

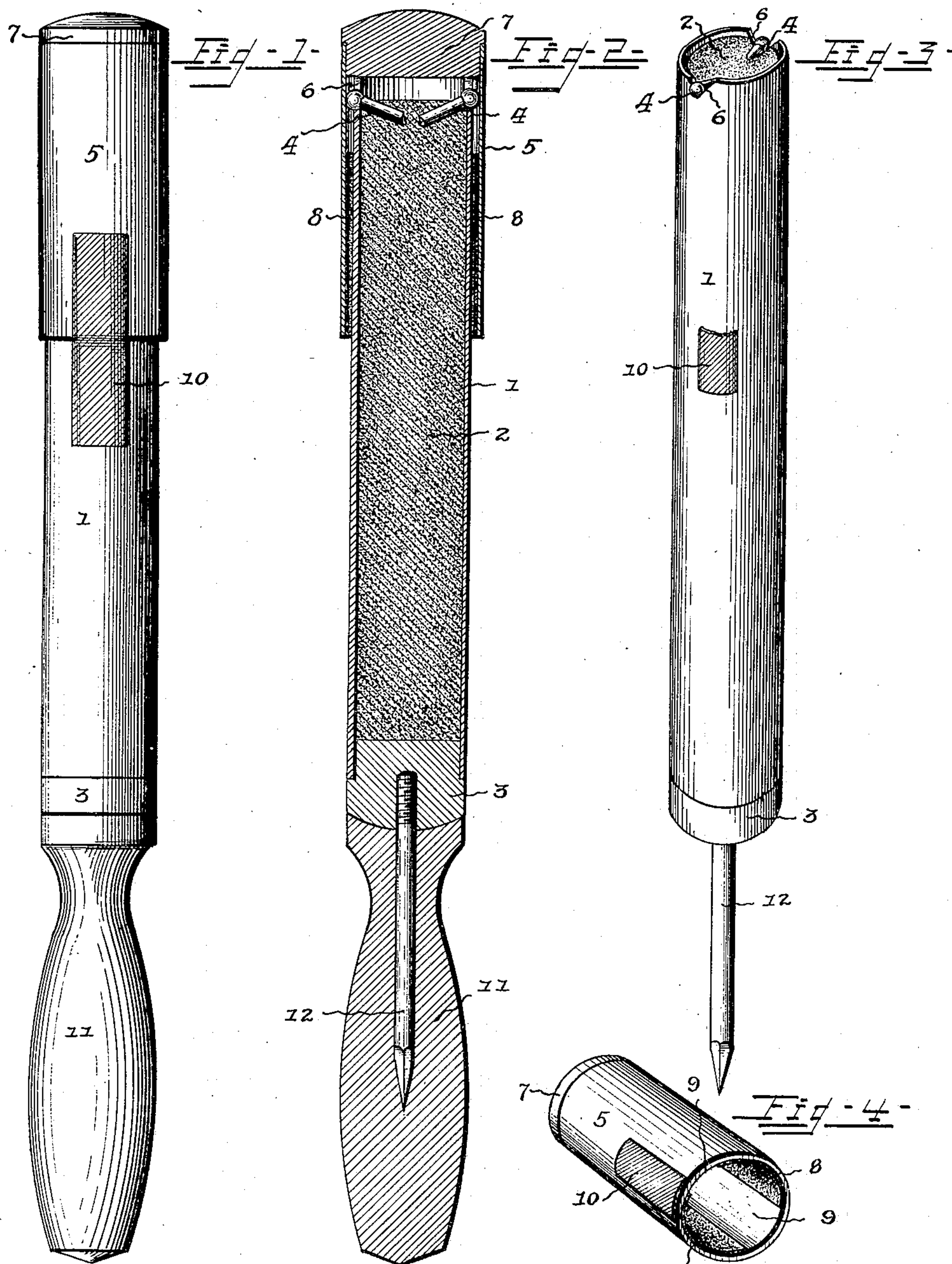
No. 607,581.

Patented July 19, 1898.

O. V. WOOD & F. DUTCHER.
SIGNAL TORCH.

(Application filed Feb. 23, 1898.)

(No Model.)



Witnesses
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By *their* Attorneys,

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UNITED STATES PATENT OFFICE.

OSCAR V. WOOD AND FRANK DUTCHER, OF FOSTORIA, OHIO.

SIGNAL-TORCH.

SPECIFICATION forming part of Letters Patent No. 607,581, dated July 19, 1898.

Application filed February 23, 1898. Serial No. 671,362. (No model.)

To all whom it may concern:

Be it known that we, OSCAR V. WOOD and FRANK DUTCHER, citizens of the United States, residing at Fostoria, in the county of Seneca and State of Ohio, have invented a new and useful Signal-Torch, of which the following is a specification.

This invention relates to signals, torches, colored lights, and the like which embody in their organization a case containing inflammable material and means at the outer end for igniting the composition, thereby obviating the necessity for applying a lighted match, taper, or like device for lighting the torch or signal when required for use.

The improvement relates chiefly to the means for igniting the inflammable composition and to the general construction, whereby the device may be held in the hand or attached to the ground or other support when burning.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is an elevation of a torch or signal light constructed in accordance with this invention. Fig. 2 is a vertical longitudinal central section thereof. Fig. 3 is a perspective view of the torch having the cap and handle omitted. Fig. 4 is a detail view of the cap.

Corresponding and like parts are referred to in the following description and in the views of the accompanying drawings by the same reference characters.

