

(No Model.)

H. B. LITTLEPAGE.
PROJECTILE.

No. 275,674.

Patented Apr. 10, 1883.

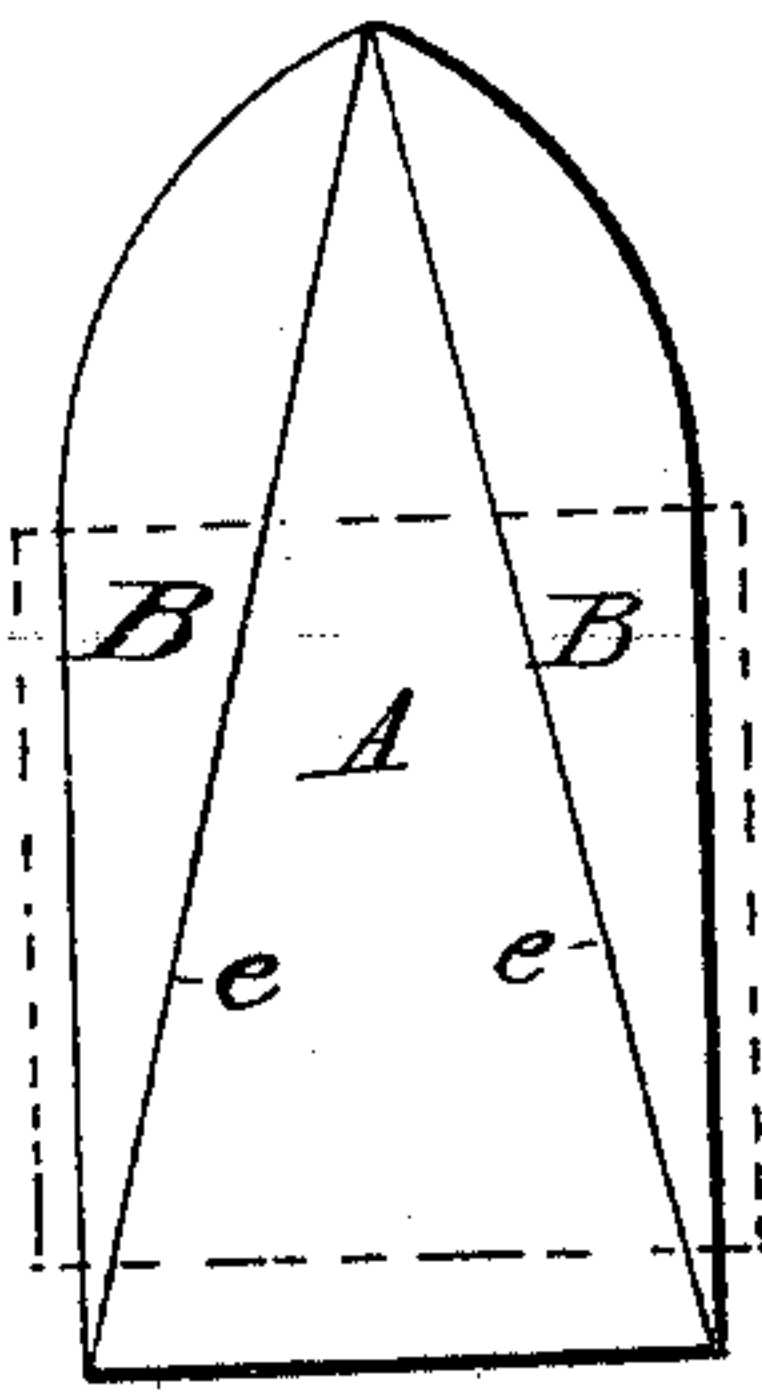


Fig. 1.

