

(No Model.)

A. SCHNEIDER.
BOMB LANCE.

No. 333,552.

Patented Jan. 5, 1886.

Fig 1.

Fig 2.

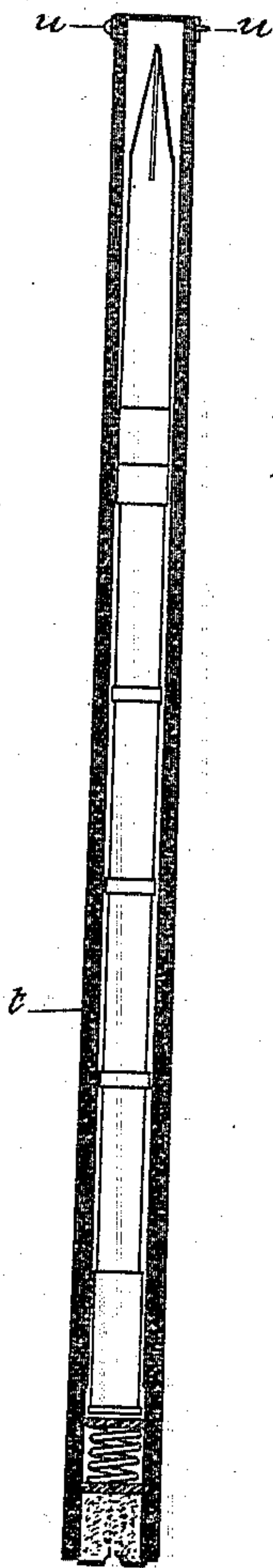


Fig 3.

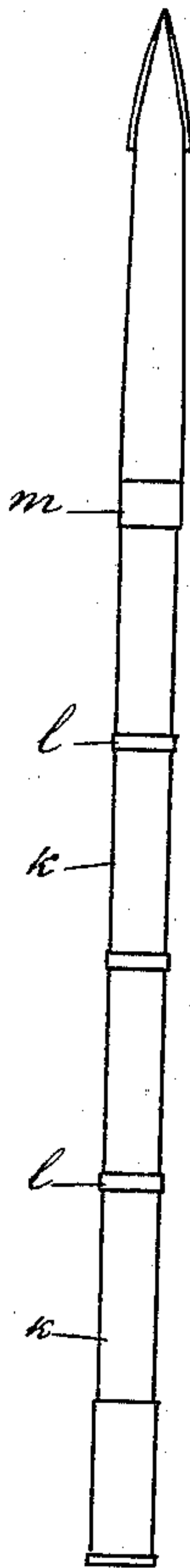


Fig 4.

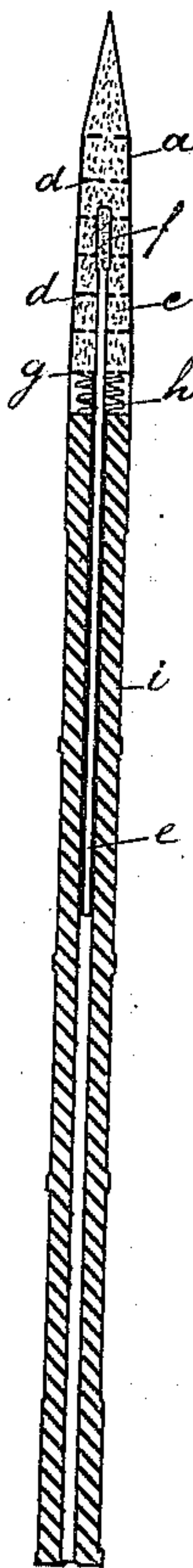


Fig 5.

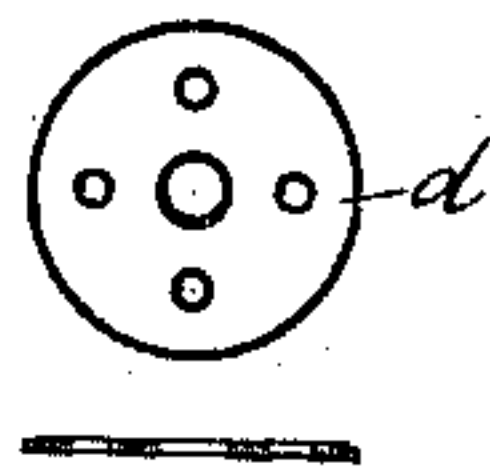


Fig 6.

