

No. 713,871.

Patented Nov. 18, 1902.

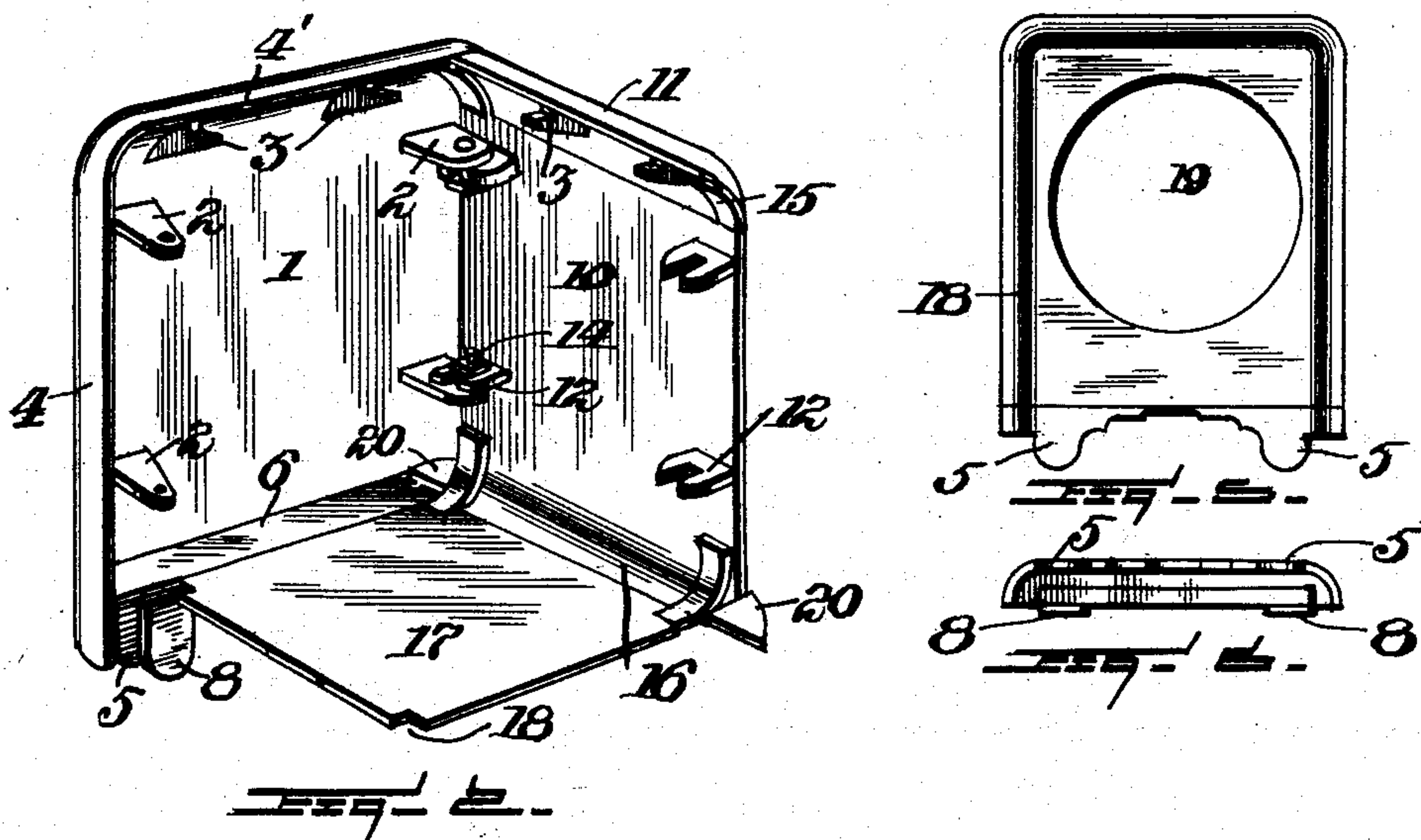