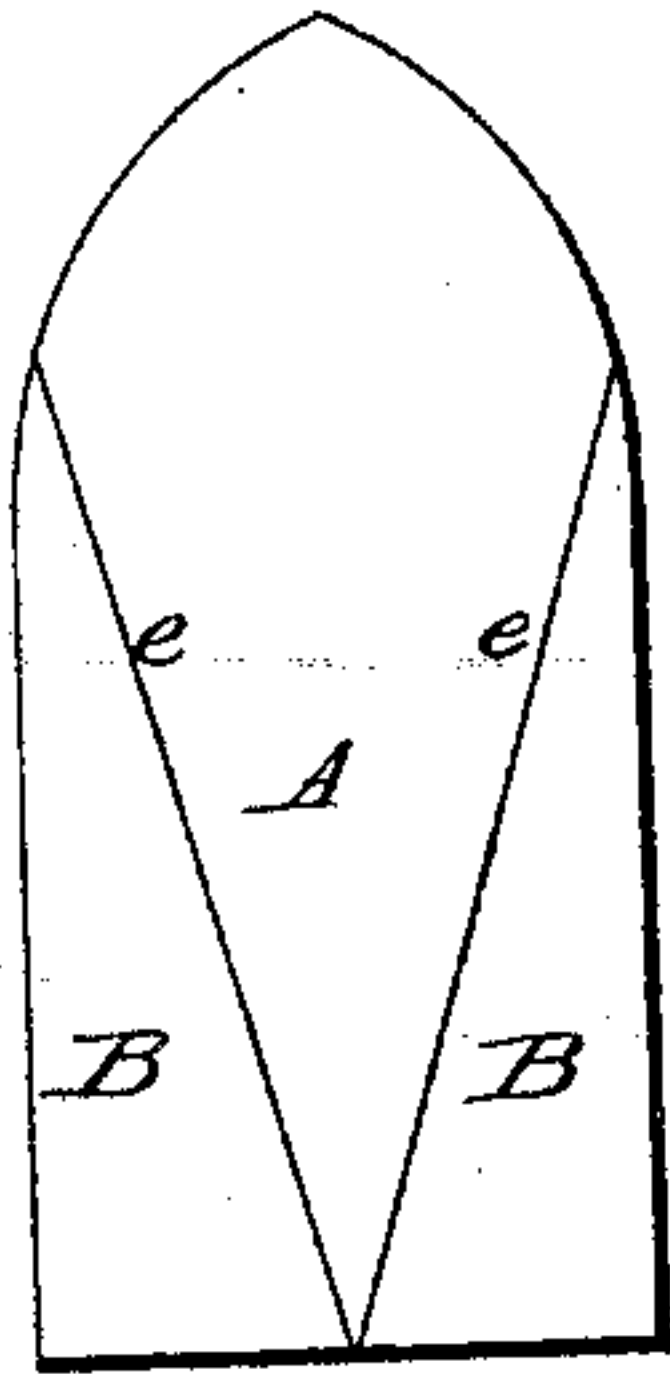


Fig. 2.