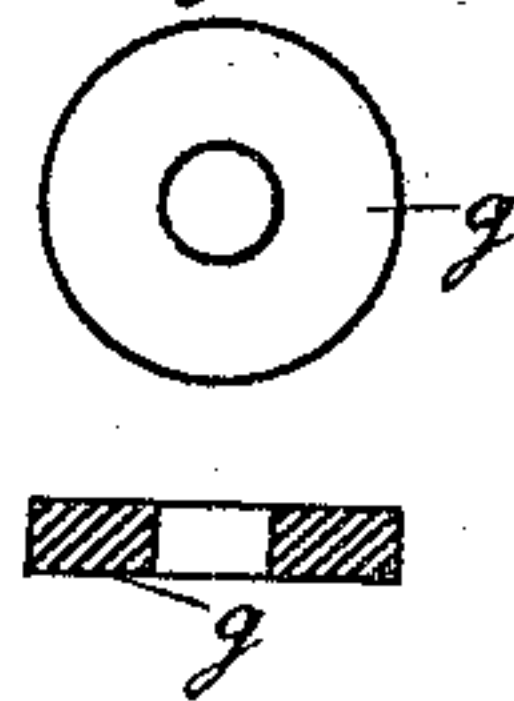


Fig 7.

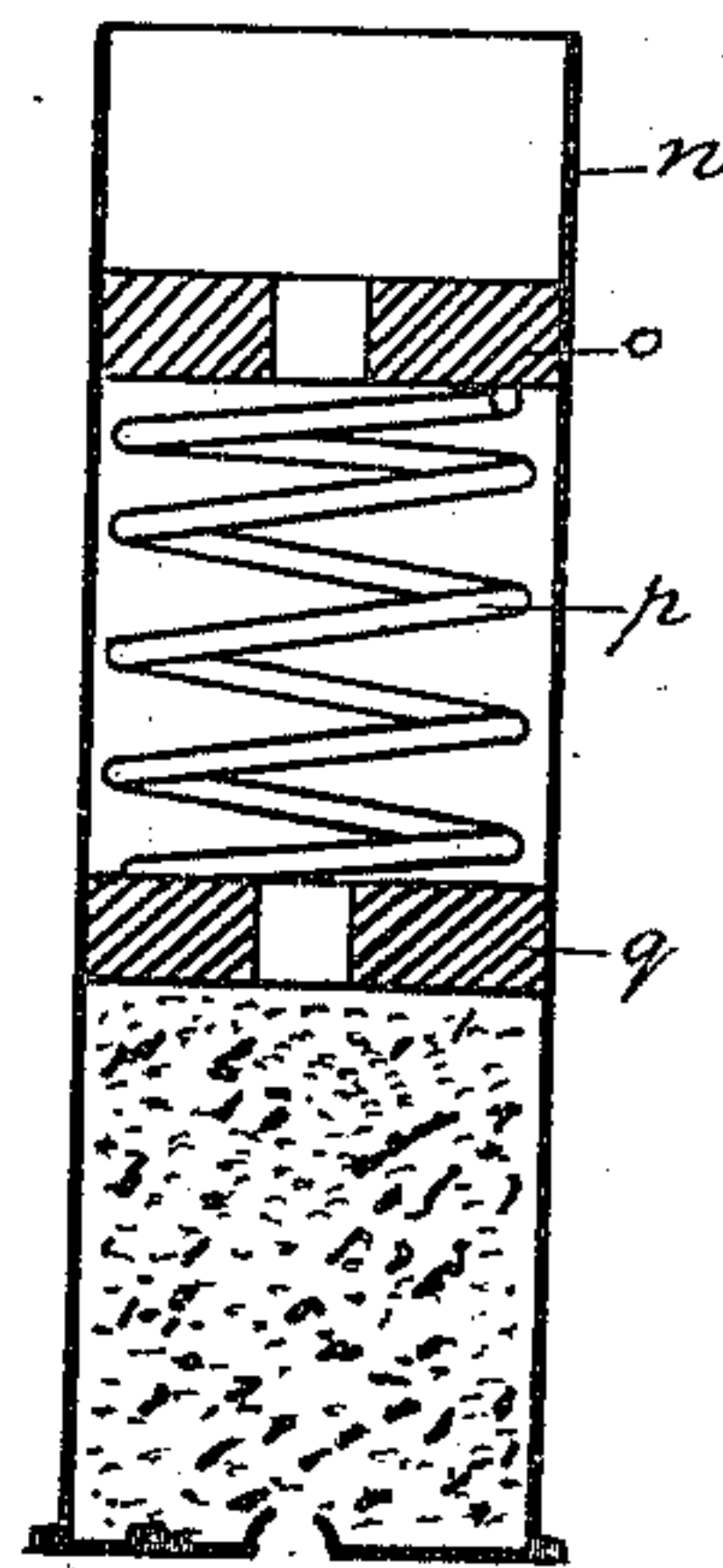
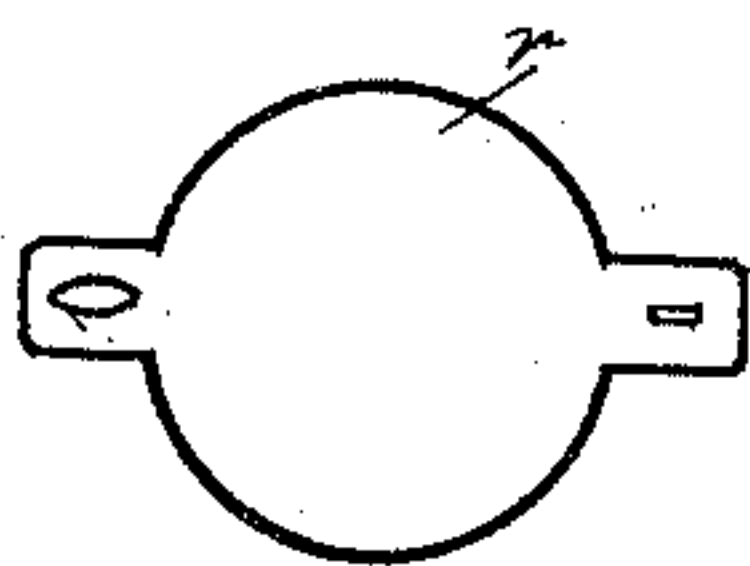


