

(No Model.)

J. JACKSON.
BOTTLE FILLING APPARATUS.

No. 485,942.

Patented Nov. 8, 1892.

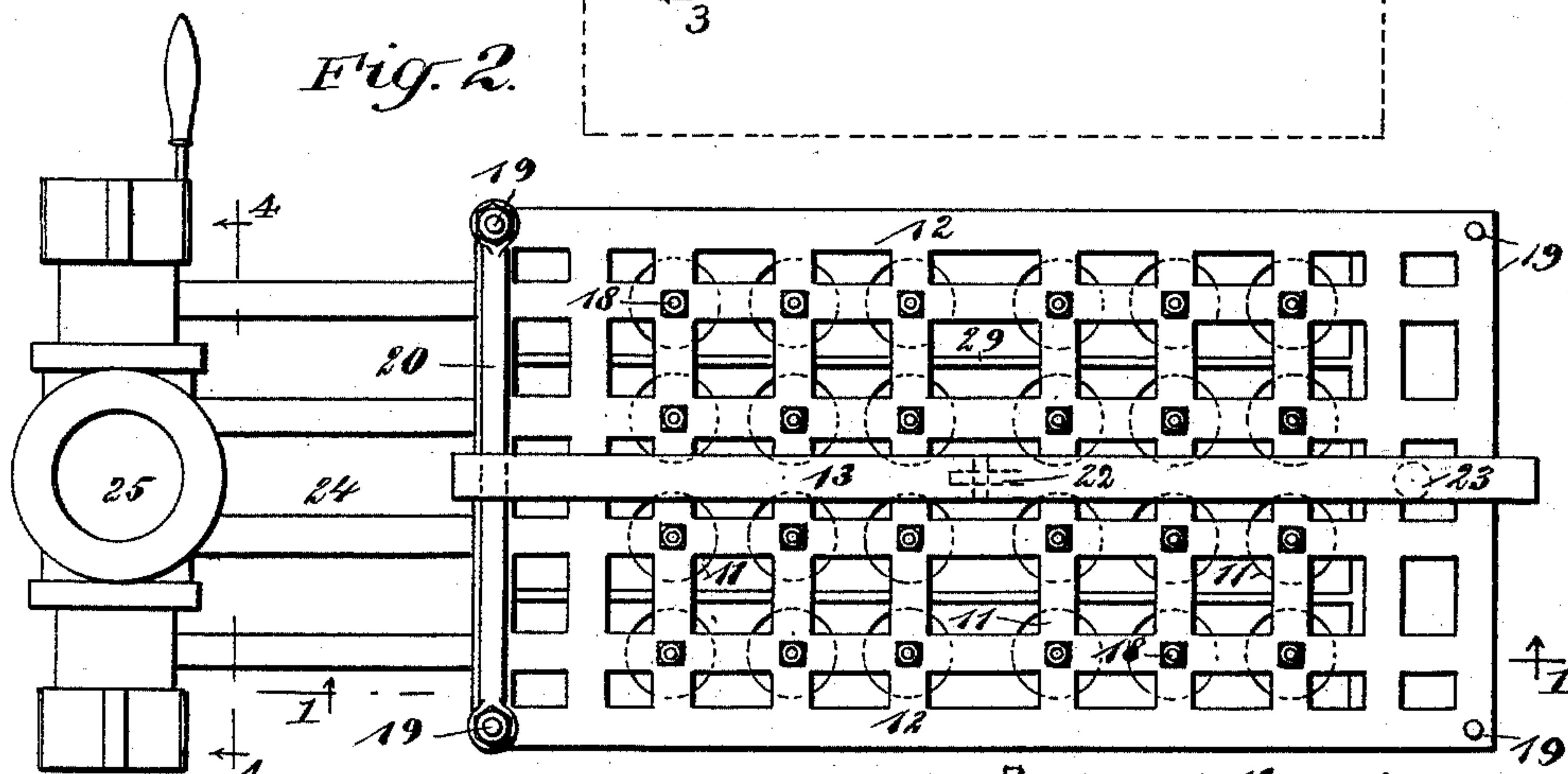
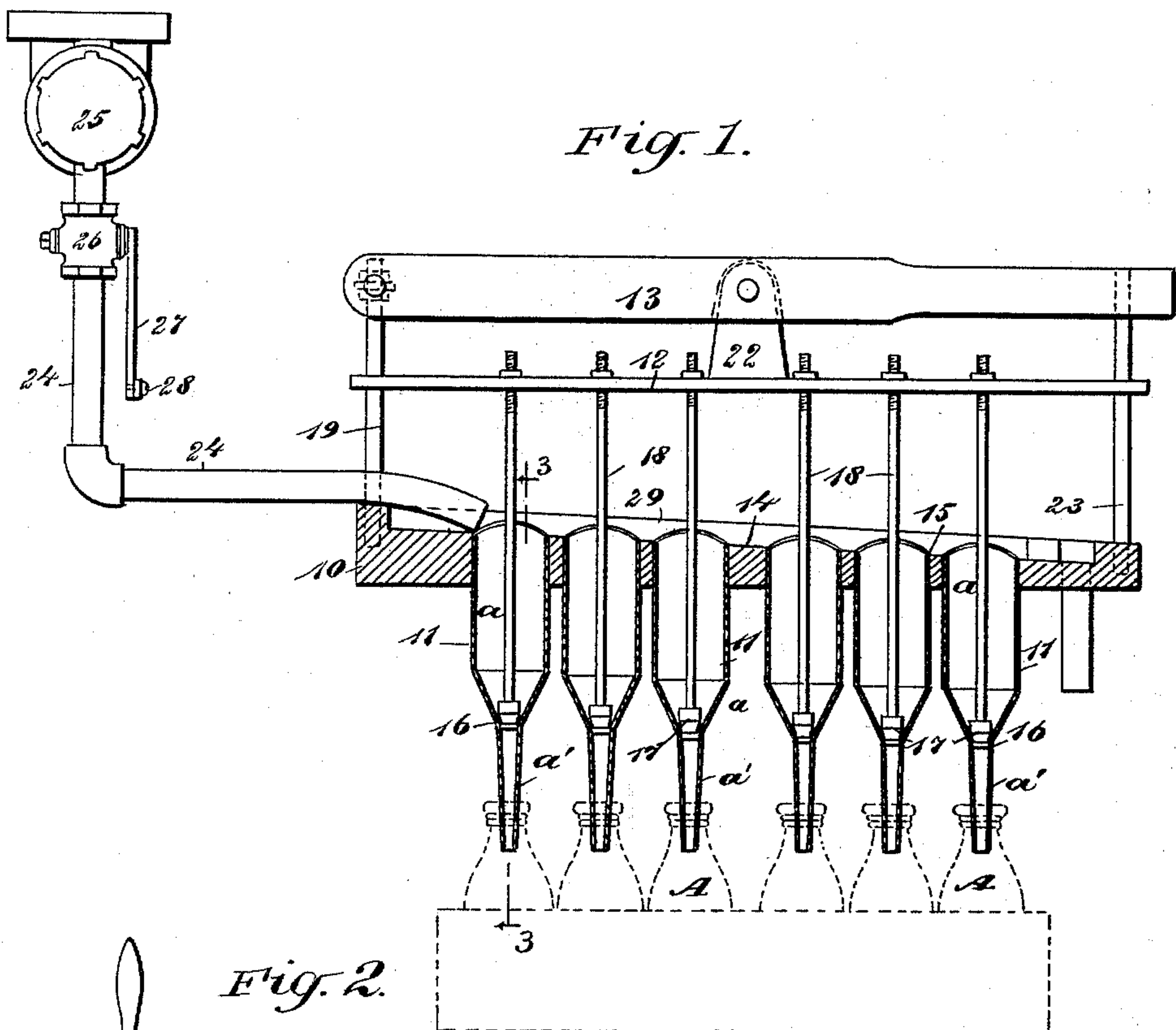
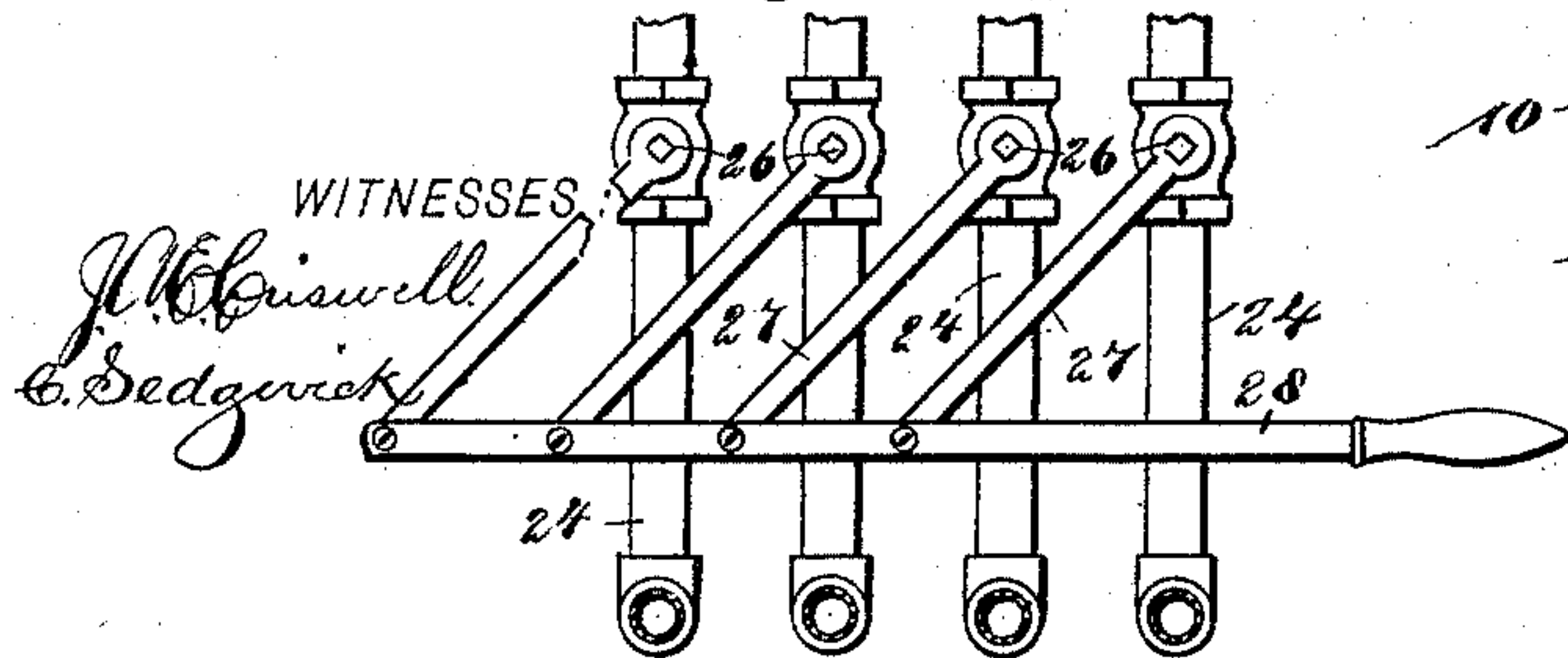


