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Description and Instructions for the Use of Smoke Torch, Mark I

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WAR DEPARTMENT,

WASHINGTON, *August* 6, 1918.

The following pamphlet, "Description and Instructions for the Use of Smoke Torch, Mark I," is published for the information and guidance of all concerned.

(062.1 A. G. O.)

BY ORDER OF THE SECRETARY OF WAR:

PEYTON C. MARCH,
General, Chief of Staff.

OFFICIAL:

H. P. McCAIN,
The Adjutant-General.

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SMOKE TORCH, MARK I

The Smoke Torch, Mark I, is a smoke-producing device intended to develop a smoke screen to conceal the movements of troops from hostile observation. On occasions it may be used for signalling purposes, such as to indicate the position of infantry troops to the artillery in their rear. The torch will burn from four to four and one-half minutes, emitting a dense cloud of deep yellow smoke, easily distinguishable from the smoke of shrapnel or high explosive shells, at a distance of 1,000 yards. This device is patterned after the English Smoke Torch, Type S and weighs approximately 3¼ pounds. A means of igniting is supplied with the torch.

The torch consists of the following major parts:

(*a*) The container.
(*b*) The igniting assembly.
(*c*) The smoke composition.

(*a*) The Container.

The container consists of the *case*, the *case cover*, the *outer case cover cap*, the *inner case cover cap*, the *touch disk* and the *ignition disk*. The entire container is painted black after assembly and waterproofed with paraffin. The following instruction label is pasted on one side of the case.

SMOKE TORCH
MARK I

To Fire.—Tear tape right off to expose firing composition. Rub the tablet of red composition (which is attached to the underside of tape) smartly but firmly across exposed black dot of composition in center of top. Keep Dry—Stand Upright.

Manufactured by_____

The case is made of 25-gauge sheet tin, cylindrical in shape, 5⅞ inches long and 3⅜ inches in diameter, with welted side and seamed bottom. Four lugs, ⅜ of an inch wide, project ¼ of an inch beyond the top of the cylinder, to fit into corresponding holes in the case cover. After assembly, these lugs are bent down to secure the cover in place.

The case cover, of the same material and gauge, is ¾ of an inch high and has an inside diameter of 3⅜ inches to make a tight fit over the top of the case. Four slots, ½ of an inch wide, are cut near the periphery to receive the lugs on the case. A hole 1 inch in diameter is cut in the center, to permit the entrance of air and the egress of smoke; it thus serves to prevent too rapid combustion.

The outer case cover cap is a circular piece of 30-pound craft paper, 6½ inches in diameter, which is pasted over the case cover and ignition striker assembly, the outer edges being brought down over the joint formed by the case and case cover.

The touch disk is a piece of touch-paper, about 2 inches in diameter, pasted in the center of the case cover. The center is pierced with a fine awl and a small quantity of ignition composition, about ¼ of an inch in diameter, is placed over and around the hole.

The ignition disk is a disk of 60-pound straw board, 1¼ inches in diameter, pasted over the touch disk, to protect the ignition material, deposited on the touch-paper. For this purpose a ¼ of an inch hole is cut in the center of the ignition disk.

The inner case cover cap is a circular piece of 30-pound Manila paper, 4¼ inches in diameter, with a 1-inch hole in its center.

This is placed directly over the touch disk and underneath the ignition assembly, the edges being pasted over the case cover and side of the case.

The case binding strip is made of a similar weight and grade of paper and is pasted around the top of the case and the sides of the case cover, thus serving to retain the edges of the outer case cover cap.

(*b*) The Ignition Assembly.

The ignition assembly consists of the *tape*, the *ignition striker* and the *ignition protector*.

The tape is a strip of cotton tape 6 inches long and $\frac{5}{8}$ of an inch wide. Its purpose is to support the ignition assembly and provide the means for attaching it to the smoke torch.

The ignition striker is a piece of cardboard $1\frac{1}{4}$ inches long and $\frac{5}{8}$ of an inch wide, coated with a suitable phosphorus composition. It is glued to the tape and fastened with two wire stitches and the striker is covered with a piece of oiled paper.

The ignition protector is a circular piece of 22-gauge tin, $1\frac{1}{4}$ inches in diameter, with two slots cut parallel and near the edges to permit the passage of the tape. The central portion is slightly cupped to prevent contact with the ignition composition over which it is placed. It is secured to the tape by means of glue and two wire stitches.

The entire ignition assembly, with the ignition disk directly over the ignition composition and the two ends of the tape extending down over the sides of the case, is then secured to the case by means of the outer case cover cap, covering the top and extending about $1\frac{3}{4}$ inches down the sides, as described above.

(*c*) The Smoke Composition.

