C. S. PELTON.

CLEVIS LINK CONNECTION.

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1,142,979.

Patented June 15, 1915.

Fig. 1

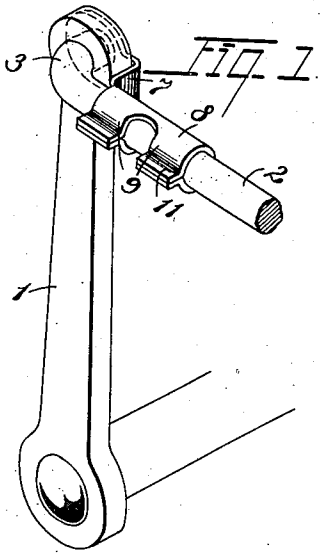


Fig. 2

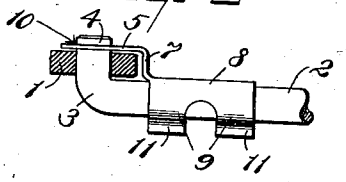


Fig. 3

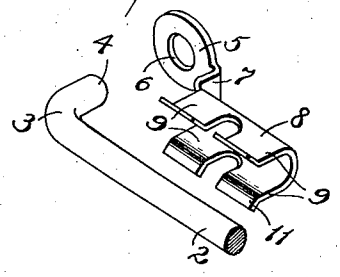


Fig. 4

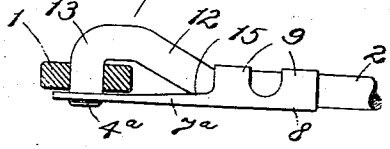
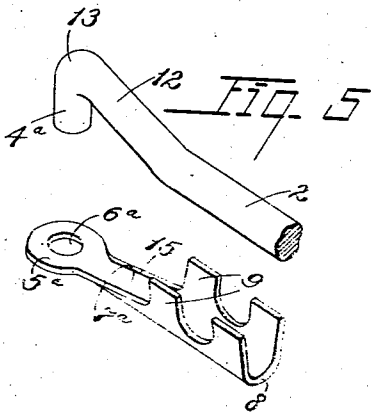


Fig. 5



Witnesses

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UNITED STATES PATENT OFFICE.

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CLEVIS LINK CONNECTION.

1,142,979. Specification of Letters Patent. Patented June 15, 1915.

Application filed January 5, 1915. Serial No. 657.

To all whom it may concern:

Be it known that I, CLYDE S. PELTON, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Clevis Link Connections, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to connecting devices and has for its object to provide a novel and simplified form of connection whereby a link may be attached to a lever, or a rod to a brace or bracket, and without the necessity for drilling, tapping, screw threading, upsetting, flanges, or performing other inconvenient mechanical processes.

In connection with automobiles, gasolene engines, motor boats, stationary engines, and many other locations, it is frequently convenient to operate a lever at a distance by means of a push rod or link. Hitherto the most frequent method of connecting the rod to the lever has been to employ a branched yoke or clevis threaded upon the end of the rod, which, although a very attractive looking mechanism is always expensive, and is frequently inconvenient, especially where the installation has to be done somewhere else than at the factory.

It is the object of this invention to provide a form of connection which can be rapidly and conveniently employed by any one and at any place, without the use of other than the simplest tools and which shall be cheap, simple, reliable, and susceptible of large-scale manufacture.

In the drawings accompanying and forming a part of this application I have illustrated two embodiments of my invention, although it is not to be understood that these comprise all the forms that my invention may take.

In these drawings Figure 1 is a perspective view of a lever having an operating rod secured thereto in accordance with my invention; Fig. 2 is a plan view of the rod, the lever being shown in cross section; Fig. 3 is a perspective view showing the rod and clip prior to the connection of the same; Fig. 4 is a view similar to Fig. 2 but showing a modified form of my invention; and Fig. 5 is a perspective view of the parts shown in Fig. 4 prior to their attachment.

Describing the parts by reference characters, 1 represents a lever (which may equally well be a brace, handle or the like) and 2 the rod which is to be connected thereto to operate, steady, or transmit motion from the same. Ordinarily this rod is made from a straight cylindrical piece of cold rolled steel, though it may be of brass or soft iron, and may be of drawn form as well as of rolled. According to my invention the rod is first cut to the proper length, and then by means of a vise or hammer and anvil or other suitable means it is bent as shown at 3 to form a short stud 4 perpendicular to the remainder of the rod or link. This stud being projected through a suitable aperture in the lever or other device to which it is to be connected, there is applied a clip, which may be of the form shown in perspective in the Fig. 3, and comprising a head portion 5, apertured at 6 for the snug reception of the stud 4 and having a neck 7 secured to the body 8, the latter having a plurality of legs 9—9 adapted to embrace the rod 2 as shown in Figs. 1 and 2. The clip may be made of soft iron, soft steel, soft brass, or any other suitable material, though possibly of sufficiently ductile nature to permit the links to be operated easily by means of a pair of pliers, or the like, and to be folded and unfolded several times if necessary without breaking. The aperture 6 is preferably of a size to receive the stud 4 rather snugly, whereupon it will be found that its gripping and frictional engagement with the end of the stud at the point 10 (Fig. 2) will be such as absolutely to prevent its displacement under any reasonable operating condition. Preferably the legs 9—9 are formed with feet 11—11 adapted to be brought closely together when the clip is applied, thus facilitating the use of pliers for closing the same and of a screw driver or like prying tool for opening them if removal should be necessary.