Fig. 4.



WITNESSES

J. H. Griswell
C. Sedgwick

INVENTOR

J. Jackson
BY
Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN JACKSON, OF LONSDALE, RHODE ISLAND.

BOTTLE-FILLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 485,942, dated November 8, 1892.

Application filed February 26, 1892. Serial No. 422,901. (No model.)

To all whom it may concern:

Be it known that I, JOHN JACKSON, of Lonsdale, in the county of Providence and State of Rhode Island, have invented a new and useful Bottle-Filling Apparatus, of which the following is a full, clear, and exact description.

My invention relates to an improvement in bottle-filling apparatus or machines, and has for its object to construct a machine in a simple, durable, and economic manner where-with a number of bottles may be simultaneously filled in an expeditious and convenient manner without spilling any of the liquid, whether the bottles be transparent or not.

Another object of the invention is to provide for each bottle a filling-tube of a size enabling it to hold only sufficient fluid to fill a bottle and a means whereby the operator will be enabled to control the outlet of the tubes at will.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal section through the body of the machine, the section being taken on the line 1 1 of Fig. 2. Fig. 2 is a plan view of the machine. Fig. 3 is a detail sectional view taken on the line 3 3 of Fig. 1, and Fig. 4 is a transverse section on the line 4 4 of Fig. 2.

