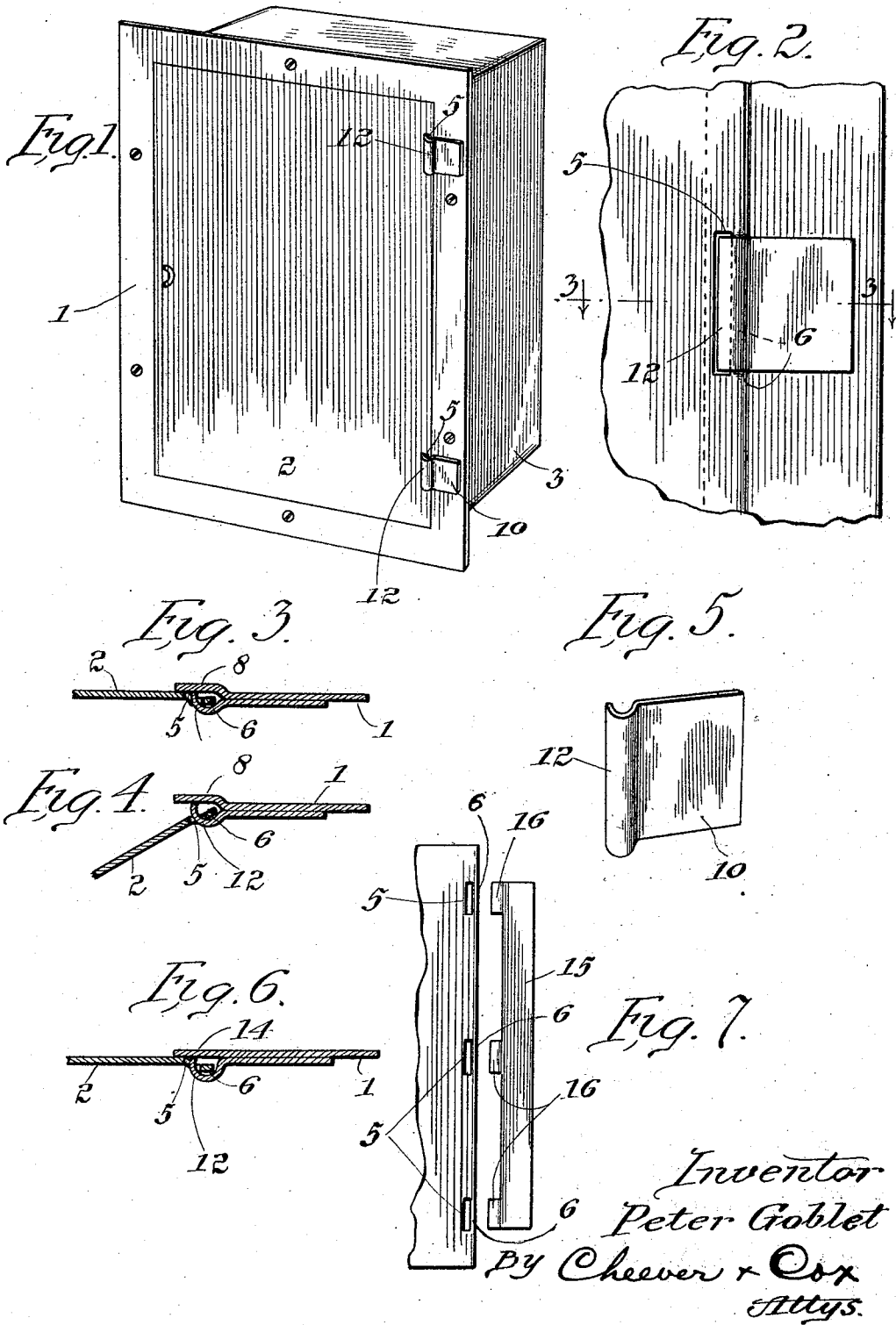


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HINGE.

APPLICATION FILED JULY 10, 1920.

1,420,481.

Patented June 20, 1922.



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Specification of Letters Patent. Patented June 20, 1922.

Application filed July 10, 1920. Serial No. 335,291.

To all whom it may concern:

Be it known that I, PETER GOBLET, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented a certain new and useful Improvement in Hinges, of which the following is a specification.

My invention relates to hinges, more particularly for sheet metal boxes, cabinets, and the like, and one of the objects of the invention is to provide a simple and economical construction which readily lends itself to quantity manufacture and present day shop methods. Another object is to produce a construction which will permit the door to overlap a portion of the door frame, thus preventing the occurrence of a crack or opening at the hinged margin of the door and producing a tight construction which effectually prevents the access of a prying tool. Another object is to provide a construction in which the front surface of the door may come flush with the front surface of the door frame. Another object is to provide a construction such that the door will be held tight when closed, thus to prevent rattling—also to enable the door to be swung fully open, that is, through an angle of substantially 180 degrees.

