R. SIBLEY.

Bomb Lance.

No. 17,173. Patented Apr. 28, 1857.

Fig. 1.

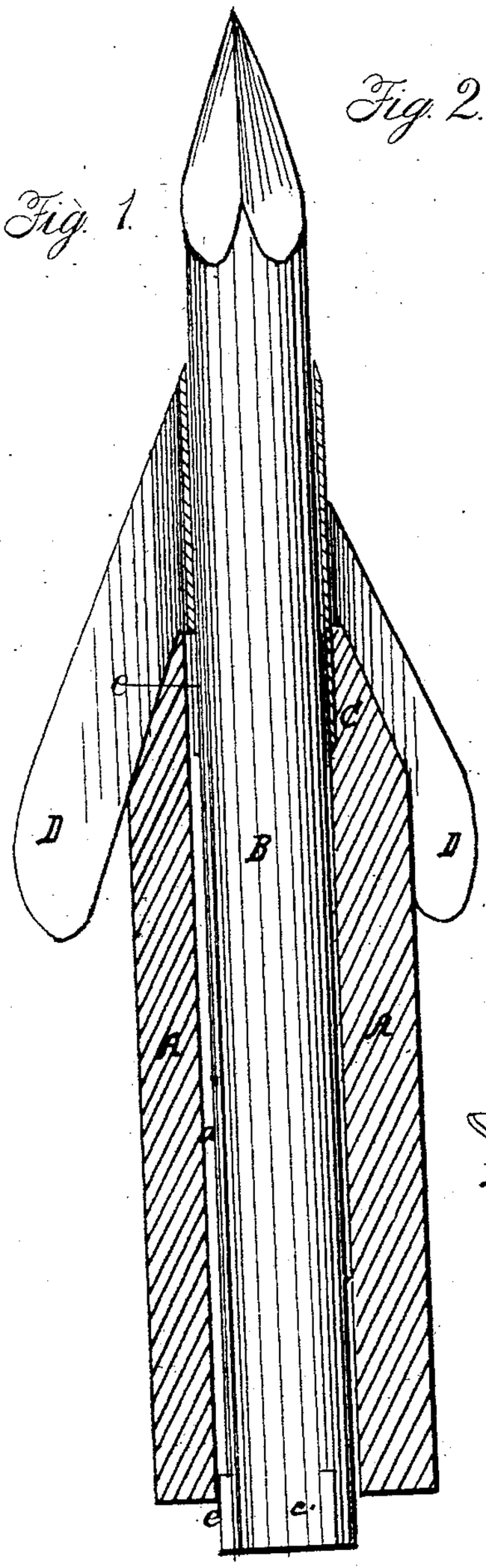


Fig. 2.

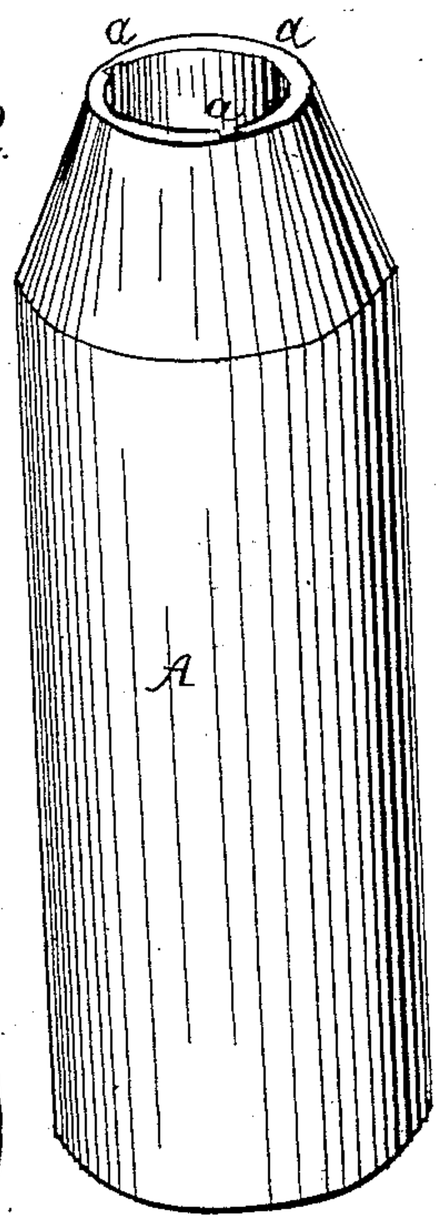


Fig. 3.

