

A. F. DIXON.
FASTENING DEVICE.
APPLICATION FILED JUNE 11, 1907.

1,062,145.

Patented May 20, 1913.

Fig. 1.

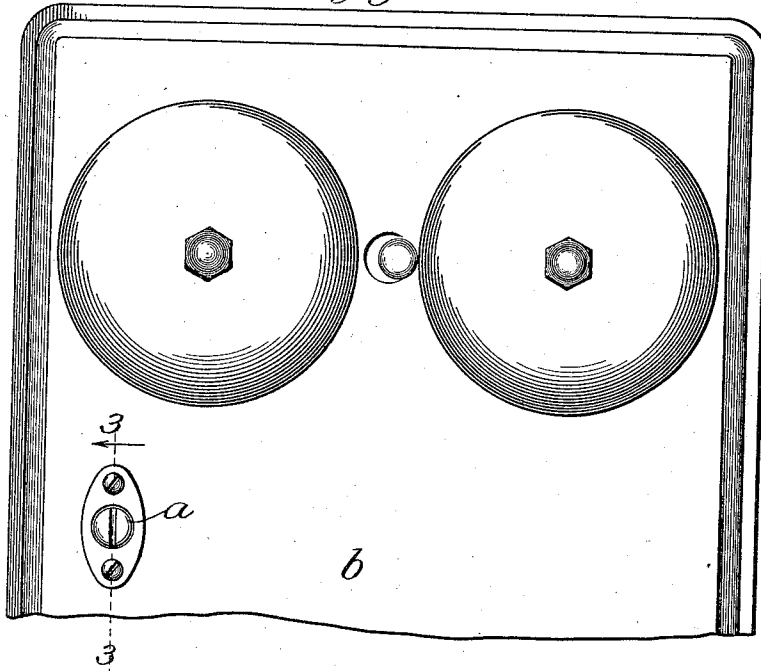


Fig. 2.

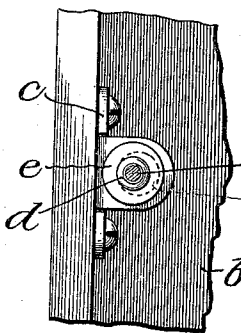


Fig. 3.

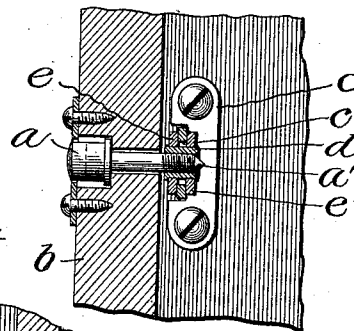
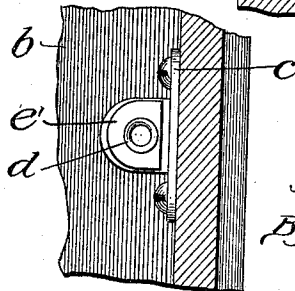


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

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FASTENING DEVICE.

1,062,145.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, Amos F. Dixon, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Fastening Devices, of which the following is a full, clear, concise, and exact description.

My invention relates to fastening devices, and its object is to provide efficient means for removably securing two members together.

My invention provides a convenient and simple means for fastening a cover to a box, or other containing case, as, for example, for retaining the door of a subscriber's telephone set in a closed position.

In the type of fastening devices in which a bolt carried by one member has a locking engagement in an opening in another member or in a plate carried thereby, it is found that, in actual use, it is difficult to keep the bolt in alinement with the opening, since a slight warping or other displacement will throw the parts out of their proper relation to each other. My invention contemplates means for overcoming such difficulties by making the part provided with the opening automatically adjustable, so that said opening is centered with relation to the bolt.

More specifically, my invention consists in making the bolt securing member in two parts, one of which is adapted to be fixed to the containing case and the other of which is secured to the former part, but in such manner as to permit a slight free lateral movement in all directions, said latter part having an opening therein for receiving the bolt. By tapering the end of the bolt, said bolt will of itself center the movable part so as to bring the opening into alinement.