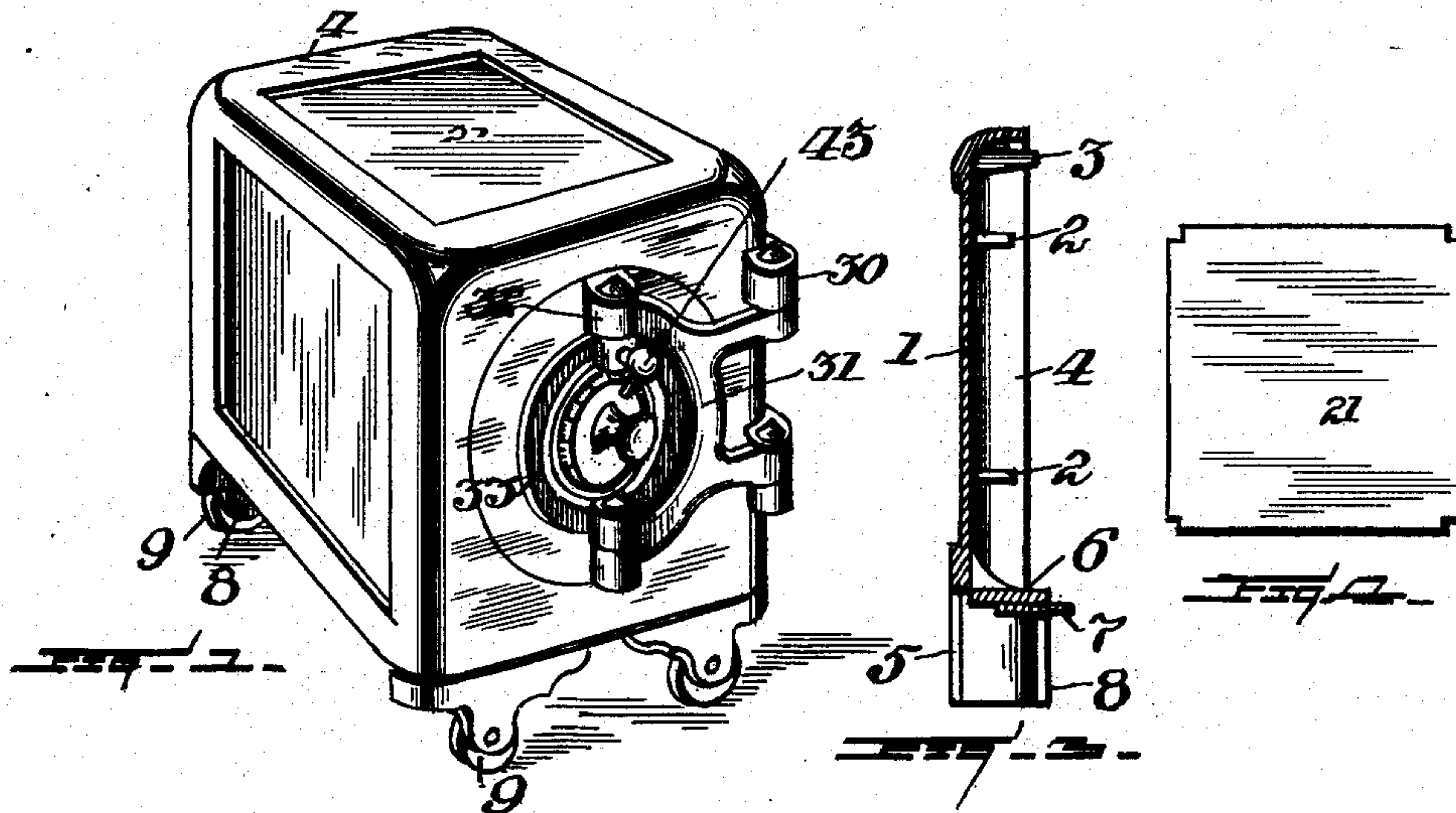
G. J. H. GOEHLER.