Fig 8.



Witnesses
S. A. Owen.

Wm Patterson

Inventor
Alois Schneider
By his atty.
Alphonse Smith

UNITED STATES PATENT OFFICE.

ALOIS SCHNEIDER, OF SAN FRANCISCO, CALIFORNIA.

BOMB-LANCE.

SPECIFICATION forming part of Letters Patent No. 333,552, dated January 5, 1886.

Application filed June 20, 1885. Serial No. 169,317. (No model.)

To all whom it may concern:

Be it known that I, ALOIS SCHNEIDER, a resident of San Francisco city and county, State of California, have invented a new and useful High-Explosive Bomb; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings.

My invention relates to means for providing a bomb having high-explosive force, and securing the explosive material and the fuse from friction and concussion, and adapting the same for use in the whale-fishery and other purposes.

The following description fully explains the nature of my said invention and the manner in which I proceed to construct, apply, and use the same, the accompanying drawings being referred to by figures and letters.

Figure 1 represents a section of a full-size bomb, showing the steel shell with its conical end armed with lances, the dynamite or other explosive charge separated in sections by rubber disks, the fuse passing through the sections of the explosive and the rubber disks and surrounded by a detonating cap, the perforated rubber wad at the bottom of the charge, the rubber bag inclosing the charge, spiral spring between the rubber wad and the threaded top of the hollow wooden rod to which the steel shell is screwed. Fig. 2 represents a section of a gun-barrel having the bomb in position for use, the coiled spring, wads, and charge in the cartridge-shell, and the attachment for the rubber cap on the muzzle. Fig. 3 represents elevation of the bomb. Fig. 4 represents a longitudinal section through the bomb. Fig. 5 gives two views of the rubber disks, showing the holes in them. Fig. 6 gives two views of the rubber wad, showing the hole for the fuse. Fig. 7 represents a section of the cartridge-shell, showing the wads, the spiral recoil-spring, and the charge. Fig. 8 is a plan view of the rubber cap with lugs extended for attaching to the muzzle of the gun.

