

(No Model.)

2 Sheets—Sheet 1.

M. MOSLER.
Safe.

No. 229,905.

Patented July 13, 1880.

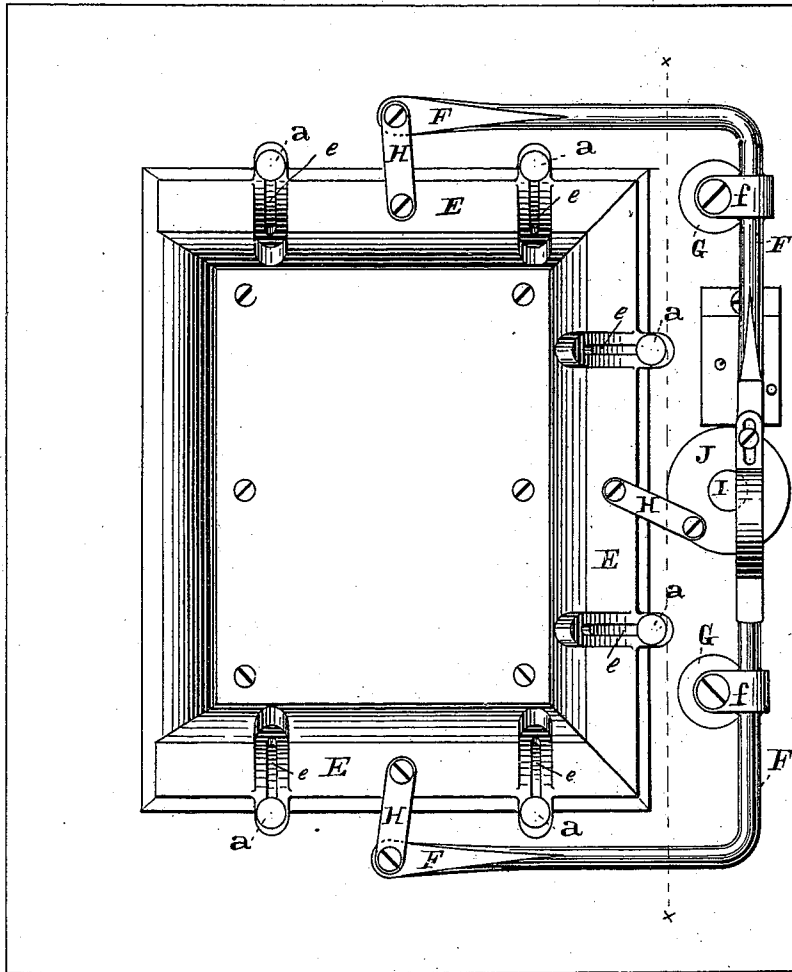


Fig. 1

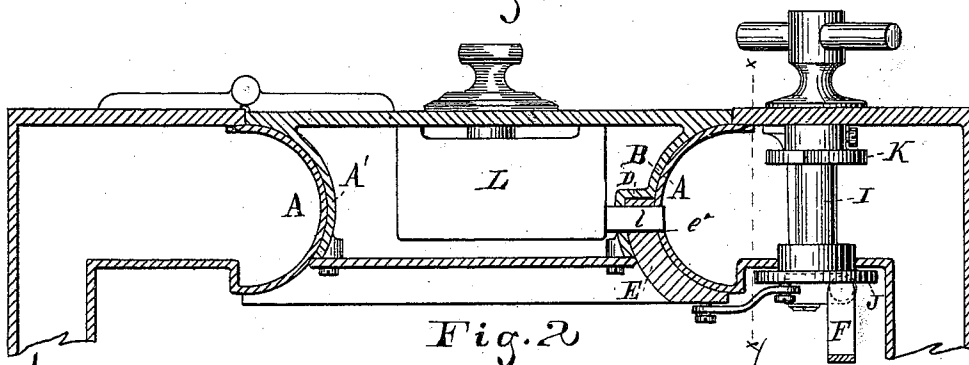


Fig. 2

Attest
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2 Sheets—Sheet 2.

