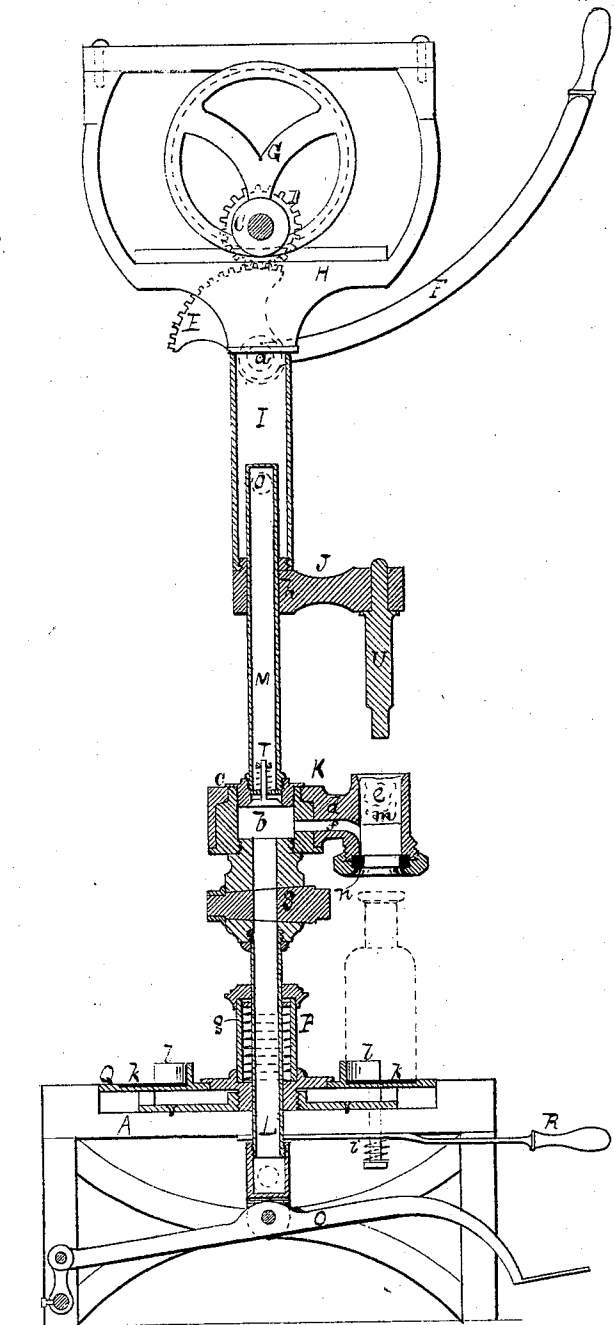
INVENTOR
James Fergus
David Fergus
By Francis D. Pastreus
their Atty in fact

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FIG 5.



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UNITED STATES PATENT OFFICE.

JAMES FERGUS AND DAVID FERGUS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BOTTLING AND CORKING MACHINES.

Specification forming part of Letters Patent No. **148,198**, dated March 3, 1874; application filed October 30, 1872.

To all whom it may concern:

Be it known that we, JAMES FERGUS and DAVID FERGUS, of Scotland, now residing in the city and county of Philadelphia and State of Pennsylvania, have invented an Improved Bottling and Corking Machine, of which the following is a specification:

The invention relates to a bottling and corking machine, by which fluid is supplied to any number of bottles from a central tube, either by gravity or pressure, and corked at the same time.

Figure 1 is a front elevation of the apparatus. Fig. 2 is a plan view of the cork-punch head. Fig. 3 is a sectioned plan view of the fluid-distributing head. Fig. 4 is a plan view of the turn-table and bottle-holder. Fig. 5 is a vertical sectioned end view.

A is the stand or table of the machine. B B are posts which extend vertically from the same; and C is a horizontal shaft, which turns in journals at the upper ends of the posts. D is a pinion on the shaft C. It gears with a toothed sector, E, which turns with the pin *a* of the handle or lever F. G is an eccentric on the same shaft. Its strap H is fixed to the upper end of the hollow tube I, which carries the cork-punch head J. K, Figs. 1 and 3, is a fluid-distributing head, on the upper end of the hollow vertically rising and lowering pressure supply-tube L. It is constructed as follows: *b*, Figs. 1, 3, 5, is a central chamber in the hub *c*, which communicates with the aforesaid pressure-supply L, and the gravity supply-tube M. *d d d* are radial arms, which have on their outer ends the filling-sockets *e e e*. The channels *f f f* of the arms lead from the central chamber *b* to the interior of the sockets, terminating at or near the bottoms of the same. Each socket has a spring exhaust-valve, N, as shown at Figs. 1, 3. The pressure-supply is by means of the hollow vertically-moving pipe L, which has its lower end hinged to the foot-lever O beneath the stand A. Its upper end is fixed to and communicates with the hub *c* of the distributing-head K. A guide-cylinder, P, on table A, preserves its rectilinear motion. A spiral spring, *g*, contained therein brings the pipe back into position after it has been depressed by the foot-lever O. The gravity supply-pipe M projects vertically from

