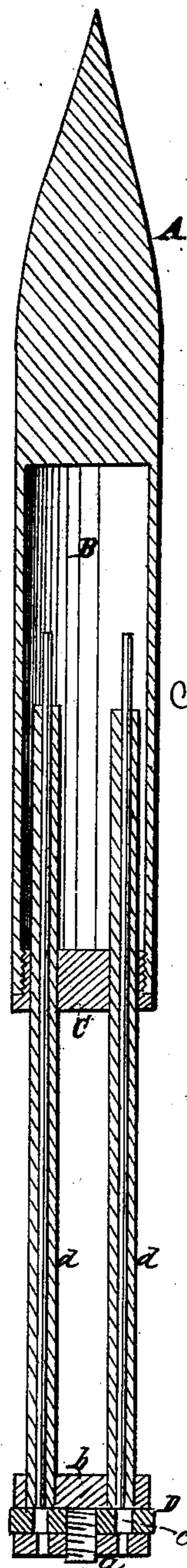
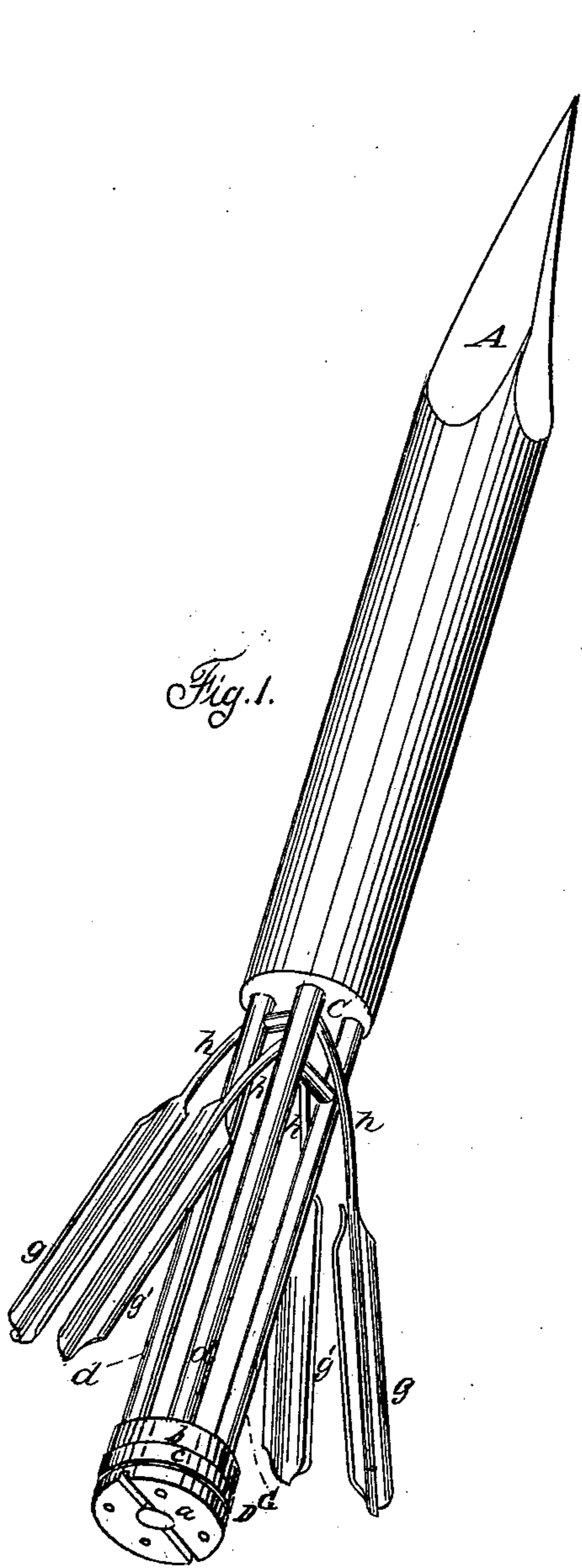


R. SIBLEY.

Bomb Lance.

No. 21,219.

