

No. 682,464.

Patented Sept. 10, 1901.

F. R. GRAHAM-YOOLL.
STOPPER FOR INFANTS' FEEDING BOTTLES.

(Application filed May 29, 1900.)

(No Model.)

Fig. 1.

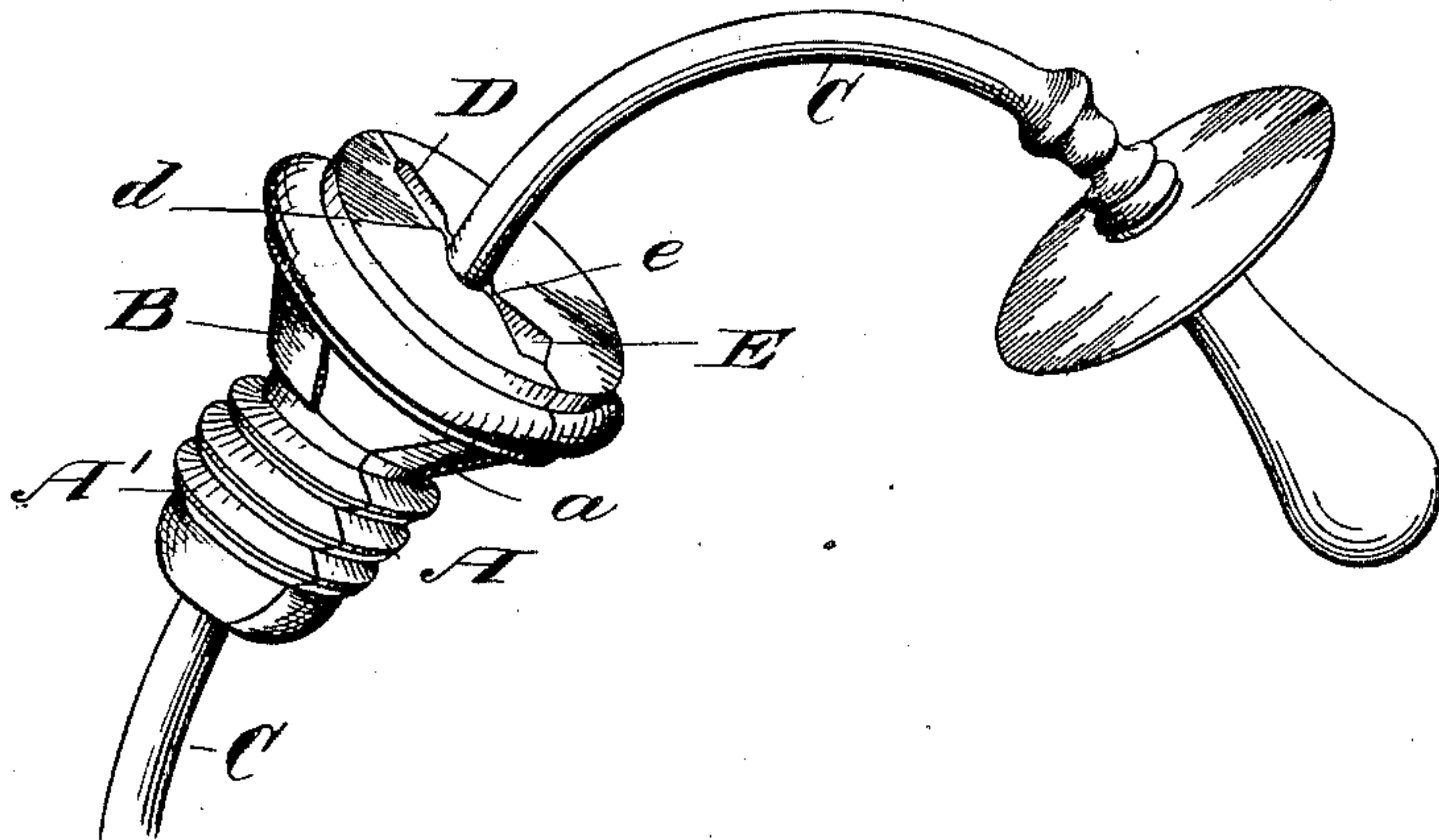
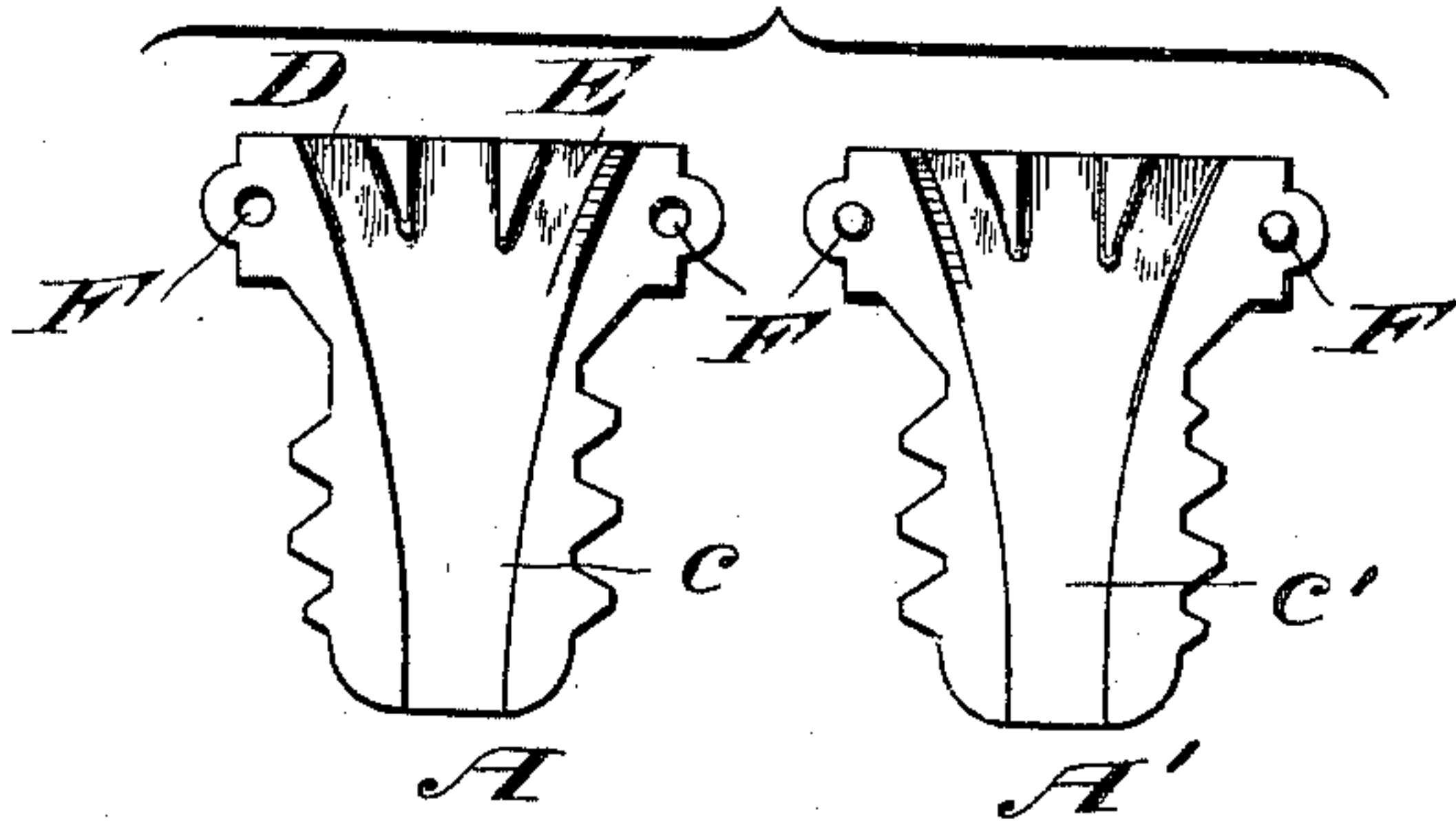


Fig. 2.



