June 16, 1953 C. A. MORGAN 2,641,811

CLOTHESPIN

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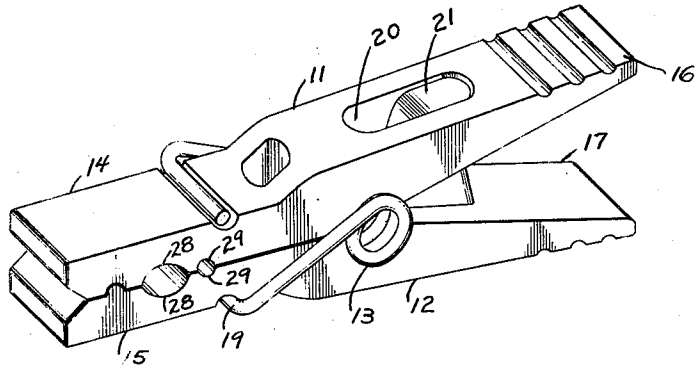


FIG. 1.

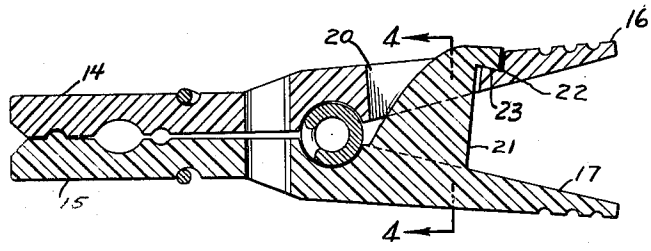


FIG. 2.

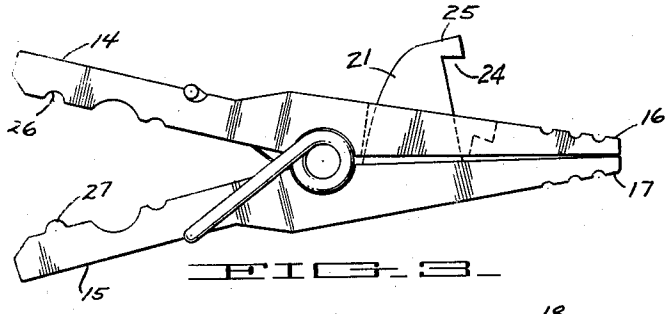


FIG. 3.

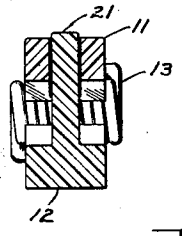


FIG. 4.

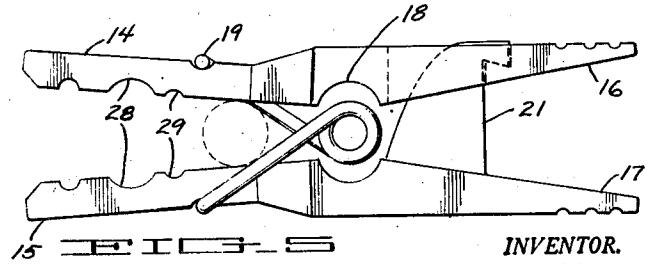


FIG. 5.

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CLOTHESPIN

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2 Claims. (Cl. 24—137)

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This invention relates to clasps and more particularly to those provided with a pair of spring-loaded jaws. A familiar example of such clasp is the common, pincher type clothes pin used by countless housewives. Photographers also have employed clasps of this same general description for holding film negatives during the processing thereof. Such clasps customarily include a pair of identical and opposed, elongated members pivoted midway of their ends about a spiral spring which also serves to press one pair of such ends together. The elongated members are ordinarily constructed in such manner that in their assembled relation with the spiral spring, the clamping jaws are engaged in flatwise contact with the result that the clamped articles may be inadvertently dislodged from the jaws despite the action of the spring.

Another disadvantage in the aforementioned design is the instability of the assembly in use. For example, when the user in opening the clasp is not careful to apply pressure in the plane of jaw movement as when he exerts pressure between the outside edge portion of one of the clasp handles and the laterally offset, outside edge portion of the opposite clasp handle, there is a strong possibility that the elongated members will shift sidewise and unseat the spring, with consequent disassembly of the clasp. This latter hazard is particularly true of a clasp which has been used for such an extended period of time that the spring has become weakened.

Further, it has been found that the clasp will "fall apart" very easily upon the common occurrence of an article of excessive thickness being forced deeply into the jaw opening, as in the use of the clasp for attaching heavy clothing or blankets to a clothesline of the usual sash-cord cross section.

A still further disadvantage has been found in the fact that the jaws of such clasps have been provided with mating recesses in their opposed faces and forming thereby a large opening for the reception of the customary clothesline; such opening is accordingly too large to properly grip lines having small diameter.

The novel features of the present invention effectively overcome the foregoing difficulties by providing a clasp of wide versatility and one that possesses inherent stability under all conditions of use.

It is therefore an object of the invention to provide a clasp of new and improved design.

Anothher object of the invention is to provide a clasp whose clamping members will not become

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disassembled even when fully opened for the reception of an article of increased thickness.

A further object of the invention is to provide a clasp in which misalignment of the clamping jaws is prevented despite the application of non-linear or torque forces to the handle portions thereof by the user.

Another object of the invention is to provide a spring-loaded clasp having a positive gripping action on articles held thereby regardless of the relative thickness within limits of such articles.

A still further object of the invention is to provide a new and improved clasp or clothes pin which is equally efficient when used with clothes lines of various diameters.