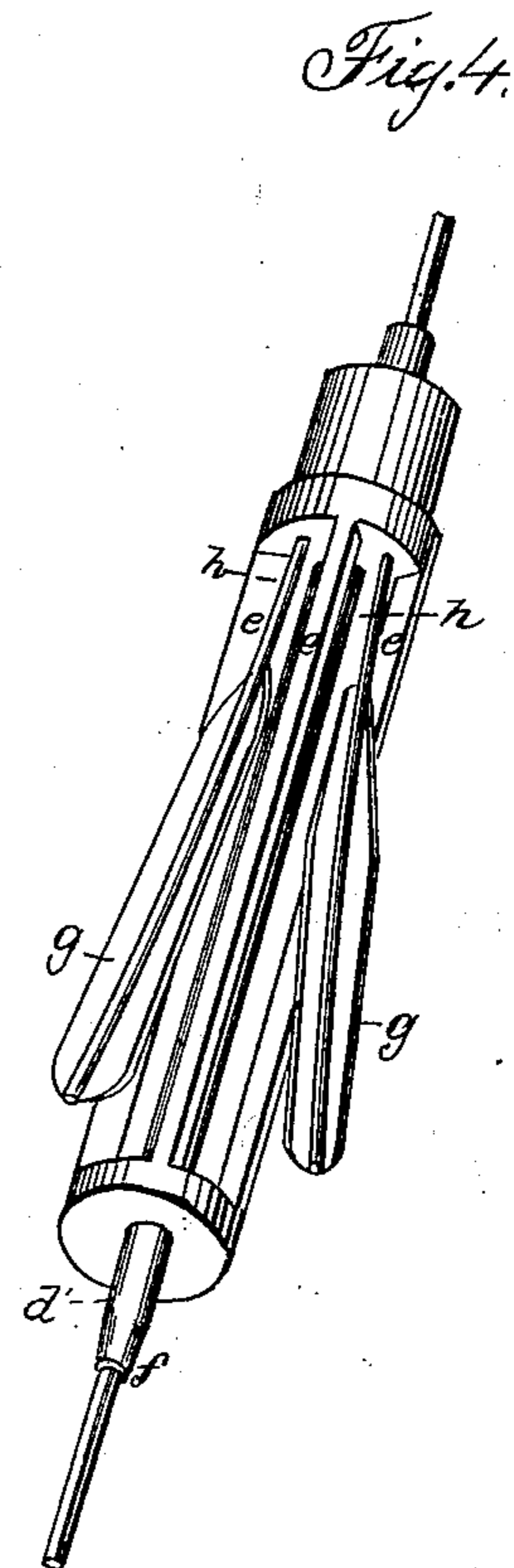
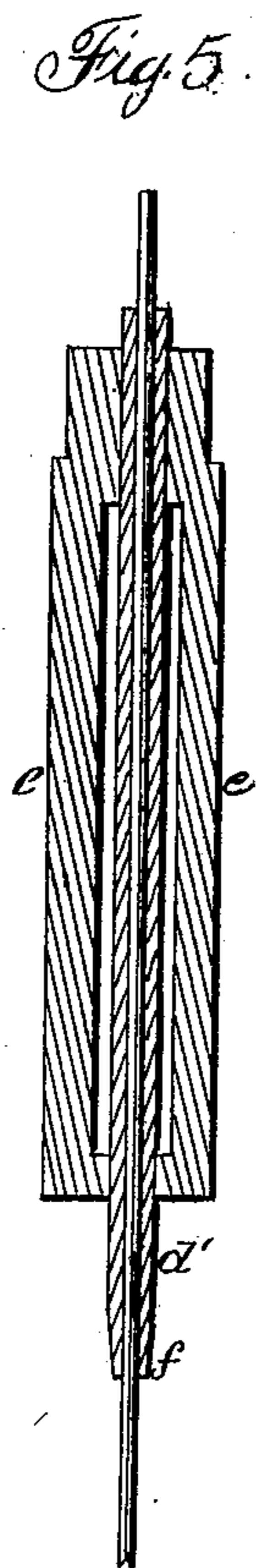
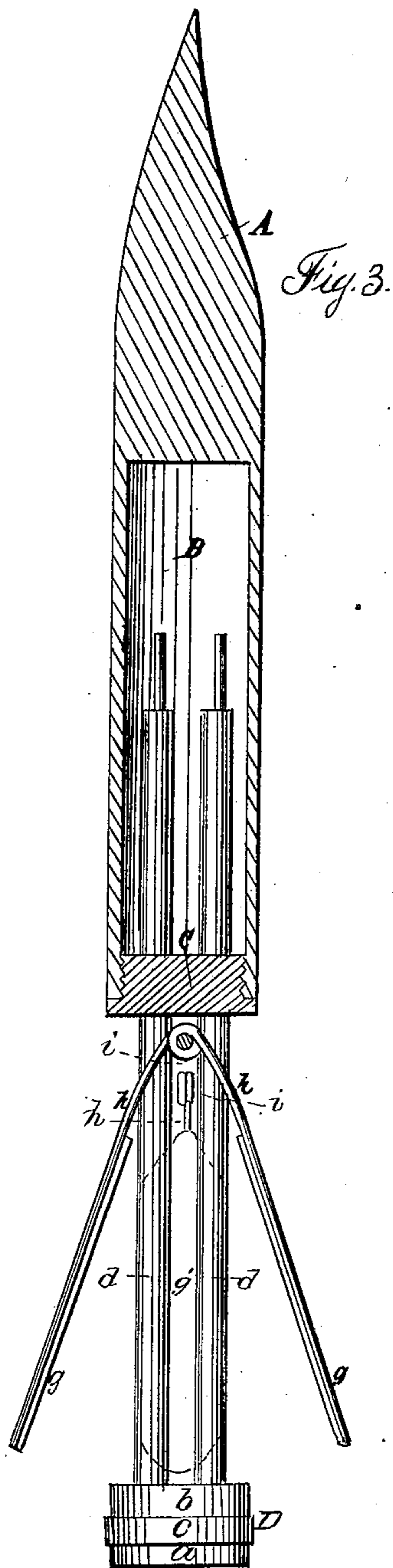
Patented Aug. 17, 1858.



