

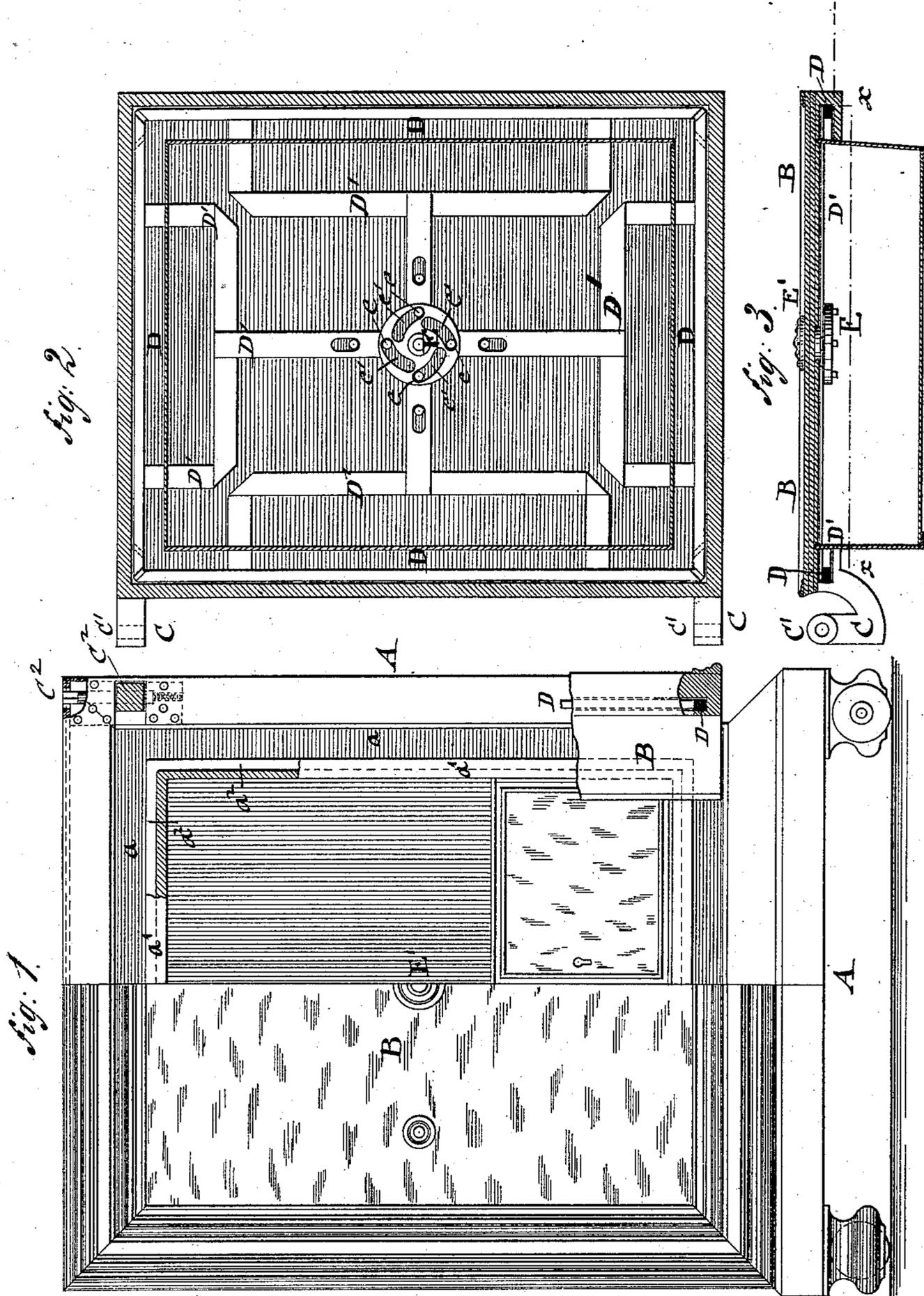
(No Model.)