I accomplish my objects by the construction illustrated in the accompanying drawings in which—

Figure 1 is a perspective view of a cabinet or other receptacle embodying my invention;

Figure 2 is a face view on an enlarged scale showing the slotted portion of the door, the hinge plate, and adjoining portions of the door frame;

Figure 3 is a plan section on the line 3—3, Figure 2, showing the door in closed position;

Figure 4 is similar to Figure 3, but shows the door open instead of closed;

Figure 5 is a perspective view of the hinge plate or lug;

Figure 6 is a plan section analogous to Figure 3, but showing a type in which the door frame is flush instead of countersunk;

Figure 7 is a front view of the type shown in Figure 6. In this case there is a single hinged plate which is provided with three separate but integral lips which enter the slots for hinging the door in place.

Like numerals denote like parts throughout the several views.

In the illustrated form selected to explain the principles of the invention there is a metallic door frame 1, the plane of which is substantially coincident with the plane of the door 2. The frame may or may not be part of a receptacle or cabinet, but in the present case I have illustrated a metallic cabinet 3 secured to the back of the frame to form a receptacle.

Adjacent to the hinged margin of the door are one or more slots 5. They are near to but spaced from the edge of the door so that the slots are in reality perforations or elongated holes.

In the form shown in Figures 1 to 4 the door overlaps a portion 8 of the door frame, this overlapped portion being countersunk so that the front surface of the door lies substantially flush with the front surface of the frame. As the result of this overlapping there is no crack between the edge of the door and the edge of the frame, as in ordinary door constructions, and furthermore the countersunk portion forms a closure for the rear of the slots.

Fastened to the front of the door frame is a plate 10 having a curved lip 12 which passes in front of the door and then curves backward so as to extend into and through the slots 5, and preferably terminates in contact, with the front surface of the countersunk portion 8. In the form illustrated these plates 10 are of metal and secured by spot welding or other approved method to the front of the door frame. In the best form the vertical dimension of the lips 12 is substantially equal to the vertical dimension of the slots, the result being that the lips fill the slots from top to bottom and prevent vertical movement of the door in either direction. I have denoted the portion between the slot and the adjacent edge of the door by the numeral 6. By preference this portion, which is somewhat analogous to the pintle of an ordinary hinge, is offset outward from the plane of the door. The result is that it comes somewhat close to the inside of the lip 12 and thus holds the door close against the door frame when closed. It also permits the door to be swung more widely open—for example, under ordinary conditions it may swing through an angle of 180 degrees.

In the illustrated form the door frame is rectangular so as to cooperate with all

four margins of the door, and it is desirable in many cases to have the door overlap the frame at all four of these margins. The overlapped portion of the door frame may be countersunk at the other three sides as well as the hinged side 8, if desired.

In practice, when the parts are constructed as described, the door is supported upon the lips 12 of the lugs 10 and is free to swing about them as an axis, the curvature of the lips being sufficient to permit free motion. On account of the overlapping of the door and door frame, the closure is very effective, and no cracks are visible either at the margin of the door or at the slots 5.

In Figure 6 I have shown a modification in the sense that the door frame, instead of being countersunk at the part 14, is overlapped by the door and lies in the same plane with it. In this case the front surface of the door will not lie flush with the front surface of the frame, but as the door is of sheet metal, the two surfaces will not be much out of line. In other respects the operations and results are the same.

In Figure 7 a plate 15 is provided which is analogous to the plates 10, but is elongated so as to be provided with three integral lips 16, 16. These, however, are formed in the same manner as the lips 12 and fit into three separate slots 5.

It will be evident to those familiar with sheet metal working that the construction described and illustrated lends itself readily to quantity production. The parts may all be produced by the aid of dies, thus rendering them interchangeable and economical to make. Furthermore, the construction is effective, for cracks at the margins of the door are avoided, and hence it is practically impossible even when comparatively thin gauge metal is employed, to gain access to the interior of the receptacle by the aid of a jimmy or prying tool. Furthermore, the construction is practically dust proof, for the over-

lapping portions cooperate to exclude dust when the door is closed. Another advantageous characteristic is that the metal 6 between the slots and the adjacent margin of the door is integral and secured at both ends. Thus there is little danger of its breaking when prying pressure is applied. Another advantage is that on account of the outward offset of the portion 6 of the door and the fact that it fits fairly closely with the lip 12, the door when shut is held close to the door frame, furthermore, the door is enabled to swing open substantially a full 180 degrees.

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

1. In combination, a sheet metal door frame countersunk along one of the margins of the opening, a sheet metal door overlapping the countersunk portion of the door frame whereby the front of the door is approximately flush with the front of the frame, the door having a slot running parallel with the overlapping edge of the door near to but spaced therefrom, and a plate fastened to the front surface of the door frame and overlapping the front of the door sufficiently to extend to the slot therein, said plate projecting through the slot and extending substantially to the countersunk portion of the door frame.

2. In combination, a door frame, a door adapted to overlap the frame at one edge, the door having a slot in the overlapping portion, and a lug fastened to the door frame and having a lip adapted to pass to the front of the door and thence backward into the slot for hinging the door to the frame, the lip being concave on the inside and the portion of metal between the slot and the adjacent edge of the door being offset outward for holding the door tight shut.

In witness whereof, I have hereunto subscribed my name.

PETER GOBLET.