

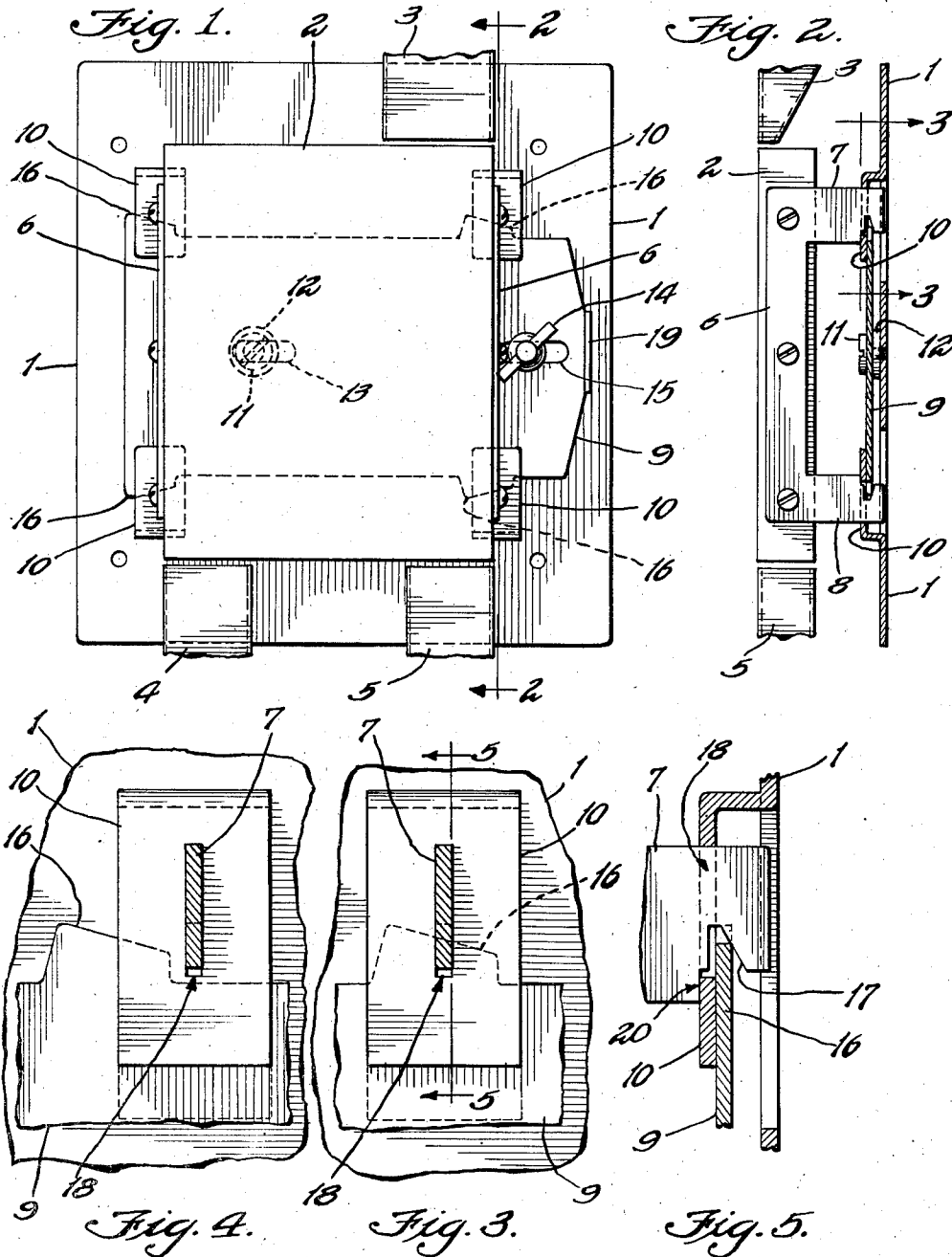
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CLAMPING APPARATUS

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CLAMPING APPARATUS

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This invention relates in general to manually operable clamping devices, and more particularly to an apparatus for clamping a mechanical unit to a framework in accurate register therewith.

Although the clamping apparatus to be described has a large variety of applications, for clarity the mechanism shown is a typical application used in mounting a slug rejector to a coin-operated device. Heretofore, such mechanisms were usually secured by screw means that required more than normal skill and time and use of tools for their removal and replacement. The present invention solves this problem through a provision of a simple manually-operated device which provides for unskilled removal and replacement with great accuracy and security, and comprises the principal object of the invention.

