



▷ Fig 4.19. Vertical Lift Emplacement.

▽ Fig 4.20. Vertical Lift Emplacement following investigation, looking north-east (scale 1m).



of a circular plate and substantial post-hole set into the base of this emplacement. The metal plate lay in a circular depression in the floor, some 1.6m in diameter, within which the projector mechanism would have been set. Rails were again laid in the base of the emplacement, with these of similar gauge and fulfilling an identical function to those in Emplacement 3. Also in common with the latter would have been a trolley, upon which was mounted a wooden platform/shed. This was used to protect the projector when not in use and as a platform when it was being used in direct mode. The more complex surviving remains within this emplacement led to its designation by the CAT team as 'The Stargate'.

In reflected mode, the projector was again mounted on one end of a see-saw arm and could be dropped into the alcove under the parapet for protection. The hydraulic ram could drop down and the 'shed' be slid sideways so as to permit this. The physical evidence of the structure at Lower Lines now starts to make sense and it is easy to see how it was designed to function. Support for the traversing of the mirror came from the semi-circular raised rail and did not rely on a central pivot and balanced see-saw arm (Figs 4.22–4.23). A lifting arm, visible in historic photos, folded back against the brickwork of the parapet and would most probably have been for lifting the projector on and off the ram, for example when it needed to be attached to the end of the see-saw arm.

The Instructor in Electricity at Chatham reported on this hydraulic version of a See-Saw searchlight and was inclined to think that it was not as good a mounting as the No. 4 design. He refers to delaying a final judgement until after the See-Saws at Fort Paull, East Yorkshire (a fort and Submarine Mining



◁ Fig 4.21. Vertical Lift Emplacement, overhead shot showing interior (scale 1m).



◁ Fig 4.22. Historic image showing Vertical Lift Emplacement (REMLA).

Establishment set up to defend the Humber), at Milford Haven and those designed for India had been further tested. Of these, one of the examples from Paull has been recorded archaeologically.

Other designs

Various *Royal Engineer Proceedings* contain other designs intended to address the need to use searchlights in emplacements in a direct mode and a more protected reflected mode. One was particularly ingenious, with the searchlight mounted on a trolley. When used in reflective mode the trolley could be run out of its emplacement and lifted to project over

the parapet by means of a turntable that was raised by counterweights. It can only be hoped that traces of designs such as this survive, as yet unlocated, in Chatham.

The power supply

In none of the documentary sources is the source of the electricity which powered the arc lamps in these emplacements described. Most likely is that power at Chatham came from the Electrical School. A separate concrete structure would be required to contain a dynamo and engine when the lamps were put into operational use.