An additional object of the invention is to provide a new and improved clasp or clothespin which may be easily and inexpensively manufactured in quantity.

The invention possesses other objects and features of advatange, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawing accompanying and forming part of the specification. It is to be understood, however, that variations in the showing made by the said drawing and description may be adopted within the scope of the invention as set forth in the claims.

Figure 1 is a perspective view of the improved clothes pin of this invention.

Figure 2 is an elevation partly in section of the clothes pin of Figure 1 showing the pivoted jaw members in closed position.

Figure 3 is an elevation of my improved clothes pin showing the jaws in open position.

Figure 4 is a vertical sectional view of the clothes pin taken on the line 4—4 of Figure 2, and

Figure 5 is an elevation showing the position of the jaw members when an article of increased thickness is inserted therebetween.

Referring now to the drawing it will be seen that my improved clothes pin comprises three elements, namely, a pair of elongated members united by a coil spring. While the prior art constructions which have been previously referred to are generally similar as thus described, particular features of construction now to be detailed provide the advantages inherent in my improved clothes pin. The elongated clamping members indicated by reference numerals 11 and 12, respectively on the drawing and united by the coil spring 13 can be manufactured of any sturdy, relatively rigid material, such as one of the phe-

nol resinoids or acitates which lend themselves very readily to the rapid process of molding.

Elongated members 11 and 12 are of generally rectangular cross-section and include jaw-engaging portions 14, 15, respectively which extend in parallelism in their closed position (Figure 2) and diverging handle portions 16, 17, respectively, separated by opposed, arcuate recesses which together form a bearing or seat 18 for the coil spring 13. The latter is provided with forwardly and laterally bent extensions 19 which are seated in arcuate recesses provided in the outer faces of the jaw members 14, 15 as will be understood.

Attention is now directed to the feature of my invention which insures maintenance of parallelism of elongated members 11 and 12 regardless of the direction of the jaw separating force exerted by the user. Between seat 18 and the end of the handle portion 16 is provided an elongated slot 20 extending entirely through such portion in a direction normal to the upper and lower faces thereof, while in a corresponding location in handle portion 17 is provided a tongue 21 of such length as to extend to the upper face of the slotted handle in the closed position of the clothes pin and of such width as to snugly engage the longitudinal, parallel walls of the slot 20. Slot 20 is provided in its end nearest the outer end of the handle portion 16 with a stepped portion 22 having a downwardly inclined lower wall 23 adapted to serve as a stop for the similarly inclined, lower wall 24 of a hook-like extension 25 with which the tongue 21 is provided. The cooperation of these inclined walls serve to prevent disassembly of the elements of the clothes pin when an article of increased thickness is inserted therebetween as will be readily apparent from Figure 5.

For securely gripping articles of various thicknesses disposed about clothes lines of various diameters the inner opposed faces of the jaw-engaging portions have been provided with surface configurations particularly adapted to function efficiently under these various conditions of service. Thus, it will be seen that inwardly of the jaw terminations the jaw faces are provided with a transversely extending recess 26 in jaw-engaging portion 14 and a complementary ridge portion 27 in jaw-engaging portion 15 which will securely grip fabrics of relatively thin texture. Spaced from the recess and ridge just described and in the direction of the spring 13 is a pair of oppositely disposed, transversely extending recesses 28 which together form an aperture for receiving the clothes line, while still more inwardly disposed from the outer end of the jaw-engaging portions is a pair of oppositely disposed recesses 29 of lesser radius which furnish adequate gripping action upon articles of increased thickness. It will be noted from Figure 5 that even when the jaw-engaging portions inwardly of this latter recess are utilized, there is no disassembly of the clothes pin elements due to the locking action of the tongue extension 24 with the inclined wall 23.

To furnish a suitable gripping surface for the handle portions 16, 17 the outer surfaces of the latter are provided with transversely extending parallel recesses 29 suitably spaced therealong.

While the cooperating tongue and stepped recess construction described above is preferred, it will be apparent that the hook-like extension 25 may be so proportioned as to engage the upper face of the handle portion 16, the stepped recess of slot 20 in this embodiment being omitted.

I claim:

1. A clothes-pin comprising a pair of elongated relatively rigid members provided with opposed centrally disposed recesses and opposed jaw portions and diverging handle portions at opposite sides of the recesses, a coil spring seated in said recesses and secured to said members to provide a pivotal connection for said members and urge said jaw portions together and said handle portions apart, said spring resisting but permitting spread of said members from each other along their entire length, one of said handle portions being formed with an elongated slot extending longitudinally of the member, said slot being in part extended at one end to define a seat at the corresponding end of the slot, a tongue formed integral with the other of said handles and extending into said slot in operative engagement with the sides thereof, a projection extending transversely from the free end of said tongue in the same direction as said slot extension and arranged to engage said seat, said tongue and projection being of substantially the same thickness and said slot and extension thereof being of substantially the same width whereby said projection may be inserted through the slot in the assembly of the members in operative relation.

2. A clothes pin comprising a pair of elongated relatively rigid members provided with opposed centrally disposed recesses and opposed jaw portions and diverging handle portions at opposite sides of the recesses, a coil spring seated in said recesses and secured to said members to provide a pivotal connection for said members and urge said jaw portions together and said handle portions apart, said spring resisting but permitting spread of said members from each other along their entire length, one of said handle portions being formed with an elongated slot, a seat formed in a margin of said slot, and a projection formed integral with the other of said handle portions and extending into said slot, said projection having a shoulder arranged to overlie said seat.

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