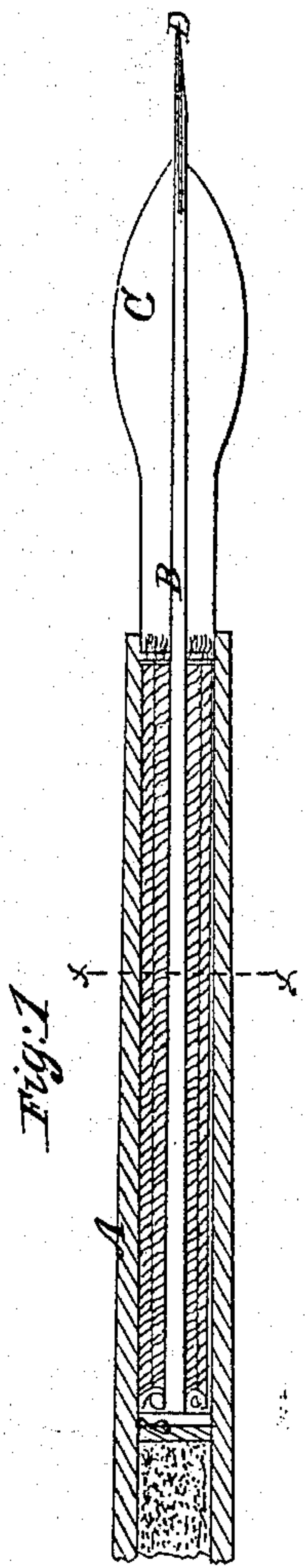


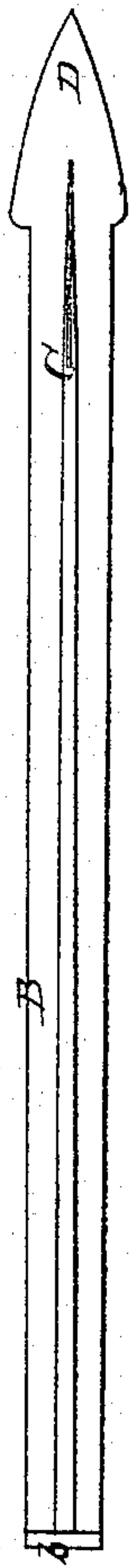
# R. BROWN. Bomb Lance.

No. 7,572.

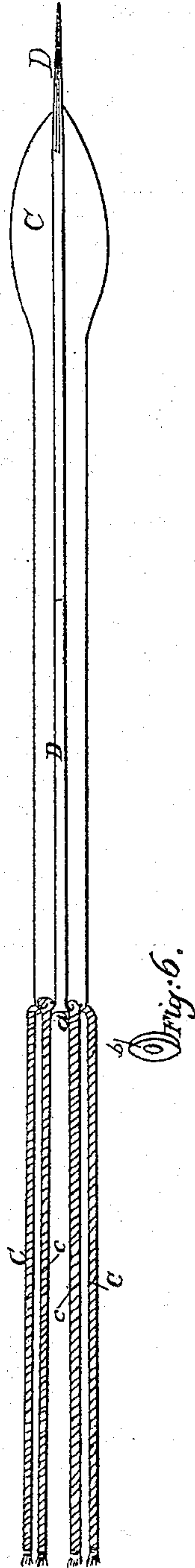
Patented Aug. 20, 1850.



*Fig: 3*



*Fig: 2.*



*Fig: 4* *Fig: 5*



## UNITED STATES PATENT OFFICE.

ROBERT BROWN, OF NEW LONDON, CONNECTICUT.

## IMPROVEMENT IN GUN HARPOONS AND LANCES.

Specification forming part of Letters Patent No. 7,572, dated August 20, 1850.

