

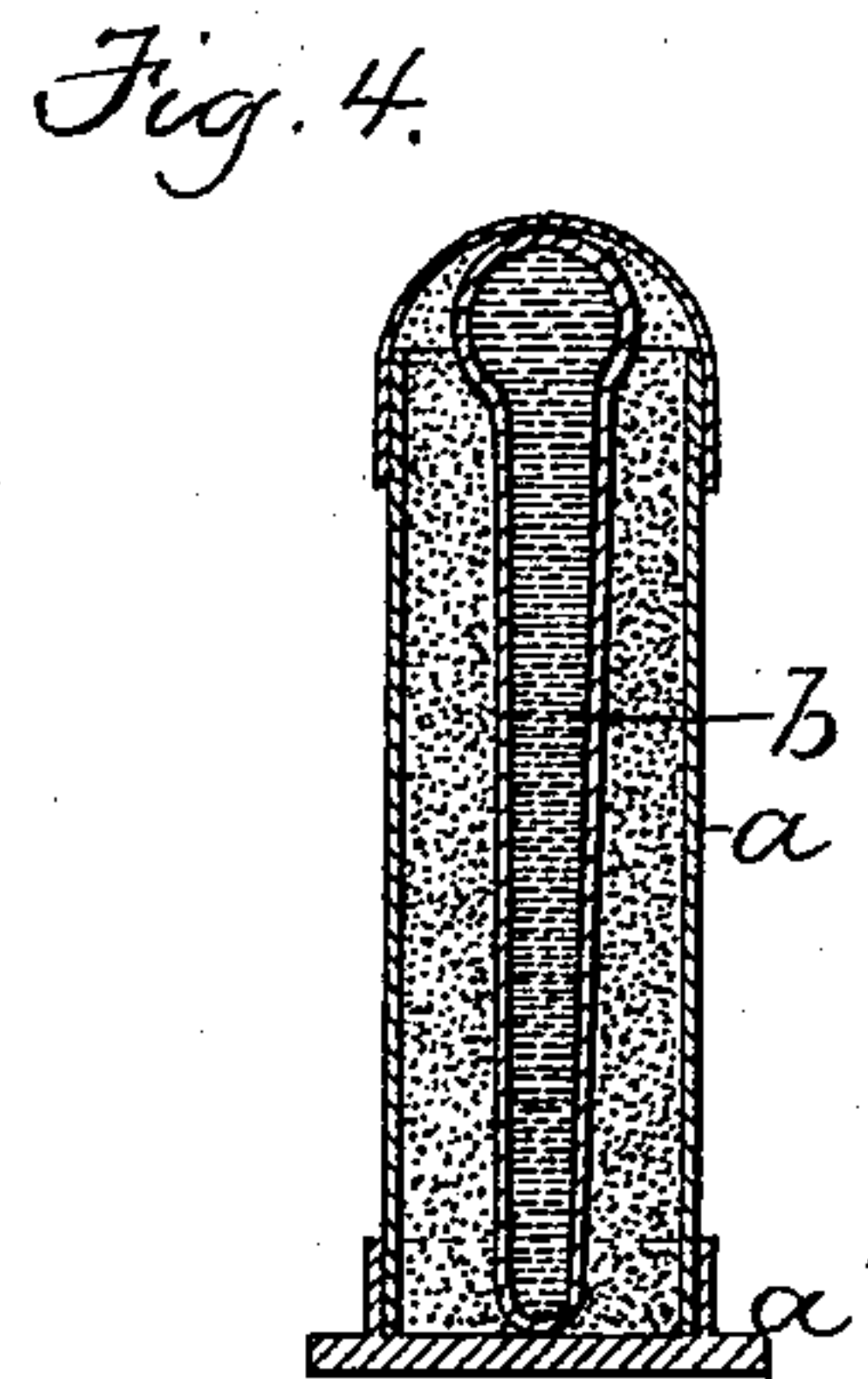
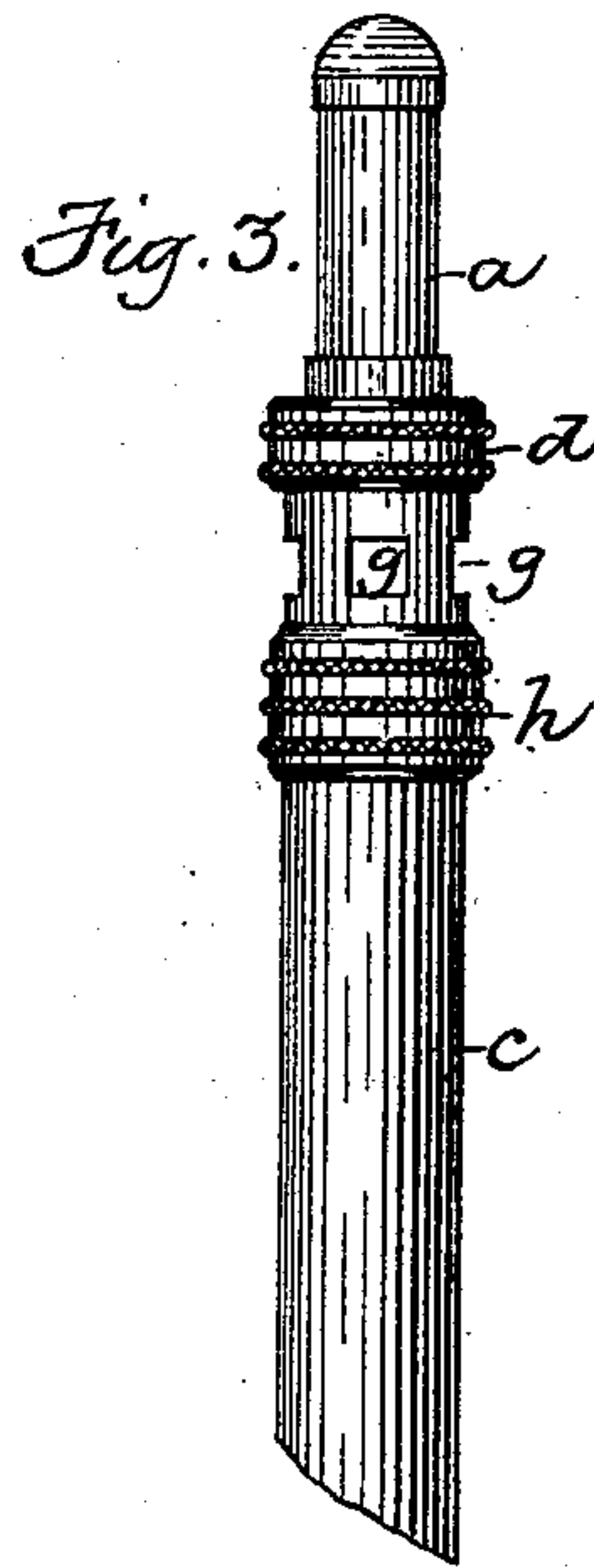
