

No. 768,065.

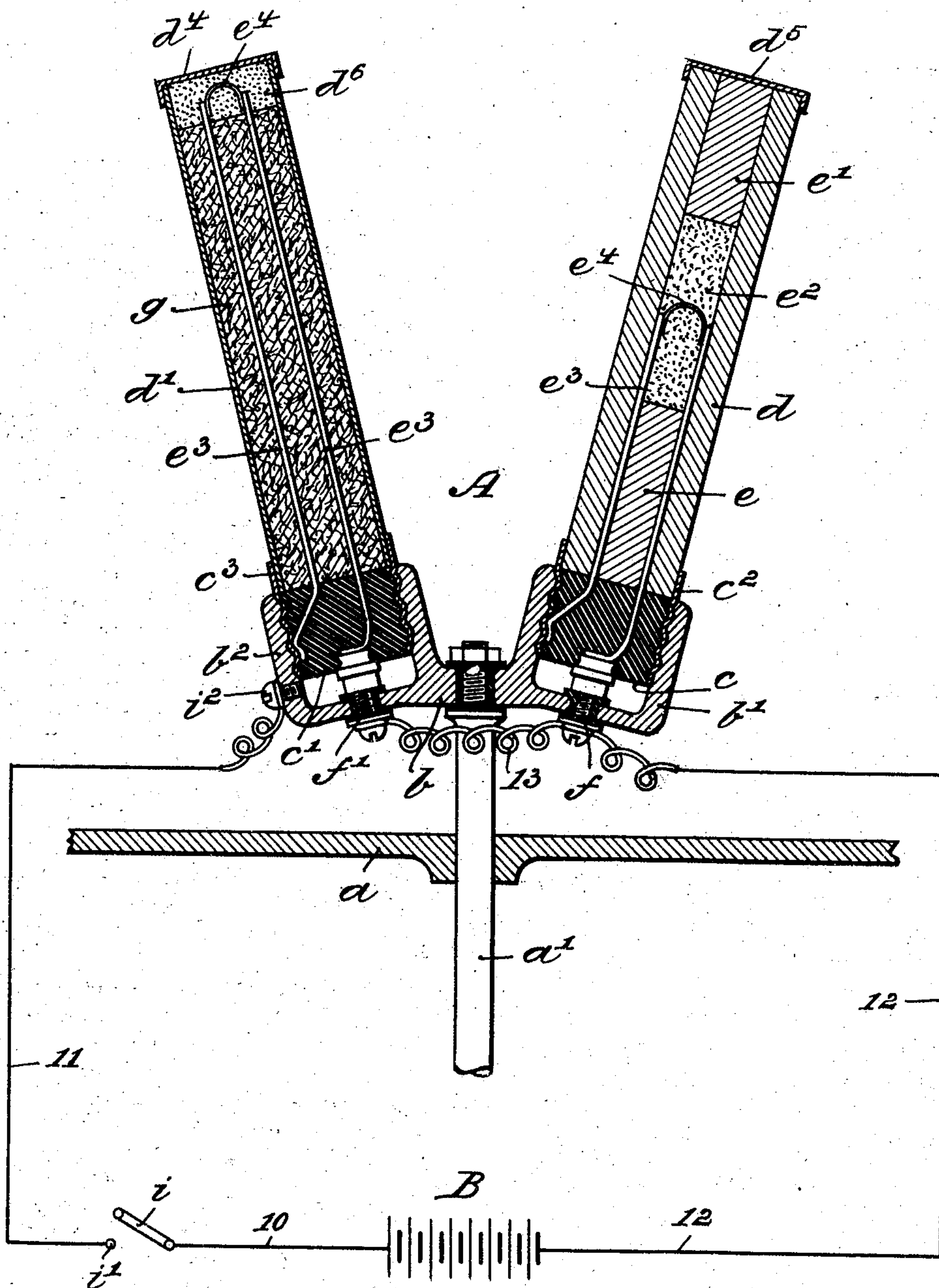
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J. C. MOORE.

PYROTECHNIC SIGNAL ALARM AND BURNING TORCH.

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NO MODEL.



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UNITED STATES PATENT OFFICE.

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PYROTECHNIC SIGNAL-ALARM AND BURNING TORCH.

SPECIFICATION forming part of Letters Patent No. 768,065, dated August 23, 1904.

Application filed March 3, 1904. Serial No. 196,275. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. MOORE, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Pyrotechnic Signal-Alarms and Burning Torches, of which the following is a specification.

My invention has relation to a pyrotechnic signal-alarm and burning torch adapted for use as a means of signal or alarm of fire or robbery of edifices or buildings, which device is intended to be suitably arranged outside of the edifice or building and of being actuated from within the edifice or building to give the signal or alarm by a momentary pyrotechnic display and continuing burning torch-light thereafter.

My invention, stated in general terms, consists of a pyrotechnic signal-alarm and burning torch for purposes stated, among others, hereinafter described and claimed.

The nature and characteristic features of my invention will be more fully understood from the following description, taken in connection with the accompanying drawing, forming part hereof, illustrating partly in vertical section and partly in elevation a pyrotechnic signal-alarm and burning torch embodying characteristic main features of my present invention.