*To all whom it may concern:*

Be it known that I, ROBERT BROWN, of the city and county of New London, in the State of Connecticut, have invented certain new and useful Improvements in Gun Lances and Harpoons for the Capture of Whales and other Animals, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings of the same, which make part of this specification, and in which—

Figure 1 is a side elevation of one of my lances loaded into a gun-barrel, a portion of the latter being removed to exhibit more clearly the arrangement of the parts within it. Fig. 2 is a side elevation of the lance during its flight after being discharged from the barrel. Fig. 3 is an elevation of one of the sides of the lance at right angles to the side seen in Fig. 2. Fig. 4 is a view, in perspective, of the butt-end of the shank with its shoe or button in place. Fig. 5 is a similar view of the end of the shank with the shoe or button removed, and Fig. 6 is a like view of the shoe.

My invention and improvement consist, first, in attaching a tail of short cords (or their equivalent) to the butts of gun-lances in such manner that the cords can be laid by the side of the shank, loaded with it into the gun, and fired therefrom. The tail thus arranged will, during the flight of the lance, be extended behind it, and operate as a drag on its butt-end, keeping the latter back and the point forward, thereby rendering its flight in the direction in which it is aimed more certain.

Experiments have shown that the shoe or button at the butt-end of harpoons and lances prevents the lines attached thereto from trailing during their flight as nearly in a line with the shank as they would if left free to assume their position without obstruction from the button, and likewise that these buttons greatly retard the flight of the harpoon or lance by the great area which they oppose to the action of the air.

The object of the second part of my invention is to remedy these defects; and it consists in making the button separate from the shank and so attaching it thereto that it shall fall therefrom very soon after the lance leaves the muzzle of the gun.

My lance is composed of a fluted shank, B,

having a button or boss, *b*, on its butt-end, which fits the bore of the barrel of the gun when it is to be fired, and a double spear head blade at its front extremity. This double blade is composed of a blade, C, of the ordinary construction, with a second blade, D, secured at right angles thereto, the second blade projecting in advance of the first.

To the butt of the shank a series of cords *c c c c*, are tied. These cords form a tail, and drag behind the lance during its flight, as seen in Fig. 2. The friction between the tail and the air operates as a drag on the butt of the lance and keeps it back. The cords should be of uniform size and arranged symmetrical round the axis of the shank, so that they may drag behind it with equal force, and thus tend to keep the lance during its flight in the direction in which it was projected from the gun.

If the tail should not be symmetrical in its construction, or its axis should not be coincident with that of the shank of the lance, it would operate as a rudder to deflect the lance from the course in which it was aimed when fired. The section of the shank may be that of a cross, as represented in Fig. 5, or of a flat bar with concave sides, or of any other form the constructor may deem suitable.

The button *b* is shown in Fig. 1 affixed to the end of the shank and resting on the wall of the barrel which keeps the charge of powder in place. In Fig. 6 it is shown detached from the end of the shank. The button *b* consists of a disk of metal perforated in the center with a hole large enough to fit loosely upon the stem or pivot *o*, on the hind extremity of the shank.

During the act of firing the explosive force of the powder acts upon the button, which is driven out of the barrel, pushing before it the lance or harpoon. As soon as it leaves the muzzle the lines or cords attached to the shank press back against it and force it off the stem, but if the lines were not there to push it back, the resistance of the air would be sufficient to prevent that purpose.

As the button is, in general, lost, it is best to make it of some cheap material, and I prefer to make it of cast-iron; but it may be made of any other material the constructor chooses to employ. If such a modification should



preferred, a stem might project from the center of the button and enter a corresponding hole in the end of the shank.

Harpoons and lances thus constructed may be made of any suitable material. It is, however, of some importance to employ cheap materials, because of the frequency with which these instruments are lost, but especially the lances. For these, therefore, I would recommend cast-iron for the head and shank and spun yarn for the tail.

These lances and harpoons are loaded into and fired out of the gun in the usual manner, and therefore a particular description of these operations is deemed unnecessary.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Attaching a tail of cords, or their equivalent, to gun-lances, substantially in the manner and for the purpose herein set forth.

2. Attaching the button to the shank of gun harpoons or lances in such manner that when the lance or harpoon is discharged from the gun the button will drop off, being thereby prevented from retarding the flight and from deflecting the lance or harpoon from the line in which it is projected from the gun, substantially as described.

In testimony whereof I have hereunto subscribed my name.

ROBERT BROWN.

Witnesses:

P. H. WATSON,  
T. C. DONN.