

[54] **LINE GRIPPING PEGS**

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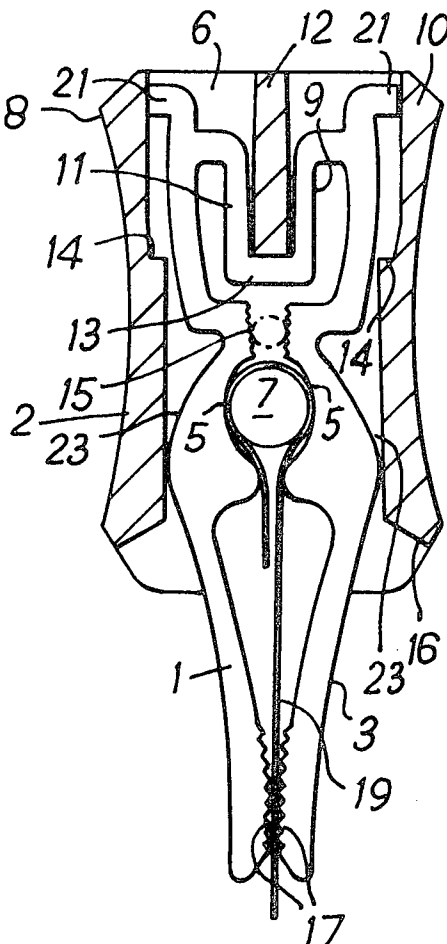
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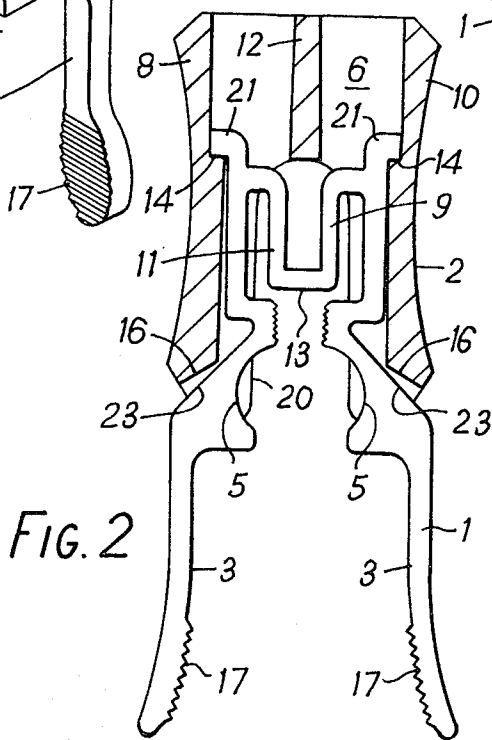
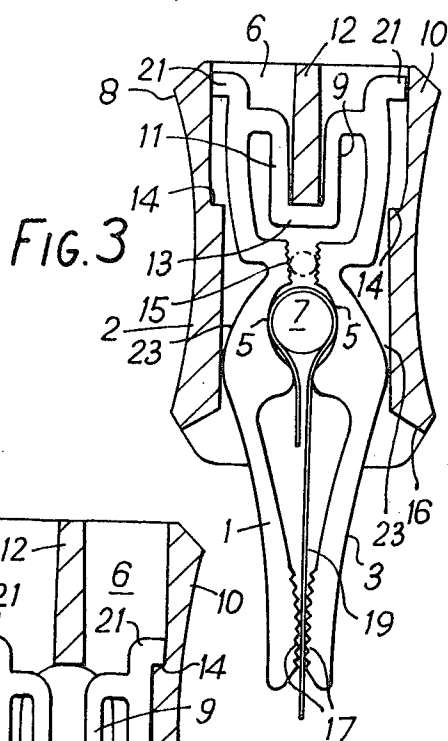
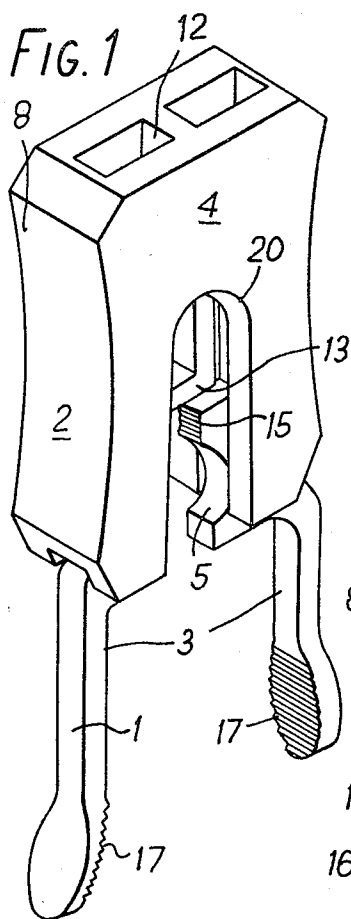
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[57] **ABSTRACT**

