March 15, 1949. P. PENSABENE 2,464,414

RESILIENT JAW TYPE FASTENER

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Fig 1

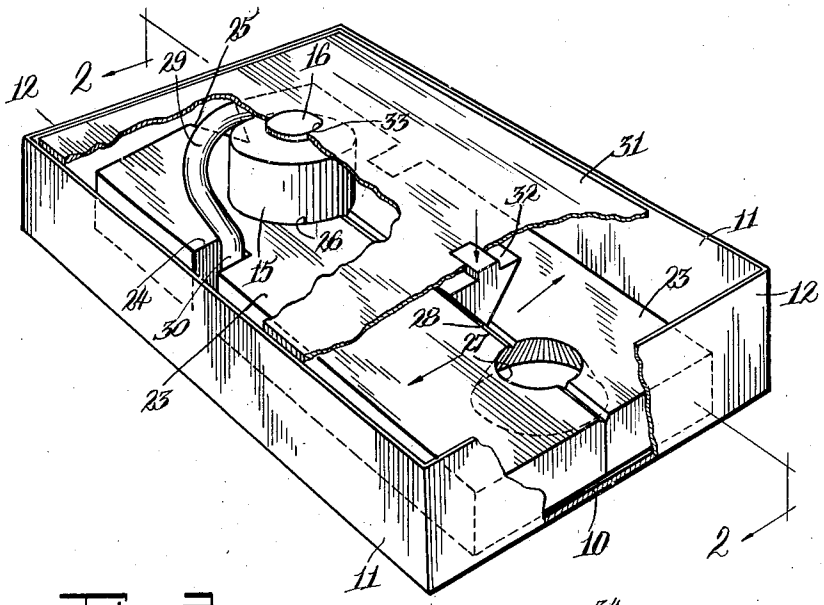


Fig 2

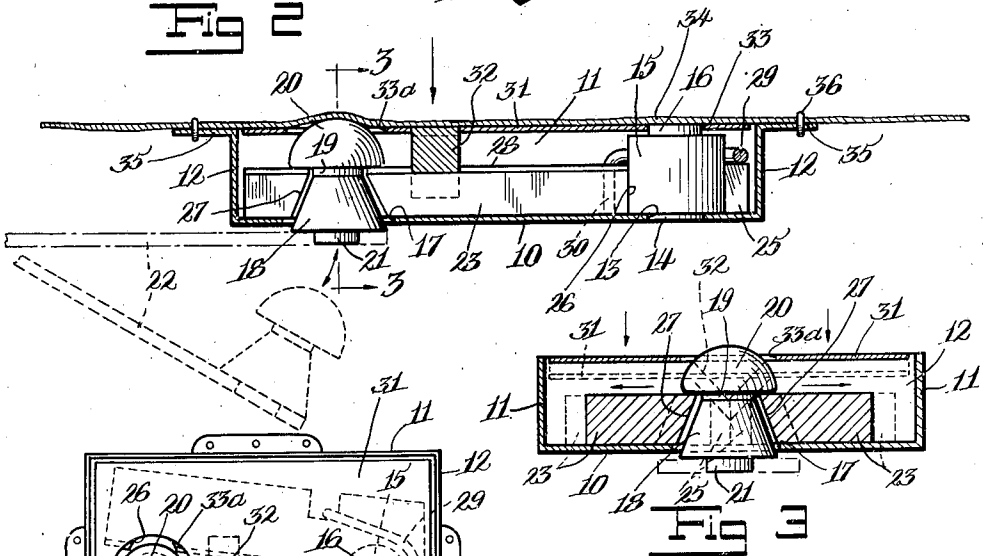
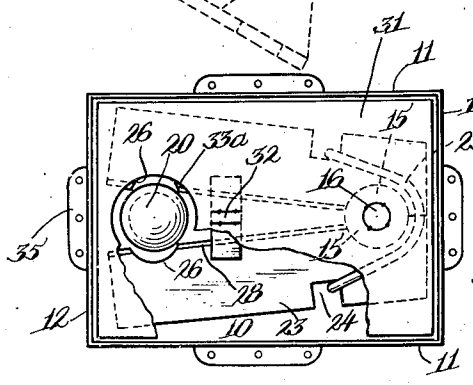


Fig 3

Fig 4



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RESILIENT JAW TYPE FASTENER

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2 Claims. (Cl. 24—211)

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This invention relates generally to locks, but more specifically to a stud-engaging lock for securing adjoining members such as in garment pockets, mouths of receptacles, slide fastener locks and in connection with other articles carried on the person or not.

