E. SOKOLOWSKI.

PRESSURE FUSE FOR PROJECTILES, MINES, TORPEDOES, &c.

APPLICATION FILED OCT. 3, 1911.

1,042,830. Patented Oct. 29, 1912.

FIG. 1.

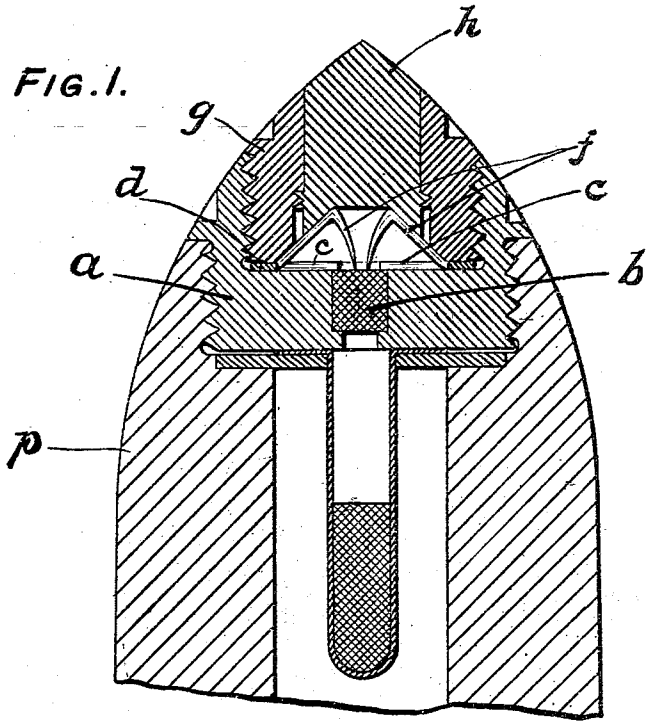

FIG. 2.

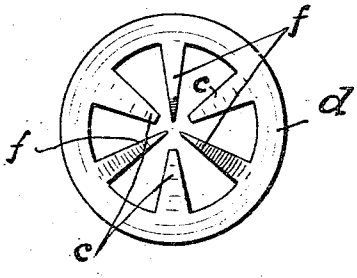

FIG. 3.

WITNESSES:

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PRESSURE-FUSE FOR PROJECTILES, MINES, TORPEDOES, &c.

1,042,830. Specification of Letters Patent. Patented Oct. 29, 1912.

Application filed October 3, 1911. Serial No. 652,479.

To all whom it may concern:

Be it known that I, ERNST SOKOLOWSKI, a subject of the Emperor of Germany, residing at Hamburg, Germany, have invented a new and useful Improvement in Pressure-Fuses for Projectiles, Mines, Torpedoes, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

The object of my invention is to provide an igniter having the advantage, as compared with known igniters, of small dimensions, inexpensive preparation and sure action.

In the drawing, which shows an embodiment of my invention applied to a projectile: Figure 1 is a longitudinal section through the point of a projectile equipped with my improved igniter; Figs. 2 and 3 are details of the igniter.

The point *p* of the projectile is recessed and threaded to receive the threaded body *a*, in which is embedded a match head or fulminate *b*. A primer, composed preferably of a plate comprising a rim *d*, inwardly projecting arms *e* and bent pins *f* having points resting against the fulminate *b*, is inserted within the body *a*.

The primer member, which may be of sheet steel or "new silver," may be formed in different ways. For example, it may be first shaped out of a flat disk in such manner that a center piece holding together the arms *e* and *f* remains. A cup profile, as shown in Fig. 2, may then be given to the member. The center piece may then be filed away on the lower side so as to leave a central opening. The arms *e* are then pressed flat so that, when the primer member is applied to the face of the body *a*, said arms will overlie the fulminate *b*. The pins *f* are allowed to retain their hook-shaped form and their ends are ground to a fine point.

