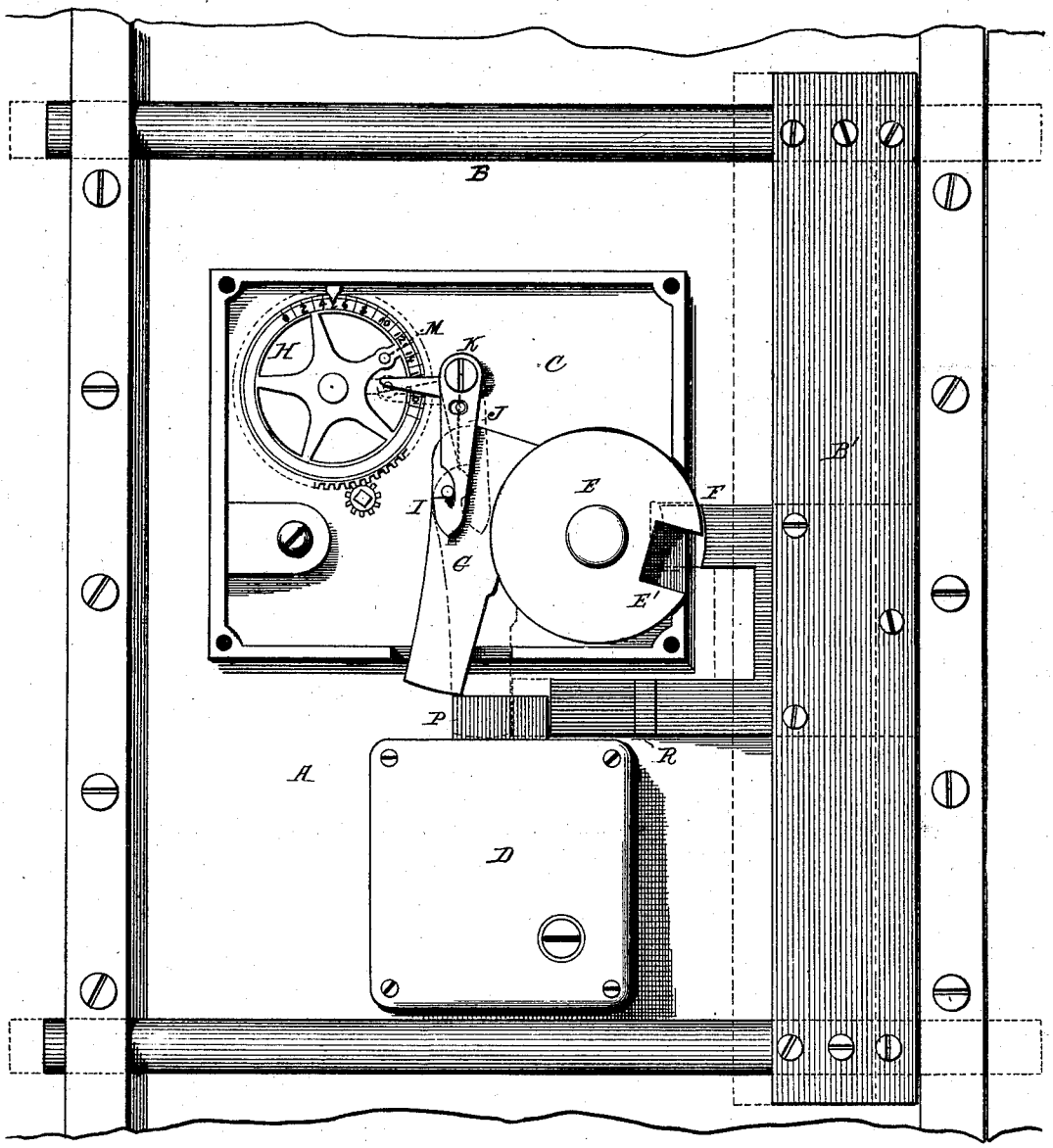
J. SARGENT.

Lock for Safe and Vault Doors.

No. 165,370. Patented July 6, 1875.



Attest:
Jos. S. Coombs
A. H. Norris.

Inventor:
James Sargent.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

JAMES SARGENT, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN LOCKS FOR SAFE AND VAULT DOORS.

Specification forming part of Letters Patent No. **165,370**, dated July 6, 1875; application filed June 5, 1875.

To all whom it may concern:

Be it known that I, JAMES SARGENT, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Locks for Bank and Vault Doors, of which the following is a specification:

This invention relates to certain improvements in locks for bank and vault doors, and is especially designed as an improvement upon the combined time or chronometer lock and combination, permutation, or key lock forming the subject-matter of an application for Letters Patent filed by me in the United States Patent Office the 15th day of March, 1875, in which a time or chronometer lock and combination, permutation, or key lock were applied to a lock on a safe, vault, or other door, in such manner that their bolts, when thrown, will rest against or connect with the bolt-work of the door, and prevent the door-bolts from being shifted or drawn until both locks are unlocked.

