

SECTION XI

CHAPTER 10

OXYGEN MASKS, TYPES D and E ∇ ϵ

General

1. An oxygen mask, with flexible tubing and the plug of the bayonet union attached, is an item of personal equipment to be worn only by the person to whom it is issued. The masks are designed so that a microphone may be attached for purposes of communication, and serve as a combined oxygen and microphone mask. Microphones suitable for attachment to a mask are given in the remarks column of the table of available equipment and are fully described in A.P.1186 (Signal Manual, Part IV).

Description

2. *Mask, type D.*—The oxygen mask, type D (Stores Ref. 6D/105), shown in fig. 1 is designed for use with the flying helmet known as type B (Stores Ref. 22C/64). A general arrangement of the complete helmet for use in high altitude flying is given in fig. 3. This illustration shows the mask (6) fitted to the flying cap (1) for use with oxygen and the telephone equipment (2). The mask itself has no strappings, and is held to the face by snap-fasteners (7) and a chin strap on the cap.

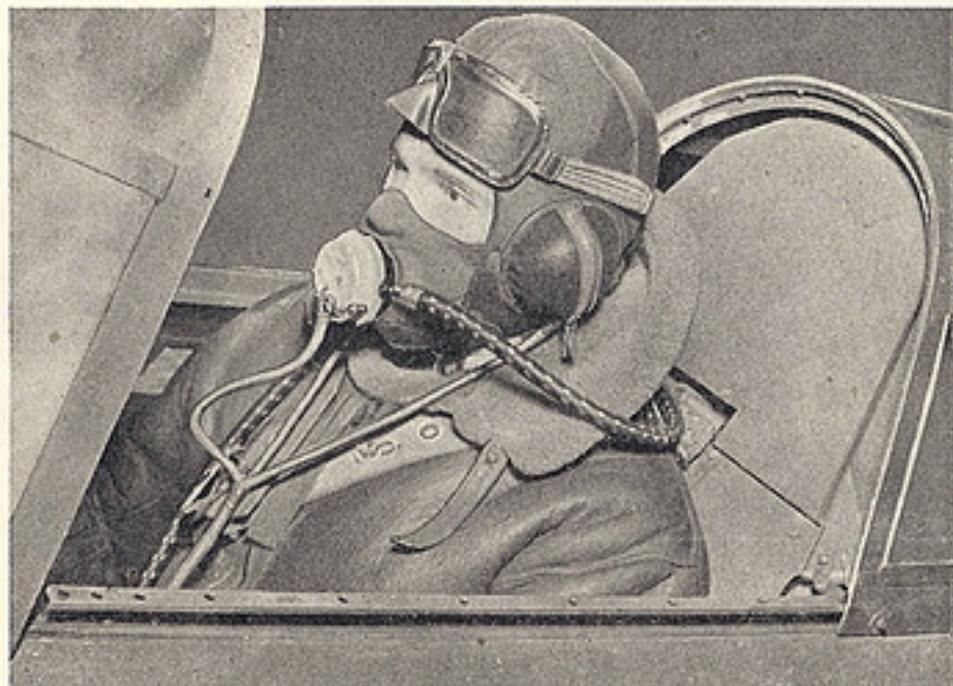


FIG. 1.—OXYGEN MASK, TYPE D

3. When oxygen is required without the use of the electrical equipment, the microphone (3) on the mask may be removed and replaced by a cap (5). The microphone-orifice cap (5), rubber tubing (8), and plug (9) of the bayonet union, are components which may be separately obtained from stores, so that if damaged or otherwise unserviceable they may be replaced.

4. The helmet is an item of personal equipment to the wearer, and the mask is fitted to the cap by a tailor. Therefore, the helmet, when used for oxygen, must not be worn by a person to whom it has not been officially issued. The necessity of carefully carrying out these instructions is emphasised, as an ill-fitting mask may result in a dangerous or even fatal leakage of oxygen. Details of the tailored fittings of the mask are given in leaflet A.P.1186/E.25.