The main object of the invention resides in the provision of a stud engaging lock construction which utilizes a finger controllable resilient plate for releasing the stud from locked position.

A further object of the invention resides in the provision of a lock construction wherein the stud engaging jaw arms are disposed about a bearing element and held thereagainst by a spring member normally maintaining the jaw arms in closed or adjacent position.

A further object of the invention resides in the provision of a stud engaging lock wherein a closure member for the housing thereof serves as the actuating means for disengagement of the stud.

Further objects of the invention reside in the simplicity of construction, efficient operation and economy in manufacture of the device.

These objects and other incidental ends and advantages of the invention will hereinafter appear in the progress of the disclosure and as pointed out in the appended claims.

Accompanying this specification is a drawing showing a preferred form of the invention wherein:

Figure 1 is a view in perspective partly cut away showing the lock structure in normal or closed position without the stud adapted to be engaged thereby.

Figure 2 is a sectional view of Figure 1 across the plane 2—2 thereof showing the stud engaged by the locking mechanism for locked position.

Figure 3 is a sectional view of Figure 2 across the plane 3—3 thereof.

Figure 4 is a reduced top plan view of the locking mechanism with parts cut away and showing engagement of the stud.

In accordance with the invention and the preferred form shown, a housing is provided for the locking mechanism and is comprised of a bottom wall 10, longitudinal walls 11, and end walls 12, the bottom wall 10 along the longitudinal axis being provided with an opening 13 adjacent one end to receive and have secured thereto a neck 14 of a cylindrical spacing and bearing member 15 provided with an upper neck portion 16. Along the longitudinal axis of bottom wall 10 adjacent the opposite end is an opening 17 through which a stud is adapted to penetrate and be withdrawn for locking, and removal purposes within and from the housing. As shown, the stud is comprised of a main body 18 in the shape of a conic frustum, the said body 18 at the upper portion having an intermediate neck portion 19 and a semi-spherical dome 20 of larger diameter than the neck portion 19. Depending from the lower end of main body 18 is a reduced neck portion 21 which is adapted to be secured to any edge of member 22 of a garment pocket, placket, mouth of a receptacle or article, the housing itself also being adapted to be secured at complementary members such as 34 for purposes of detachably locking or securing such members 22 and 34 together. In short, the combination of stud and lock may be applied to any article as a substitute for conventional securing purposes between two elements.

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Adapted to overlie wall 10 of the lock housing are a pair of similar jaw arms 23 in coplanar juxtaposed position, each of said arms along the outer longitudinal edge and adjacent one of the ends having a recess 24 and at the end of the inner longitudinal edge a beveled corner 25. Extending inwardly from the longitudinal edge of each of the jaw arms 23 and between the recesses 24 and the bevelled corners 25 is a semi-cylindrical recess 26 to engage opposite halves of the cylindrical bearing member 15. The upper edge of each of the inner longitudinal sides of jaw arms 23 is beveled as at 28.

A spring is provided to maintain the jaw arms 23 in abutting relationship relative to each other and relative to the bearing member 15, and as shown, the spring is in the form of a resilient wire having a curved portion 29 and downwardly extending terminal legs 30. The curved portion 29 is adapted to rest on the upper walls of jaw arms 23 and around the rear of the cylindrical bearing 15 while the downwardly turned leg portions 30 are disposed in recesses 24. Jaw arms 23 are each provided with recesses 27 of semi-conic frustum shape along the inner longitudinal walls and spaced from the semi cylindrical recesses 26 and together form the jaws which are adapted to engage the stud.