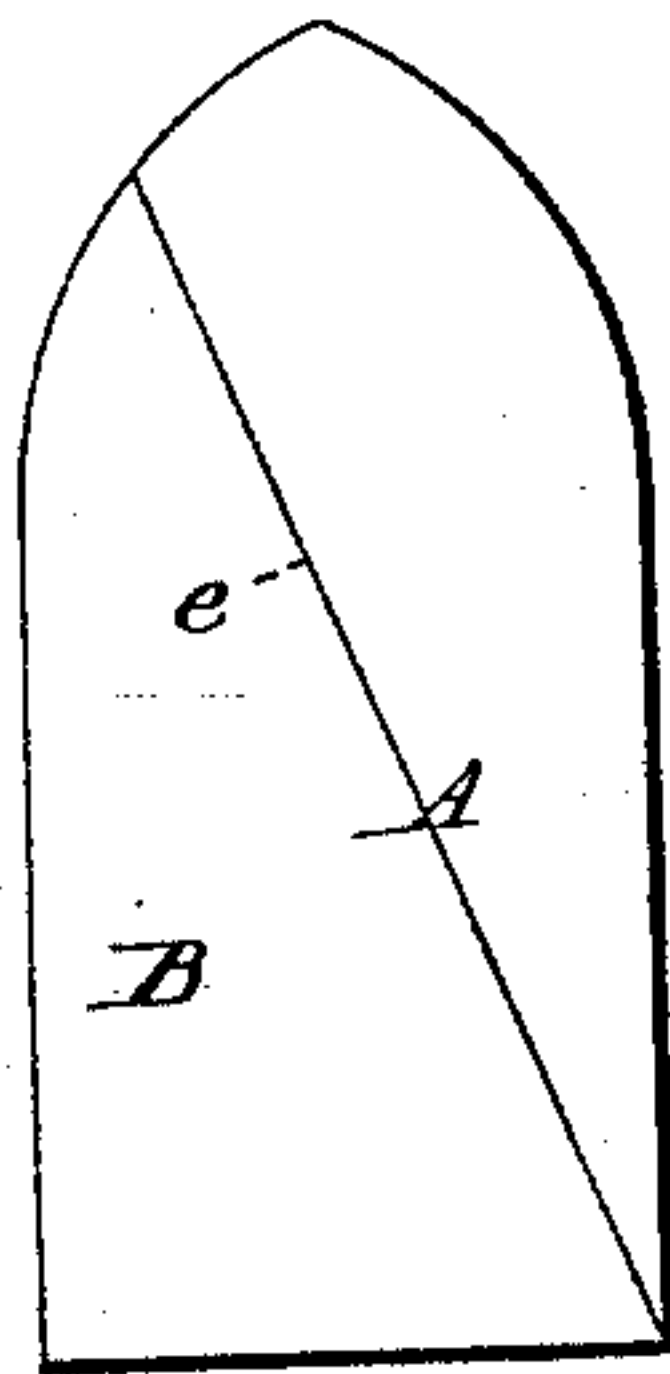


Fig. 3.

