

May 20, 1930.

A. L. LE PAGE

1,759,485

LINE CLAMP

Filed May 9, 1929

Fig. 1.

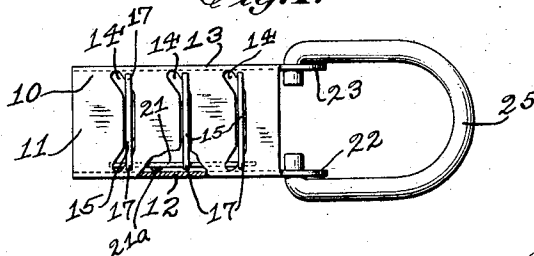


Fig. 2.

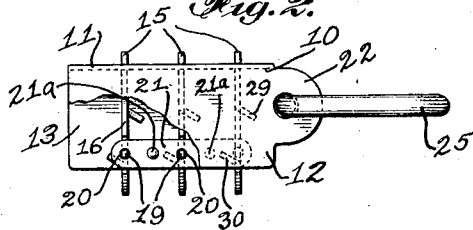


Fig. 3.

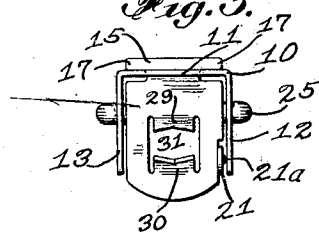


Fig. 4.

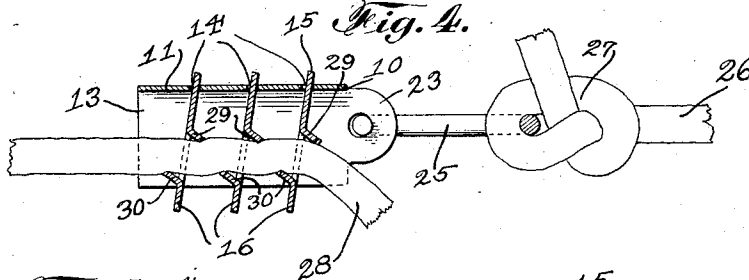


Fig. 5.

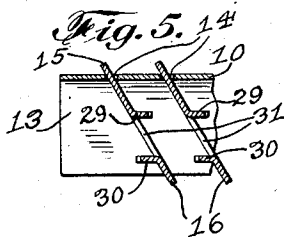


Fig. 6.

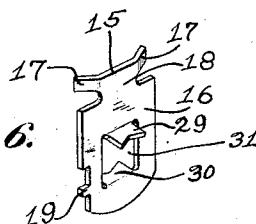


Fig. 7.

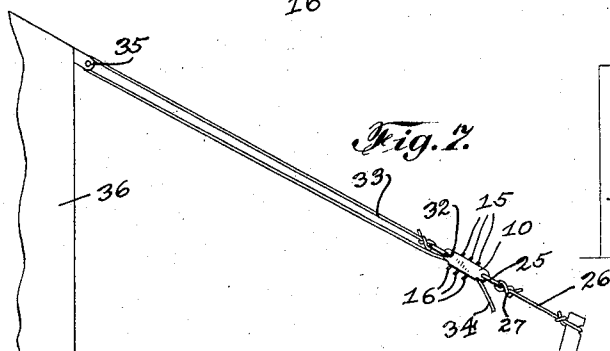
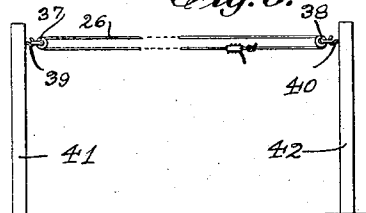


Fig. 8.



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LINE CLAMP

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This invention relates to improvements in line clamps, and more particularly to a clamping device for detachably connecting a pair of lines, or the ends of a single line.

One object of this invention is to provide a line clamp of the above nature adapted to be permanently connected to one line and to be detachably connected to another line in such a way that the greater the tension in the line, the stronger will be the self-locking clamping effect of the fastener.

A further object is to provide a device of the above nature which will be simple in construction, inexpensive to manufacture, easy to manipulate, compact, ornamental in appearance, and very efficient and durable in use.

With these and other objects in view there have been illustrated on the accompanying drawings two forms in which the invention may be conveniently embodied in practice.

Fig. 1 represents top plan view of the first form of line clamp.

Fig. 2 is a side view of the same.

Fig. 3 is an end view of the same.

Fig. 4 is a side sectional view of the first form of line clamp as it appears when attached to a pair of lines.

Fig. 5 is a side sectional view of a portion of the line clamp with the lever plates in releasing position.