In Fig. 1, *a* is the steel shell; *b*, lances on conical end of shell; *c*, sections of dynamite or other explosive; *d*, rubber disks with holes between sections of dynamite; *e*, fuse incased in rubber; *f*, detonating-cap on upper end of fuse; *g*, rubber wad with central hole at bottom of dynamite charge; *h*, spiral spring between rubber wad and top of hollow wooden

rod or cylinder; *i*, wooden rod, and *j* threaded top of wooden rod.

In Fig. 2, *t* is the gun-barrel holding the bomb, and *u* attachment for rubber cap on muzzle.

In Fig. 3, *k* represents recessed spaces on wooden rod; *l*, rings between the spaces on rod, and *m* junction of rod with the steel shell.

In Fig. 4, *a* is the steel shell; *c*, sections of dynamite between rubber disks; *d e*, rubber-covered fuse; *f*, detonating-cap on fuse; *g*, rubber wad at bottom of charge; *h*, spiral spring between the rubber wad and the top of the wooden rod *i*.

In Figs. 5, 6, *d* is the perforated rubber disks between the sections of dynamite, and *g* the perforated rubber wad.

In Fig. 7, *u* is the cartridge-shell for gun; *o*, upper wad; *p*, spiral recoil-spring, and *q* lower wad.

In Fig. 8, *r* is rubber cap for attaching to muzzle of gun.

My high-explosive bomb consists of a steel shell, *a*, tapering gradually from the base to the conical apex, where it is armed with two or more lances, *b*. The base of the shell is threaded to fit over the threaded top *j* of a hollow wooden rod, *i*. The wooden rod is of any suitable length or caliber, and has in its length recessed spaces *k*, around which are wound threads of linen or silk or other material to re-enforce the rod. Between the spaces there are rings *l*, formed in cutting the recesses, which serve as guides to the bomb in passing out of the gun-barrel. The fuse *e* is covered with rubber and passes from the shell into the rod. Dynamite or other high explosive is cut in sections *c*, which are separated by rubber disks *d*, perforated in the center for the passage of the fuse and near the rim for the escape of gases. At the bottom of the charge of the explosive there is a perforated rubber wad, *g*, and under the wad there is a spiral spring, *h*, which rests upon the wooden rod. The rubber-covered fuse passes through the spring and rubber wad and rubber disks to about the middle of the explosive, and is surrounded by a detonating-cap, *f*. The charge thus prepared is inclosed from the rubber rod *g* to the uppermost point in the apex of the steel shell in a rubber bag, *v*, Fig. 1.

In preparing to use the bomb the end of the

fuse, the length of which is determined by the distance the bomb is to be thrown, is attached to the inside of the wooden rod by an adhesive. The bomb is inserted in the breech of an ordi-

5 nary shotgun and is entirely within the barrel. In using a breech-loading shotgun I have provided a cartridge-shell, Fig. 7, in which a spiral recoil-spring is placed between the wads. Each wad has a hole in the center, and the
10 lower wad is covered with thin cloth or paper to prevent the escape of the gunpowder. The muzzle of the gun is provided with a rubber cap to protect the bomb from the inflow of water.

15 I claim that in my high-explosive bomb the manner of packing the explosive material between rubber disks and inclosing it in a rubber bag prevents friction and concussion, the rubber bag prevents saturation and leakage of
20 the explosive material, and the rubber packing and the tapering form of the shell imparts a degree of elasticity to the charge. The holes near the rim of the rubber disks permit the free passage of gases from section to section,
25 and induce a simultaneous explosion of the

whole charge. The spiral spring at the bottom of the charge checks the recoil and prevents the charge from being forced backward, and the rubber covering of the fuse prevents friction, and, while it is burning, spitting into the
30 explosive charge and prematurely exploding it.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The fuse *e*, covered with rubber, perforated
35 rubber disks *d* between sections of the explosive material, rubber bag *v*, for inclosing the charge, perforated rubber wad *g* at bottom of the charge, spiral spring *h*, hollow wooden rod
40 *i*, having guide-rings *l*, and recessed spaces *k*, in combination with the steel shell *a*, armed with lances *b*, and screwed to the wooden rod, substantially as described, and for the purpose set forth.

ALOIS SCHNEIDER. [L. S.]

Witnesses:

A. B. SMITH,
SADIE E. SMITH,
G. C. KNAPP.