Chapter 5

FLIGHT RATION HEATER

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LIST OF ILLUSTRATIONS

Introduction

1. The flight ration heater (Stores Ref. 5V/70) is designed for heating tinned rations during flight. It operates on a voltage of 28, and the heating element is rated 75 watts. The ration container holds two tins of rations, one on top of the other, and the bottom tin becomes hot before the top one. No provision is made to indicate the temperature attained by the rations, but generally a minimum time of one hour is necessary to heat the bottom tin satisfactorily.

DESCRIPTION

2. The construction of the heater is illustrated in fig. 1. The ration container detachable to facilitate loading and unloading of the tins of rations; the inner container is detachable for cleaning purposes. The clamping bar, held by a quick release lever, prevents the tins falling out of the heater, and the supporting bracket surrounding the outer container is for securing the unit to a convenient position inside the aircraft.

3. Heat is supplied by the electrical element which is gripped to the top half of the inner container by a metal band. The element consists of high resistance nichrome wire wound on a mica former, and the whole element is covered by a band of insulating mica. The electrical leads are welded to the element, and external electrical connection is made at the terminal block, Type 108 (Stores Ref.10H/3780) secured to the bottom of the inner container. To retard the escape of heat through the outer container, fine fibre insulating wool fills the space between the inner and outer containers.

OPERATIONAL PRECAUTIONS

4. It is imperative that a hole is made in the top of each tin before they are placed in the heater, and that no tin should be continuously heated for a period exceeding two hours. These precautions will prevent the tins from exploding due to overheating and the building up of pressure inside them.

SERVICING

5. Check for continuity and insulation of the electrical leads and the heating element.

6. Examine all connections and fittings for security, and rectify as necessary.

7. If the inner container becomes fouled with spilled food etc., it should be removed and cleaned.

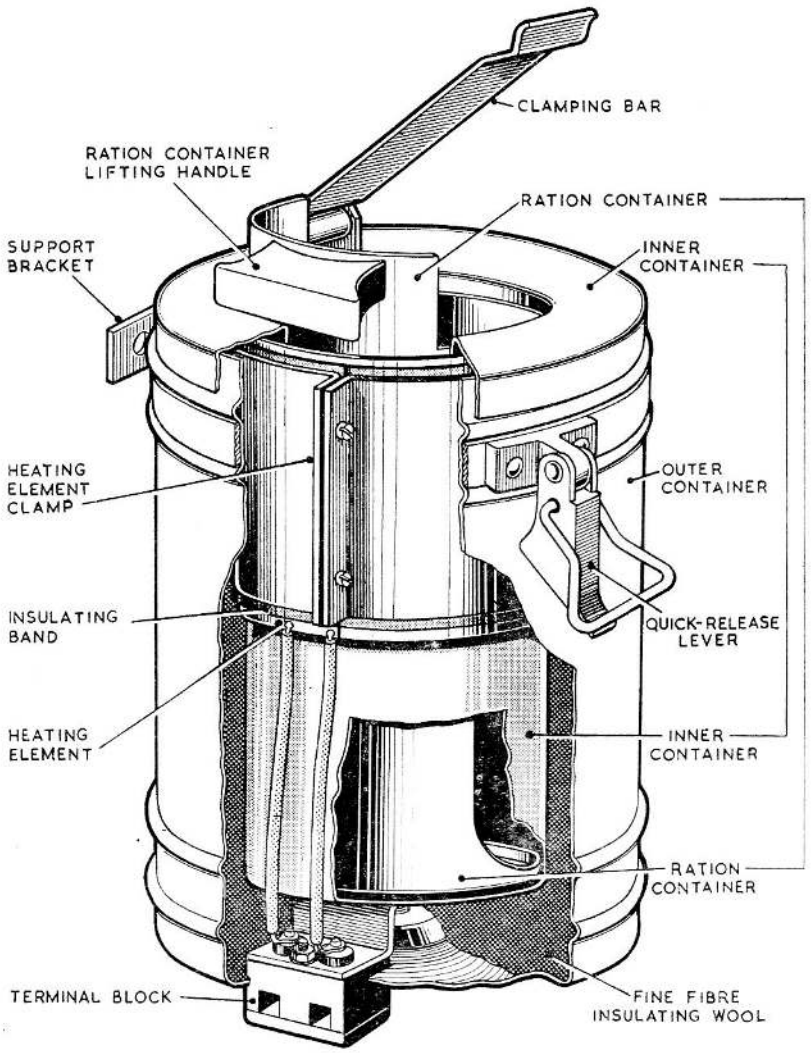

Fig. 1. Part cut-away view of the flight ration heater

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