No. 846,698. PATENTED MAR. 12, 1907.

A. SCHLÜTER.

STARTING CRANK FOR EXPLOSION ENGINES.

APPLICATION FILED MAR. 5, 1906.

Fig. 2

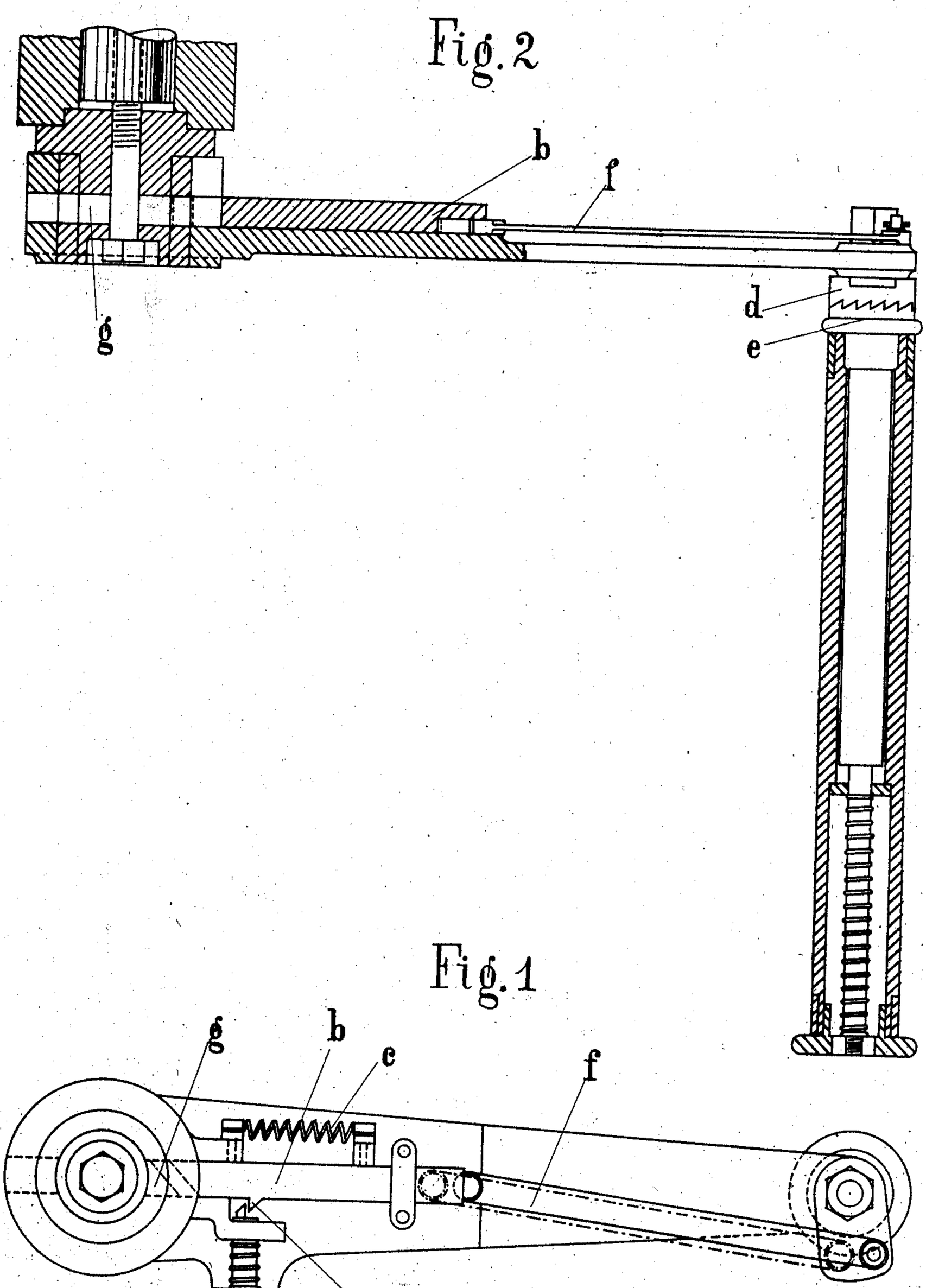

Fig. 1

Witnesses.
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STARTING-CRANK FOR EXPLOSION-ENGINES.

No. 846,698. Specification of Letters Patent. Patented March 12, 1907.

Application filed March 5, 1906. Serial No. 304,376.

To all whom it may concern:

Be it known that I, ANTON SCHLÜTER, a subject of the King of Prussia, residing at Munich, in the Kingdom of Bavaria, German Empire, have invented new and useful Improvements in Starting-Cranks for Explosive-Engines, of which the following is a complete specification.

My invention relates to an improved starting-crank for explosive-engines, the essential feature of which is that the mechanism for effecting automatic release is located in the handle of the crank.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is a plan of the device, and Fig. 2 a section through the same.

In Fig. 1 the crank is shown in the position without load. The bolt *a* holds the sliding bar *b* by means of a catch *b'*, so that the slide *b* cannot snap into the groove *g* in the shaft. When the bolt *a* is retracted, the slide *b* will be drawn into the groove *g* by the spring *c*, (which can also be located in the handle, if desired,) the broken lines, Fig. 1, indicating this position. The engine can now be started by turning the crank. When the engine overtakes the driving motion of the crank, the slide *b*, together with the connecting-rod *f*, jointed thereto, will shift back, since the shaft runs in the direction of the inclined face of the slide *b*. The latter thus leaves the groove *g*, and the bolt *a* snaps below the catch *b'*, so that the crank is released and can be taken off. If, however, there should be a backward motion of the engine, the crank will move in the opposite direction to that of starting. In this case, since the crank-handle is held firmly in the hand, owing to the clutch *e d*, Fig. 2, the connecting-rod *f* will raise the slide *b* and the bolt *a* will snap below the catch *b'* again, so that the shaft is released, as before.

Instead of the sliding bar *b* a suitable detent may be employed, and, furthermore, the catch *b'* might be replaced by a depression.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States of America, is—

In combination, a grooved shaft; a crank mounted thereon; a spring-actuated member secured to the crank and having an inclined end adapted to engage in the shaft-groove; a spring-actuated bolt on the crank, adapted to engage the said spring-actuated member; a handle for operating the crank; spring-controlled clutch mechanism located therein; and a rod connecting the latter with the said spring-actuated member; whereby when the engine overtakes the crank motion, the said member is pushed back and is engaged by the said bolt; and on a backward motion of the engine, the connecting-rod and said member are operated in such manner by the clutch that said member is raised and engaged and held by the bolt; substantially as described.

ANTON SCHLÜTER.

In presence of—

MATHILDE KARALINE HELD,

GEORG KÖRNER.