No. 611,690. Patented Oct. 4, 1898.

E. W. KRUSE.

PLOW CLEVIS.

(Application filed Apr. 30, 1897.)

(No Model.)

Fig. 1.

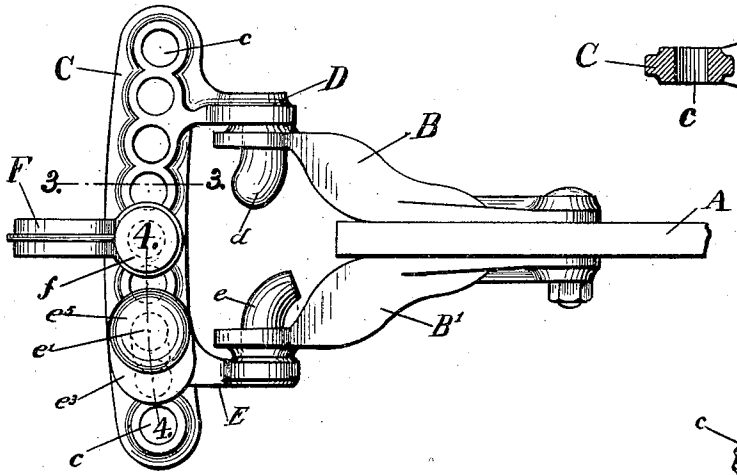


Fig. 3.

Fig. 4.

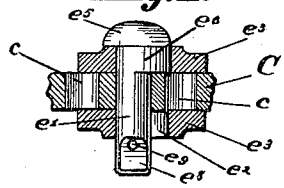


Fig. 2.

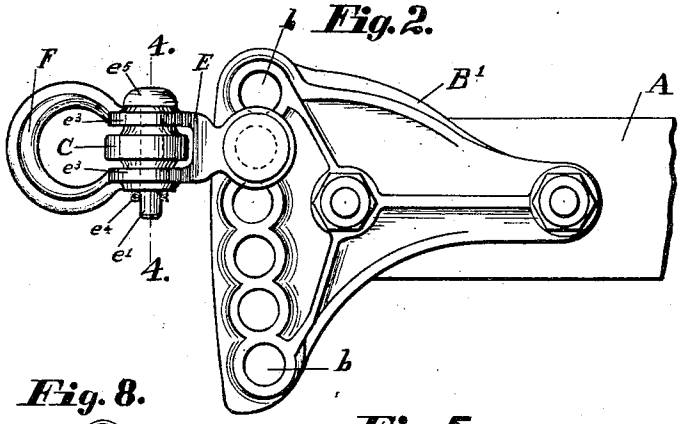


Fig. 6.

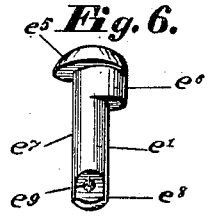


Fig. 8.

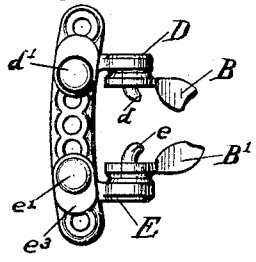


Fig. 5.

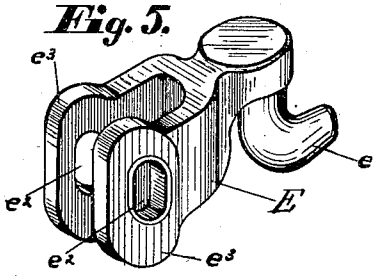


Fig. 7.

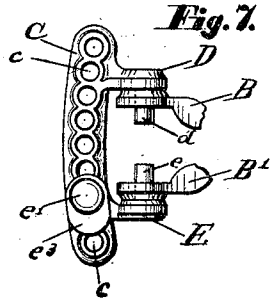
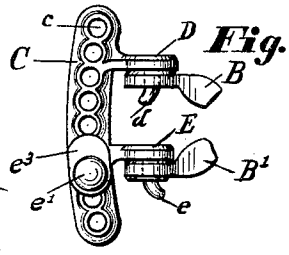


Fig. 9.



Attest:

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UNITED STATES PATENT OFFICE.