5. The top rim of the mask (6) is made semi-flexible to allow it to be shaped by the wearer to the nose and face, to form a close-fit without undue pressure on the nostrils. When the mask is properly fitted the goggles are close to the face to ensure the maximum amount of vision through the goggles. A close fit also tends to reduce misting of the goggles.

6. The two snap-fasteners (7) on each side hold the mask (6) in position on the flying-cap (1) and support the weight of the attached components. The free edge of the cap overlaps the skirt of the mask and a chin strap on the cap draws the mask close to the chin.

7. A carrier ring is fixed to the mask to hold the microphone, type E or type 21 or the orificecap (5). These parts are attached to the ring by a hinge pin and a spring clip. The hinge pin is not completely removable, but sufficient axial movement is allowed for attaching the microphone (3) or cap (5). The hinge is a feature which enables the wearer to swing back the microphone or cap, whichever is fitted, to allow free breathing when occasion permits and to enable the user to converse with other members of the crew. The nipple for the oxygen tube is fitted to the carrier ring and instructions for fitting flexible tubing to the nipple and bayonet union are given in para. 18.

8. *Mask, type E.*—An improved mask, type E, (Stores Ref. 6D/473) for use with the oxygen economizer is illustrated in fig. 2. The mask consists of a rubber moulded face piece (1) which fits over the nose and mouth. The stem (2) of the mask contains an aluminium tube carrying a metal reed valve. This reed valve is so arranged that the pressure required to operate it is greater during inhalation. Also one end of the tube is connected to the flexible oxygen tubing.

