

and could be used after being pierced a dozen times. By recovering the face of the disc it may be used almost indefinitely.

A telegraph was used for communicating with the officer in charge of the markers from each range. This arrangement effected a great saving of time, as compared with the old method of bugle calls, which are very liable to be misunderstood, and therefore the cause of many blunders. A single insulated wire was laid underground, from a small telegraph station in the markers' trench, along the ranges. At each range the wire is brought to the surface alongside a small table on which the operator places his portable instrument, and completes the circuit in the usual manner, while the firing is going on at that range. When the firing party moves from that range, the operator disconnects his instrument and moves to the next range where he again connects his instrument. In this way the range officer is in constant communication with the officer in command of the markers.

#### *Explanations of the Drawings.*

Figure 1. This is a transverse section through the trench and marker's shelter hut, shewing a side view of the target when elevated. In this figure, (a) (a) are wooden handles, of convenient size, placed so as to suit the markers, by which the targets are moved up or down. It is found that the targets when properly counterbalanced can in this way be moved without the intervention of any levers or pulleys, which only tend uselessly to increase the friction.

The ground on which the frame of the target is placed should be carefully levelled and well beaten down. Stone or other weights may be placed on the platform of the frame to steady the target.

The rectangular frame which forms the base of the target will be best if made of oak; but when cheapness is an object, pine or other soft wood may be substituted.

The slopes of the embankments should be made to suit the soil in which they are formed: generally a slope of one and a half horizontal to one perpendicular will answer best. They should be neatly sodded. When turf or sods can be easily