SAFE.

(Application filed Apr. 30, 1902.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
J. A. D. Allen
E. E. Foster

Inventor,
G. J. H. Goehler;
By *W. E. Smith*
Attorneys.

No. 713,871.

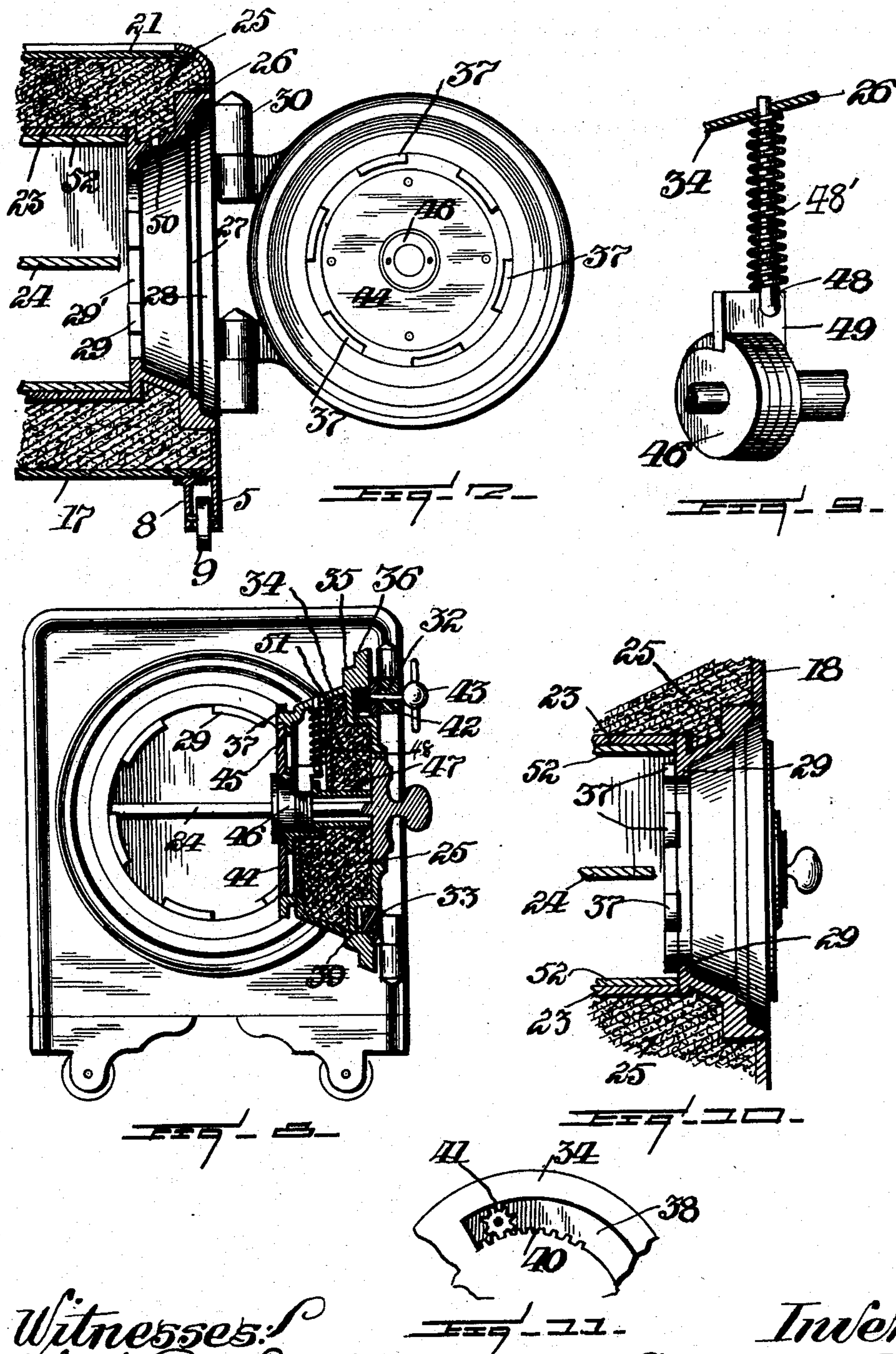
Patented Nov. 18, 1902.

G. J. H. GOEHLER.
SAFE.

(Application filed Apr. 30, 1902.)

2 Sheets—Sheet 2.

(No Model.)