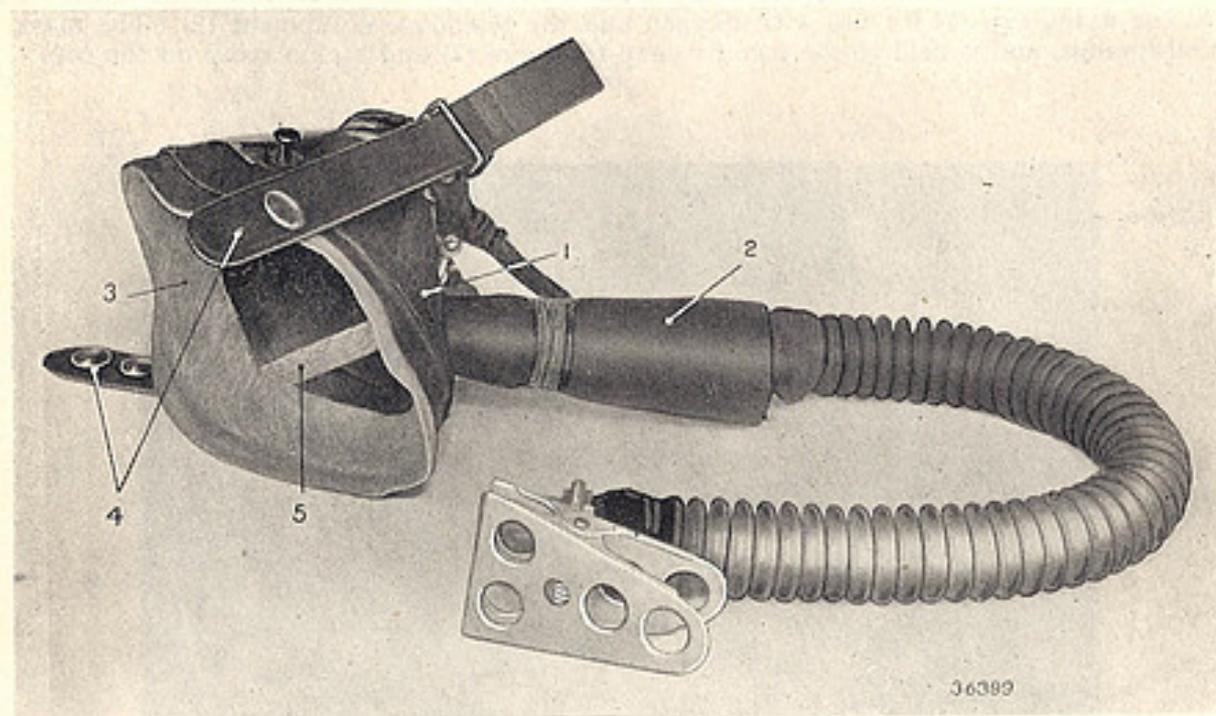
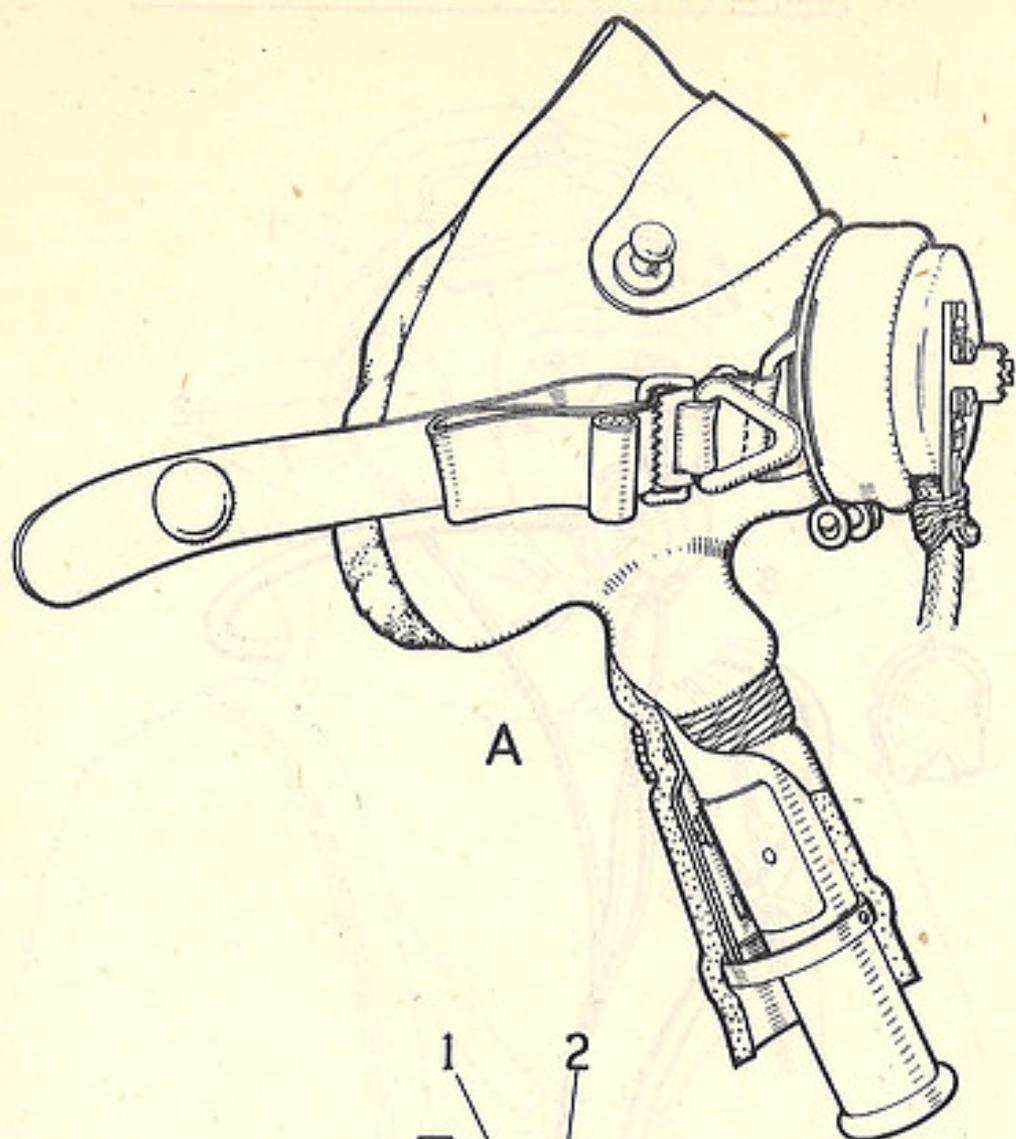