the head K. Its upper end takes through and is guided by the hub *h* of the cork-punch head J. A slot formed in the hollow tube I admits the nozzle of the same. Q, Figs. 1, 4, 5, is a bottle-holder and turn-table, which is set flush into the top of the table A, and revolves around the pressure supply-pipe L. A pin or bolt, *i*, which projects from it through a curved slot in the table-top, is secured to the lever R, which also has its center of revolution in the supply-pipe L. The handle simply moves sufficient to bring two bottles in turn under each socket—that is, there are, in this instance, shown three sockets and six bottle-rests; consequently three bottles are filled at a time, when the handle R is turned, thereby revolving the table the distance contained between the bottle-rests *j j*, Fig. 4, which displaces the filled bottles and places the empty ones under the sockets. The bottle-rests *j*, which are cut into the face of the turn-table, are fitted with rubber or other elastic cushions to allow the bottles to gently yield to the pressure when corking, and also to accommodate the machine to any variations in the heights of the bottles, caused by unequal shrinkage when cooling after being cast or blown. Guards or guides *l*, placed at the rear of the rests *j*, enable the operators to speedily adjust the bottles in their places.

The bottles to be filled are placed on the rests *j* of the turn-table Q, every other one immediately under the sockets *e*, in which corks *m* have been inserted. The distributing-head K and the supply-pipes L M are then depressed by pressure applied to the foot-lever O at the end of the supply-pipe L, until the rubber washers *n* in the bottoms of the sockets bear firmly upon the tops of the bottles, whereby a perfectly water-tight fit is had. On the cock S being opened, the liquor from the reservoir is forced through the pipe L into the chamber *b*, thence through the channels *f* into the bottles.

When the bottles are to be filled by gravity, the cock S is closed and the cock in the nozzle *o* of the gravity-pipe M is opened. The weight of the descending fluid opens the puppet-valve T, which admits the fluid to the chamber *b*, when it flows to the bottles through the same channels. The bottles being filled, the hand-lever F is moved until the eccentric, moving

through the medium of the toothed sector E and the pinion D, depresses the cork-punch head J, and the punches U force the corks into the necks of the bottles. The operator, by moving the lever R forward, turns the bottle-holder Q, which carries the filled bottles from under the sockets, and places the empty ones under the same. The air displaced from the bottles by the fluid is held in the sockets between the tops of the bottles and the bottoms of the corks. When the cork-plungers U are engaged in entering the corks in the necks of the bottles, the air is forced against the pistons *p* of the spring air-valves, forcing them back, and escapes through the openings *g* in the cylinders.

We claim as our invention—

1. The combination, with a bottling and corking apparatus, of a main or central adjustable supply-pipe, through which fluid may be conveyed to two or more bottles by gravity or gaseous pressure, said pipe extending above and below the distributing devices, substantially as described.

2. The adjustable supply-pipe, in combination with the distributing-head, said pipe being extended above and below said head, and provided with means for regulating and controlling the ascent and descent of the fluid, substantially as described.

3. The combination of the puppet-valve and spigot with the supply-pipe for regulating or

controlling the ascent and descent of the fluid, substantially as described.

4. The distributing-head K, in combination with the adjustable pressure and gravity supply-pipes L and M, for the purpose shown and described.

5. The distributing-head K, composed of the central hub or chamber *b*, hollow radial arms *d*, and the filling-sockets *e*, for the purpose shown and described.

6. The combination, with the punch-head J, of the eccentric G, strap H, pinion D, toothed sector E, and lever F, substantially as shown and described.

7. The turn-table Q, having sockets located at equal distances apart, in combination with the lever R and pinion *i*, and the supply-head having radial arms, so arranged with reference to the sockets of the turn-table that all the filled bottles may be displaced from beneath the supply-sockets, and the empty bottles substituted, by a single motion of the lever R, substantially as described.

In testimony whereof we hereunto sign our names in presence of two subscribing witnesses.

DAVID FERGUS.
JAMES FERGUS.

Witnesses:

FRANCIS D. PASTORIUS,
THOMAS KEOGIL.