A line gripping peg comprising a peg member having a pair of clamping arms and a connecting member on opposite ends of which the clamping arms are formed near corresponding ends of the clamping arms, a peg housing within which the peg member is reciprocally movable between projected and retracted positions and having opposed side walls formed with registering slots through which a line can pass to be located between the clamping arms, each slot opening to the end of the housing remote from the connecting member, and, cooperating surfaces formed on the housing and at least one of the clamping arms whereby upon movement of the peg member from its projected to its retracted position effected with a line located between the clamping arms, said cooperating surfaces are engaged thereby to effect movement of the clamping arms into clamping engagement with the line, the length of the registering slots preventing interference of the housing with the line during movement to the retracted position of the peg member.

**9 Claims, 2 Drawing Figures**





## LINE GRIPPING PEGS

This invention relates to line gripping pegs. The most common form of such a peg is the familiar clothes peg for securing clothes relatively to a clothes line. In other applications of line gripping pegs with which this invention is concerned, the peg is employed for securing to a line photographic film for drying purposes or for securing articles to a line for inspection and/or display purposes.

Perhaps the best known form of line gripping peg with which this invention is concerned, comprises a structure usually made of wood having a pair of clamping arms connected by a bight portion at one end of the arms. When such a peg is engaged on a line disposed between the clamping arms of the peg, the arms are forced outwards and there are established between the peg and the line forces tending to cause the peg to spring off the line. In an effort to overcome this problem, it has previously been proposed to provide a clothes peg comprising a pair of clamping arms connected at corresponding ends thereof by a bight portion, the peg extending within a band closely fitting the peg so that upon engagement of a line between the clamping arms of the peg, the band can be moved towards the line to increase the clamping engagement of the peg on the line. A disadvantage of this kind of clothes peg is that, particularly when using the peg with lines of comparatively small cross-section, the movement of the band towards the line often enables the line to be engaged by the band and thereby forces the line out of the peg.

It is an object of the present invention to provide a line gripping peg of improved form.

The present invention consists in a line gripping peg, comprising a peg member having a pair of clamping arms, respective opposed clamping surfaces provided on the clamping arms and a connecting member on opposite ends of which the clamping arms are formed at locations thereon so spaced from said clamping surfaces as to permit resilient relative movement of the opposed clamping surfaces; a peg housing within which the peg member is reciprocally movable between relatively projected and retracted positions and having opposed side walls formed with registering slots through which a line can pass to engage the clamping surfaces, each slot opening to the end of the housing adjacent the clamping surfaces; and cooperating surfaces formed on the housing and at least one of the clamping arms whereby, upon movement of the peg member from its projected to its retracted position effected with a line engaged between the clamping surfaces, said cooperating surfaces are moved thereby to effect movement of the clamping surfaces into clamping engagement with the line the length of the registering slots being adequate to prevent interference of the housing with the line during movement to the retracted position of the peg member.

Suitably, the peg housing is formed with an abutment member engagement between which and the connecting member defines the retracted position of the peg. Preferably, the peg housing is formed with corresponding shoulders and the clamping arms are formed each with a projection engagement between the shoulders and respective projections defining the projected position of the peg member.

In one form of the invention the connecting member is formed with a U-shaped part which extends between the clamping arms and has a bight portion located between the ends of the arms on which the connecting member is formed and the clamping surfaces.

