E. A. HAWKS.

EXPLOSIVE SHELL.

APPLICATION FILED MAY 22, 1918.

1,305,967. Patented June 3, 1919.

Fig. 1.

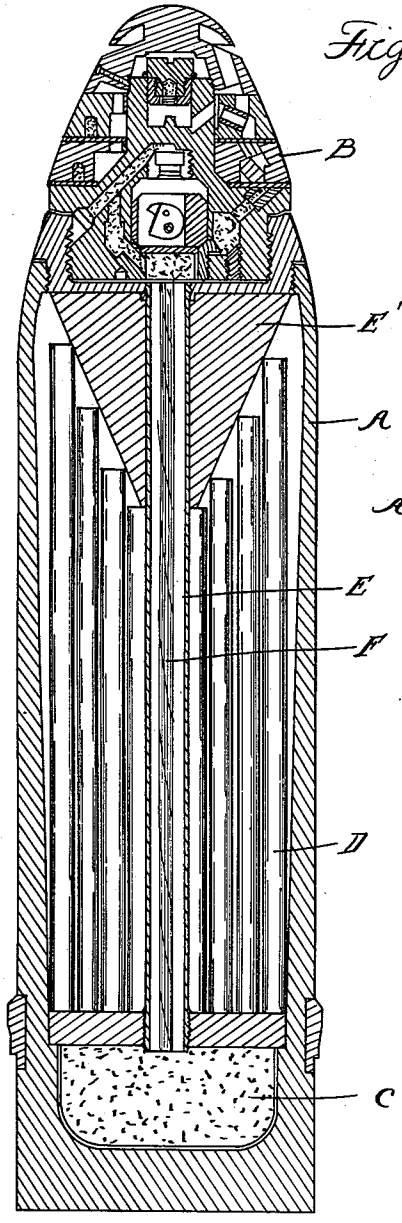
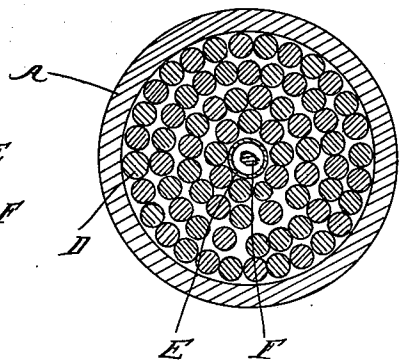


Fig. 2.



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EXPLOSIVE SHELL.

1,305,967. Specification of Letters Patent. Patented June 3, 1919.

Application filed May 22, 1918. Serial No. 235,921.

To all whom it may concern:

Be it known that I, EDWARD A. HAWKS, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Explosive Shells, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to explosive shells designed for use as projectiles and more particularly to that type known as shrapnel shells. Such shells are commonly loaded with round balls or missiles comparatively small in size which are thrown out in all directions when the shell explodes. This while producing a very destructive effect in certain situations, is comparatively ineffective in other situations, such as in use against aircraft. I have therefore designed a construction in which I have replaced the balls with a load of relatively long missiles of small diameter, such as rods. These, when the shell explodes, will be thrown outward, and by reason of their long dimension will produce more of a cutting effect and are particularly destructive of aircraft.

My invention is capable of many specific embodiments, but as shown Figure 1 represents a longitudinal section through the shell; and Fig. 2 is a cross-section thereof.

A is a shell of usual exterior design and provided as its forward end with the usual fuse or timing mechanism B, also with the powder load C at its rear end. In the center or body portion of the shell are arranged the missiles D, preferably formed of rods of substantially the full length of the chamber in which they are stored. At the center is the tube E through which the fuse F extends leading to the powder charge.

With the construction as thus far described, when the shell is exploded, the high gaseous pressure which ruptures the outer case may also be effective in hurling the rods laterally. I prefer, however, to use in connection with the shell a spreader E′, which as shown is preferably arranged at the forward end of the compartment containing the rods. As the spreader is of conical form, when the outer case is ruptured the rods will be forced over this cone with the effect that they will be hurled in all directions.

What I claim as my invention is:

1. The combination with an explosive shell having a powder charge at one end thereof and the timing device at the other end, of a load for said shell comprising a series of rods extending longitudinally thereof and intermediate the powder charge and timing mechanism.

2. The combination with an explosive shell, of a powder charge therein, a load comprising a series of rods arranged longitudinally of the shell, and means for spreading said rods upon the explosion of the shell.

3. The combination with an explosive shell and a powder charge therein, of a load for said shell comprising a series of rods arranged longitudinally of the shell, and a conical spreader arranged at one end of said shell.

4. The combination with an explosive shell and a powder charge therein, of a load for said shell comprising a series of rods arranged longitudinally of the shell, and a conical spreader arranged at the forward end of said shell.

5. The combination with an explosive shell, of a load therefor comprising bodies having their length greater than their other dimensions, and a deflector insuring a lateral hurling of said bodies upon explosion of the shell.

6. The combination with an explosive shell and a powder charge therein, of a load for said shell comprising a series of rods arranged longitudinally of the shell, and means for resolving the longitudinally acting component of the explosive force exerted upon said rods into a force acting to hurl said rods laterally outward.

In testimony whereof I affix my signature.

EDWARD A. HAWKS.