My invention may be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a front elevation, with parts broken away, of a subscriber's telephone set equipped with my improved locking device; Fig. 2 is a detail front view of the angle plate or bracket carried within the case; Fig. 3 is a section on the line 3—3 of Fig. 1; and Fig. 4 is a detail rear view of the bracket or angle plate.

Similar letters of reference designate similar parts throughout the different figures.

The fastening bolt *a*, preferably a screw, passes through an opening in the door or cover *b*, and is preferably mounted therein in the manner shown more particularly in Figs. 1 and 3, the same, however, forming no part of my invention. An angular bracket or plate *c* is secured to the inner wall of the containing case. The shelf portion of the bracket has an enlarged opening *c'* therein, preferably circular, and a tubular sleeve *d* is secured in said opening in such manner as to have considerable lateral play therein. Said sleeve is preferably held in place by flanges at each end of the sleeve, as, for example, by plates *e* and *e'* securely fitted over each end, respectively, of the sleeve, and secured thereto preferably by spinning the ends of the sleeve over the plates. The length of the sleeve *d* is such that the space between the plates *e* and *e'* is slightly greater than the thickness of the shelf of the bracket *c*, said plates being larger than the opening *c'*, that is, of sufficient size to overlap the walls of said opening, as shown more clearly in Fig. 3. The tubular sleeve *d* may be interiorly threaded to receive the threaded end of the bolt *a*, said sleeve thus forming a nut which coöperates with the threaded bolt. The end of the bolt *a* entering the mouth of the tubular opening will of itself adjust the sleeve so that the threaded opening therein will be brought into proper alinement, as is obvious. The inner end *a'* of the bolt *a* is preferably of a tapered or conical shape, as shown in Fig. 3, in order that it may more readily enter the opening of the sleeve to center said sleeve in case it is out of alinement.

In order that the sleeve *d* may be adjustable in all directions, I preferably make the same circular in cross section, and also make the opening *c'* circular. In such case it is obvious that some means must be provided for preventing the rotation of the sleeve when the screw bolt is being driven home. As shown in Fig. 4, I preferably form the plate *e'* with a straight edge adjacent to the base of the bracket *c*, said edge being sufficiently removed from said base to permit free lateral movement of the plate, and close enough for a corner of the plate to engage the base when the screw *a* is being turned in either direction, to prevent the rotation of the sleeve.

Having described the preferred form of my invention, and indicated one use to which it is particularly adapted, I claim:

1. In a device for temporarily uniting two parts, the combination with a nut mounted upon one part to have a limited lateral movement in all directions, and a cooperating rotatable bolt mounted upon the other part adapted when actuated to cause the opening in said nut to be automatically aligned with said bolt to receive and hold it.

2. In a device for temporarily uniting a fixed and a movable part, the combination with a nut mounted upon the fixed part to have a limited lateral movement in all directions, and a cooperating rotatable bolt mounted upon the movable part to lie approximately in operative relation to said nut when the parts are together, and adapted when actuated to cause the opening in said nut to be automatically aligned with said bolt to receive and hold it.

3. In combination, a case and door, a threaded bolt rotatably movable within an opening in said door, a threaded locking sleeve therefor mounted non-rotatably within an opening in a cooperating part of said case but free to have a limited lateral movement therein, whereby the actuation of said bolt causes the opening in said threaded

sleeve to be automatically aligned with said bolt to receive and hold it.

4. In a fastening device the combination with a bolt, of a support having an opening therein, a locking nut mounted in said opening, and flange plates upon the locking nut preventing the removal and rotation of the nut but permitting a free lateral movement thereof.

5. In a fastening device, the combination with a bolt, of a plate having an opening therein, a tubular sleeve projecting loosely through said opening, and a plate secured at each end of the sleeve, said latter plates overlapping the sides of the opening in said first named plate.

6. In a fastening device, the combination with a bolt, of a plate having an opening therein, a tubular sleeve of less size than said opening, and means for securing said sleeve in the opening, said means being constructed and arranged to prevent the rotation of said sleeve, while permitting a free lateral movement thereof.

In witness whereof, I hereunto subscribe my name this 6th day of June A. D., 1907.

AMOS F. DIXON.

Witnesses:

RALPH G. JOHANSEN,
JESSIE M. FLINN.