R. SIBLEY.
Bomb Lance.

No. 21,219.

Patented Aug. 17, 1858.



UNITED STATES PATENT OFFICE.

RUFUS SIBLEY, OF GREENVILLE, CONNECTICUT.

IMPROVEMENT IN BOMB-LANCES.

Specification forming part of Letters Patent No. **21,219**, dated August 17, 1858.

To all whom it may concern:

Be it known that I, RUFUS SIBLEY, of Greenville, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Projectiles or Bomb-Lances; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view. Figs. 2 and 3 represent longitudinal sections taken through the center of the projectile or bomb-lance and at right angles to each other. Fig. 4 represents, in perspective, a modification of the general plan; and Fig. 5 represents a longitudinal section through Fig. 4.

Similar letters of reference where they occur in the several figures denote like parts of the contrivance in all the figures.

My invention consists, first, in making the shank or guiding part of the projectile in skeleton, for a purpose that will be described, and this whether the connections be made by solid bars or tubes; secondly, the confining of the fuse in the fuse-tube by compressing the end of the fuse-tube after the fuse is inserted; and, thirdly, the construction of the guiding-wings and their location, so as to be closed down upon the skeleton-shank, as will be hereinafter more particularly specified.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A represents the forward part of the bomb, which is formed with a chamber, B, for containing powder, and access may be had to said chamber through the nut C at its base; or, in case the forward part of the bomb be cast, the rear piece may be cast solid in it, and then access to the powder-chamber can be had by making the forward end to go on or off by a screw, in which latter case the bomb need not be charged with powder until it is to be used, while in the former case it must be charged in the making of the bomb, which is not desirable, as the powder sometimes becomes damp at sea.

D is the base of the bomb or projectile. It is composed of two metallic disks, *a b*, which hold a leather disk, *c*, between them, the lat-

ter being of the proper size to fit snugly and tightly the bore of the gun from which it is to be fired. This base D and forward part, A, of the bomb are connected together by the hollow tubes *d d d*, &c., as in Figs. 1, 2, 3, or by bars *e e e*, &c., which need not be hollow, as shown in Figs. 4, 5, the object being to make a skeleton-connection between the front and base strong enough to resist all strain and yet leave room for the wings to fold down into when the bomb is inserted in the bore of the gun. When the tubes *d* are used for this purpose, then fuses may pass through the whole, or any number of them, which will make ignition of the powder in the chamber B much more certain, for a single fuse sometimes fails, while two, three, or four would not be likely to do so.

When the bars *e* are used for the connecting of the front and rear of the bomb, then a tube, *d'*, may be used for a fuse-tube, and the fuse is fastened in these tubes by drawing down the end of the tube on the fuse after it is inserted, as shown at *f*, Figs. 4 and 5. This manner of drawing down the ends of the fuse-tubes effectually prevents the fire from driving past the joint, while it dispenses with the plugs and compositions heretofore used for that purpose.

The tubes *d* or bars *e*, if found necessary, may be braced to each other to give them greater strength.

The disks *a b c* have suitable holes through them, so that the fuse or fuses may be ignited by the powder that throws the projectile or bomb from the gun.

The fuse-tubes may just enter the powder-chamber, or they may extend some distance into them, even to the very end thereof, just as it may be necessary to explode the powder at an earlier or later period.

The wings *g g g' g'* may be hung in pairs to spring-rods *h*, which have an eye formed in them, through which a pivot, *i*, passes, as seen in Fig. 3. By this way of hanging the wings in pairs, and loose, if either one should be bent out of true the pair will adjust themselves on their pivot, and not cause the bomb or projectile to be thrown out of its direct line. These wings *g g'*, when the bomb is to be loaded into the gun, are pressed down against the action of their spring-connections *h* into the spaces

between the tubes or bars, into which they snugly fit. When the bomb or projectile is thrown from the gun these wings are thrown out by the springs *h* with their flat sides to the air, and they immediately find an equilibrium of resistance by rocking on their pivots.

Another way of uniting the wings to the bomb is singly, as shown in Fig. 4, each wing having its own spring-shank *h'*, but all closing down into the spaces between the bars *e*, as in the other case where used in pairs.

By this construction of projectile or bomb many of the inconveniences heretofore encountered have been avoided and the instrument much simplified.

To make a projectile it may be changed slightly in form from what is shown; but the principle would still be the same, and the invention be equally applicable as an instrument of war or for killing whales.

Having thus fully described the nature and

object of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. Uniting the front and base of the bomb or projectile by tubes or bars in skeleton, substantially as set forth.

2. Confining the fuse in the fuse-tube by drawing down the end of the tube upon the fuse after it is placed therein, for the purpose set forth.

3. In combination with the skeleton shank or connection, the wings *g g'*, whether used in pairs or singly, but so that they may be pressed down into and snugly fit the spaces between the skeleton ribs, tubes, or bars and be thrown out when the bomb is projected, as herein set forth.

RUFUS SIBLEY.

Witnesses:

CHARLES C. FULLER,
WM. H. PAGE.