EDWARD W. KRUSE, OF HIGGINSVILLE, MISSOURI.

PLOW-CLEVIS.

SPECIFICATION forming part of Letters Patent No. 611,690, dated October 4, 1898.

Application filed April 30, 1897. Serial No. 634,566. (No model.)

To all whom it may concern:

Be it known that I, EDWARD W. KRUSE, residing at Higginsville, in the county of Lafayette, State of Missouri, have made a new and useful Improvement in Plow-Clevises, of which the following is a specification.

My invention relates to improvements in the adjustable plow-clevis for which I have been granted Letters Patent of the United States, No. 546,645, dated September 17, 1895; and the chief objects of my improvements are, first, to lighten and cheapen the construction by providing means for fastening the cross-clevis to the clevis-jaws without the use of a clevis-jaw bolt, and, second, to provide an improved adjustable clip and pin adapted to connect a cross-clevis to different plows having beams varying in width either less than the space occupied by a single perforation in the cross-clevis or a fraction more than one or more such spaces. I attain these objects by means illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of the preferred form of my improved cross-clevis connected to a pair of clevis-jaws. Fig. 2 is a side elevation of the same parts. Fig. 3 is a vertical transverse section of the cross-clevis on line 3 3, Fig. 1. Fig. 4 is a vertical section on the line 4 4, Figs. 1 and 2. Fig. 5 is a detailed view in perspective, on an enlarged scale, of my improved clip. Fig. 6 is a similar view of my improved clip-pin. Fig. 7 is a plan view of a modification, on a reduced scale, with parts broken away. Fig. 8 is a similar view of another modification; and Fig. 9 is a plan view, on a reduced scale, of a modification in which the clip is shown on the inside of the clevis-jaw with which it connects.

Similar letters refer to similar parts throughout the several views.

A represents an ordinary plow-beam, and B B′ are clevis-jaws of common form attached to the beam in the usual manner.

C represents a cross-clevis. It is usually a bar longer than the width of the plow-beam, and it contains a series of perforations *c* and is preferably provided with a lug D, having an inwardly-projecting hook *d* for connecting one end of the clevis to one of the clevis-jaws. The lug D is preferably made integral with the cross-clevis for the sake of cheapness, lightness, and simplicity, as shown in Figs. 1, 2, and 3; but it may be made in the form of a clip, as shown in Fig. 8, detachably secured to the cross-clevis by means of a pin *d′* or other convenient means. The end of the hook *d* of the lug D is preferably bent down and forward, substantially as shown in Figs. 1 and 3, and when so formed it may be readily introduced into a hole *b* in a clevis-jaw by first holding the cross-clevis in a vertical position with the end supplied with the lug uppermost, introducing the end of the hook *d* into the proper hole, and then lifting the lower end of the cross-clevis inward and upward. Though I prefer to form the hook *d* in the manner above described, it may be given the form of a straight pin projecting inward from the inner side of the lug D, substantially as shown in Fig. 7, and good results secured. Other practical modifications will be obvious.

The desired adjustability of the cross-clevis to plows having beams of different widths is preferably secured by means of an adjustable clip E, preferably connected to one of the clevis-jaws by means of an inwardly-projecting hook *e* and a pin *e′*, which preferably passes through perforations e^2 in the jaws e^3 of the clip and is preferably secured in place by means of a split pin e^4 or other suitable means. The outer end of the hook *e* preferably turns rearward, substantially as shown in Figs. 1 and 5; but this, though desirable, is not essential, and other forms of hook may be used—as, for instance, the straight pin shown in Fig. 7.

The clip-pin *e′* may be of any ordinary variety; but I prefer to form it substantially as shown, with a head e^5 and next the head an oblong section e^6 eccentric to the axis of the bolt and longer from end to end than the diameter of the body e^7 of the bolt-shank and preferably not thicker from top to bottom than one of the clip-jaws. The main body e^7 of the pin-shank is preferably adapted to pass through and fit one of the perforations *c* in the cross-clevis, and its tip is preferably beveled at e^8 to secure lightness and perforated at e^9 for the reception of a split pin or an equivalent keeper.