Witnesses:
J. H. Tucker
E. B. Potter

Inventor,
G. J. H. Goehler,
By *W. E. Ever*
Attorneys,

UNITED STATES PATENT OFFICE.

GEORGE J. H. GOEHLER, OF PITTSBURG, PENNSYLVANIA.

SAFE.

SPECIFICATION forming part of Letters Patent No. 713,871, dated November 18, 1902.

Application filed April 30, 1902. Serial No. 105,285. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. H. GOEHLER, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Safe Construction, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in safe construction, and relates more particularly to safes employing a circular door which is partially rotated after being closed in order to effect a locking engagement with the door-frame in the safe-body.

15 The invention has for its object to materially simplify and cheapen the cost of fireproof safes; and the invention resides in the construction of the safe-body, in the purpose of the improved form of screw locking device, and also in the provision of the improved bolt locking device for securing the door against rotation after being locked and the tumblers turned out of registry.

20 The specific construction entering into my improved safe will be hereinafter more fully described and then specifically pointed out in the claims.

30 In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

35 Figure 1 is a detail perspective view of my improved safe with the door in a closed position. Fig. 2 is a like view of a portion of the shell or outer casing of the safe. Fig. 3 is a transverse vertical sectional view of the rear plate of the shell or casing. Fig. 4 is a detail plan view of a plate forming the top and bottom of the shell or casing. Fig. 5 is a front elevation of the front plate of the shell or casing. Fig. 6 is an end view of the same. 40 Fig. 7 is a central longitudinal sectional view of a portion of the safe, showing the door in an open position. Fig. 8 is a front elevation of the safe, showing the door in an open position and in central vertical section. Fig. 9 is a detail perspective view of the locking-bolt for holding the door against rotation after the tumblers have been turned out of reg-

istry. Fig. 10 is a vertical sectional view through a portion of the safe, showing the door in side elevation in a closed position. 55 Fig. 11 is a front elevation of a part of the door, showing the pinion end segment by means of which the door is rotated to lock or unlock the same.

As stated, it is the object of my invention 60 to materially cheapen the construction of fireproof safes, and to accomplish this I provide a shell or casing of cast-steel, the shell embodying four side pieces and a top and bottom piece. The same pattern is employed 65 for casting the two sides of the shell and separate patterns being used for the rear and front and the patterns of the same form for both the top and bottom of the shell. The construction of this shell is clearly illustrated 70 in Fig. 2 of the drawings, wherein the back or rear wall 1 of the shell, as shown, is provided near each outer edge, on the inner face, with inwardly-extending apertured lugs 2, and near its upper end, also on the inner face, with 75 inwardly-projecting ledges or shoulders 3. This back or rear wall of the shell is curved inwardly at its upper end, as at 4', and both of its side edges are curved inwardly to form side flanges 4, the edges of which fit against 80 the side edges of the two side walls of the shell. Cast integral with the rear wall 1 of the shell and depending downwardly from the rear face thereof is a pair of brackets 5, and an inwardly-extending flange 6 is also cast 85 integral with said rear wall, and integral with this flange 6 and extending inwardly beyond the same on a plane below the flange 6 is a supporting-flange 7, while depending from this flange 7 is a pair of brackets 8, these 90 brackets 5 and 8 receiving the axle or shaft on which the rollers or wheels 9 are carried. Heretofore in safe construction it has been the practice to provide a separate piece of material having these brackets cast thereon and 95 bolt the same to the underneath side of the safe. With my improved construction, however, I am enabled to cast these wheel-receiving brackets integral with the shell of the safe and materially simplify as well as cheapen 100 the construction. The two side plates 10 of the shell are identical in construction and may therefore each be cast from the same pattern. These side plates have an inwardly-curved