Advantageously, the clamping arms are formed remotely from the connecting member with parts which at least in the projected position of the peg member project from the housing and provide opposed further clamping surfaces which in the retracted position are closely spaced to enable clamping of sheet material.

The invention will now be described, by way of example, with reference to the accompanying drawings, in which:

FIG. 1 is a perspective view of a line gripping peg according to this invention, and,

FIGS. 2 and 3 are sectional elevations of the peg of FIG. 1 illustrating the peg in different operative positions.

Referring to the drawings, a line gripping peg in the form of a clothes peg comprises a peg member 1 and a housing member 2 within which the peg is engaged. The members 1 and 2 are, preferably though not essentially, made of injection mouldings from plastics material, a suitable material for the housing member being styrene-acrylonitrile and a suitable material for the peg member being acetal homopolymer. The peg member comprises a pair of clamping arms 3 provided with respective opposed clamping surfaces 5 which are of opposed arcuate form to facilitate retention and clamping of a line 7. The clamping arms are formed on opposite ends of a connecting member 9. The connections between the member 9 and the clamping arms 3 are appreciably spaced from the opposed clamping surfaces 5 thereby to afford resilient displacement of the clamping surfaces 5 in consequence of movement within the housing member 2 of the peg member 1 as between the positions shown in FIGS. 2 and 3.

The connecting member 9 is formed with a central U-shaped part 11 which extends between the arms 3 and at its end adjacent the clamping surfaces 5 includes a bight portion 13. Between the clamping surfaces 5 and the bight portion 13, the arms 3 are formed with a second pair of clamping surfaces 15 for clamping a line of relatively small cross-sectional dimensions.

The arms 3 are formed at ends thereof remote from the U-shaped part 11 with further opposed clamping surfaces 17 which in the position shown in FIG. 3 clamp sheet material 19 relatively to the line 7. It will be appreciated that although the sheet material 19 is shown wrapped round the line 7, it could in the case of a smaller line clamped between the surfaces 15 and used instead of the line 7 be wrapped round that smaller line. Alternatively, the sheet material need not be wrapped round whichever line is in use as the clamping action between the surfaces 17 can be made sufficient to retain the sheet 19.

The peg housing 2 is of generally rectangular horizontal cross-sectional form having opposed side walls 4 and 6 and opposed end walls 8 and 10. Within the cavity formed between the walls 4, 6, 8 and 10, the peg member 1 is longitudinally slidable between the projected position shown in FIGS. 1 and 2 and the retracted position illustrated in FIG. 3. The retracted position shown in FIG. 3 is defined by engagement between the bight portion 13 of the U-shaped part 11 and the inner end of an abutment 12 extending between the side walls 4 and 6 of the housing. The projected posi-

tion of the peg member is defined by engagement between projections 21 at the ends of the clamping arms 3 remote from the clamping surfaces 17 and shoulders 14 formed on end walls 8 and 10.

The clamping action of the peg member 1 which takes place during movement of the peg member from the projected to the retracted position thereof arises because of engagement during that movement of the peg member between surfaces 23 on the clamping arms 3 and surfaces 16 on the housing member 2. Thus as the peg member is moved within the housing member 2 from the projected position of FIG. 2 to the retracted position of FIG. 3, engagement between the surfaces 23 and corresponding surfaces 16 forces the arms 3 to move resiliently towards one another. It will be noted that the U-shaped part enables, during resilient movement of the arms 3 towards one another, the projections 21 to press outwards against the surfaces of the walls 8 and 10 and obtain good frictional gripping contact therewith so that in the retracted position, frictional contact is afforded between each of the walls 8 and 10 and the peg member 1 at two places, i.e. at the projection 21 and at the end of the surface 23 remote from the projection 21. The side walls 4 and 6 are formed with respective registering slots 20 which are closed at one end thereof adjacent the inner end of the abutment 12 and open to the end of the housing 2 adjacent the clamping surfaces 17. The width of the slots 20 is sufficient slidably to accommodate the cross-section of the larger line to be used.