Witnesses:
P. G. Smuck,
Otto Samerdiener,

Inventor -
Frederick R. Graham-Yooll
By Knights Bros.
Attys.

UNITED STATES PATENT OFFICE.

FREDERICK RICHARD GRAHAM-YOOLL, OF EDINBURGH, SCOTLAND.

STOPPER FOR INFANTS' FEEDING-BOTTLES.

SPECIFICATION forming part of Letters Patent No. 682,464, dated September 10, 1901.

Application filed May 29, 1900. Serial No. 18,371. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK RICHARD GRAHAM-YOOLL, a subject of the Queen of the United Kingdom of Great Britain and Ireland, and a resident of Murano House, Murano Place, Edinburgh, Scotland, have invented new Improvements in Stoppers for Infants' Feeding-Bottles, of which the following is a specification.

10 This invention relates to improvements in means for regulating or arresting the flow of liquids through the rubber tubes of infants' feeding-bottles and for the obtaining of other advantages.

15 As shown in the annexed drawing, I employ a screwed stopper—say of vulcanite, glass, or other material—which stopper I make in two halves A A' from top to bottom, keeping the two halves together by means of an elastic ring or band B. The india-rubber tube C, with nipple attached, passes through the stopper, an aperture being formed by the two semicircular recesses *c c'* in each of the halves A A' of the stopper. At either side 25 of the aperture are narrow slots D and E. The slot D has parallel walls, while the slot E is wedge-shaped, the arrangement being such that when the tube C is drawn sidewise into slot D the tube is firmly gripped and closed and the flow of liquid completely 30 stopped, while the drawing of the tube in the opposite direction into the wedge-shaped aperture E grips a portion only of the tube, thus only partially arresting the flow of the liquid—that is to say, a portion of the tube is tightly gripped by the contracted end of the wedge-shaped aperture, while the other portion of the tube is only partially gripped or 40 contracted by the broader portion of the wedge-shaped aperture. Any amount of liquid can be allowed to pass, varying with the amount of the tube gripped by the slot.

45 The abutting faces of the two halves of the stopper may be ground to insure a liquid-tight joint or may be lined with rubber or other composition for the same purpose, the

said halves also being fitted with recesses and projections F, as shown in the drawing, which illustrates the two halves separated from each other, by which side play of the two portions 50 is prevented.

At either side of the central aperture are contractions marked *d e*, respectively, the object of the said contractions being to prevent the tube accidentally getting into the apertures D E until pulled thereinto. 55

In practice I prefer to so form the screw-thread of the stopper that one half-turn backward will loosen the parts sufficiently to permit the drawing of the tube sidewise into 60 either of the apertures desired, and when it is adjusted half a turn forward will secure the tube in whichever slot it may be set.

The stopper is preferably formed with a sloping shoulder *a*, which is embraced by the elastic ring B, so that the stopper can fit bottles of different sizes. 65

The stopper is divided, as illustrated, in order to facilitate the making of the apertures and also to facilitate the cleaning of the stopper and the removal of the tube therefrom 70 and, further, to facilitate shifting the tube from one to another of the apertures.

What I claim as new, and desire to secure by Letters Patent, is—

1. A stopper formed in two halves A A' 75 with a plurality of recesses in its meeting faces, forming apertures of different size, in combination with a tube C adapted to be adjusted to either one of said apertures by lateral movement, substantially as described. 80

2. The combination of the two-part stopper A A' having the diverse recesses *c c'* D and E forming apertures of different form and capacity; and a tube C capable of adjustment 85 to each of such diverse apertures, to regulate or stop the flow of liquid, as explained.

FREDERICK RICHARD GRAHAM-YOOLL.

Witnesses:

ROBERT BICKERTON GORDON,
DONALD SCOTT CAMERON.