2 Sheets—Sheet 1.

F. ENDRES. SAFE.

No. 305,064.

Patented Sept. 16, 1884.



WITNESSES:
A. Schehl.
Carl Karp

INVENTOR
Franz Endres
 BY *Johann Regener*
 ATTORNEYS

(No Model.)

2 Sheets—Sheet 2.

F. ENDRES.
SAFE.

No. 305,064.

Patented Sept. 16, 1884.

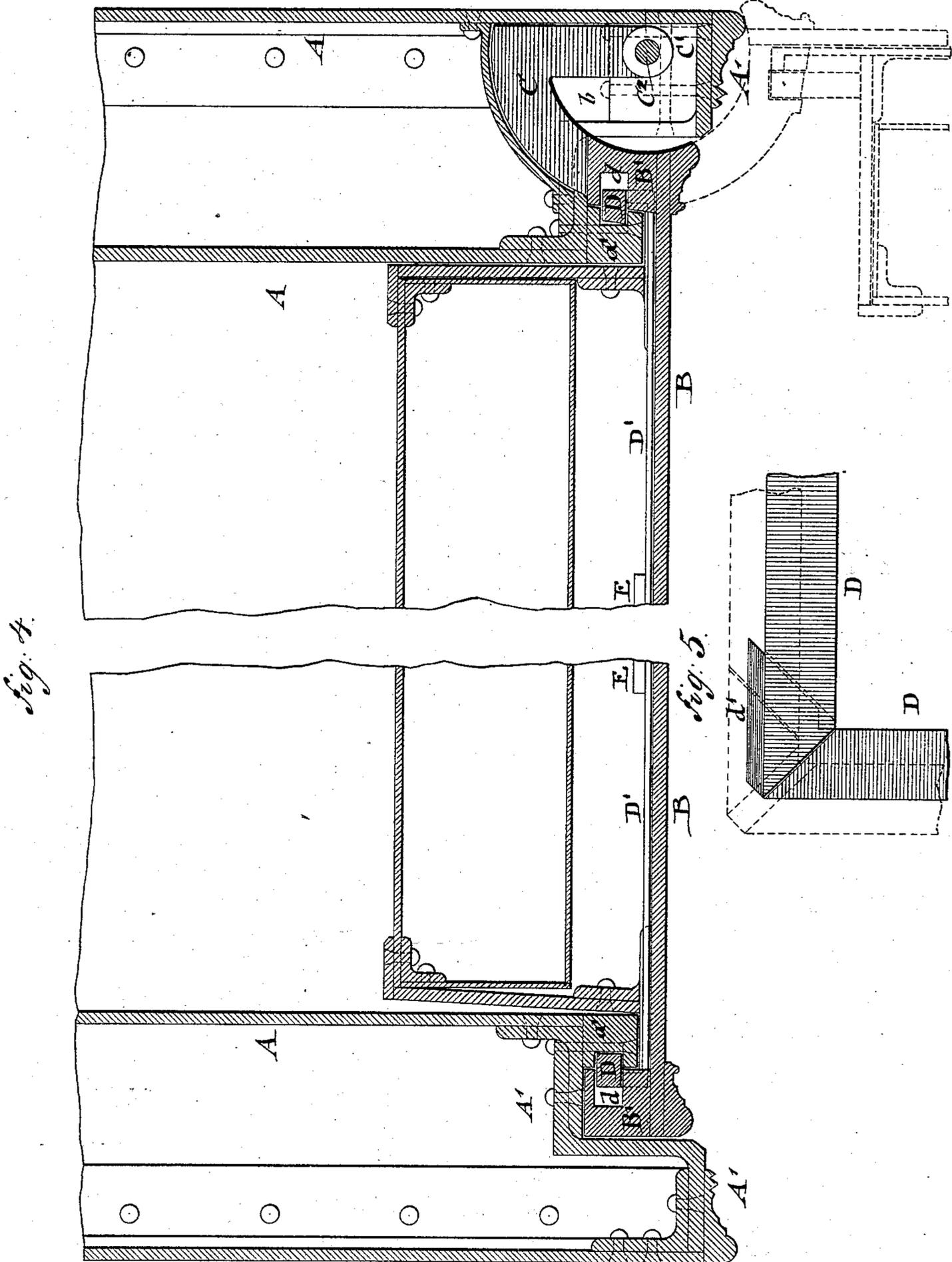


Fig. 4.