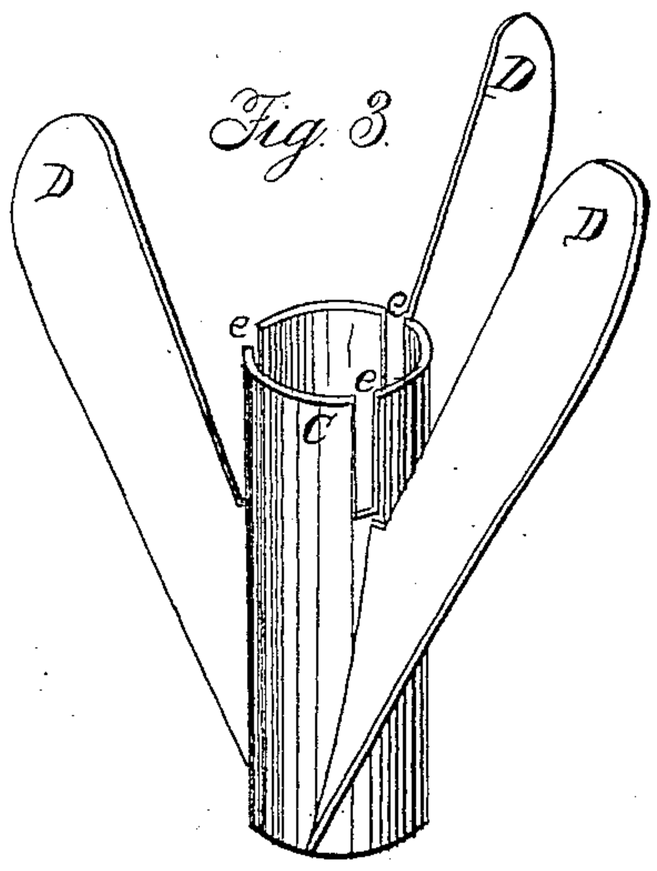


Fig. 4.

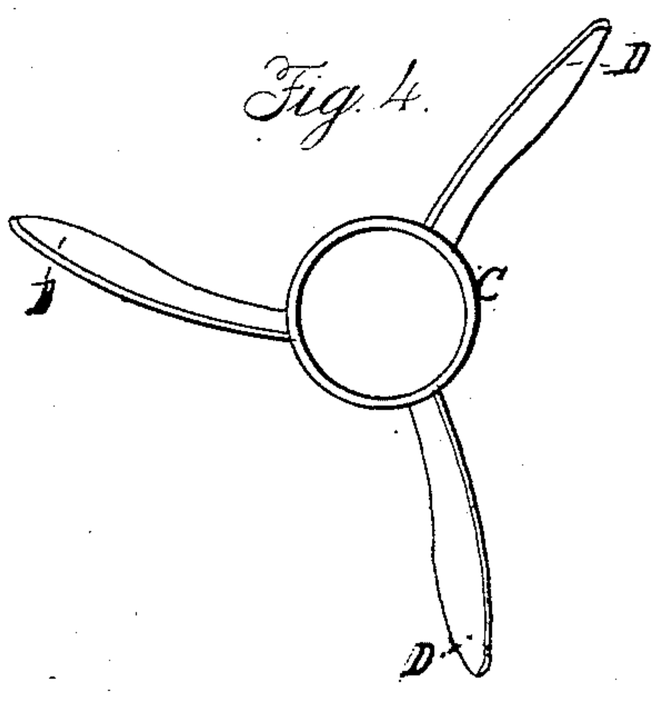
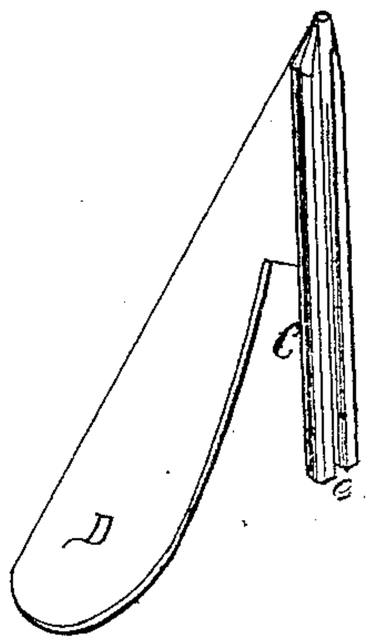


Fig. 5.