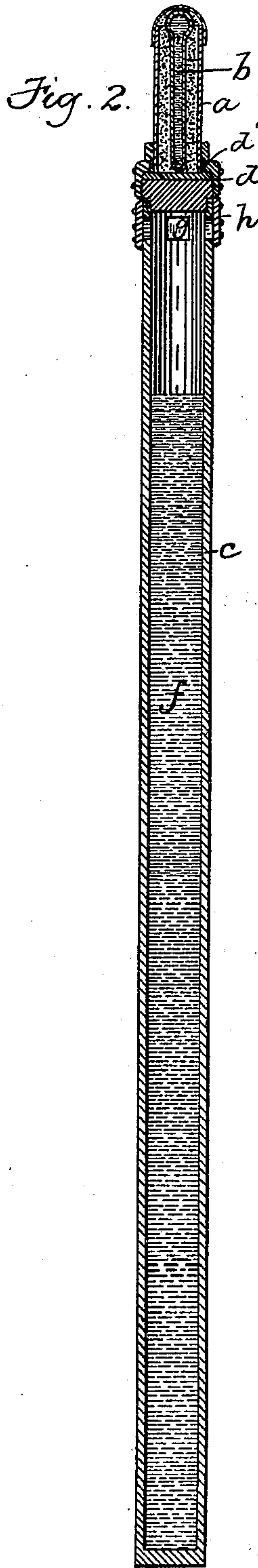
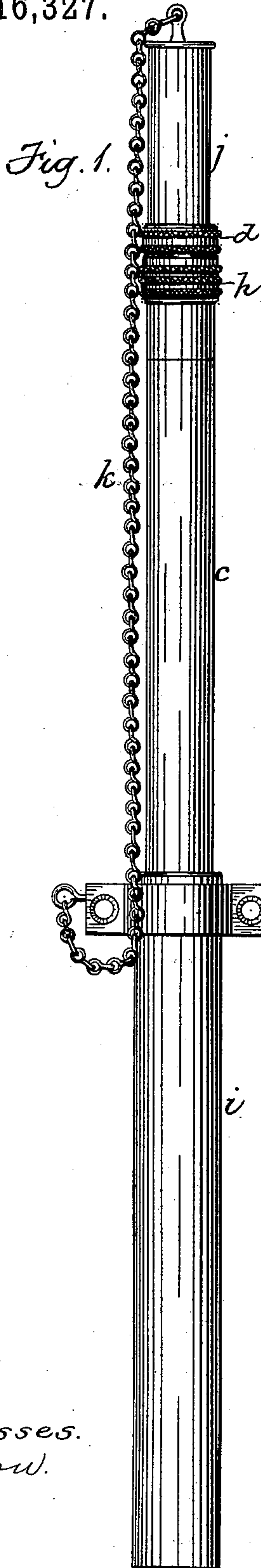
(No Model.)