Fig. 5.

WITNESSES:
A. Schehl
Carl Kay

INVENTOR,
Franz Endres
 BY *Joseph Regener*
 ATTORNEYS

UNITED STATES PATENT OFFICE.

FRANZ ENDRES, OF NEW YORK, N. Y.

SAFE.

SPECIFICATION forming part of Letters Patent No. 305,064, dated September 16, 1884.

Application filed November 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANZ ENDRES, of the city, county, and State of New York, have invented certain new and useful Improvements in Safes, of which the following is a specification.

This invention has reference to improvements in the construction of safes, whereby the hinge-connection of the door with the body of the safe and the mechanism for locking the door are entirely hidden and out of sight, so that the safe is not only protected in a higher degree against the attacks of burglars, but presents also a neater and more finished appearance.

The invention consists of a safe the door of which is hung to hinges that are covered by the front frame of the safe, the hinge-connection consisting of fixed screw-pintles that are inserted into socket-holes of the side wall, back of the front frame, and passed through the pintle-sleeves of the door, which sleeves are arranged at the ends of inwardly-extending horizontal leaves of quadrantal shape, which leaves swing in corresponding recesses of the side wall of the safe.

The invention consists, secondly, of a safe the front frame of which has face-recesses formed by the walls of the safe and grooved lips; of a safe-door having a grooved tongue that fits into the face-recesses of the safe, and of locking-bars actuated by the mechanism, hereinafter described, connecting the knob of the door, said bars being drawn back into the grooved tongues of the door when the door is to be opened, or thrown partly into the grooved lips of the front of the safe when the same is to be closed.

In the accompanying drawings, Figure 1 represents a front elevation of my improved safe, one half being shown with door removed and parts broken away. Fig. 2 is a rear elevation of the door, partly in section, on line *x x*, Fig. 3, so as to show the locking mechanism. Fig. 3 is a horizontal section of the door. Fig. 4 is a horizontal section of the door and its connection with the safe-body on a larger scale, and Fig. 5 is a detail showing the overlapping corners of the locking-bars.

Similar letters of reference indicate corresponding parts.

A in the drawings represents a safe-body, which is constructed in the usual manner of double walls, the space between which is filled with a suitable non-conductor of heat. The front part, A', of the safe-body A is provided with a rectangular recess, *a*, that extends along the front end of the side, top, and bottom walls of the safe-body, as shown in Fig. 1. The recess *a* is bounded at its inner edge with a solid projecting strip, *a'*, that is in line with the inner edges of the walls of the body A, and provided with a groove, *a''*, at that side facing the recess.

The door B of the safe is provided at its exterior part with a tongue, B', of such a shape that it fits into the recess *a* at the front part of the safe-body, so that when the door is placed into closed position it fills the front of the safe like a panel, without showing any joint between the door and the front part of the safe. The hinge-connection of the door B with the safe-body A is arranged so as to be entirely out of sight, for which purpose the door is provided with horizontal leaves C of quadrantal shape, which are recessed from the front of the leaf inwardly, as shown in Figs. 3 and 4. The outer ends of the leaves C are provided with sleeves C', through which screw-pintles C² are passed that are inserted, respectively, through vertical socket-holes at the top and bottom of the side wall of the safe-body A. The pintles C² are provided for this purpose with threaded ends and square heads, as shown in Fig. 1. The leaves C move in horizontal recesses *b* in that side wall of the safe-body to which the door B is hinged, said recesses corresponding in shape to the leaves, as shown in Fig. 4. The horizontal recesses *b* are arranged back of the exterior front frame, A', which covers the hinge-connections of the door and safe-body, so that they are entirely out of sight and protected against attacks. When the door is thrown into open position, the quadrantal leaves C are guided in the horizontal recesses *b b* of the safe-body, the quadrantal recesses of the leaves admitting them to move clear of the front frame, A', until the leaves abut against the front frame, in which position the door is entirely open, as shown in dotted lines in Fig. 4. The exterior tongue, B', of the door B is fitted accurately into the recesses *a a*

