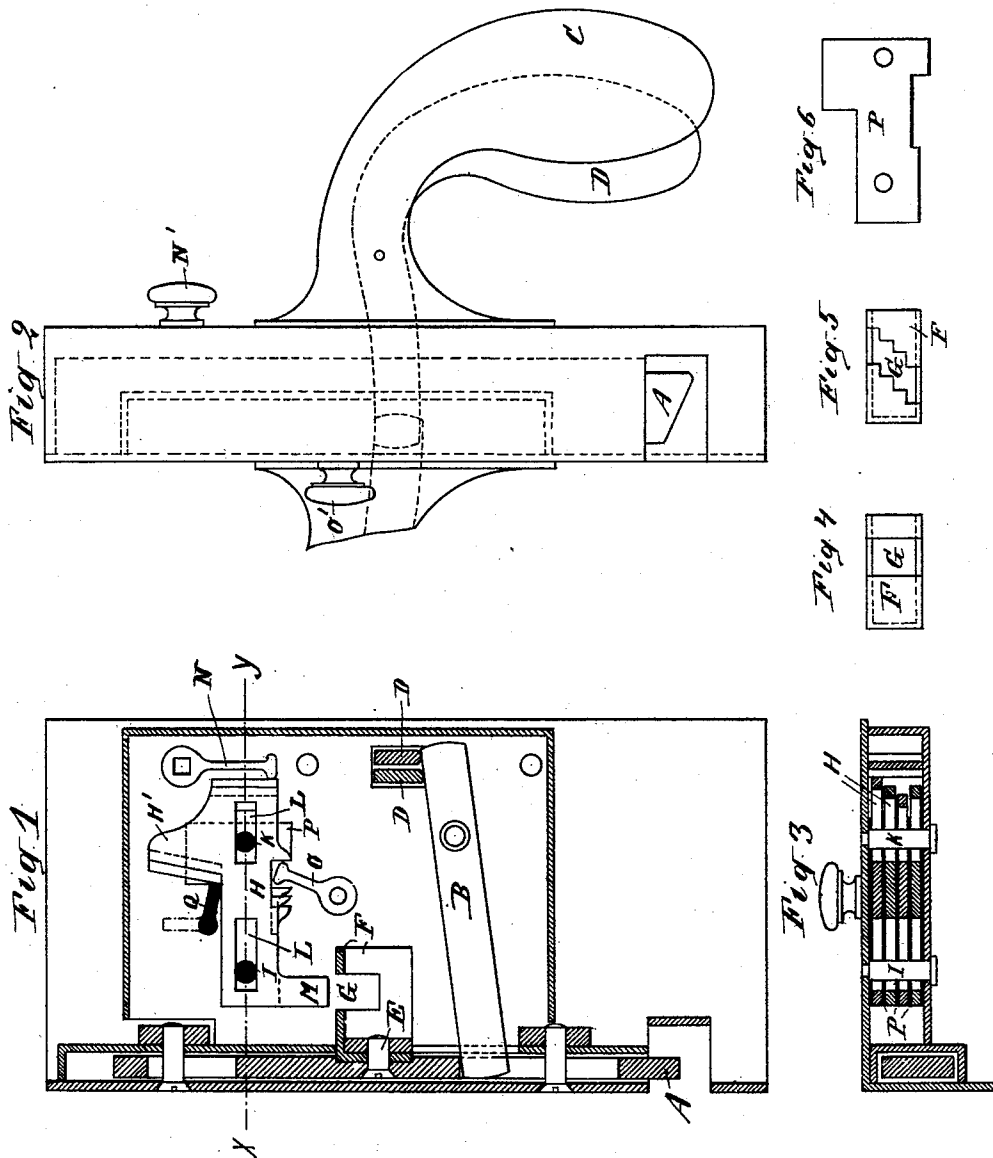


(No Model.)

N. G. SÖRENSEN.
LOCK.

No. 481,597.

Patented Aug. 30, 1892.



Witnesses:

Chester E. Clemens
John L. Livingston

Inventor:

Niels Georg Sørensen

By

Richardson

Attorneys.

UNITED STATES PATENT OFFICE.

NIELS GEORG SÖRENSEN, OF STOCKHOLM, SWEDEN.

LOCK.

SPECIFICATION forming part of Letters Patent No. 481,597, dated August 30, 1892.

