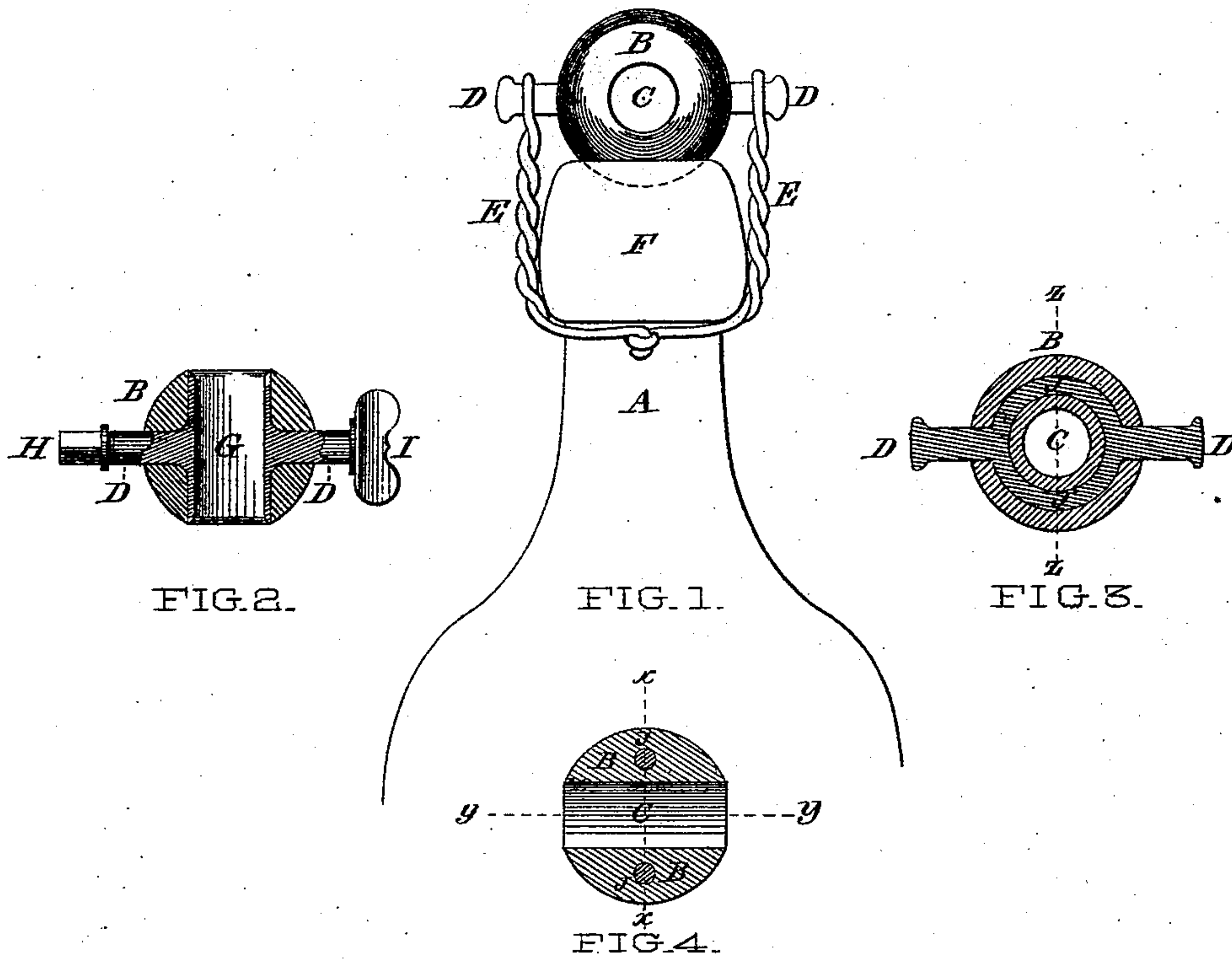


W. A. ROOT.
BOTTLE-STOPPER.

No. 184,908.

Patented Nov. 28, 1876.



WITNESSES,

Frank H. Scott
Hyde S. Croft.

INVENTOR,

W. A. Root,
by Franklin Scott,
his Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM A. ROOT, OF BENNINGTON, VERMONT.

IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. 184,908, dated November 28, 1876; application filed April 4, 1876.

To all whom it may concern:

Be it known that I, WILLIAM A. ROOT, of the town of Bennington in the county of Bennington and State of Vermont, have invented an Improved Bottle-Stopper; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms a part of this specification, in which my invention is exhibited in—

Figure 1, as attached to an ordinary bottle. In Fig. 2, certain details in the construction of my bottle-stopper are shown in a longitudinal section through the center thereof on a plane coincident with the axis of the tubular aperture G. Fig. 3 exhibits a longitudinal section of my invention, taken on a plane at right angles with the axis of the hole C, in Fig. 1, and parallel with the axis of the trunnion-piece D. Fig. 4 is a vertical cross-section of my stopper, taken on the line *xx* of Fig. 3.

This invention has for its object to provide that class of bottles used for putting up soda, and other effervescent liquids, with a globular or spherical stopper, having for its seat the open end of the neck of the bottle or jug, which stopper is provided with trunnions, by which it is rotated on its seat, and is permanently attached to the bottle by a yoke of wire or other suitable device.

The style of yoke which I have shown is made of wire, and the loops or eyes for the reception of the pintles D D of the stopper are formed by twisting the wire, as shown, into the desired form; but the yoke may be made in one piece from brass, malleable iron, or any other suitable material, and may have the loops at any desired elevation above the neck, to adapt it to the use of other varieties of stoppers.

I have shown two modes of constructing the stopper proper in the drawings. That elucidated in Figs. 1, 2, and 3 consists of a metallic annular core, J, having two laterally-projecting ears or trunnions, D D, which receive the eyes of the yoke E E, as in Fig. 1. About the annular portion of this core is formed a true globe or sphere, of any suitably elastic material, which globe is perforated with an aperture, C, which is

at right angles with the plane of the annulus J J, and passes through the center thereof. The perforation C, when rotated into a position coincident with the axis of the neck of the bottle, forms the conduit, through which the contents of the bottle are received and discharged. The globe B is firmly secured to the bottle and to its seat thereon by means of the yoke E E, which is attached to the bottle underneath the shoulder formed by the nozzle, as seen in Fig. 1. Each of the pintles, or trunnions D D passes through and rotates in a loop of the yoke E E, which loops are so made as to completely surround and inclose or confine the said pintles, instead of being shaped in the form of hooks to hook over the pintle, as seen in Fig. 1. By rotating the globe B a quarter turn from the position shown in Fig. 1 the discharge-orifice C will be brought into a position proper to receive or discharge the contents. In construction, it is designed to so closely confine the globe to its seat on the nozzle F that the pressure of gaseous and effervescent liquids will be adequately resisted, and yet not so firmly as to prevent the easy rotation of the globe B on its bearings. The yoke E E may be made of wire, malleable iron, or any suitable material, and attached to the bottle in any convenient way, so long as it serves to confine properly the globe B in place and facilitate its rotation upon its seat.

Another style of core is seen in Fig. 2. Here I have constructed a small section of tube, G, with projecting pintles D D to receive the loops of the yoke E. I have shown how these pintles may be constructed to facilitate the rotation of the globe B. One pintle I have formed into a square shank to receive a key, as seen at H. On its companion I have shown a small thumb-screw, I, by either of which the stopper may be rotated. The elastic globe or stopper is then formed about the tubular core G, as shown in the figure, and its attachment to and operation in connection with the bottle are precisely like that shown in Fig. 1.

Having thus described my invention, I claim protection by Letters Patent upon the following:

1. A spherical bottle-stopper constructed

with a diametrical aperture for the passage of the contents of the bottle, and provided with pintles or other suitable means to facilitate its rotation on the mouth of the bottle substantially as specified.

2. The globular stopper B with diametrical orifice and pintles D D in combination with yoke E E adapted to be attached to and operated upon the neck of a bottle, as specified.

3. The yoke E E, constructed, attached and operated substantially as set forth.

In testimony whereof I have hereto affixed my hand at Bennington, Vermont, this 1st day of April, A D. 1876.

WILLIAM A. ROOT.

Witnesses:

C. E. HOUGHTON,

F. G. MATTISON.