of the front of the safe-body A, and grooved at its inner side in line with the grooves a^2 of the strips $a' a'$ of the body A. The depth of the grooves $d d$ of the tongues B' is twice as large as the depth of the groove a^2 of the strips $a' a'$, so as to provide the required space for the locking-bars D D, which are stored away in the grooves $d d$ of the tongues B' when the door is in open position. When the door B is locked to the safe-body, the locking-bars D D are moved forward, so as to take into the grooves of the strips $a' a'$, and engage thereby said strips and the tongues B' B', as shown in Fig. 4. The locking-bars D D are arranged in the four sides of the grooved tongue B' of the door, as shown clearly in Fig. 2, the ends of the vertical side bars D D being guided by means of angular tongues d' , having beveled ends in the centrally-recessed ends of the horizontal bars D D, arranged in the grooves of the top and bottom tongues B' of the door, as shown in Fig. 5, whereby the locking-bars D D guide each other, so as to move simultaneously into open or closed position. The bars D D are actuated by means of fixed intermediate rods, D', which extend at right angles from the bars D toward the center of the door, said rods D' being guided by slots on fixed guide-pins of the door-frame, or in any other suitable manner. The inner ends of the rods D' have pins $e e$, which are engaged by eccentrically-curved slots e' of a centrally-pivoted disk, E, that is actuated by the knob E' of the door B. The knob E' is so connected with the disk E that when the combination of the lock is set the knob and disk may be turned, and thereby the locking-bars D moved by the eccentric slots e' and rods D' into the grooves of the tongues B' of the door B, so that the door can be opened. When the knob is turned in the opposite direction, the locking-bars are thrown simultaneously in part into the grooved strips $a' a'$ of the safe-body, so as to interlock therewith and secure the door rigidly in closed position on all its four sides. As all the locking-bars are connected to the actuating-disk E by the intermediate rods, D', all move together. The locking action takes place simultaneously around the entire door, so that a very reliable locking mechanism is obtained,

that is also entirely covered and thereby not accessible from the outside to the tools of burglars. As the hinge-connection of the door and safe-body is likewise protected and cannot be interfered with, a very strong and reliable safe construction is obtained which presents a more finished and ornamental appearance from the outside, especially when the molding of the front frame of the safe-body and the exterior molding of the door are arranged with proper reference to each other. When the safe is made with two doors the hinges are arranged in both side walls, in the manner shown in Fig. 4, one wing of the door being then provided with a tongue, while the other wing is provided with a recess to receive the vertical tongue when the doors are closed. The locking-bars are arranged in the remaining sides of the doors, and operated by a separate knob and actuating-disk of each door, as customary in large safes having two doors.

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

1. As an improvement in safes, the combination of a safe-body having a front frame and horizontal quadrantal recesses back of said front frame, a door having recessed quadrantal leaves and screw-pintles passing through pintle-sleeves at the ends of the leaves, and screwed into vertical socket-holes of the safe-body, substantially as set forth.

2. The combination, with a safe-body provided with a recess on its front face, of a door having an inwardly-projecting flange or tongue adapted to fit the recess of the safe-body, said recess and tongue being provided on adjacent faces with corresponding grooves, locking-bars movable in said grooves, and mechanism connecting said locking-bars with the door-knob for moving the bars within the grooves to lock or release the door, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FRANZ ENDRES.

Witnesses:

PAUL GOEPEL,
SIDNEY MANN.