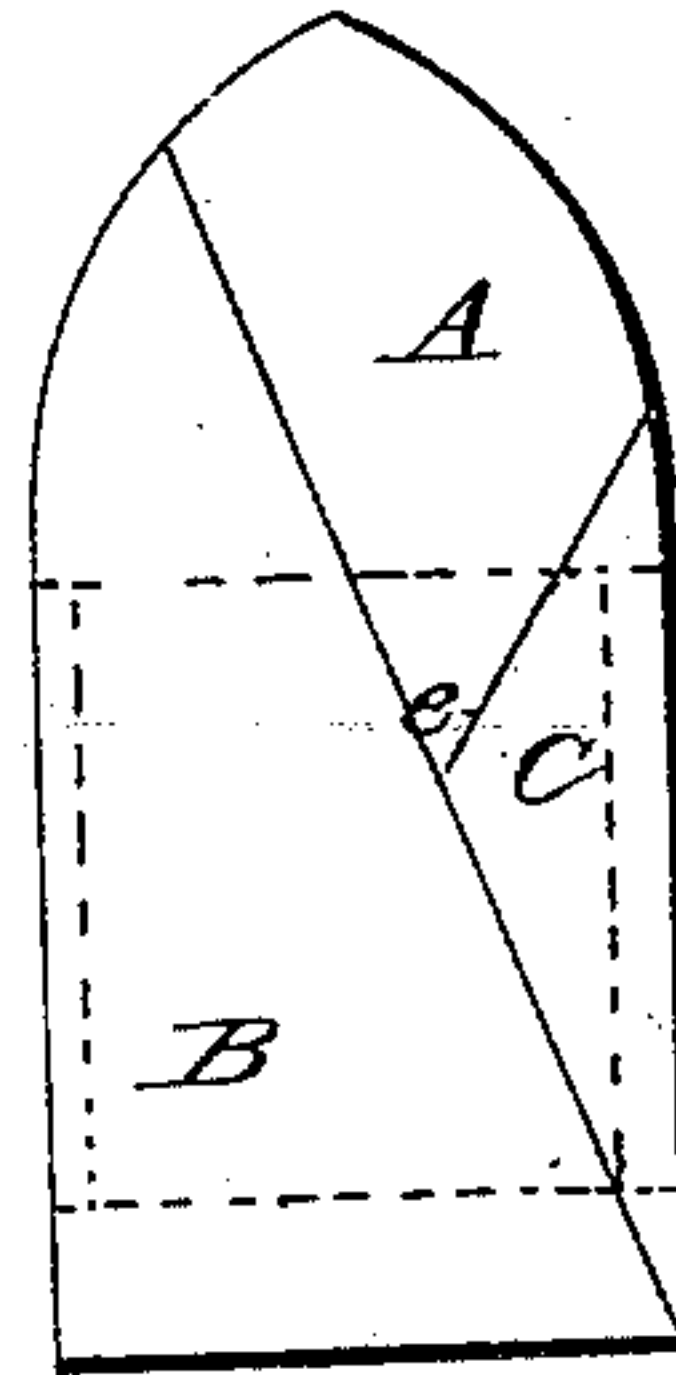


Fig. 4.

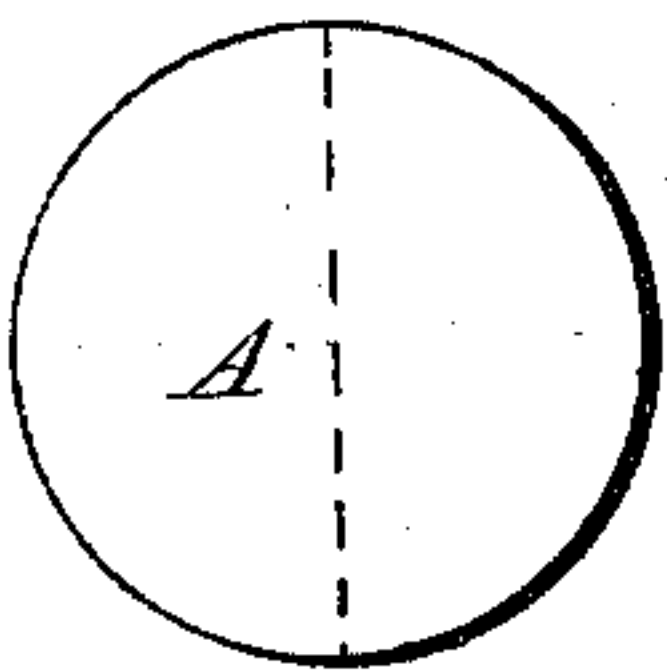


Fig. 5.

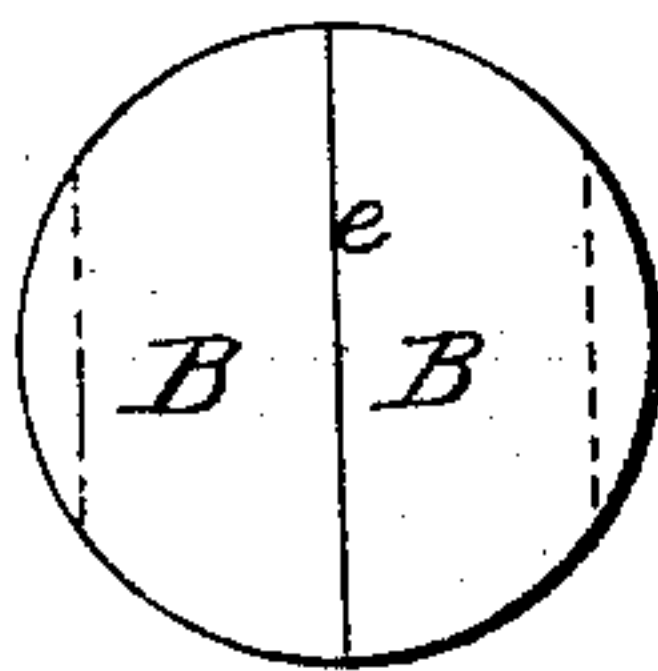


Fig. 6.