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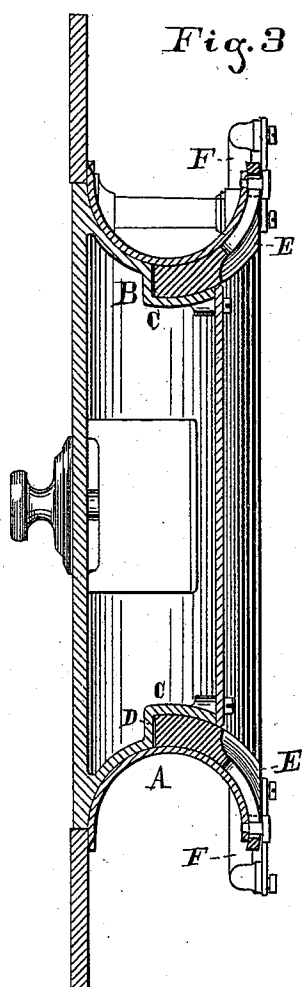


Fig. 3

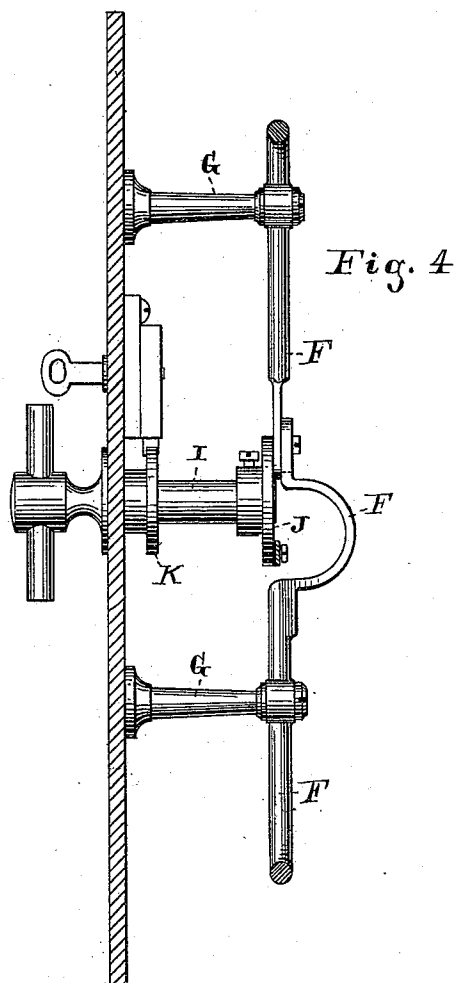


Fig. 4

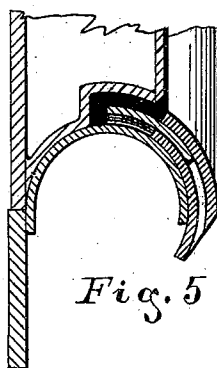


Fig. 5

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UNITED STATES PATENT OFFICE.

MOSES MOSLER, OF CINCINNATI, OHIO.

SAFE.

SPECIFICATION forming part of Letters Patent No. 229,905, dated July 13, 1880.

Application filed April 3, 1880. (No model.)

To all whom it may concern:

Be it known that I, MOSES MOSLER, of the city of Cincinnati, county of Hamilton, State of Ohio, have invented a new and useful Improvement in Safes and Vaults, of which the following is a specification.

My invention relates to fire and burglar proof safes, vaults, and other secure receptacles.

The main object of my invention is to secure a perfect joint between the door and door-case, to prevent wedging or forcing the door.

My invention also provides a means to effectually secure the door upon all sides within its casing.

A further object is to provide for double locking the door as an additional security.

These objects, and other minor ones, which are auxiliary thereto, that will be fully described hereinafter, and particularly pointed out in the claims, are attained by the devices illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the inside of a door and door-case of a fire-proof safe embodying my invention. Fig. 2 is a horizontal section taken above the arbors. Fig. 3 is a transverse vertical section through the door and door-case, and Fig. 4 is a similar section view taken through line *xx* of Figs. 1 and 2, the fire-proof case being removed. In these figures the door is shown closed and locked. Fig. 5 is a partial sectional view, similar to Fig. 3, showing the locking-pieces withdrawn preparatory to opening the door, and showing, also, another form of guide for the locking-pieces.

Similar letters of reference throughout the various views indicate identical parts.

The walls of the safe, except the frame or case of the door, are constructed in the usual manner. The edge of the door-case is made semicircular in cross-section. The edge pieces *A* are preferably made of the sheet metal usually employed in safe-work, bent to the proper shape, but may, if desired, be made of cast metal. The hinge-edge of the door *A'* is the counterpart of the case and formed in the same way. The top, bottom, and lock edges of the door are composed of two segmental or

curved depressions, *B* and *C*, united by a web, *D*. The outer curved depression, *B*, extends back to the center of the casing when the door is closed, and makes a close joint around the door. The inner curves, *C*, which are somewhat less than a quarter-circle, are set back from the edge of the case to permit the curved locking-pieces *E* to pass between the door and door-case and rest upon the offset or web *D*. Thus when the door is closed and the locking-pieces in place, as shown in Figs. 1, 2, and 3, forming a close joint between the door and casing, and the inner edge of the door overlapping upon all sides, the casing and locking-pieces secure the door from being wedged or pried open from the outside.