G. W. BROWN.

FIRE KINDLER.

No. 316,327.

Patented Apr. 21, 1885.



Witnesses.
H. Brown.
R. Powers

Inventor
Gilman N. Brown
by Wright H. Brown
Attys.

UNITED STATES PATENT OFFICE.

GILMAN W. BROWN, OF WEST NEWBURY, MASSACHUSETTS.

FIRE-KINDLER.

SPECIFICATION forming part of Letters Patent No. 316,327, dated April 21, 1885.

Application filed December 8, 1884. (No model.)

To all whom it may concern:

Be it known that I, GILMAN W. BROWN, of West Newbury, in the county of Essex and State of Massachusetts, have invented certain
5 Improvements in Fire-Kindlers, of which the following is a specification.

This invention has for its object to provide an improved device adapted to quickly kindle a fire in the fire-box of a steam fire-engine and
10 while the engine is in rapid motion.

The invention consists in the constructions and combination of parts hereinafter pointed out and claimed.

Of the accompanying drawings, forming a
15 part of this specification, Figure 1 represents a side elevation of my improved device contained in the socket which is provided for its reception. Fig. 2 represents a longitudinal section of the handle removed from the socket
20 and ready for use. Fig. 3 represents a side elevation of the package and a portion of the handle, showing the escape-orifices for the combustible liquid uncovered. Fig. 4 represents a longitudinal section of the package detached
25 from the handle.

The same letters of reference indicate the same parts in all the figures.

In carrying out my invention I inclose in a
30 shell or holder, *a*, a mixture of chlorate of potash and sugar, in about equal parts, by volume, and place in said mixture a glass tube or vial, *b*, containing sulphuric acid, the tube being tightly closed. This constitutes my improved
35 fire-kindling package, which is used by breaking the glass tube, thereby liberating the sulphuric acid, which mingles with the mixture of chlorate of potash and sugar, and causes a violent combustion, a flame being produced which is not easily extinguished by wind.

40 The shell or holder *a* is preferably an ordinary shotgun cartridge-shell composed of a tube of paper provided with a flanged metallic end, *a'*. The outer end of the shell is covered by a light paper cap, which only serves to keep
45 the ingredients in place in the shell, and yields readily when the package is struck against a hard object for the purpose of breaking the tube *b*.

The package is attached to a handle, *c*, by
50 means of a nut, *d*, having an inwardly-projecting flange, *d'*, which bears upon the flanged

end of the shell *a*, the nut being screwed upon the end of the handle *c*. When a package has been used, the shell *a* may be removed by unscrewing the nut *d*, and another charged shell
55 may be substituted for it. I prefer to make the handle *c* hollow, so that it can contain a combustible liquid, *f*, such as spirits of turpentine. Near the outer end of the handle are orifices *g g*, through which the liquid may be discharged.
60 Said orifices are covered by a sliding band, *h*, when it is desired to retain the liquid.

i represents a socket, which may be attached to any suitable part of a steam fire-engine, and is formed to receive the handle *c*.
65

A metal cap, *j*, formed to fit upon the outer end of the handle and cover the kindling-package, is connected to the socket by a chain, *k*, said cap preventing accidental breakage of the glass tube in the kindling-package.
70

Operation: When a fire is to be kindled, the fireman removes the handle *c* from its socket, and, after pouring the combustible liquid from the handle upon the fuel, strikes the kindling-package forcibly against a hard object. The
75 flame thus produced is directed upon the fuel and rapidly ignites it, the ingredients in a package of the size shown in Fig. 4 being capable of burning for about thirty seconds.

It will be seen that this operation can be per-
80 formed as readily when the engine is in motion as when standing still, the flame being unaffected by wind.

I do not limit myself to the use of the described chemical ingredients, as any other materials which are capable of producing a similar result may be substituted for them without departing from the spirit of my invention.
85

I claim—

1. A fire-kindling package consisting of a
90 shell of yielding material containing chemicals, as described, and an inclosed fragile holder containing another chemical, whereby by a blow on the outside of the yielding shell the fragile holder may be broken and its contents
95 released, substantially as described.

2. The combination, with a flanged paper case, of a retaining-handle, chemicals retained within the case by a proper cover, and a glass vessel containing chemicals placed within the
100 paper case, as set forth.

3. The combination, with a flanged paper

case containing chemicals, and a fragile vessel
of another chemical inclosed therewith, of a
hollow handle secured to the flange of the case,
and a stopper by which the aperture to said
5 handle may be closed, substantially as de-
scribed.

In testimony whereof I have signed my name

to this specification, in the presence of two sub-
scribing witnesses, this 1st day of December,
1884.

GILMAN W. BROWN.

Witnesses:

C. F. BROWN,

H. BORWN.