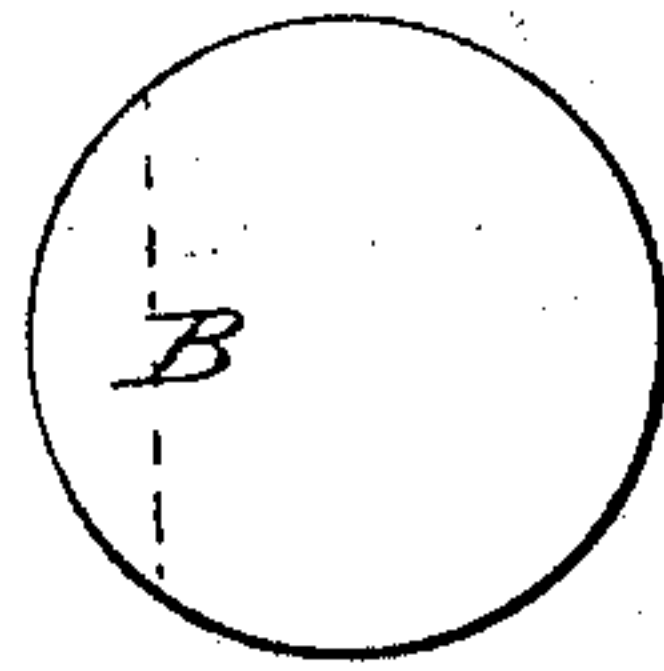


Fig. 7.

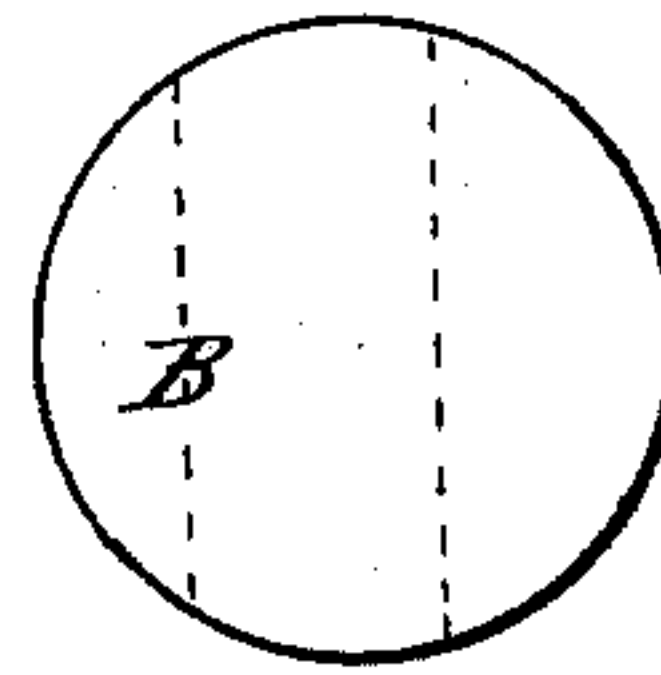


Fig. 8.

Fig. 9.