UNITED STATES PATENT OFFICE.

RUFUS SIBLEY, OF GREENVILLE, CONNECTICUT.

IMPROVEMENT IN BOMB-LANCES.

Specification forming part of Letters Patent No. **17,173**, dated April 28, 1857.

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 Bomb-Lances; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1 represents, in section, a portion of the gun-barrel from which the lance or projectile is fired, and in full the lance with the wings that are to direct it in place. Fig. 2 represents a portion of the barrel in perspective. Fig. 3 represents the wings and their cylinder detached and inverted to better show the slots in it. Fig. 4 represents a front view of the wings, and Fig. 5 represents a modified form of the wing.

Similar letters of reference, where they occur in the several figures, denote like parts of the bomb-lance or projectile in all of them.

Many forms of guiding-wings for bomb-lances have been essayed, all of which have been so arranged as to require to be put into the gun with the lance. These have many objections; but I need not enumerate them, and my object in referring to them is simply to more clearly point out my invention, which consists in causing a lance or projectile to take from the muzzle of the gun the wings that are to rotate and guide it through the air or water, and thus avoid the necessity of hinging, folding, or loading the wings with the projectile, as heretofore done; and my invention also consists in so shaping the muzzle end of the barrel or gun from which the projectile is fired as that the wings may come close down to the barrel.

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 gun-barrel, which is about twenty inches in length, and has formed in its bore, say, three grooves, *a a a*, into which three ribs or projections, *c c c*, on the rear end of the projectile or lance B slide when said lance is inserted into the barrel and forced down upon the charge of powder therein. The muzzle of the gun is counterbored, so as to receive within it the cylinder part C of the wings. (Shown in Fig. 3.) The part of the cylinder C which enters the bore of the gun is also furnished with slots *e e e*, corresponding with the grooves *a a a* in the barrel, and when in place should be in line with the grooves in the barrel, so that when the lance is discharged it shall pass through said cylinder C, its nibs or projections *c c c* passing through the grooves *a a a* into the slots *e e e* to their termination, and then they take the cylinder with its wings D. Thus the lance takes its wings from the muzzle of the gun, the two things being separate from each other, but held together by the projections, slots, and the cylinder surrounding the lance. If further attachment or connection between the lance and guiding-wings be necessary, the cylinder C may be so formed as that after it has left the gun it may spring around the lance, and thus hold itself in place more firmly. The wings D may be straight or spiral, and are connected to the front end of the cylinder C, and cut under at their rear, so as to extend back from the point of the muzzle of the gun. The muzzle end of the barrel, as shown in Fig. 1, is also cut away or tapered, to allow the wings to come back and close down to the barrel.

I have represented three sets of grooves, projections, and slots. Of course, I do not limit the number nor restrict myself to any number; and, instead of arranging these things specially, as represented, the tube or cylinder C may have nibs or projections on its inside, and the bomb be grooved to within a short distance of the rear end and corresponding to the nibs in said tube; or these lances or projectiles may be fired from a gun without grooves, the bomb sliding through the tube until the nibs in the tube catch the ungrooved part of the bomb, and thus direct its passage, as heretofore described; but I prefer grooving the barrel as being less expensive than grooving the bombs or lances.

In Fig. 5 I have shown a single wing, which may be used without a tube, and which also can be taken off by a nib or projection on the lance or bomb; and the wings may be attached to the tube by strips of metal, and project so far rearward that they may spring together in rear of the lance when it enters a whale or other object. There are various ways by which the wings may be taken from the gun by the lance or projectile and many obvious modi-

cations of this general principle of having the lance or projectile, and the wings that are to guide it separate and independent of each other, and causing said lance or projectile to take its wings after it has started or from the end of the barrel.

Instead of sloping off the entire end of the barrel to allow the wings of the projectile to fit down close thereto, inclined grooves may be cut therein to allow the wings to slide into, and these grooves may be so cut or arranged as to correspond or be in line with the grooves in the barrel, and thus be a guide or directrix to the proper placing of the projectile in the end of said barrel.

Having thus fully described the nature of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. Causing a bomb lance or projectile to take the wings that are to guide it through the air or water from the muzzle of the gun from which it is discharged, substantially in the manner herein set forth and explained.

2. Sloping the muzzle of the gun so that the wings may come back and close down to the barrel, substantially as set forth.

RUFUS SIBLEY.

Witnesses:

JOHN S. MOWRY,

CHARLES C. FULLER.