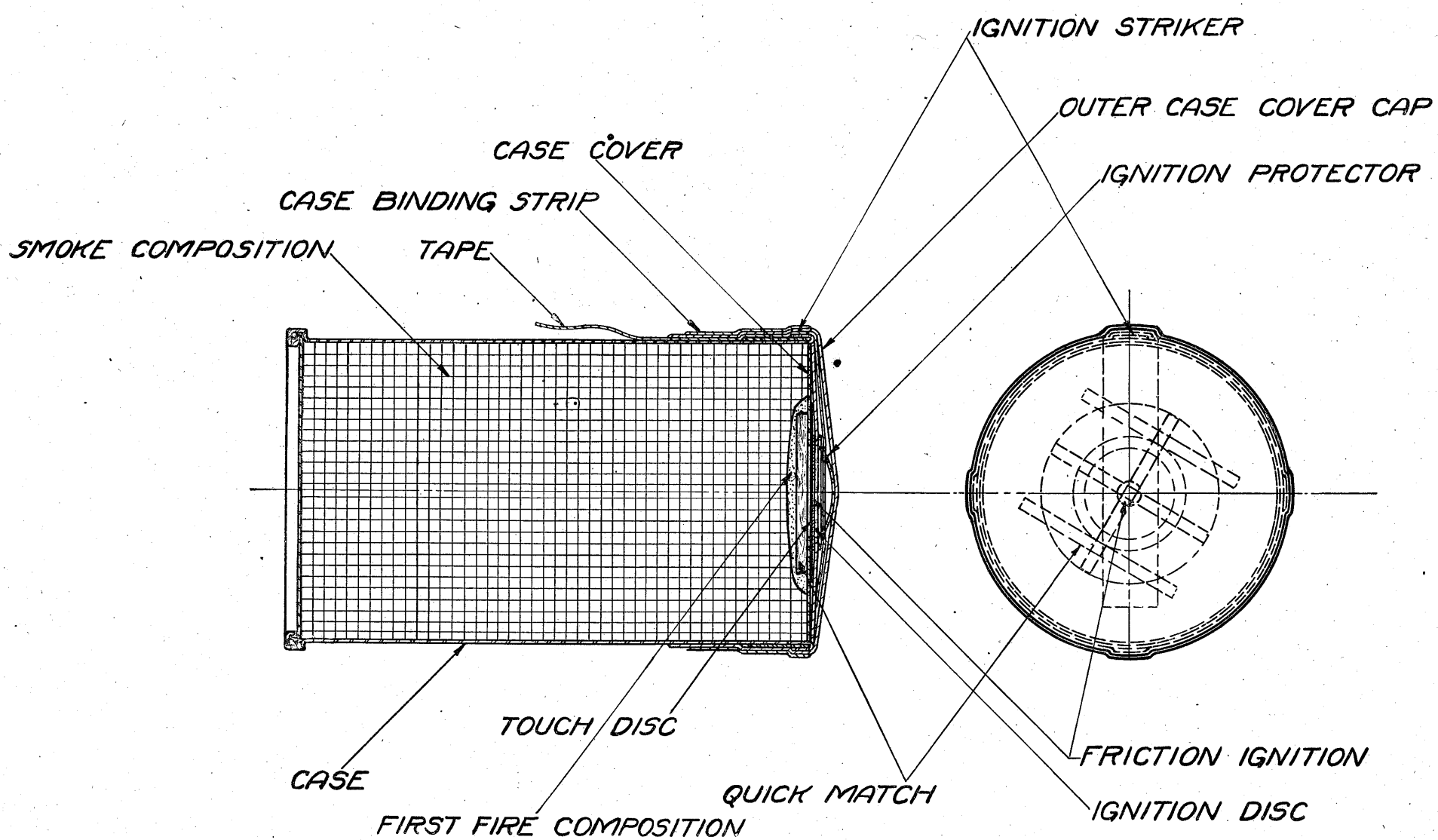
The smoke composition consists of a special mixture, of which saltpeter, pitch, sulphur, borax, sand and whiting are the principal ingredients. During the process of

preparation a depression about ½ of an inch deep and 1 inch in diameter is made at the top of the case. A small quantity of first-fire composition is placed in this depression, together with four strands of quick match. This surface, under the hole in the case cover, is thus built up and brought in direct contact with the blob of ignition composition on the touch disk, to insure proper ignition.

Directions for Use.

Remove the ignition protector and striker from the case by pulling on the free end of the cotton tape. This will expose the ignition material on the touch disk. Rub the phosphorus composition on the striker smartly against the ignition material. This should ignite the smoke composition at once, through the medium of the quick match.

The case should be kept dry at all times and should be set upright during use.


IGNITION STRIKER
OUTER CASE COVER CAP
CASE COVER
IGNITION PROTECTOR
CASE BINDING STRIP
SMOKE COMPOSITION
TAPE
TOUCH DISC
CASE
FRICTION IGNITION
QUICK MATCH
IGNITION DISC
FIRST FIRE COMPOSITION