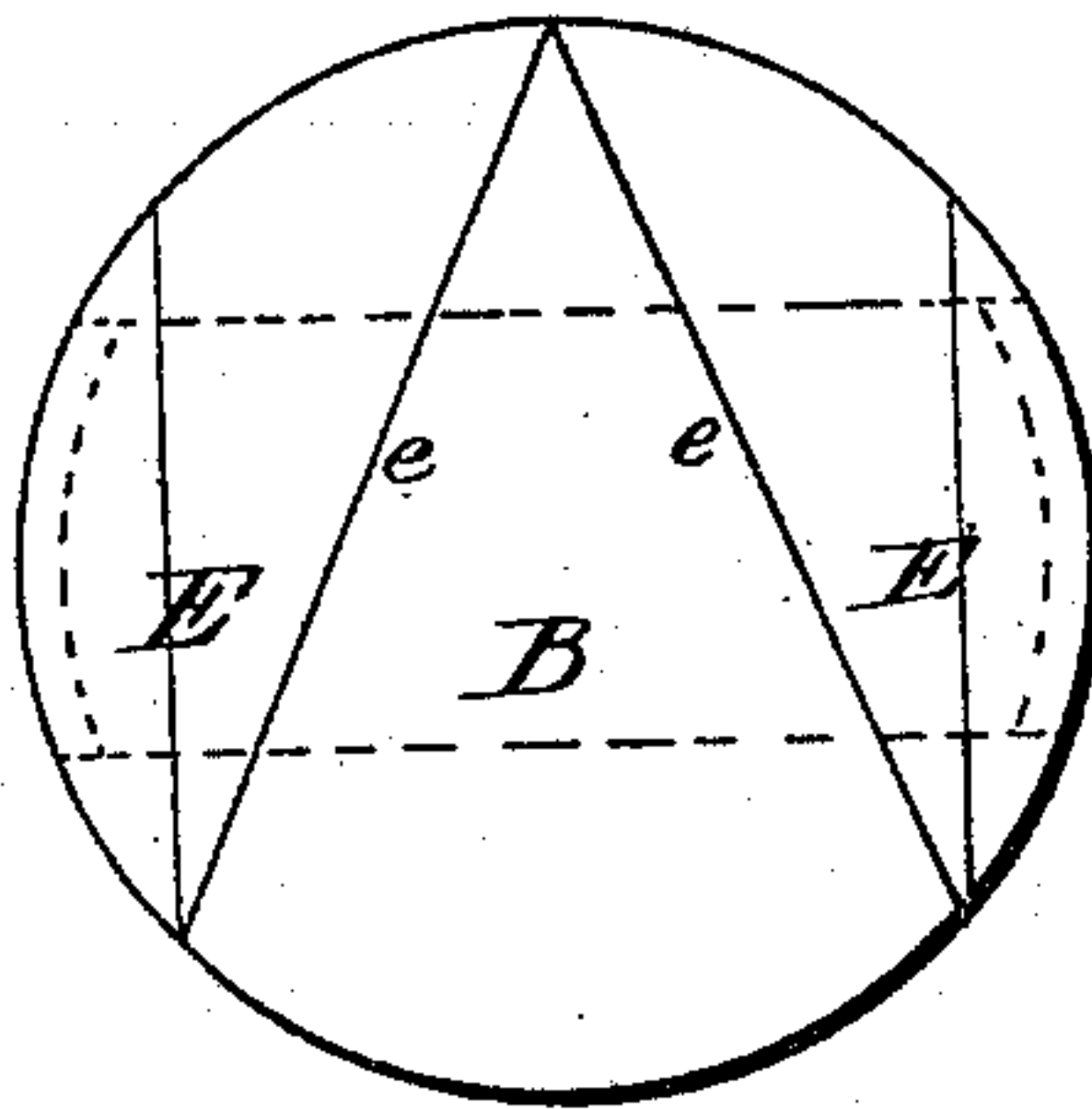
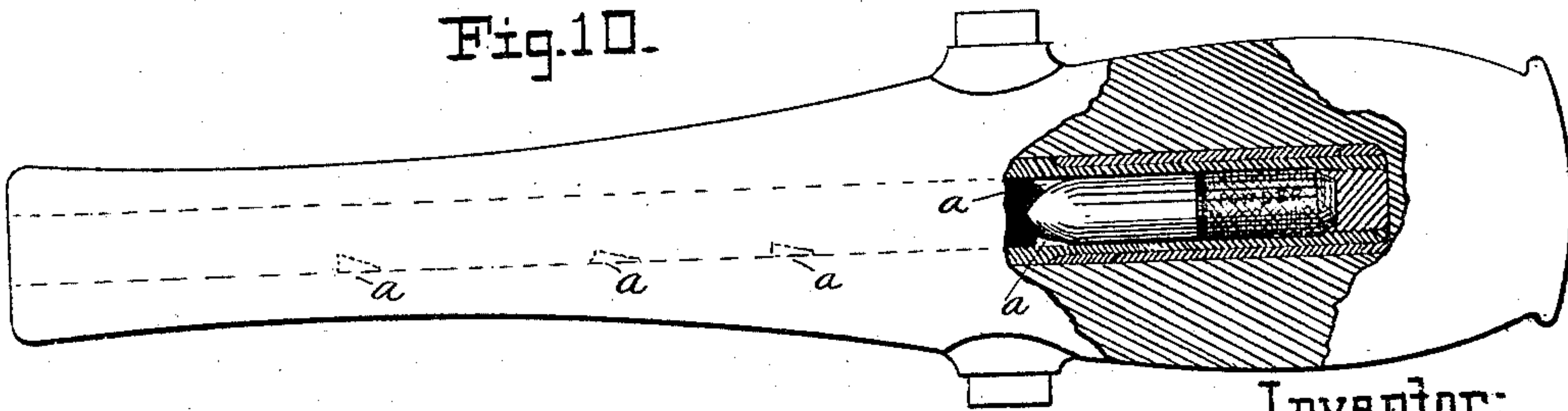


Fig. 10.



