

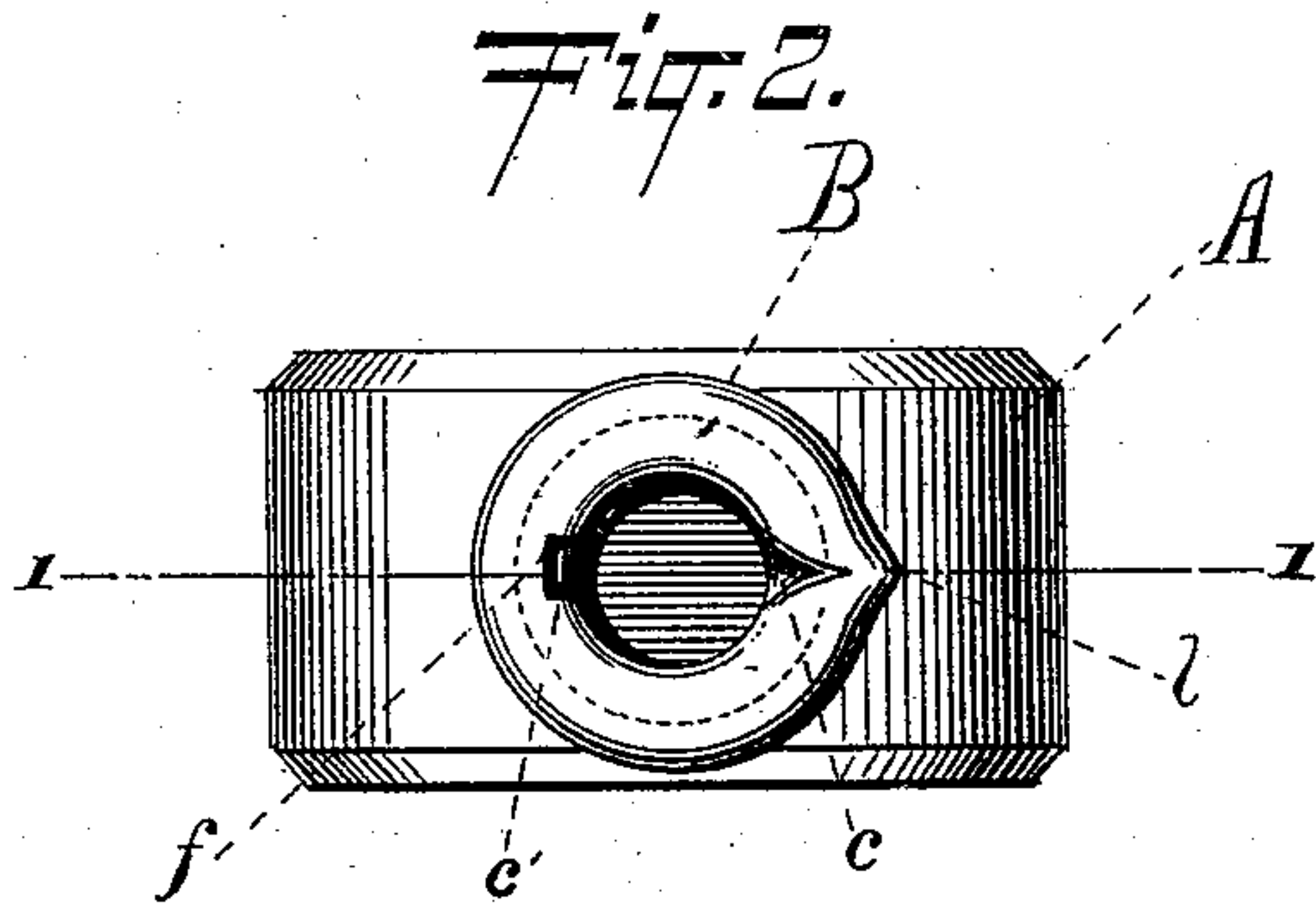