Where a pin with an oblong section e^6 such as I have described is used, the perforations e^2 through the clip-jaws are made oblong and adapted to receive the oblong section of the pin and preferably have their central longitudinal lines parallel when the clip is in position with the central longitudinal line of the cross-clevis, substantially as shown in Figs. 4 and 5. Inasmuch as the oblong section e^6 of the pin prevents it from passing through the cross-clevis and also engages the jaw of the clip in which it is contained, the head e^5 is not an essential feature of the pin, though it is a desirable one, as it not only assists in preventing the clip-jaws from being spread and broken, but also facilitates the withdrawal of the pin. The object in having the holes e^2 through the clip-jaws oblong and using a clip-pin with an oblong section e^6 is to enable the clevis to be nicely adjusted to plow-beams of different widths.

Plow-beams that differ in width frequently either do not differ as much as the width of one of the spaces occupied by the perforations in the cross-clevis or differ a fraction more than the width of one or more such spaces, and by means of the clip and pin described I can by turning the pin so as to either cause its eccentric portion to extend to the left, as shown in the drawings, Figs. 1 and 4, or in the opposite direction enable the shank to enter a hole in the cross-clevis which would otherwise be out of reach. This adjustability is also contributed to by the preferred form of clip-hook, which makes it possible to rock the end of the clip from side to side when necessary, so as to cause its perforations to register with a hole in the cross-clevis without unhooking or tending to unhook it from the clevis-jaw with which it connects the cross-clevis, and where the clip is arranged inside of the clevis-jaw, with which it connects, as shown in Fig. 9, the preferred form of hook tends to prevent it from being disengaged by a force tending to draw it inward. Where the hooks are both turned in the same direction, it is especially desirable that they should not be parallel, as will be obvious.

F represents a fore clevis. It is of ordinary shape and is adapted to be attached to the cross-clevis at any desired point by means of a bolt *f*, which passes downward through the fore clevis and through that one of the cross-clevis perforations which it is desired to use.

In unfastening the preferred form of cross-clevis I remove the pin e' and disengage the clip by rocking it outward and backward and then turn the loose end of the cross-clevis either upward or downward and as I do so draw the hook *d* out of the hole in the clevis-jaw in which it rests.

I have described the form in which I prefer to embody my improvements; but I do not wish to be confined to that form. I desire to cover equivalents and to have my claims construed broadly.

I claim—

1. The combination of a cross-clevis a lug attached to the cross-clevis and a bent hook projecting from the lug, for engaging a clevis-jaw.

2. The combination of a cross-clevis; and an adjustable clip having a bent hook for engaging a clevis-jaw.

3. The combination of a cross-clevis and an adjustable clip having a laterally-extending hook whose tip is turned rearward.

4. The combination of a perforated cross-clevis, a clevis-jaw; a clip for connecting them together, having an oblong perforation through it; and a clip-pin having an eccentric section near one end thereof, for securing the clip to the cross-clevis.

5. In a clevis-clip, the combination of a pair of jaws having oblong perforations, and a clevis-pin having a head and an eccentric section next the head.

6. The combination of a pair of perforated clevis-jaws; a perforated cross-clevis, having a rearwardly-extending lug with a hook, for engaging one of said clevis-jaws; and a clip having a hook for engaging the other clevis-jaw, and means for adjustably connecting it to said cross-clevis.

7. The combination of a pair of perforated clevis-jaws; a perforated cross-clevis having a rearwardly-extending lug with a hook for engaging one of said clevis-jaws; and a clip having a hook for engaging the other clevis-jaw, and means for adjustably connecting it to said cross-clevis; and said hooks being out of parallel when in position.

8. The combination of a perforated cross-clevis, a clip having an oblong perforation and a pin c' having the head e^5, the oblong eccentric section e^6 and the body e^7.

9. The combination of a perforated cross-clevis; a clip having an oblong perforation; and the pin e', having the head e^5, the oblong eccentric section e^6 next the head, the shank-body e^7, and a beveled and perforated tip.

10. The combination of a cross-clevis having a lug with a hook, and an adjustable clip having a hook.

EDWARD W. KRUSE.

Witnesses:
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J. W. LAYNE.