

The position of the sun must be the guide for determining whether one or two mirrors should be used. When the sun is in front of the operator (that is, in front of a plane through his position at right angles to the line joining the stations) the sun mirror only is required; with the sun in the rear of this plane both mirrors should be used. When one mirror is used the rays of the sun are reflected from the sun mirror direct to the distant station; with two mirrors, the rays are reflected from the sun mirror to the station mirror, thence to the distant observer. Care should be taken to note in which direction the sun is moving so that it may not be necessary to change from one mirror to two while signalling.

2—EMPLOYMENT WITH ONE MIRROR

Run the winged nut down to the lower end of the threaded shank of the head-bolt. Push the bolt up through the tripod head and slip over the lug the main mirror bar (the one with hole for sighting-bar), taking care that the side of the bar bearing the maker's name is up and that the bar points directly away from the distant station and back toward the operator. Turn the lug on the head-bolt at right angles to the long axis of the mirror bar and slip under it the angle foot of the screen, so that as



Fig. 165 Forest ranger sending message by heliograph

you stand facing the instrument and the distant station the spring of the shutter is on the right. To accomplish this, the angle foot of the screen must, of course, be inserted from the side toward the distant station. The screen should be at right angles to the mirror bar. Clamp both bar and screen firmly in place by tightening up the winged nut.