flange 11 at their upper ends to conform to the inwardly-curved flange 4' at the upper end of the back 1 and of the front plate of the shell. Each side plate 10 has cast integral with its inner face inwardly-extending lugs 12, which are notched to receive bolts 14, passed through the apertured lugs 2 and also through the lugs on the front plate, to be hereinafter described. Each side plate 10 is provided with inwardly-extending projections or shoulders 3 of construction identical with the shoulders on the back plate, and each side plate also has ribs 15 on the inner face at the upper and lower ends, the ribs at the upper end extending slightly beyond the side edge of the side plates and receiving the back plate 1 and the front plate which rests thereon. At their lower ends the side plates are constructed with an inwardly-extending flange 16, which meets the bottom plate 17. This bottom plate 17 rests upon the projecting supporting-flange 7 of the rear plate 1 and the front plate of the shell and is provided at each corner with cut-away portions 18, into which the strengthening-ribs 15 at the lower ends of the side plates project. The front plate 18 is provided with a circular door-opening 19 and has inwardly-extending side flanges and an inwardly-extending top flange in the same manner as the rear wall 1. At its lower end this front plate 18 is also constructed with a flange 6 and supporting-flange 7 and integral brackets 5 and 8 to receive the front pair of rollers 9. The two side plates are provided with extending lugs 20, which are adapted to rest upon the flange 6 of the front and rear plates, thus giving additional support. The front plate 18 is also provided with supporting shoulders or projections 3, and upon these shoulders or projections 3 of the front and rear plates and of the side walls the top plate 21 rests, said plate being notched or cut away at each corner, as shown, to receive the ribs 15, cast on the side plates 10. It will thus be seen that the two sides, rear plate, front plate, and the bottom and top are cast in separate pieces and fastened securely together by means of bolts 14, all parts fitting neatly and forming a complete safe. The top plate 21, as stated, is supported on the inwardly-extending ledges 3, the edges of the plate projecting under the overlapping or intumed flanges 4' and 11, so that the plate is securely held in position. The bottom plate is supported on the inwardly-extending flanges 7 and is held by the fireproof material placed between the said plate and the inner box or casing. After this shell has been thus set up I place therein an interior metal box or inner casing 23, open at the front end adjacent to the doorway and which is or may be provided with partition or partitions, as shown at 24, for separating the same into two or more compartments. The space between the inner strong box or casing and the outer shell or casing receives the fire-

proofing 25, which may be of any desired or approved composition.

In the front of the safe is placed the circular door-frame 26, which is provided with circular steps or shoulders 27 28 and is flanged at its inner end, so as to abut against the open end of the inner strong box or casing 23. At its inner end this door-frame 26 is provided with a mutilated flange, forming the projections 29, which are spaced an equal distance apart circumferentially of the frame and are adapted to interlock with like projections carried by the door, as will be hereinafter further described. This door-frame 26 may also be cast in the same manner as the outer shell or casing of the safe and is provided with one or more circumferential grooves, into which the fireproof material 25 will engage to bind the frame firmly in position. The front plate 18 carries bearings 30, which may be either cast integral with said plate or secured thereto by bolting, riveting, or other suitable means. These bearings receive the pintles at the outer end of the crank-hinge 31, on which the door is hung. The pintles carried at the inner end of this crank-hinge are engaged with bearings 32, which are carried by the annular non-rotating ring 33. The door consists of a hollow body or shell 34, of a frustated conical shape, provided with circular steps or shoulders 35 36 to match with the shoulders 27 28 in the door-frame, and at its inner end this hollow body or shell carries circumferentially-arranged lugs or projections 37, which are adapted to pass through the spaces 29' between the lugs or projections 29, and after having passed beyond said projections 29, so that the door may be turned, the projections 37 engage back of the projections 29, interlocking therewith in the manner of a thread. On its outer face the door 34 is provided with a groove 38, which may be made continuous or extended for only a short distance in a curved line near the top of the door, though I prefer to either extend these grooves around the door for some distance or else form an additional groove near the lower side of the door, into which the shoulder 39, carried by the ring 33, projects, so as to form a guide for the door, as well as a support, during its rotation. The lower wall of the groove 38, near the top of the door, is provided with teeth to form a segment 40, with which the operating-pinion 41 engages, said pinion traveling in the groove 38 as the door is rotated. This pinion is carried on a shaft 42, which extends through the ring 33, and is provided at its outer end with a suitable handle 43.