FIG. 2.—OXYGEN MASK, TYPE E

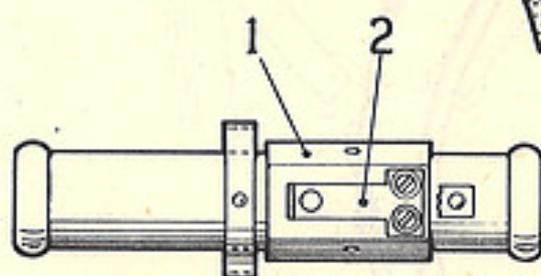
9. The rubber moulded face piece has an edging of chamois leather (3) which extends a little beyond the edge of the rubber. The fixing straps (4) are provided with press studs which secure the mask to the flying helmet, one strap being adjustable to facilitate fitting. Riveted to the top of the rubber moulding is a soft aluminium nose piece, this ensures that the nose portion of the rubber moulding is a close fit to the face. A mask microphone, type 26 or type 28 is accommodated in a bakelite ring, the whole being fixed to the face piece by a wire ring which is secured by means of a screw. This ring serves also to hold the two adjustable carrying strap rings. Masks not having a microphone are fitted with a moulded black cap, securely fixed, to ensure a gas-tight joint.

10. Initial issues of the mask differ slightly from that described above, by the addition of a cloth covering over the rubber moulded face piece, an edging of goat skin and an older type of strap fixing.

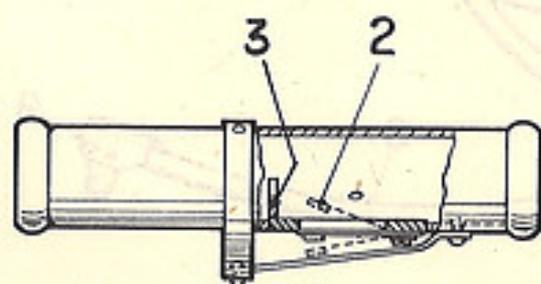
11. The mask valve shown at A, B, and C of fig. 4 is housed in the stem attached to the rubber face moulding. It comprises an aluminium tube and saddle (1 in B of fig. 4) to which is attached