To secure the line gripping peg to a line, the line is inserted, in the case of a line of large cross-section between the clamping surfaces 5 and in the case of a smaller line between the clamping surfaces 15 with the peg in the projected position thereof. The housing member 2 is then moved relative to the peg member 1 to move the peg member to the retracted position thereof during which movement the line moves in the slots 20 and the engagement between the abutment 12 and bight portion 13 ensures that the line is not engaged by the housing in a manner which would tend to force the line out of the peg member. During the movement to the retracted position, sheet items can be secured relative to the line by engagement between the clamping surfaces 17. To release the peg, reverse relative movement of the peg member 1 and housing member 2 is effected, the legs 3 thereby spring apart enabling the peg to be moved away from the line.

It will be noted that in the event of an oversized line being placed between the surfaces 5 or 15, the sides of the peg member 1 between the projections 21 and the points of contact of the surfaces 23 with the end walls 8 and 10 (in the position shown in FIG. 3) can flex to accommodate the excessively large cross-section of line.

It will further be noted that the peg member 1 is fitted into the housing member 2 by admitting the peg member into the ends of the housing adjacent the surfaces 16. As the introduction of the peg member 1 proceeds the point is reached where the projections 21 snap into the shoulders 14 thereby permanently to retain the member 1 within the housing member 2.

It will be appreciated that the peg is effective when used with lines of widely differing cross-section and that the peg provides a positive clamping action on the line.

I claim:

1. A line gripping peg, comprising:

a peg member having a pair of clamping arms, respective opposed clamping surfaces provided on the clamping arms and a connecting member on opposite ends of which the clamping arms are formed at locations thereon so spaced from said clamping surfaces as to permit resilient relative movement of the opposed clamping surfaces;

a peg housing from one end only of which the clamping arms extend and within which said peg member is permanently retained and is reciprocally movable between a projected position and a retracted position in which said clamping surfaces are disposed entirely within the housing, said housing comprising opposed mutually rigid end walls and parallel opposed side walls extending between the end walls and containing registering slots through which a line can pass when engaged by said clamping surfaces, each slot having a closed end and an open end located at the end of said peg housing from which the clamping arms extend and having a width greater than the diameter of a line to be gripped; and

cooperating surfaces formed on the housing and on at least one of the clamping arms, the cooperating surface on the or each clamping arm having a first part adjacent the clamping surface of the respective arm and substantially inclined relatively to the longitudinal axis of the peg member and a second part extending from said first part, and in the projected position of the peg member located substantially parallel to said longitudinal axis of the peg member, whereby during movement of the peg member from its projected to its retracted position effected with a line disposed between the clamping surfaces, said first part engages the housing thereby to effect relative transverse movement of the clamping surfaces into clamping engagement with the line and thereafter parallel movement of the peg member takes place relatively to the housing without transverse movement of the clamping surfaces, the length of the registering slots being adequate to prevent engagement of the closed ends of the slots with the line during movement to the retracted position of the peg member.

2. A line gripping peg, as claimed in claim 1, wherein the peg housing is formed with an abutment member engagement between which and the connecting member defines the retracted position of the peg member.

3. A line gripping peg as claimed in claim 1, wherein the peg housing is formed with corresponding shoulders and the clamping arms are formed each with a projection, engagement between the shoulders and respective projections defining the projected position of the peg member.

4. A line gripping peg as claimed in claim 1 wherein the connecting member is formed with a U-shaped part which extends between the clamping arms and has a bight portion located between the ends of the arms on which the connecting member is formed and the clamping surfaces.

5. A line gripping peg as claimed in claim 4, wherein the bight portion of the U-shaped part in the retracted position of the peg engages the abutment member on the housing.

6. A line gripping peg as claimed in claim 1, wherein the clamping surfaces are opposed arcuate surfaces.

7. A line gripping peg as claimed in claim 1, wherein the clamping arms are formed remotely from the con-

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necting member with parts which at least in the projected position of the peg member project from the housing and are formed and provide opposed further clamping surfaces which in the retracted position are closely spaced to enable clamping of sheet material.

8. A line gripping peg as claimed in claim 1, wherein the clamping arms are formed with plural pairs of op-

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posed clamping surfaces for alternatively gripping lines of differing cross-sectional dimensions.

9. A line gripping peg, as claimed in claim 1, wherein the registering slots in the housing are closed at the ends thereof adjacent the peg connecting member.

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