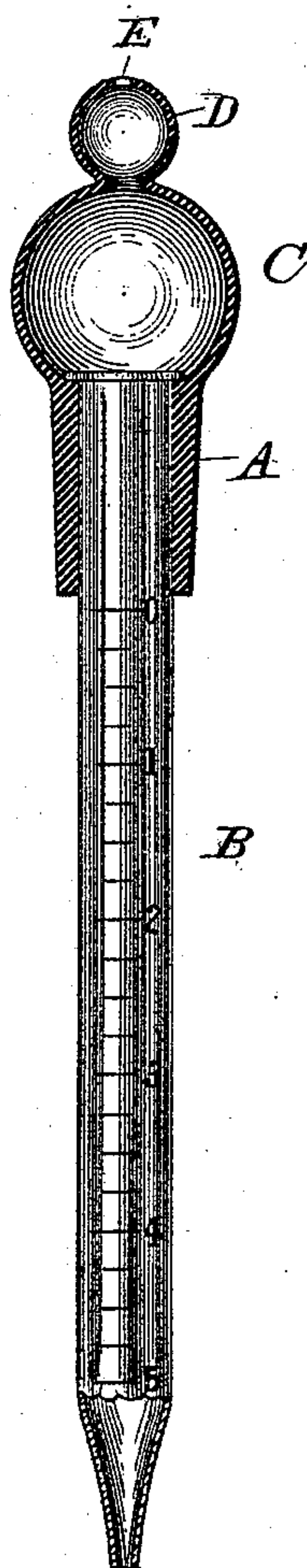


(No Model.)

F. W. FLETCHER.
STOPPER OR CAP FOR BOTTLES.

No. 528,470.

Patented Oct. 30, 1894.



Witnesses:
Henri Boisselier
Henry A. Bell

Inventor:
Frederick William Fletcher

UNITED STATES PATENT OFFICE.

FREDERICK W. FLETCHER, OF LONDON, ENGLAND.

STOPPER OR CAP FOR BOTTLES.

SPECIFICATION forming part of Letters Patent No. 528,470, dated October 30, 1894.

Application filed January 4, 1894. Serial No. 495,683. (No model.) Patented in England July 12, 1892, No. 13,197.

To all whom it may concern:

Be it known that I, FREDERICK WILLIAM FLETCHER, a subject of the Queen of Great Britain, residing at Enfield, in the county of Middlesex, England, have invented a new and useful Stopper or Cap for Bottles Containing Medicinal or other Liquids, (for which I have obtained a patent in Great Britain, No. 13,197, bearing date July 12, 1892,) of which the following is a specification.

My invention relates to improvements in stoppers or caps for bottles containing medicinal or other liquids and the object of my improvement is to provide the stopper or cap with a contrivance by means of which the said liquids may be withdrawn from the bottle and measured, thus rendering unnecessary a separate measuring instrument or vessel. I attain this object by a contrivance illustrated in the accompanying drawing, representing a vertical section of my improved stopper, in which—

A is a perforated stopper formed of india rubber or other suitable material, through which passes a graduated glass tube B of any convenient shape or size. The upper end of the tube is preferably flanged in order the more securely to attach it to the elastic air chamber C, which may be spherical, as shown, or of any other convenient shape. Opening out of C is the second and smaller chamber D which is provided at any convenient point with a self-closing aperture or valve. In the drawing this is shown at E.

The action of the arrangement or contrivance is as follows: The tube B is dipped into the liquid, and the elastic air chamber C compressed by the fingers. On relaxing the pressure the liquid will rise in the tube, and there remain until it is desired to discharge the

whole or any portion of it. To do this, it is simply necessary to lightly compress the small air chamber D. This causes the self closing aperture or valve E to open, and air being thus admitted, the column of liquid in the tube B falls until the pressure is relaxed. I find by experience that the simplest and most effectual form of air inlet to the small chamber D is a small transverse slit at the top. Owing to the elasticity of the india rubber or other suitable material of which the air chamber is formed such an aperture closes itself automatically, and will only open when pressed.

I do not, of course, limit myself to this character of opening if it is found more convenient to employ any other form of aperture. Neither do I restrict myself to placing the aperture or valve at the top of the chamber D as shown. The same result may, under certain circumstances be obtained by placing the said aperture or valve in the side or other portion of the wall of the said chamber.

I am aware that, prior to my invention, stoppers have been in use provided with a pipette and rubber cap. I do not, therefore, claim such a combination broadly.

What I do claim as my invention, and desire to secure by Letters Patent of the United States, is—

The stopper A provided with a graduated tube B, elastic air chambers C and D communicating with each other, said chamber D provided with a self closing aperture or valve E, by means of which air is admitted at will into the device and the liquid in the tube delivered in accurately measured quantities.

FRED. W. FLETCHER.

Witnesses:

H. BOISSELIER,
A. WEBB.