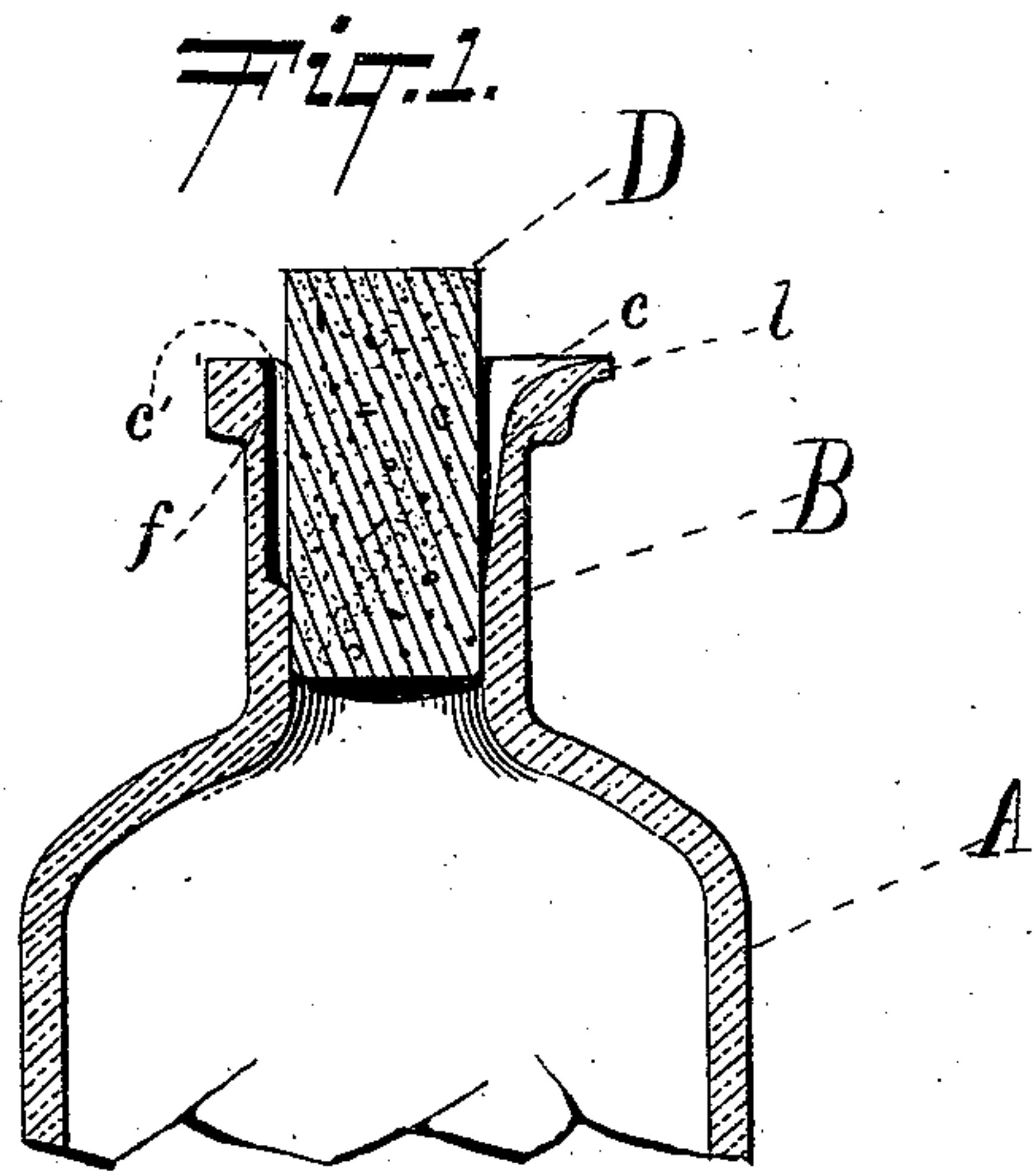
(No Model.)