Fig. 6 is a perspective view of one of the lever plates as it appears before it has been assembled upon the U-shaped body member.

Fig. 7 is a side view on a reduced scale of a second form of line clamp as it appears when installed upon a tent line.

Fig. 8 is a side view on a reduced scale of the line clamp as it appears when in use upon a clothes line.

Referring now to the drawings in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates a U-shaped body member having a base 11 and a pair of upstanding side plates 12 and 13. The base 11 is provided with a plurality of transversely disposed arcuate slots 14, three in this instance, for receiving the T-shaped bases 15 of a similar number of lever plates 16.

The T-shaped bases 15 of the lever plates 16 have side lugs 17 connected to the body of said lever plate 16 by necks 18. Before assembling the lever plates 16 in the U-shaped body member 10 the lugs 17 of the T-shaped bases 15 are inclined at an angle, as shown in Fig. 6, in order to permit said T-shaped bases 15 to be inserted through the arcuate slots 14. The lugs 17 are then bent back into the plane of the body of the lever plates 16, as shown in Fig. 1, thereby securely locking said lever plates in position upon the U-shaped body member 10.

Each of the lever plates 16 is provided on one side near the bottom thereof with a side lug 19 cut away at its sides to permit it to fit within one of a plurality of circular apertures 20 in a flat connecting link 21 located adjacent the side plate 12, and as clearly shown in Fig. 3, the connecting link 21 is adapted to lie flush with the side edges of the lever plates 16 and causes said plates 16 to always remain in parallel relation. In order to securely retain the connecting link 21 in position, said link has a pair of outstanding pressed-out studs 21^a, as clearly shown in Figs. 1, 2, and 3.

The side plates 13 and 14 of the U-shaped body member 10 have reduced ears 22 and 23 at one end, said ears being apertured to pivotally receive the intumed extremities of a U-shaped bail 25 adapted to be permanently connected to one end of a line 26, as by a knot 27.

In order to grip the free end of a line 28 at any desired adjusted position along its length, each of the lever plates 16 has a pair of oppositely extending line-engaging jaws 29 and 30 struck up from a central aperture 31. Each of the jaws 29 and 30 has an inverted V-shaped extremity so as to provide a pair of line-engaging prongs, and said jaws 29 and 30 are inclined at an angle of substantially 60 degrees from the body of the lever plates 16.

Operation

By means of this construction, when the parallel lever plates 16 are in their extreme left-hand positions, as shown in Fig. 4, the jaws 29 and 30 will engage the top and bot-

tom of the line 28 and hold it tightly in position. When, however, the lever plates 16 are in their extreme right-hand positions, as shown in Fig. 5, the jaws 29 and 30 will lie in substantially horizontal parallel planes forming a flat smooth unobstructed channel therebetween and permitting easy withdrawal of the free end of said line 28.

In the modified form of the invention adapted for use in fastening tent cords, and which is shown in Fig. 7, the line clamp is identical with that of the first form with the exception that it is provided with an additional U-shaped bail 32 pivotally connected to the U-shaped body member 10 at the opposite end of the clamp from the bail 25. When using this form of line clamp, the fixed end 26 of the line will be permanently connected to the bail 25 as before, and the line 33 will be connected as by a knot to the bail 32. The free end 34 of the line 32 will be passed over a pulley 35 attached to a tent 36. The free end 34 will then be drawn through the apertures 29 in the lever plates 16. When the end 34 is pulled to the right, as viewed in Fig. 7, the lever plates will swing to the position shown in Fig. 5 and the flat channel formed by the jaws 29 and 30 will permit the cord to be adjusted to any desired position. When the cord 34 is released, the tension in the line 33 will swing the lever plates 16 in the opposite direction causing the jaws 29 and 30 to engage the tent line 34 and hold it firmly in the desired adjusted position.

One advantage of the present invention lies in the fact that the clamp has a plurality of sets of jaws for gripping the line, whereby the pressure will be distributed along the length thereof, and the local pressure at any one point will be minimized.

In Fig. 8, which illustrates the use of the line clamp upon a clothes line 26, the line is supported by a pair of pulleys 37 and 38 pivotally attached by hooks 39 and 40 to a pair of posts 41 and 42.

While there have been disclosed in this specification two forms in which the invention may be embodied, it is to be understood that these forms are shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosures but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

1. In a line clamp, a U-shaped body member, means at one end of said body member for permanent connection to a line, a lever plate pivoted to the base of said body member, said lever plate having an aperture for

receiving a second line, and a pair of parallel inclined oppositely extending clamping jaws disposed in vertical alinement at the upper and lower edges of said aperture, said jaws being adapted to engage said second line when the latter is under tension, and to be disengaged therefrom when the tension is released.