A further object of the invention is the provision of a novel means for clamping a removable unit at a plurality of points simultaneously with a single manual operation for fastening the unit with great security. Further objects and advantages in one embodiment of the invention are described hereinafter and shown in the drawing in which:

Fig. 1 is a front elevation of the device.

Fig. 2 is a side cross-sectional view taken through section line 2—2, Figure 1.

Fig. 3 is an enlarged fragmentary view taken through section line 3—3, Figure 2.

Fig. 4 is the same as Figure 3 with elements in changed position.

Fig. 5 is a cross-sectional fragmentary view taken through section line 5—5, Figure 3.

Referring to Figure 1, a mounting plate 1 is intended to be permanently secured to a wall or frame not shown. A coin selector unit 2 is removably positioned on plate 1 by socket and locking means to be hereinafter described.

A coin entrance chute 3, an acceptance chute 4, and a rejection chute 5 are also intended to be permanently positioned to the same wall or frame which supports frame 1. It is necessary that the chutes 3—4—5 be accurately aligned and registered with corresponding openings in the removable unit 2.

Identical brackets 6—6, shown Figures 1 and 2, secured to opposite sides of unit 2 are provided with upper and lower legs 7 and 8, respectively. Lock member 9 is slidably retained to plate 1 under four brackets 10 sheared and formed from plate 1. The lock member is further guided by spacer 12 and screw 11 through slot 13 in plate 1. The member 9 is locked in position by a thumb screw 14 through slot 15 threaded into plate 1. The

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lock member 9 is also provided with integral locking wedges 16 symmetrically projecting from opposite corners and an outwardly projecting handle 19 for sliding the member in and out of locked position.

The legs 7—7 and 8—8 of brackets 6—6 have notches facing each other cut in their ends and provided with sloping surfaces 17 as shown in Figures 2 and 5. The four legs 7—7 and 8—8 normally project through corresponding apertures 18 in the brackets 10 forming sockets for the legs 7—7 and 8—8 better shown in Figures 3—4—5.

When the unit 2 is placed in position shown in Figure 1 with the legs 7—7 and 8—8 projecting through apertures 18 and when the lock plate 9 is manually moved by handle 19 to the position shown in Figure 1, each ear 16 is moved into a wedging frictional contact with the sloping surface 17 in the notched ends of the legs 7—7 and 8—8 which securely holds the end surfaces 20 of each leg in firm contact with the top surfaces of the ears 10 as shown in Figure 5. The locking member 9 is prevented from further movement by tightening thumb screw 14 which secures the member to the plate 1.

When the screw 14 is loosened and the lock plate 9 moved to a position opposite that shown in Figure 1, the four ears 16 simultaneously disengage from the legs 7—7 and 8—8 and permit the removal of the unit 2 from the frame 1.

Having described my invention I claim:

1. A clamping apparatus comprising a fixed frame means having a plurality of sockets therein, a lock member slideably positioned on said frame means, said member provided with a plurality of integral wedge-shaped projections corresponding in number and positioned to intersect said sockets when said member is moved in one direction, removable unit means including a plurality of projecting legs corresponding in number and position to engage said sockets whereby said unit means will be locked to said frame means when said legs are in said sockets and said lock member is moved in one direction to engage its said wedge-shaped projections with said legs.

2. A clamp apparatus comprising a fixed frame means having a plurality of perforated socket brackets integral therewith, a lock plate having a like number of wedge-shaped projections extending therefrom, friction means secured to said frame means for slideably securing said plate to said frame means with said projections extending under said brackets when said plate is moved in one direction, screw means for locking said plate to said frame, removable unit means having a

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plurality of notched legs corresponding in number and position to said brackets each of said notched legs having one surface of said notch to register with its corresponding said socket bracket to position said unit means in pre-determined relation with said frame means, whereby said wedge shaped projections will substantially simultaneously engage corresponding said notched legs when the latter are inserted in said perforated brackets and said plate is moved in one direction to lock said unit means to said frame means.

3. In a clamping apparatus, a fixed frame, a socket consisting of a perforated bracket offset parallel and integral with said frame, a lock plate having wedge-like projection extending from one edge, means for frictionally and slideably securing said plate to said frame with said projection movable in a path between said frame and said bracket, a removable member having a notch near

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one end adapted for insertion in said aperture said notch having one surface adapted to register with said bracket in pre-determined relation, whereby said projection will interlock with said notch when said member is inserted through said aperture to secure said removable member in pre-determined relation to said frame when said lock plate is moved in one direction.

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