The lock may be of any approved form employed in connection with safes or strong boxes, though I have preferably employed the Yale lock, which is mounted in the door, centrally thereof, and held in position by means of the rear plate 44, which is attached by screws or like means to inwardly-extending projections 45, carried by the door. The tum-

blers 46 are inclosed in a suitable casing 47, and these tumblers are employed to engage the locking-bolt with the door-frame and hold the door against opening until the tumblers 5 are so set as to permit the opening of said door. This locking device is of an approved form and consists of a bolt 48, inclosed within a spring 48', and at its lower end carrying a plate 49 to engage with the tumblers 46. The 10 outer tumbler 46 is, as is the usual practice, constructed with shoulders, so as to lift the plate 49 and the bolt 48 in order to engage the latter with the opening 50, provided therefor in the door-frame 26. I preferably inclose 15 the locking-bolt within a casing 51 in the door and the remaining space within the hollow door being filled with the fireproof material 25, as in the body of the safe.

In Figs. 7 and 10 I have shown a portion of 20 the inner lining 52, which is placed within a metal inner casing 23, though of course this is the usual construction in all forms of safes. The manner of assembling the safe will, it is believed, be readily apparent to those skilled 25 in the art, and it will be observed that when the door is closed the projections 37, carried thereby, will pass through the space 29' between the projections 29. As the door is rotated, which is done by turning the handle 43, 30 thus causing the pinion to operate the door through the medium of the segment 40, the projections 37 will interlock back of the projections 29 to retain the door in the closed position, where it is locked by means of the locking-bolt 48, actuated through the medium of 35 the combination-lock.

I desire to call attention to the fact that the shell or body is constructed entirely of cast-steel, enabling me to produce a fireproof safe 40 at a cost very materially less than has heretofore been possible.

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

45 1. In a safe, a shell or outer casing comprising rear and front plates each provided with an inwardly-extending supporting-flange at the lower end, supporting-lugs carried by said plates near their upper ends, side plates fitting said rear and front plates, means for securing the side plates to the front and rear 50 plates, a top plate supported on the lugs carried by the front and rear plates, and a bottom plate supported on the supporting-flanges of the front and rear plates, substantially as described.

2. In safes, a shell or outer casing comprising a front plate, a rear plate, and two side

plates, a top plate, means carried by the front, rear and side plates for supporting the top 60 plate, means for securing the side, front and rear plates together, a bottom plate and means carried by the front and rear plates for supporting the bottom plate, substantially as described. 65

3. In a safe, a shell or outer casing consisting of separate cast-steel plates forming the back, front, and sides, the plates forming the back and front having inturned flanges at their side edges and upper ends, means for 70 securing the plates together, a top and bottom plate, and means for supporting the same.

4. In fireproof-safe construction, a shell or outer casing embodying front, rear and side walls connected together, a top plate, means 75 carried by the rear and side walls for supporting said top plate, means for securing the top plate in position, a bottom plate supported by the rear and side walls, and means for securing the bottom plate in position. 80

5. In fireproof-safe construction, a shell or outer casing consisting of separate cast-steel plates forming the sides, front and rear walls, the front and rear plates having inturned flanges at their side edges, and each of the 85 plates having inturned flanges at their upper ends, a top plate, means for securing the top plate in position, a bottom plate, and means carried by the front and rear plates for supporting said bottom plate, substantially as described. 90

6. In a safe, a shell or outer casing consisting of separate plates forming the front, rear and side walls, inwardly-extending lugs carried by said plates for securing the same together, a top plate, means carried by the rear 95 and side walls for supporting said top plate, a bottom plate, the front and rear plates having inwardly-extending flanges on which said bottom plate is supported, substantially as described. 100

7. In a safe, front and rear plates having inwardly-extending side, top and bottom flanges, brackets formed integral with the lower ends of said plates, side plates fitting 105 the front and rear plates, means for securing the plates together, a bottom plate supported by the front and rear plates, and a top plate supported by the front, rear and side plates.

In testimony whereof I affix my signature 110 in the presence of two witnesses.

GEORGE J. H. GOEHLER.

Witnesses:

JOHN NOLAND,

A. M. WILSON.