Witnesses:

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UNITED STATES PATENT OFFICE.

HARDIN B. LITTLEPAGE, OF KING WILLIAM COURT-HOUSE, VIRGINIA.

PROJECTILE.

SPECIFICATION forming part of Letters Patent No. 275,674, dated April 10, 1883.

Application filed December 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, HARDIN B. LITTLEPAGE, of King William Court-House, in the county of King William and State of Virginia, have invented certain Improvements in Projectiles, of which the following is a specification.

My invention relates to a novel construction of projectiles, and manner of using the same for the purpose of disabling ordnance while in action; and the invention consists in so constructing the projectile that when it strikes the object aimed at it will separate into sections or fragments of a wedge-shaped form; and it further consists in firing such projectiles into the muzzle of a loaded piece of ordnance, so that the wedge-shaped fragments or sections shall lie in the bore of said ordnance, and, acting as a wedge, in connection with the projectile passing from said ordnance when fired, serve to disrupt or burst and thus disable the same, as hereinafter more fully set forth.

Figures 1, 2, 3, and 4 represent side elevations of an elongated projectile made on my plan, and Figs. 5, 6, 7, and 8 are rear end views of the same. Fig. 9 represents a spherical projectile made on the same plan; and Fig. 10 is a side elevation of a loaded piece of ordnance, partly in section, designed to illustrate the mode of operation of my improved projectile.

The object of this invention is to provide a means by which the guns of an enemy may be destroyed while in action, and incidentally to destroy or disable the vessel in which the gun may be mounted; and to that end it consists primarily in so constructing the projectile that it may be fired from any ordinary fire-arm or gun, and, when it strikes, separate into sections or pieces, one or more of which shall be wedge-shaped in form.

At the present day most war-vessels are armored and provided with a few guns of large caliber. It follows that if the opposing party is provided with means by which these few heavy guns can be disabled the vessel which contains them will be rendered defenseless and its armament useless.

To accomplish this result is the object of my present invention; and to that end I construct a projectile in such a manner that while it may be fired from an ordinary gun it will, on striking the object aimed at, be separated into sec-

tions of wedge-shaped form, as indicated in the drawings. This may be done in either of two ways—namely, they may be made of a single piece of metal, with slits extending part way through them, thus leaving sufficient strength to hold the projectile intact while being fired, but which will permit it to break up into sections when it strikes, the lines of cleavage or separation of the parts being of course coincident with these slits.

In Figs. 1, 2, 3, and 4 I have represented an elongated projectile on which the lines of separation are indicated by the lines *e*, marked thereon, and in Fig. 9 I have represented a spherical projectile with similar lines. In all these cases the lines are so drawn that when the projectile breaks up or separates one or more of the sections or pieces will be wedge-shaped; or, instead of making the projectile in a solid piece with these slits or weakened lines, it may be made of separate pieces or sections of the forms indicated by said lines *e*, the sections of course being so formed that when united the whole shall have the form and outline of an ordinary projectile, as indicated in the drawings. In such case, where they are composed of separate sections, the whole will be bound together with sufficient force to enable them to be fired from a gun, but so they will separate by impact with a hard substance. This may be done by casting around the sections, when put together, a jacket of lead or other soft metal or composition, or by wrapping them with canvas or other fibrous material properly secured, and which in either case will serve as a packing and to take the rifling when fired from a rifled gun. In the case of spherical projectiles they will necessarily be made with a recess in the form of a groove or grooves or of a sunken band around them, and as nearly as may be at a right angle to the lines of separation, as indicated by the dotted lines in Fig. 9. In the case of elongated projectiles the jacket may be put on so as to protrude beyond the body, as indicated by the dotted lines in Fig. 1, or so as to come flush with the exterior, as indicated by dotted lines in Fig. 4; or, if preferred, the spherical projectile may be inclosed entirely in a suitable jacket, as above described.