The body of the machine consists, essentially, of a receiving-trough 10, delivering or filling tubes 11, connected with the trough, a valve-carrying frame 12, and a lever 13, connected with the frame. The trough 10 may be of any size and shape. Preferably, however, it is rectangular, and the base-wall 14 of the trough is given a slight pitch in direction of one end, as shown in Fig. 1.

The trough, as shown in Figs. 1 and 3, is provided with a series of openings 15 in its bottom, extending through, adapted to receive and have secured therein the delivery or filling tubes 11, above referred to. The upper portions *a* of the tubes are of much greater diameter than the lower portions *a'*, which

latter are made of such diameter as to readily fit into the mouths of the bottles A to be filled, and the size of each tube is such that it holds when filled just a sufficient amount of liquid to properly fill the bottle in connection with which it is to be used.

The filling or receiving tubes may be made of any suitable material, metal being preferred, and the tubes may be attached to the troughs by cement, screws, nails, or equivalent fastening devices. As the filling-tubes are smaller at the bottom than at the top, a seat 16 is formed in each for the reception of a valve 17, and the valves are provided with stems 18, which extend upward some distance above the troughs.

The valve-stems are all connected in any approved manner to the frame 12, heretofore referred to. This frame is made as light as possible consistent with strength, and corresponds practically in size and shape to the contour and dimensions of the trough. The frame is located above the trough and is held to slide to and from it by guide-rods 19, secured one at each corner of the trough and passing upward through openings in the frame. One set of guide-bars is connected above the frame by a cross-bar 20, to the center of which one end of the lift-lever 13 is pivotally secured, the central portion of the lever being connected by a lug 22 or by a link with the central portion of the valve-frame. The lever 13 is held normally in a horizontal position by a post 23, secured to the trough, entering a recess or socket in the free end of the lever. When the lift-lever is in its normal position, the valves are seated in the filling-tubes, as shown in Fig. 1, and liquid cannot flow from the tubes. The trough may be made to accommodate any desired number of filling-tubes, the number shown in the drawings being twenty-four. One or a number of supply-tubes 24 lead into the trough, the upper ends of which tubes are connected with a single tank 25, or each tube may be connected with a single tank, barrel, cask, or other receptacle. When a number of supply-tubes is employed, all their valves 26, as each tube is provided with a valve, are connected by links 27 with a single lever 28, as best shown in Fig. 4. Thus when the valve-lever is moved in one direction all the valves are opened and

when carried in a contrary direction all the valves are closed.

In operation the bottles are placed beneath each filling-tube, the tubes entering their 5 mouths, as shown in Fig. 1, and the valves in the filling-tubes are squarely seated. The supply-valve lever is now manipulated to carry the liquid from the tank to the trough, and when all the filling-tubes in the trough 10 have been filled the supply is cut off. At this time the lift-lever is raised and the valve-frame is carried upward, lifting all of the filling-tube valves from their seats, and the liquid which the tubes contain will flow out into 15 the bottles and will just fill them to the proper height. The trough when necessary may be raised and lowered by any suitable mechanism. In the drawings the trough is illustrated as divided longitudinally into compartments 20 by partitions 29, each compartment containing a series of filling-tubes, and into each compartment one of the supply-tubes 24 is led; but such construction, while preferred under some circumstances, is not essential to the 25 perfect operation of the machine. When the partitions are used, however, any one row of filling-tubes may be brought into action to the exclusion of the rest.

Having thus described my invention, I

claim as new and desire to secure by Letters 30 Patent—

1. The filling apparatus comprising the trough having a series of dependent tubes provided with valves, rods extending up from the valves, a vertically-sliding frame 12, to 35 which the upper threaded ends of the rods are secured, vertical guides 23 for said frame, a pivoted lever crossing the frame and pivotally connected between its ends with the said frame, and a supply mechanism leading 40 to the trough, substantially as described.

2. A bottle-filling apparatus consisting in the trough 10, having a series of partitions 29, a series of tubes depending from every compartment formed thereby, a vertically- 45 sliding frame carrying a series of depending valve-rods having valves on their lower ends within the tubes, a lever for operating said frame, a supply-tank 25, having a series of pipes 24 leading therefrom into the several 50 trough-compartments and having valves 26, links 27, connected with said valves, and a lever connecting the series of links, substantially as described.

JOHN JACKSON.

Witnesses:

JOHN W. MERKLEJOHN,
GEORGE SHERMAN.