According to a modification of my invention shown in Figs. 4 and 5, I first deflect the rod 2 laterally for a distance as shown at 12 and afterward bend it as shown at 13, to form a stud 4^a similar to that previously described, though more nearly in line with the body of the rod. The clip is formed of a head 5^a as before, but its neck 7^a is made straight, and is preferably re-

inforced by folding upwardly the metal at the sides as shown at 15. The neck leads to a body 8 similar to that before described and likewise having legs 9 adapted to be bent around the rod as before. In this case I have shown these feet omitted though they may obviously be used if desired.

For operating purposes I consider the second form the preferable one, owing to the direct pull between the rod and lever, but from a constructional standpoint it is less convenient owing to the more complicated form of the bend. Hence it can be applied conveniently only at the factory or when used in sufficiently large quantities to warrant the employment of a bending die. For emergency work or small scale productions I consider the first form preferable, but esteem both forms within my invention as well as many others not specifically described, but falling within the terms of the claims hereto annexed.

Having thus described my invention, what I claim is:

1. In a device of the character described, the combination, with a rod having a lateral stud, of a securing member clamped upon said rod at a distance from said stud and having a portion overlapping said stud, the portion of said stud between said rod and clip being adapted to receive a coupled member.

2. In a device of the character described, the combination, with a rod having a laterally bent end, of a securing member clamped upon said rod at a distance from said end and having an apertured retaining head surrounding said bent end at a distance from the body of the rod.

3. In a device of the character described, the combination, with a rod having a lateral stud, of a securing member clamped upon said rod at a distance from said stud and having an apertured head receiving said stud, the portion of said stud between said rod and head being adapted to receive a coupled member.

4. In a device of the character described, the combination, with a rod having a laterally bent portion, of a securing member formed of ductile sheet metal having flexible arms adapted to be clamped upon said rod at a distance from said stud and having an apertured head adapted to receive said bent portion so as to secure a coupled member thereon.

5. In a device of the character described, the combination, with a rod having a lateral stud, of an apertured member surrounding said stud, and flexible means integral with said member and rigidly secured to said rod at a distance from said stud, said apertured member being spaced from said rod so as to permit the reception of a coupled member.

6. In a device of the character described, the combination, with a rod having a lateral stud, of an apertured member surrounding said stud, a body of flexible sheet metal to which said member is attached, legs integral with said member and bent around to said rod at a distance from said stud so as to grip the same, and feet carried by said legs and projecting outwardly from said rod, the portion of said stud between said rod and apertured member being adapted to receive a coupled member.

7. In a device of the character described, the combination, with a rod having a lateral stud, of a substantially circular head having an aperture snugly receiving said stud, and having at one side an integral neck, a body to which said neck is attached, and integral legs carried by said body and bent around said rod so as rigidly to embrace the same.

8. In a device of the character described, the combination, with a rod having a lateral stud, of a substantially circular head having an aperture snugly receiving said stud, and having at one side an integral neck, a body to which said neck is attached, an integral arm carried by said body and bent around said rod so as rigidly to embrace the same, said head being in engagement with said stud upon the side away from said body.

9. A connection for a rod and lever comprising a lateral stud carried by the rod and adapted to enter an aperture in the lever, a head having an aperture adapted to receive said stud where it protrudes through said lever, a neck integral with said head and projecting therefrom in the direction of said rod, a body to which said neck is attached, and legs carried by said body adapted to grip said rod.

10. As an article of manufacture a clip or clevis of ductile metal and comprising a body having laterally projecting legs adapted to embrace a rod, a neck carried by said body, and a head carried by said neck and having an aperture therein.

11. As an article of manufacture a clip or clevis of ductile sheet metal and comprising a body having laterally projecting portions adapted to embrace a rod, a neck carried by said body, and a head carried by said neck and having an aperture therein, and outwardly projecting feet carried by said legs.

12. As an article of manufacture a clip for attaching operating rods to levers, said clip formed of ductile sheet metal and comprising a body bent to substantially semi-cylindrical form and of curvature substantially equal to that of the rod, spaced legs carried by the edges of said semi-cylindrical portion and adapted to embrace the rod, a neck carried by the end of said body, and

a head carried by said neck and having an aperture adapted to receive the laterally turned end of the rod.

13. As an article of manufacture a clip for attaching operating rods to levers, said clip formed of ductile sheet metal and comprising a body bent to substantially semi-cylindrical form and of curvature substantially equal to that of the rod, spaced arms carried by the edges of said semi-cylindrical portion and adapted to embrace the rod, and a neck carried by the end of said body, a head carried by said neck and having an aperture adapted to receive the laterally turned end of the rod, the edges of said neck being flanged to stiffen the same and said flanges being integral with the nearest legs.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

CLYDE S. PELTON.

Witnesses:
HAROLD E. SMITH,
BRENNAN B. WEST.