It will of course be understood that the

strength of the jacket, or of the unbroken portions, in case they be made of one piece, will necessarily vary with the weight of the projectile and the charge with which it is to be fired, and that for these reasons no exact directions can be given in that particular. These points will be determined by calculation and actual experiment.

It is my intention to make these projectiles of such sizes as to fit ordinary arms, such as muskets or similar fire-arms used by marines, the Gatling or other repeating guns with which vessels are now generally provided, and for howitzers or similar guns.

It will be seen by examining the figures of the drawings that in all cases the projectile is so divided that in each one there will be one or more wedge-shaped sections, which is a very important feature of my invention. For instance, in Figs. 1, 2, 3, and 4 the parts A will form a wedge with its point in one direction, while the parts B will form wedges with their points in the opposite direction. The part C in Fig. 4 will be wedge-shaped at both ends, and the same is true of the parts marked E in Fig. 9, and consequently whichever end foremost the projectiles strike there will always be at least one section with its point foremost.

While the forms shown will serve to illustrate my invention, I do not wish to be understood as confining myself to these special forms, as it is obvious they may be greatly varied without departing from the principle of my invention, the essential requisite of which is that the projectile shall in all cases present one or more section of a wedge shape.

The manner of using the projectile is as follows: Supposing an enemy's vessel to be approaching or within range, these projectiles are to be fired so as to enter the mouth or muzzle of the guns on the vessel of the enemy. As they strike they will be broken or separated into sections, some one or more of which will lie with their points toward the breech of the gun into the bore of which they have been fired, as indicated by *a*, Fig. 10. The moment this gun is fired its projectile, riding upon one of these wedge-shaped pieces thus placed in its bore, will cause the gun to burst, and thus disable or destroy it; and as these large guns are charged with several hundred pounds of powder, the explosion of such a quantity of powder within the turret or hold of a vessel will necessarily destroy or disable the vessel also. It often happens that these armored vessels approach very close before they open fire, and in all such cases there would be little or no difficulty in firing these projectiles into the muzzles of the guns, which vary from eight to twenty inches in diameter, especially if a number of marines or a Gatling gun were used for the purpose, and thus it would frequently

happen that the enemy would be disabled at their attempt to fire the first shot.

While I have thus far described my projectile as being used against guns on vessels, it is obvious that it may be used in a similar manner against guns on land, whether in forts, batteries, or otherwise located. Oftentimes a sharpshooter, by carefully approaching an enemy's works, may with a single fire plant one of these projectiles in the bore of a large gun, and thus render it useless; and the same may be done by men in a small boat stealing quietly up on a vessel. In either case the bursting of the enemy's gun will not only disable it, but will be almost certain to injure those standing near. So, too, such of the projectiles as fail to enter the bore of the gun aimed at will take effect upon the gunners and others in the vicinity, especially as the separation of the parts will cause them to scatter more or less, and thus keep the gun silenced.

In case the projectile be made in one piece a small bursting-charge with a percussion-fuse may be used to insure the separation of the parts; and so, too, when a jacket is used, if desired. If found necessary, the sections may be held together by small pins of metal of such size and quality as to be broken by the impact of the projectile, in addition to the jacket.

In making these projectiles care should be taken to use a very hard metal, but one having such tenacity as to prevent its being crushed or broken into small fragments either by the impact or by the pressure on it of the projectile of the gun into which it is fired. Some of the many qualities of steel known to those familiar with the art will be found to answer the purpose.

I am aware that various forms of compound bullets have been made for fire-arms for the purpose of having their parts separate on leaving the gun, so as to form numerous missiles, and also that shells have been constructed with lines of cleavage so arranged as to cause them to burst into a large number of fragments, and I do not claim either of these; but,

Having fully described my invention and the manner of using the same, what I claim is—

A projectile composed of two or more longitudinal wedge-shaped sections or parts having their points arranged in opposite directions, substantially as shown and described, whereby at least one of said sections or parts shall be presented with its point foremost, whichever end foremost the projectile may strike.

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Witnesses:

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