The chronometer or time lock constructed according to my invention, as set forth in the above-mentioned application, had necessarily to be set or adjusted by hand from the inside previously to closing the safe, vault, or other door, and in case of negligence or forgetfulness on the part of the cashier or other person in charge, the chronometer lock was liable to be left unset, in which condition it would afford no protection against opening by anybody possessed of the proper information or keys to unlock the combination, permutation, or key lock. The present invention is designed to obviate this, which is a serious objection, and provide for the setting of the chronometer or time lock automatically by the act of locking the combination, permutation, or key lock, thus rendering the setting of the chronometer or time lock an absolute certainty upon locking the safe, vault, or other door.

My invention consists, first, in the combination, with a chronometer or time lock, of a combination, permutation, or key lock constructed and arranged relatively to the chronometer or time lock in such manner that said chronometer or time lock will be automatically set upon locking the combination, permutation, or key lock, as will be fully hereinafter set forth; second, in the combination, with a safe or other door and its bolt-work, of a chronometer or time lock and a combination, permutation, or key lock, both being arranged in such relation that their bolts will be thrown in contact with, or made to rest against, the bolt-works of the door upon locking the combination, permutation, or key lock, and prevent the same from being shifted, as hereinafter more fully set forth.

The drawing represents a view of the inside of a safe, vault, or other door, showing my improvements.

The letter A indicates the safe-door, provided with the usual bolt-works B, which may be of any approved construction, connected to the usual cross bar or tie B′. The chronometer or time lock is represented by the letter C, and the combination, permutation, or key lock by the letter D. These locks may be of any convenient construction. In the present instance the time-lock is constructed with a circular bolt, E, working on a pivot or bearing in the lock frame or case, and is provided with a recess, E′, for the reception of the tongue F of the cross bar or tie B′ when the door-bolts are withdrawn from the jamb. The time-lock bolt is also provided with a bent arm, G, which extends downward through an opening in the bottom of the lock-case, the object of which will be presently described. The dial-wheel H and the clock mechanism or time-movement may be of any of the well-known constructions. J represents a bent lever, pivoted to an arbor, K, secured to the lock-case, the lower end being hooked, so as to catch and hold the lock-bolt when set, and bring the offset of said bolt in contact with or against the tongue F of the bolt-works, and prevent the same from being shifted. Said arm holds the lock-bolt when set by engaging under a pin, I, secured to the bent arm G, and releases the bolt when tripped by the clock mechanism at the appointed time. This tripping is effected by means of a stud, M, on the dial-wheel H of the clock mechanism, which strikes the short arm of the bent lever J, causing the same to vibrate until the hook releases the stud or pin I.

The combination, permutation, or key lock D, of any convenient or approved construction, is applied to the safe in the present in-

stance below the time-lock, in such position that its bolt P, when thrown, will raise the bent arm G of the bolt E, and, by raising said arm, rotate the said bolt E until the hook on the arm J falls under the pin I, setting the bolt by holding it in such position as to bring it against the end of the tongue F, preventing the bolt-works from being shifted. When the bolt of the combination, permutation, or key lock is raised by the act of locking, it is in contact with or rests against the tongue R of the cross bar or tie B′, and prevents the same from being shifted.

It will be seen from the above that the bolts of the two locks are in contact with and brought to rest against the bolt-works of the door by the simple act of locking the combination, permutation, or key lock of the safe or other door after the door is closed, thus providing to an absolute certainty for the setting of the time-lock when the safe or vault is locked.

It is evident that the essential feature of my invention consists in constructing and combining the two locks in such manner that the locking of the combination, permutation, or key lock will set or lock the time or chronometer lock, and it is also evident that this may be accomplished by combining the various forms of time-locks and combination, permutation, or key locks in the market.

Instead of the circular bolt, with a recess for the reception of the tongue of the bolt-works, as above described, any form of vibrating or oscillating bolt, with suitable offsets to engage the tongue of the bolt-works, or a reciprocating bolt, may be employed, so long as the same is locked or set by means of the combination, permutation, or key lock of the safe, and said bolt may be operated or set either directly by the action of the bolt of the combination, permutation, or key lock, or indirectly through the medium of suitable machinery. In fact, in some safes, it will be impracticable to operate the time-lock directly by the bolt of the combination, permutation, or key lock, owing to the construction and arrangement of the bolt-works or other portions of the safe-door, which would change the relative positions of the two locks, and separate them some distance, in which case the connection between the two would necessarily have to be made through the medium of levers or other well-known mechanical devices.

The two locks may be made and applied separately and independently, as illustrated, or may be constructed and applied in one and the same casing or frame.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, substantially as hereinbefore set forth, of a time-lock and a combination-lock, both constructed to be applied upon a safe, vault, or other door, to have their bolts in contact with or rest against the bolt-work of the door, and arranged in such respect to each other that the locking of the combination-lock will lock the time-lock.

2. The combination, substantially as hereinbefore set forth, of a time-lock and a combination-lock, both constructed to be applied upon a safe, vault, or other door, to have their bolts operate upon or rest against the bolt-work thereof, and combined therewith so that the locking of the combination-lock will lock the time-lock, and cause its bolt to connect with the time-movement, and prevent the bolt-work of the door being operated until both locks are unlocked.

In testimony that I claim the foregoing I have hereunto set my hand.

JAMES SARGENT.

Witnesses:

GEO. W. CUSHING, Jr.,

JAMES L. NORRIS.