2. In a line clamp, a U-shaped body member, means at one end of said body member for permanent connection to a line, a lever plate pivoted to the base of said body member, said lever plate having an aperture for receiving a second line, and a pair of inclined oppositely extending clamping jaws disposed in vertical alinement at the upper and lower edges of said aperture, said jaws being adapted to engage said second line when the latter is under tension, and to be disengaged therefrom when the tension is released.

3. In a line clamp, a U-shaped body member, means at one end of said body member for permanent connection to a line, a lever plate pivoted to the base of said body member, said lever plate having an aperture for receiving a second line, and a pair of oppositely extending clamping jaws disposed in vertical alinement at the upper and lower edges of said aperture, said jaws being adapted to engage said second line when the latter is under tension, and to be disengaged therefrom when the tension is released.

4. In a line clamp, a U-shaped body member, means at one end of said body member for permanent connection to a line, a lever plate pivoted to the base of said body member, said lever plate having an aperture for receiving a second line, and a pair of oppositely extending clamping jaws disposed at the upper and lower edges of said aperture, said jaws being adapted to engage said second line when the latter is under tension, and to be disengaged therefrom when the tension is released.

5. In a line clamp, a U-shaped body member, means for attaching said body member to a line, and means for detachably connecting said body member to a second line comprising a lever plate pivotally mounted on said body member, said lever plate having a pair of inclined jaws adapted to engage said second line when the lever plate is in one extreme position and to lie parallel with said second line when the lever plate is in its other extreme position.

6. In a line clamp, a body member having means for permanent attachment to a line, a lever plate pivotally connected to said body member, said lever plate having a pair of oppositely extending jaws for detachably engaging opposite sides of a second line when the lever plate is in one position, said jaws being out of engagement with said second

line when the lever plate is in another position.

7. In a line clamp, a body member having means for permanent attachment to a line, a plurality of lever plates pivotally connected to said body member, each of said lever plates having a pair of jaws for detachably engaging opposite sides of a second line when the lever plates are in one position, said jaws being out of engagement with said second line when the lever plates are in another position.

8. In a line clamp, a U-shaped body member having means for permanent attachment to a line, a lever plate pivotally connected to said body member, said lever plate having a pair of jaws for detachably engaging opposite sides of a second line when the lever plate is in one position, said jaws being out of engagement with said second line when the lever plate is in another position, one side of said body member having a slot, and said lever plate having a locking base extending through said slot.

9. In a line clamp, a U-shaped body member having means for permanent attachment to a line, a lever plate pivotally connected to said body member, said lever plate having a pair of jaws for detachably engaging opposite sides of a second line when the lever plate is in one position, said jaws being out of engagement with said second line when the lever plate is in another position, one side of said body member having an arcuate slot, and said lever plate having a locking base extending through said slot.

10. In a line clamp, a U-shaped body member having means for permanent attachment to a line, a lever plate pivotally connected to said body member, said lever plate having a pair of jaws for detachably engaging opposite sides of a second line when the lever plate is in one position, said jaws being out of engagement with said second line when the lever plate is in another position, one side of said body member having a slot, and said lever plate having a T-shaped locking base extending through said slot.

11. In a line clamp, a body member having means for permanent attachment to a line, a plurality of lever plates pivotally connected to said body member, each of said lever plates having a pair of jaws for detachably engaging opposite sides of a second line when the lever plates are in one position, said jaws being out of engagement with said second line when the lever plates are in another position, said lever plates being maintained in parallelism by a connecting link.

12. In a line clamp, a body member having means for permanent attachment to a line, a plurality of lever plates pivotally connected to said body member, each of said lever plates having a pair of jaws for detachably engaging opposite sides of a second

line when the lever plates are in one position, said jaws being out of engagement with said second line when the lever plates are in another position, said lever plates having side lugs, and a link engaging each of said lugs for connecting said lever plates and causing them to remain parallel at all times.

13. In a line clamp, a body member having means for permanent attachment to a line, a plurality of lever plates pivotally connected to said body member, each of said lever plates having a pair of jaws for detachably engaging opposite sides of a second line when the lever plates are in one position, said jaws being out of engagement with said second line when the lever plates are in another position, said lever plates having side lugs, and a link engaging each of said lugs for connecting said lever plates and causing them to remain parallel at all times, said link having projections to space it from the body member.

In testimony whereof, I have affixed my signature to this specification.

ALBERT L. LE PAGE.