H. R. TOWNE & E. STOCKWELL.

TIME-LOCKS.

No. 194,273. Patented Aug. 14, 1877.

FIG 1.

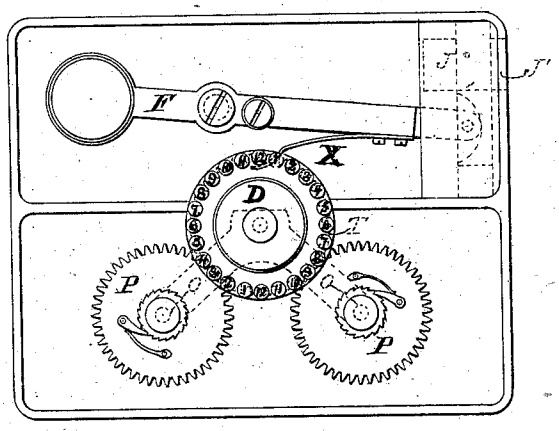
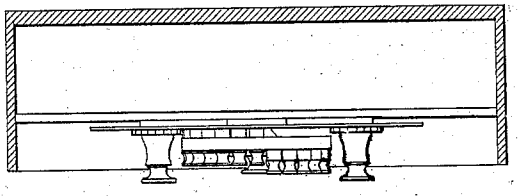


FIG 2.



WITNESSES.

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HENRY R. TOWNE AND EMORY STOCKWELL, OF STAMFORD, CONNECTICUT, ASSIGNORS TO THE YALE LOCK MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN TIME-LOCKS.

Specification forming part of Letters Patent No. **194,273**, dated August 14, 1877; application filed July 19, 1877.

To all whom it may concern:

Be it known that we, HENRY R. TOWNE and EMORY STOCKWELL, both of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Time-Locks; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in the time-lock patented by Emory Stockwell, September 21, 1875, No. 168,062.

The object of the present improvement is to simplify the lock referred to by dispensing with one of the revolving dials and with the yoke for communicating the motion of said dials to the counterbalance-lever F.

This result is accomplished, as will be seen by reference to the drawing, by the use of an arrangement of gears, substantially similar to that described in the patent to S. A. Little, issued January 27, 1874, No. 146,832, and reissued May 9, 1876, No. 7,104.

In order to enable others skilled in the art to which this invention appertains to make and use the same, we will now proceed to describe its construction and operation, by reference to the annexed drawing, as follows:

The drawing represents a time-lock of the kind above referred to, with the cover or lid removed, thus exposing the interior mechanism.

Its locking device consists of a dog-block, J, sliding in proper ways, which, when raised, closes an aperture, J′, in the case of the lock, and thereby prevents the retraction of the bolt-work of the safe-door on which the lock may be used. The dog-block J is controlled by the counterbalance-lever F, which turns on a suitable fulcrum. In the lower part of the lock-case are two time-movements of any approved construction, which give motion respectively to the post or arbors *o o*. On the outer end of each of these arbors is a gear-wheel, P, which is secured to its arbor by a ratchet-connection similar to that described in the Little patent above referred to. These wheels, in turn, gear into and drive a third wheel, T, which is common to them both, and which, by reason of the ratchet-connections, will be rotated by the two time-movements jointly if both are running, or by either one of them should the other stop. Connected with the wheel T, and rotating with it, is a dial provided with adjustable devices, as described in the Stockwell patent of September 21, 1875, and on the under side of the counterbalance-lever F is a spring-finger, suitably arranged, so that its free end rests upon the annular rim formed by the adjustable pins of the dial, which may be pushed in, and which thereby determine the hours during which the lock shall remain locked.

The operation of the lock will be apparent at a glance. The adjustable pins in the dial being suitably arranged, by pulling out those representing the hours of the day during which it is desired that the lock shall remain open, and pushing in those representing the hours of the day or night during which it is desired that the lock shall be closed, the rotation of this dial by the action of the time mechanism causes the counterbalance-lever F to alternately be raised into the locked position and lowered into the unlocked position once in every twenty-four hours through the instrumentality of the spring X, which connects the lever F with the dial.

This construction, as may readily be seen, materially simplifies the lock, and diminishes its cost as compared with that patented September 21, 1875, by dispensing with one of the adjustable dials and the yoke and rollers. The chief object attained, however, is the simplification of the lock in use. As previously arranged, this lock contained two independent dials revolving in opposite directions, the adjustable pins in each of which required to be set to effect locking and unlocking at the desired hours. The rotation of these two dials in opposite directions was an element of con-

fusion to persons not thoroughly familiar with the lock, and entailed much care in explaining its use to customers. With the present improvements the lock has but one dial, and but one set of adjustable devices to be arranged, and is thus much more simple and more readily understood than heretofore.

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

The combination of the dial D, having a series of adjustable pins, the lever F, provided with the spring, and the dog-block J, substantially as described.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

HENRY R. TOWNE.
EMORY STOCKWELL.

Witnesses:
GEORGE M. SMITH,
C. WAIL.