The casing 1, in which is placed the inflammable composition 2, is of tubular form and constructed of paper or other light and cheap material. This tubular casing is open at both ends and has a plug 3 fitted into one of its ends, which is the inner or lower terminal. This plug is of wood and has an end portion reduced and let into the casing, so that the sides of the outer portion of the plug may

come flush with the sides of the casing. The inflammable composition 2 may be of any of the varieties commonly employed in devices of this nature and in the construction of pyrotechnic articles and may comprise any of the constituent elements to produce a light of any desired color.

The means for igniting the composition is located at the outer end of the torch or signal and consists of matches 4, having their inner ends embedded in the composition 2, with their heads projecting a short distance beyond the sides of the tube or case, so as to engage frictionally with the sides of the cap 5, by means of which the matches are lighted upon drawing the cap quickly from the tube or case. The splints forming the body of the matches are inclined inwardly and downwardly, so as to be firmly embedded or secured in the composition 2, and their projecting ends are coated with any composition generally employed in the manufacture of matches, so as to be ignited when rubbed against a surface. The headed ends of the matches are let into notches 6, cut in the outer edges of the case 1, thereby preventing the top or head of the cap engaging with the match-heads and obviating a premature igniting of the signal.

The cap 5 consists of a short tubular section closed at one end by a plug 7, having a portion reduced and fitted into the terminal portion of the tubular section. The inner sides of the tubular section of the cap are provided at diametrically opposite points with friction-surfaces 8, separated by parts 9, devoid of the abrading substance forming the roughened or friction surfaces 8. These friction or abrading surfaces 8 terminate short of the inner end of the top or plug 7 of the cap, whereby the liability of igniting the torch by a slight movement of the cap is avoided. The friction-surfaces 8 are provided by gumming or pasting pieces of sand or emery paper to the opposite sides of the tubular section of the cap. To prevent accidental movement of the cap and at the same time to insure a registering of the match-heads with the roughened or friction surfaces 8, a strip of paper 10 is pasted to the cap and case 1 and overlaps the joint between them. This strip of paper 10 is of a different color from the cap and case

and serves as an indicator to determine the proper position of the cap in the event of the strip becoming torn at the joint.

The spaces 9, between the adjacent edges 5 of the roughened or abrading surfaces 8, afford passages for the projecting ends of the matches 4 when placing the cap in position, thereby precluding the possibility of igniting the same and the torch when placing the cap 10 in position. After the cap has been positioned upon the torch it is turned to cause the igniting ends of the matches and the parts 8 to align, after which the sealing and indicating strip 10 is pasted to the cap and case 1 in the 15 manner and for the purpose herein set forth.

When it is required to use the torch, the strip 10 is broken at the joint and the cap 5 withdrawn rapidly, and the abrading-surfaces 8, engaging with and rubbing against 20 the heads of the matches 4, will ignite them and the composition, as will be readily comprehended.

The torch or signal is constructed to be held in the hand or applied to a support or 25 set in the ground, and to meet these conditions a handle 11 is detachably fitted to the inner end of the device and is centrally bored to receive a pin or pointed spike 12, secured in the plug 3. When the torch is to be held in 30 the hand, the handle 11 is fitted to the projecting end of the pin 12; but when the signal is to be attached to a support or stuck into the ground the handle 11 is detached, as clearly indicated in Fig. 4.

35 Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a pyrotechnical signal, the combination of a tube containing an inflammable composition, a plug closing an end of the tube, a 40 pin or pointed spike fitted to the said plug, and a handle detachably connected with and closing over the projecting portion of the pin and bearing against the plug so as to admit 45 of the signal device being held in the hand or applied to a support, substantially as set forth.

2. In a pyrotechnical signal, the combination of a tube containing the inflammable 50 composition, an igniting device embedded into the inflammable composition and having its igniting end projecting beyond a side

of the tube, and a cap slidably fitted upon the outer end of the tube and having an inner friction or abrading surface to engage 55 with and light the igniting device when the cap is withdrawn from the tube, whereby the cap serves the double function of a closure for the tube and an igniting device for the composition, substantially as set forth. 60

3. In a pyrotechnical signal, the combination of a tube containing the inflammable material, an igniting device in intimate connection with the inflammable composition and having its igniting end projecting beyond 65 a side of the tube, a cap removably fitted upon the outer end of the tube and having an abrading-surface to engage frictionally with the igniting device and light the same when withdrawing the cap, and a sealing and des- 70 ignating strip overlapping the joint between the cap and tube and secured to each, substantially as and for the purpose set forth.

4. In a signal-torch, the combination of a tube containing an inflammable composition 75 and having its outer end notched, a match embedded in the composition and having its headed end fitted into the aforesaid notch and projecting beyond a side of the tube, and a cap removably fitted on the outer end of 80 the tube and having an abrading-surface engaged frictionally with the headed end of the match to ignite it and the torch when withdrawing the cap from the tube, substantially as set forth. 85

5. In a pyrotechnic signal, the combination of a tube containing an inflammable composition, oppositely-disposed matches embedded in the composition and having their headed ends projecting beyond opposite sides of the 90 tube, and a cap removably fitted upon the tube and having oppositely-disposed abrading-surfaces with intervening spaces between their adjacent longitudinal edge portions, substantially as and for the purpose set 95 forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

OSCAR V. WOOD.
FRANK DUTCHER.

Witnesses:

J. V. JONES,
LAWRENCE HENRY.