Referring to the drawing, A represents the signal-alarm and torch consisting of a base *a*, through which extends a standard or support *a'*, carrying at the upper end, preferably, flaring or divergent metal sockets *b'* and *b''* of the alarm and torch. The standard or support *a'* is suitably insulated from the body *b*, integral with the sockets *b'* and *b''*. Within the sockets *b'* and *b''* are snugly fitted metal-faced insulating-plugs *c* and *c'*, provided with shells or tubing *d* and *d'*, projecting therefrom and supported by the metal facing *c''* and *c'''* of the plugs *c* and *c'* from the sockets *b'* and *b''*. Within the tubing or shell *d* is provided in the upper and lower portions suitable packing material *e* and *e'*, and interposed between this packing is introduced easily-ignited pyrotechnic material *e''*. In the shell or tubing *d* ex-

tends a fuse consisting, preferably, of two metallic strips *e''*, forming the terminals of an electric circuit by respectively engaging the metal facing *c''* of the plug and a binding post or screw *f*, extending through the base of the socket *b'*. The fuse-strips *e''* at their free upper ends are united by a wire *e'''*, of metal, adapted to become highly heated when the current passes through the same. In the socket *b''* the shell or tubing *d'* is constructed of suitable non-combustible material, within which a suitable slow-burning material *g* is loosely or otherwise packed, and within the body of the said material is introduced fuse-strips *e''*, similar to those already described, with their free ends united to a wire *e'''*, of metal, adapted to become highly heated to ignite the material *g* in the shell *d'* to cause a slow-burning torch to be established. The upper portion of both of the shells *d* and *d'* is closed by caps or covers *d''* and *d'''*. These caps are respectively removed or freed from the shells by the effect of an electric current in a manner to be hereinafter more fully explained. In the instance of the torch by an igniting of the easily-ignited pyrotechnic material *d''*, packed in the upper portion of the shell *d'*, the cap *d''* is forced off, while the cap *d'''* on the shell *d* and packing *e'* are forced off and out of the shell *d* by an igniting of the material *e''* to cause a pyrotechnic display to be given off, as an alarm, while at the same time or immediately thereafter the shell *d'*, with the cap removed, will exhibit simply a slow-burning torch as a means of continuing signal of the hazardous condition of the edifice or building or for whatever purpose the alarm and signal may be used.

B is a source of electric energy, such as a storage battery. From the battery B the line-circuit 10 is from one pole of the battery to a switch *i* and contact-point *i''*, by the line 11 from the point *i''* to a binding post or screw *i'''* of the socket *b''*, whence the current passes through the metal portions of the socket *b''*, metal facing *c'''* of the insulating-plug *c'*, fuse-strips *e''* and wire *e'''* of the slow-burning torch *d'*, to the binding post or screw *f'*, line-wire 13 and body *b*, to the socket *b'*, metal facing

of the plug *c*, fuse-strips *e*³ and wire *e*⁴ of the pyrotechnic signal-alarm *d*, and by the binding-post *f* of the socket *b*¹ and line 12 to the other pole of the battery B to complete the circuit and for electrically operating both the alarm and torch, as may be required. Both the torch and alarm are preferably controlled electrically from the switch *i*, located in any preferred position in the edifice, for making effective the use of the devices of my said invention. It will be observed from the drawing that the said device as arranged is simple in construction and is adapted to be readily taken apart for repairs or otherwise.

It will be manifestly obvious that modifications in the manner of the arrangement and mode of igniting the torch and alarm for producing the pyrotechnic signal-alarm and continuing slow-burning torch-light may be made besides the mode and manner of manipulating the same hereinbefore explained, and hence I do not wish to be understood as limiting myself to the particular arrangement illustrated and as hereinbefore explained; but, Having thus described the nature and object of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A pyrotechnic signal-alarm and burning torch, comprising a standard or support carrying sockets, shells or tubing removably connected with said sockets, ignitable and easily-ignited pyrotechnic materials or substances respectively packed in said shells or tubing adapted to produce slow burning and a pyrotechnic display, fuses in said shells or tubing about said materials or substances, and means suitably mounted in said shells and connected with a source of energy for igniting said sub-

stances or materials, substantially as and for the purposes described. 40

2. A pyrotechnic signal-alarm and burning torch, comprising supported sockets engaged by insulated metal-faced blocks, shells or tubing connected with the metal facing of said blocks, fuse-wires mounted in said shells or tubing and surrounded by substances or materials of respectively ignitable and easily-ignited pyrotechnic properties for producing slow burning and a pyrotechnic display, and electric means connected with the source of energy and with said sockets and fuses for igniting said materials or substances in said shells or tubing, substantially as and for the purposes described. 50

3. A pyrotechnic signal-alarm and burning torch, comprising supported shells or tubing respectively packed with an ignitable and with an easily-ignited pyrotechnic substance or material, one of said shells or tubing having in one portion a readily-ignitable material with a removable cap, while the other is provided with packings and with an easily-ignited pyrotechnic material interposed between the packings, fuse-strips provided with wires mounted in each of said shells or tubing, and means connected with a source of energy and with said supported shells or tubing and fuses, substantially as and for the purposes described. 65

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses. 70

JAMES C. MOORE.

Witnesses:

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