Chapter 4

DROGUES AND APRON

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DROGUES

1. Two drogues are incorporated and their purpose is first to check the forward speed of the seat and the occupant after ejection from the aircraft, and then to stabilize the seat in a slightly forward attitude; subsequently they develop the apron to pitch the occupant forward.

2. In the developed state the first drogue has a diameter of 18 in. and the second is 5 ft. in diameter; each has a 6 in. vent. The shroud lines of the smaller drogue are united approximately 2 ft. from the periphery of the canopy and are plaited into a rope which is connected to the apex of the 5 ft. drogue (*fig.* 1). The shroud lines of the larger drogue are united approximately 4 ft. from the periphery of the canopy, are covered by a sleeve and connected by means of the drogue shackle to the scissor shackle at the top of the cross-beam of the seat structure.

3. The 18 in. drogue withdrawal line is secured to the apex of the canopy and its free end is attached to the drogue gun piston by means of a quick-release pin. Part-way along the line is a securing pin which retains the four flaps of the drogue container; thus the piston, after being fired by the drogue gun, first draws out the flap securing pin then extracts the 18 in. drogue from the container. The smaller drogue then extracts the 5 ft. drogue and the two combine to check the forward speed without undue shock. The flap securing pin is prevented from being withdrawn inadvertently by a single loop of No. 8 linen thread (Stores Ref. 15A/108).

APRON

4. The purpose of the apron is to pitch the seat occupant forward as the drogue develops fully; a withdrawal line attached to the apron opens his parachute. It is fabricated from canvas, and to its upper end is attached the headrest pad and to its lower end are attached two clips which retain the assembly to the parachute container. After the occupant has left the seat and the apron has straightened, the weight of the seat frees the clips and the seat drops clear.

5. Two lifting lines and the parachute withdrawal line, all of which are integral with each other, are sewn to the rear of the apron, and the withdrawal line emerges from a slot approximately in the centre. The lifting lines are attached to the drogue nylon rope by a shackle, thus forming a continuous line from the drogue gun connection to the parachute withdrawal line.

6. At the end of the parachute withdrawal line is a disconnect slide pin which is secured to the apex of the parachute when it is installed in the seat. By means of a second D-ring on the parachute harness, this connection can be broken when necessary, thus isolating the occupant from the parachute withdrawal line and allowing him to make a manually controlled descent if the automatic facilities should fail.

7. Full instructions for securing the disconnect slide pin to the parachute are given in A.P.1182A, Vol. 1, Sect. 4.

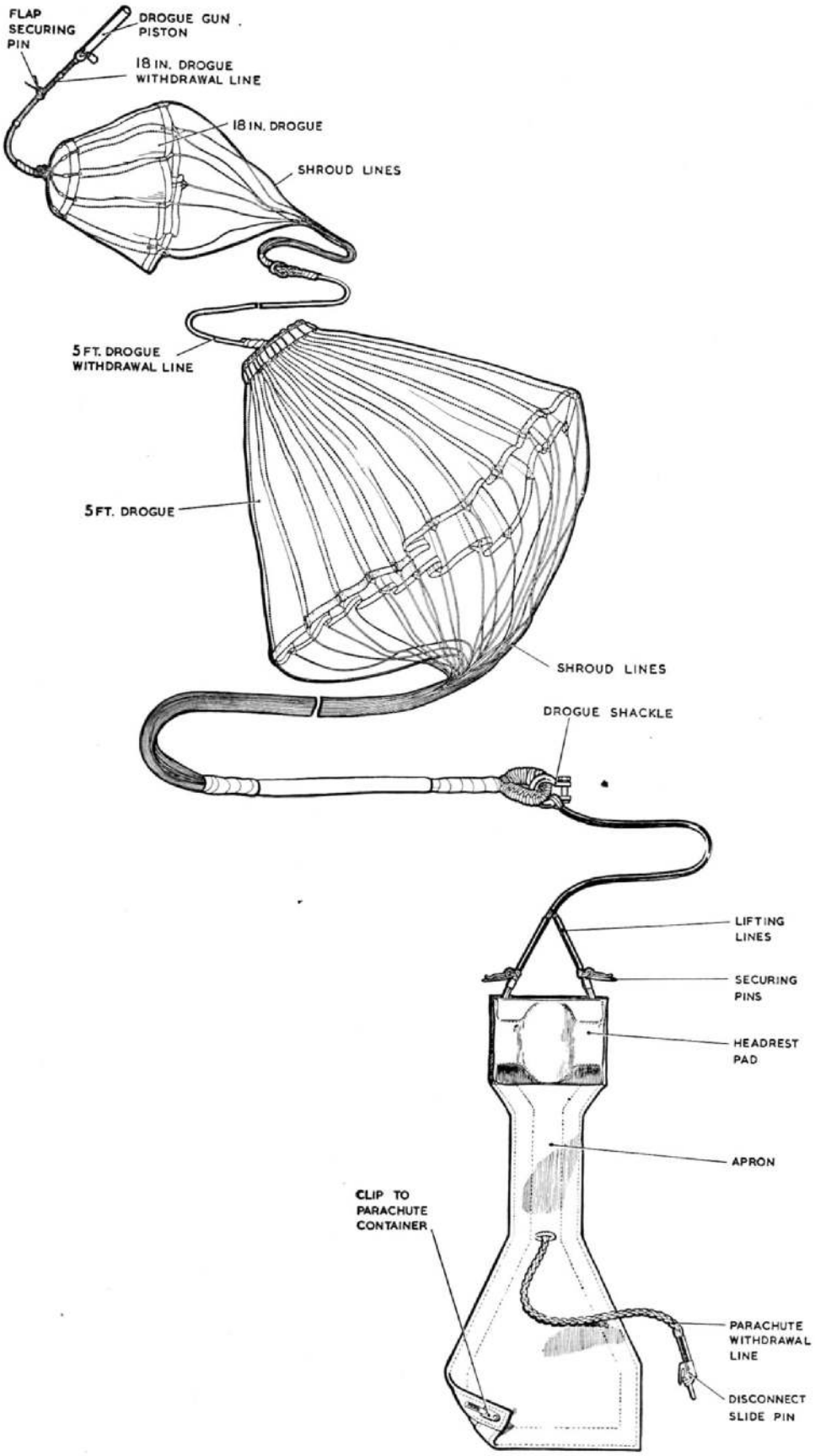

Fig. 1. Drogues and apron

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