Within the body *a* is screwed a piece *g* shaped as a ring, which holds the primer member in position. Before the ring *g* is screwed into the body *a*, a pressure piece *h* is screwed within the ring. The thread connecting the pressure piece *h* and ring *g* is relatively short and weak. The pressure piece *h* may consist of aluminum or celluloid, which facilitates the shearing off of the threaded part when the projectile strikes. By means of graining, the parts *g* and *h* may be protected against moving in the threads. When the projectile strikes, thus shearing off the threaded part of pressure piece *h*, the latter presses the pins *f* into the fulminate *b* and the projectile detonates.

Projectiles, mines, or torpedoes equipped with my improved pressure fuse may be transported with a satisfactory degree of safety. The safety in transportation may be rendered absolute by providing the projectile, mine or torpedo with a protecting cover. The hook-shaped pins do not form merely a passive resistance piece, but are active by means of a special resistance piece, placed in bearings independent of the latter, and being provided with a special appliance insuring safety during transportation.

Another feature of the invention is that several pins are placed in front of one and the same match head in such manner that a slanting pressure upon the pressure piece, even though the fuse is bent as a result of such pressure, insures that at least one pin shall act upon the match head.

Having now fully described my invention, what I claim and desire to protect by Letters Patent, is:—

1. A pressure fuse for projectiles, mines, torpedoes, etc., comprising a body, a fulminate carried thereby, a priming member overlying said fulminate and provided with pins extending toward said fulminate, a holding piece screwed into said body and confining the primer member in the stated position, and a pressure piece in front of the central part of said primer member having a rupturable connection with said holding piece.

2. A pressure fuse for projectiles, mines, torpedoes, etc., comprising a cup-shaped body having an outer thread and an inner thread, a fulminate carried centrally in the base of the body, a primer member composed of a rim, inwardly extending arms, and hook-shaped pins, a holding ring having an outer thread engaging the inner thread of the body and confining the primer member against the base of the body and said arms over the fulminate, and a pressure piece inserted within the ring having a rupturable connection therewith and engaging said pins.

3. A pressure fuse for projectiles, mines, torpedoes, etc., comprising a body: a primer

member consisting of a rim, inwardly extending arms and inwardly extending hook-shaped pins, and a pressure piece normally held within the body in position in front of said pins, but adapted, under a given force, to move forwardly within the body and actuate said pins.

4. A pressure fuse for projectiles, mines, torpedoes, etc., comprising a cup-shaped body having an inner thread, a fulminate carried in the base of the body, a primer member within the body in front of the fulminate, a holding ring having an outer thread engaging the inner thread of the body and confining the primer member against the base of the body, and a pressure piece inserted within the ring in front of the primer member and having a rupturable connection with the ring.

5. A pressure fuse for projectiles, mines, torpedoes, etc., comprising a primer member carrying a series of hook-shaped pins, a body adapted to carry a fulminate, means to hold the primer member in position to cause the points of said pins to extend in front of said fulminate, and means adapted upon impact to force said pins into said fulminate.

6. A pressure fuse for projectiles, mines, torpedoes, etc., comprising a primer member consisting of a rim, arms, extending inward from the rim and hook shaped pins extending inward from said rim; a body having a central recess to receive a fulminate, said primer member adapted to overlie, said body and the arms thereof to confine the fulminate in place, means to hold the primer member in position, and means adapted upon impact to force said pins backward into the fulminate in the recess.

7. A pressure fuse for projectiles, mines, torpedoes, etc., comprising a body, a fulminate carried thereby, a series of priming pins whose points extend obliquely toward the fulminate and converge relatively to each other, and a pressure piece in front of said pins having a rupturable connection with said body and adapted when actuated to force said pins into said fulminate.

8. A pressure fuse for projectiles, mines, torpedoes, etc., comprising a cup-shaped body having an inner thread, a fulminate carried in the base of the body, a primer member within the body, composed of a rim, inwardly extending arms and hook-shaped pins, a holding ring having an outer thread engaging the inner thread of the body and confining the primer member against the base of the body, and a pressure piece inserted within the ring in front of the primer member and having a rupturable connection with the ring.

In testimony of which invention, I have hereunto set my hand, at Hamburg, on this 19th day of Sept., 1911.

ERNST SOKOLOWSKI.

Witnesses:
ERNEST H. L. MUMMENHOFF,
ANDREW W. PENTLAND.