The housing for the locking structure is provided with a back cover plate 31 having along the longitudinal axis a circular opening 33 for attachment to the neck portion 16 of the bearing member 15. Plate 31 is also provided with a second opening 33*a* opposite the semiconic frustum recesses 27 for permitting penetration of the

top of semispherical dome 20 of the stud when in locked position. In addition, plate 31 along the longitudinal axis has depending therefrom a wedge member 32 engageable with the bevelled and opposite upper edges 28 of the inner longitudinal walls of the jaw arms 23 for purposes of spreading the jaw arms 23 against the action of the spring 29 when the plate 31 is depressed about neck 16.

The housing may be provided with ear formations 35 adjacent the longitudinal and end walls 11 and 12 for purposes of securing the housing to a flexible member or wall 34 which is adapted to be secured to the member or wall 22 carrying the stud body 18. As shown, the housing at ear formations 35 is secured to member 34 by means of stitching or pins 36.

In operation, the stud for locking purposes is introduced through the opening 17 in the housing bottom wall 10 and forced against the conic frustum openings 27 of jaw arms 23 causing said arms to separate against the action of spring 29 until the bottom wall of the semispherical stud head 20 is above the upper walls of jaw arms 23. When this position is attained, the return action of spring 19 will cause the jaw arms 23 to return to closed position and to engage the neck portion 19 of the stud thereby causing a locking thereof. To release the stud from the locking mechanism, plate 31 secured to the neck 16 of the bearing member 15 is depressed downwardly so that the wedge member 32 engaging arms 23 at the bevelled edges 28 causes a separation of the said arms thereby permitting a withdrawal of the stud.

I wish it understood that minor changes and variations in the size, materials and integration, location and shape of the parts of the invention may be resorted to without departing from the spirit of the invention and the scope of the appended claims.

I claim:

1. A resilient jaw type fastener for the purpose set forth comprising a housing having a bottom wall, longitudinal and end walls extending upwardly from the bottom wall, said longitudinal and end walls having formations adapted for the securement of the housing to a flexible member, a bearing member secured to the bottom wall of the housing, a pair of jaw arms engaging with the bearing member and adapted to be separated from each other by pivotal movement with respect to the bearing member, a spring extending between the jaw arms and urging them together, said jaw arms having opposing recesses, said housing bottom wall having an opening in axial registry with the jaw recesses, a stud adapted to be secured to the other member and adapted to be extended through the opening and to be normally gripped by the jaw arms against axial displacement from the jaw arms and from the housing bottom wall opening, a cover plate adjustable in the housing and adapted to be held against outward displacement from the housing by the flexible member, and means carried by the cover plate to separate the jaw arms to release the stud, said release means and cover plate being normally urged outwardly due to the action of the spring and jaws thereupon.

2. A resilient jaw type fastener for the purpose set forth comprising a housing having a bottom wall, upstanding walls extending upwardly from the bottom wall and having formations thereon adapted for the securement of the housing to a flexible member, a bearing member secured to the bottom wall of the housing, a pair of jaws engaging with the bearing member and adapted to be separated from each other by pivotal movement with respect to the bearing member, a curved resilient spring connected to the respective jaws and surrounding the bearing member and adapted to urge the jaws together, said jaws having recesses of semi-conical shape, said housing bottom wall having an opening therein in axial registry with the jaw recesses, a stud adapted to be secured to another member and adapted to be extended through the semi-conical recesses of the jaws to spread the same and having an enlarged head thereon, said stud being of greater height than the height of the walls of the housing, said bearing member having an upper neck portion, a cover plate adjustable in said housing and having an opening receiving the upper neck portion of the bearing member to be guided thereby and to retain the bearing member against lateral displacement, a wedge element secured to the cover plate and adapted when the cover plate is depressed to cause the jaws to be separated to release the head of the stud, said cover plate having an opening through which the enlarged head of the stud may be extended to permit the engagement of the thumb or finger with the enlarged head through the flexible member to facilitate the removal of the enlarged head from the jaws and housing.

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No references cited.