A



B



C

FIG.
4

OXYGEN MASK TYPE E

FIG.
4

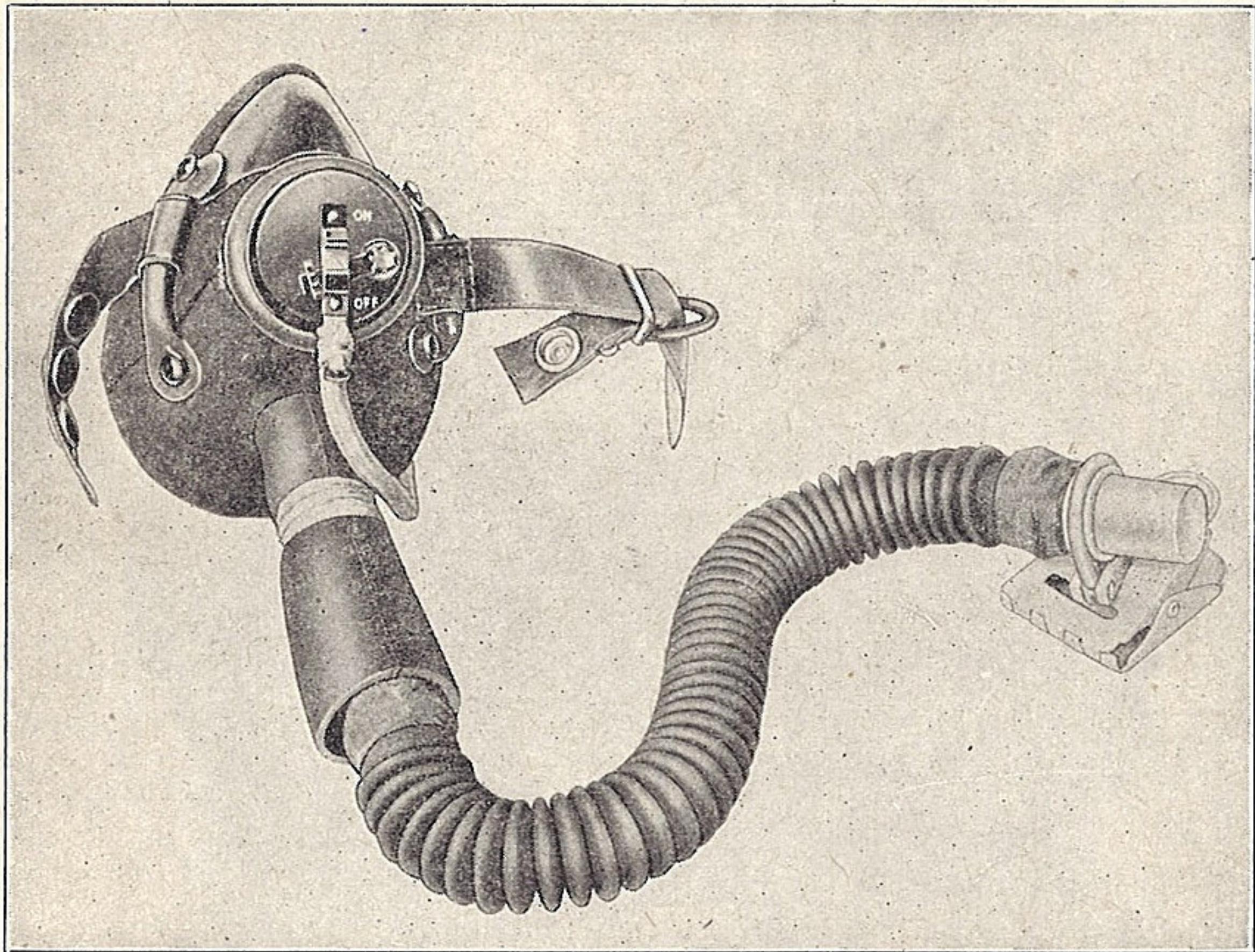
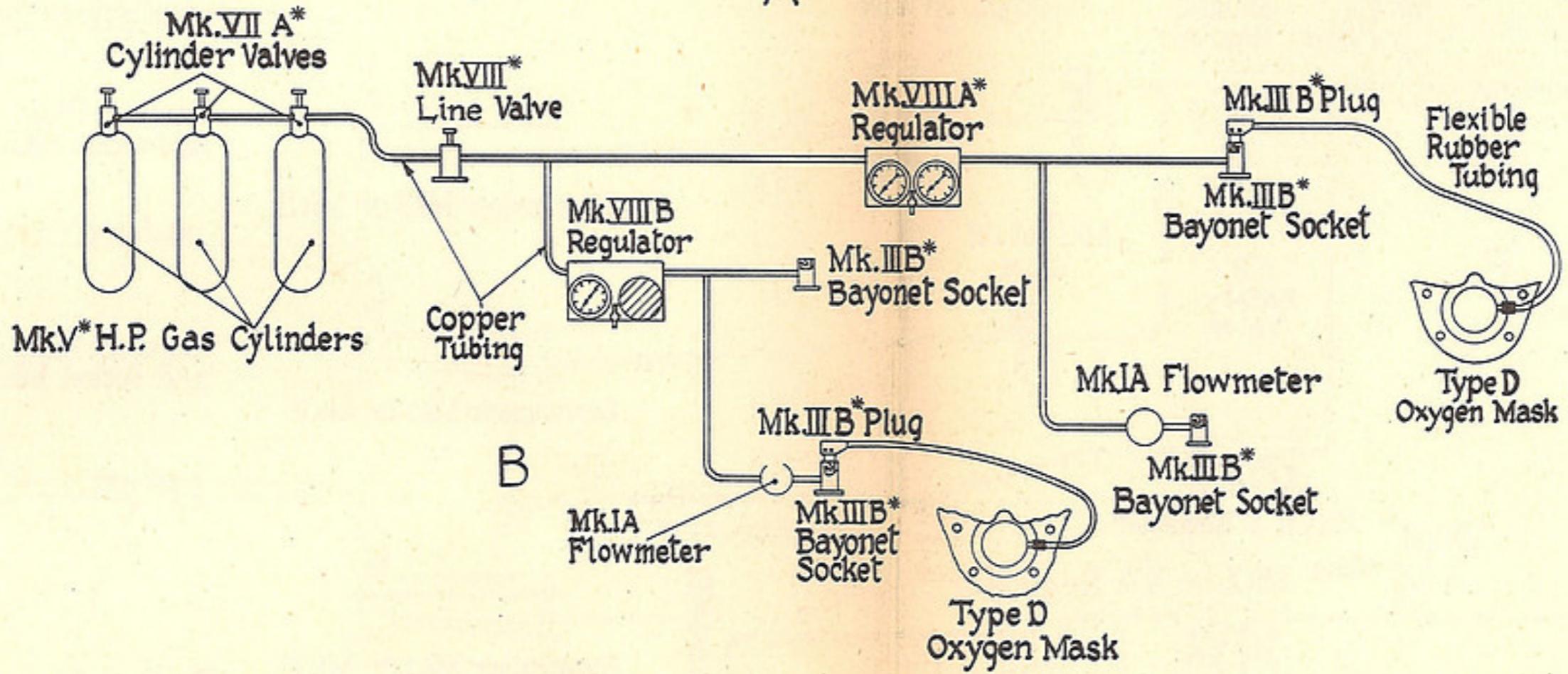
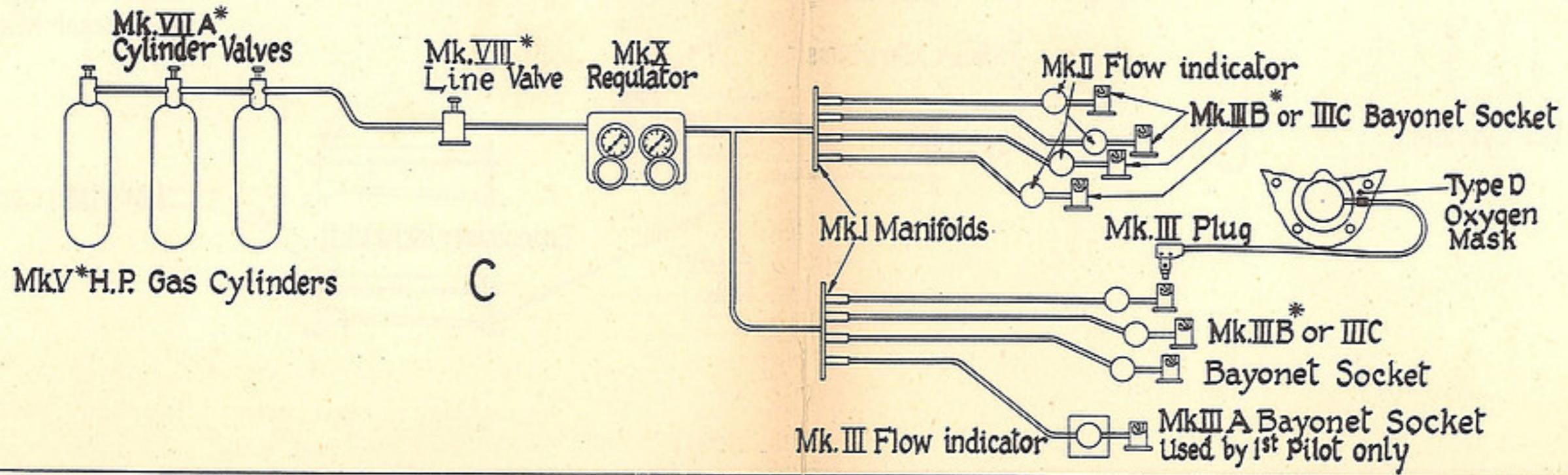


Fig. 8. Oxygen mask, type E.

A



B



C

SYSTEMS FOR USE WITH MASK, TYPE D



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