Application filed November 5, 1891. Serial No. 410,981. (No model.)

To all whom it may concern:

Be it known that I, NIELS GEORG SÖRENSEN, a subject of the King of Sweden and Norway, and a resident of Stockholm, in the Kingdom of Sweden, have invented certain new and useful Improvements in Locks, of which the following is a full, clear, and exact description.

This invention relates to a lock having a bolt movable up and down and actuated only by gravity, the peculiar construction of which is that the bolting or unbolting is accomplished from the inside by a tripper and not with a key and that the bolting from the outside can be performed by a tripper mounted on the outside of the door, whereas a key will open the lock from the outside.

In the drawings, Figure 1 is a vertical section of the lock. Fig. 2 represents the same viewed from the edge. Fig. 3 is a horizontal section on line X Y, Fig. 1; and Figs. 4, 5, and 6 are detail views.

A is the bolt movable up and down, which, in the way already well known, may be actuated by means of the lever B and lever D, contained in the handle C. On the bolt A there is, by means of one or more screws E, fixed a plate F, projecting at an angle from the bolt. The same plate F is provided with a hole, which may be arranged differently. Fig. 4 represents the plate viewed from the top, and Fig. 5 is the same with the hole shaped somewhat differently. On the side of the bolt there are a number of tumblers H, guided by pins I and K, running on oblong slots L in the tumblers. On the drawings four tumblers are represented; but their number may be evidently also be another. The tumblers have downwardly-extending angle-pieces M, being about parallel with the bolt and preferably placed in front of the tumblers, as shown in the drawings. The lower ends of the said angle-pieces are situated, when the bolt is down, immediately above the plate F. In order to raise the bolt and open the lock, it is thus necessary that the tumblers occupy such a position that each of its angle-pieces M stands above a corresponding hole in the plate F.

The bolting of the lock from the outside is simply effected by turning the tripper N, situated behind the tumblers, and which for such

a purpose is on its spindle provided with a button or knob N' on the outside of the door. In turning the tripper N all the tumblers, respectively, and their angle-pieces M will be pushed forward beyond the pierced holes G, from whence the tumblers cannot be brought back or removed by the said tripper N, as shown in Fig. 1. The way in which the lock is bolted or unbolted from inside the door is effected by turning the tripper O respectively in the direction required. The tripper O and the tumblers are mainly so adapted and constructed in connection to each other that the tumblers, when the lock is to be unbolted, on turning the tripper O as far as possible to the desired direction will get in such a position that all the angle-pieces M come straight above their corresponding holes G in plate F, thus allowing the bolt to be raised. In turning the tripper O in the opposite direction the lock will consequently be bolted, because in doing so the tumblers will be brought in a disordered position, respectively, to the corresponding pierced holes, thus preventing the bolt being raised. The motion of the tripper O in the one direction is determined by the plate P, inserted between the tumblers which the tripper enters, and in the opposite direction conveniently and determined by the tumblers. The spindle of the tripper O is provided with a knob O' on the inside of the door.

For the opening of the lock from the outside there is used a key Q, by means of which the advance tumblers are brought back as the key-bit actuates the upright parts H' of the tumblers. Those parts H' have a different shape in order to obtain a certain profile of the key-bit, and for the same purpose the plates P are also made of different shape. These plates have also for purpose by a suitable elasticity to maintain the tumblers in their respective positions. Fig. 6 represents a plate P. An ordinary key may also be used in lieu of the tripper O from inside the door, if desired. The plate F is fixed, as described, at one side of the bolt; but it may also be fixed so that it may be located above the bolt. The position of the tumblers must, of course, be changed accordingly.

I claim—

In a lock, the combination, with a vertically-movable bolt provided with a plate pro-

jecting therefrom and having holes therein, of
tumblers moving in an angular direction to
the bolt, angle-pieces projecting from the un-
der side of the tumblers and substantially
5 parallel to the bolt, whereby when the lock is
unbolted said angle-pieces will be in a posi-
tion directly above the said holes, a tripper
beneath said tumblers and reaching up into
notches in the edges thereof, and a knob on

said tripper, whereby they may be actuated to
from the outside of the door.

In witness whereof I have hereunto signed
my name in the presence of two subscribing
witnesses.

NIELS GEORG SÓRENSEN.

Witnesses:

HERMAN KUSTERER,
AXEL GEORGII.