F. E. BALDWIN.

MEANS FOR REGULATING THE FLOW OF LIQUIDS FROM VESSELS.

No. 487,817.

Patented Dec. 13, 1892.



WITNESSES:
Gustave Dietrich.
Wm. B. Berrigan Jr.

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UNITED STATES PATENT OFFICE.

FREDERIC E. BALDWIN, OF NEW YORK, N. Y.

MEANS FOR REGULATING THE FLOW OF LIQUIDS FROM VESSELS.

SPECIFICATION forming part of Letters Patent No. 487,817, dated December 13, 1892.

Application filed February 13, 1892. Serial No. 421,370. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC E. BALDWIN, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Means for Regulating the Flow of Liquids from Vessels, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to means for regulating the flow of liquids from vessels, as described in my application for Letters Patent, Serial No. 419,859, filed February 1, 1892; and its object is to provide a device which will facilitate the operation of such means.

My device is particularly applicable to medicine-bottles from which it is desired to draw the contents in drops or other small quantities, and I will proceed to describe my invention as applied to such a bottle; but of course I do not limit myself to this class of vessels.

In the accompanying drawings similar letters of reference refer to similar parts throughout both the views.

Figure 1 is a sectional view on the line 1 1 of Fig. 2 of a portion of a bottle with my device applied thereto. Fig. 2 is a top plan view of said bottle.

A is an ordinary bottle. From the top of the neck B two channels *c* and *c'* run down on opposite sides of the inside or throat of said neck B and to a little above the depth of the stopper or cork D when the bottle is closed thereby, as shown in Fig. 1. Channels *c* and *c'* are arranged so that when the stopper or cork D is partially withdrawn and the bottle is turned on its side, with channel *c* lowermost, the liquid will flow out of channel *c* and the atmosphere will enter the bottle through channel *c'*.

I have found that if channels *c* and *c'* are of the same length or of the same size, or if the channel *c'* is not proportionately larger than channel *c*, said channel *c'* is apt to fill or clog up by capillary attraction or otherwise, and so prevent the proper entry of the atmosphere to the vessel. I therefore construct channel *c'* of the same size throughout its length, as shown in the drawings, or of any other convenient shape, so that the channel or opening *c'* to the atmosphere when the

stopper is partly removed will be larger than the channel or opening *c*, through which the liquid flows. A good construction for said channel *c'* is in the form of the slot shown in the drawings, in which the surface *f* of the slot *c'* away from the stopper D is shaped to conform to the configurations of the neck B.

Of course I do not limit myself to the particular construction shown of said channels *c* and *c'*. For instance, in the case of thin vessels the neck may be made thicker at the places where the channels are formed; or said channels may be formed in ridges or projections on the neck of the vessel; or in some cases channel *c'* may be a hole through the neck, situated so as to be opened when stopper D is partially withdrawn. It is preferable that said groove *c* should be tapering or wedge or V shaped, the deepest and widest portion of said grooves being at the mouth of the vessel. As the stopper D is withdrawn from the neck B the flow of the liquid from the bottle may be regulated from the slowest dropping to a stream of the full capacity of said neck. I have found, too, that the regulation of the flow of the liquid may be facilitated by providing a lip or spout *l* on the outside rim of the neck opposite the channel *c*.

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

1. In a device for regulating the flow of liquids from vessels containing the same, the combination of a channel running partly down the neck or other orifice of said vessel for the flow of the liquid and a larger channel running partly down said neck or other orifice for the admission of the atmosphere, with a stopper adapted to be inserted in said neck or other orifice a distance equal to or greater than the length of said channel to close the same and also adapted to be partially or wholly withdrawn for opening said channel, substantially as described.

2. In a device for regulating the flow of liquids from vessels containing the same, the combination of a tapering or wedge-shaped channel and of a channel of substantially the same size throughout, said channels running partly down the neck or other orifice of said vessel, with a stopper adapted to be inserted in said neck or other orifice a distance equal to or greater than the length of said channels

to close the same and also adapted to be partially or wholly withdrawn for opening said channels, substantially as described.

3. In a device for regulating the flow of liquids from vessels containing the same, the combination of a tapering channel running partly down the neck or other orifice of said vessel for the flow of the liquid, a lip adapted to assist the flow from said tapering channel, and a channel of substantially the same size throughout running partly from the neck or other orifice of said vessel for the admission of the atmosphere, with a stopper adapted to

be inserted in said neck or other orifice a distance equal to or greater than the length of said channels to close the same and also adapted to be partially or wholly withdrawn for opening said channels, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 12th day of February, 1892.

FREDERIC E. BALDWIN.

Witnesses:

JAMES J. COSGROVE,
H. V. N. PHILIPS.