The locking-pieces *E* are made concentric with the case, upon which they are fitted to slide, and are guided and held in position by screws *a*, passing through slots *e* in the locking-pieces and into the casing of the door, as seen in Figs. 1, 2, and 3; or they may be guided and held to place by T-shaped ribs or slides secured upon the segmental or curved case and entering corresponding grooves formed in the locking-pieces.

The segmental or curved locking-pieces *E* are operated around the inner half of the curved casing by angular levers *F*, which have their fulcrums in posts *G*, projections *f* extending from the levers to the top of the posts, to which they are held by fulcrum-pins or screws passing through the pieces *f* into the posts.

The levers are united to the top and bottom curved pieces *E* by links *H*, and are operated from the outside of the safe by arbor *I* through a crank-pin secured in a wheel, *J*, which wheel is secured upon the inner end of the arbor.

The vertical curved piece *E*, which secures the lock-edge of the door, is operated by a similar link, *H'*, one end of which is attached to the locking-piece and the opposite end on a crank-pin in wheel *J*. It will thus be seen that the locking-pieces *E* are simultaneously inserted between the door-edge and its case or withdrawn therefrom by operating the arbor from the outside.

Upon the arbor *I* is secured a notched disk, *K*, and above it, upon the inside of the safe, a lock of any approved construction. The bolt

of the lock is in a position to be shot into the notch in disk K and securely hold the locking-pieces E against retraction.

The vertical piece E is provided with a slot, 5 *e'*, to receive the bolt *l* of the combination-lock L. Preferably all the pieces E are slotted to receive the bolts of the combination-lock, and are thus doubly secured against retraction. For the purpose of this construction the 10 combination-lock is provided with bolts, which are shot out in three directions to enter the slots in pieces E.

It is evident that the ordinary train-bolts now used upon safes may be adapted to enter 15 the slots in the wedging-pieces or pass back of them to securely hold them in place between the edge of the door and the door-case; and in large safes this is the plan contemplated to be used.

20 The form of safe represented in the drawings is the usual rectangular door and frame having the mitered corner-pieces; but my improvement is also adapted to doors of circular or curved form; and instead of the semi-circular edge-pieces A the case of the door 25 may be made of tube metal, or solid instead of hollow, as shown. It is only necessary to the object of my invention that the outer contour of the case be adapted to receive the convex door-edge to overlap the case upon the 30 inside.

I have shown the door-edge secured by the convex case and locking-pieces E upon all sides; but good results may be attained by 35 omitting the upper and lower pieces E and their operating levers and links, and only locking the lock-edge, which, with the form of hinge-edge shown, would render it difficult to pry open the door. It is also practicable to 40 insert and withdraw the piece or pieces E by means of the time-locks now in common use, or to "dog" the pieces E against retraction until a predetermined time, in the manner that the bolt-work of safes is now secured.

I have described the use of curved locking- 45 pieces, and that is the preferred form; but it is obvious that flat locking-pieces may be used instead, even in connection with the special construction of the door and its frame, herein- 50 before described, although it would be desirable to modify the construction thereof somewhat, so as to provide for a snug fit of the flat locking-pieces.

I claim—

1. The door-case having convex edges A, in 55 combination with a door having concave edges, as A' B C, and locking-piece E, said locking-piece being adapted to slide between the inner edge of the door and case and be with- 60 drawn therefrom, substantially as and for the purpose specified.

2. The combination, substantially as specified, of the frame having convex edges A, the 65 door having concave edges A' B C, the wedging-piece E, and the door-lock, said wedging-piece being slotted to receive the bolt of the door-lock to secure the piece between the door and casing.

3. In a safe having a concavely-edged door and a convexly-edged door-frame, the combi- 70 nation of the curved locking-pieces E with operating-levers F and links H, said levers being connected to arbor I by a crank-pin, for the purpose set forth.

4. In a safe having a concavely-edged door 75 and a convexly-edged door-frame, the combination of the curved locking-pieces E, their operating-levers and links, arbor I, notched disk K, and a lock the bolt of which is adapted to enter the notch in disk K and secure the 80 pieces E between the door and its frame.

MOSES MOSLER.

Witnesses:

M. W. OLIVER,
GEO. J. MURRAY.