

J. D. S. Newell.

Harness Clasp.

N^o 86,938.

Patented Feb. 16, 1869.

Fig. 1.

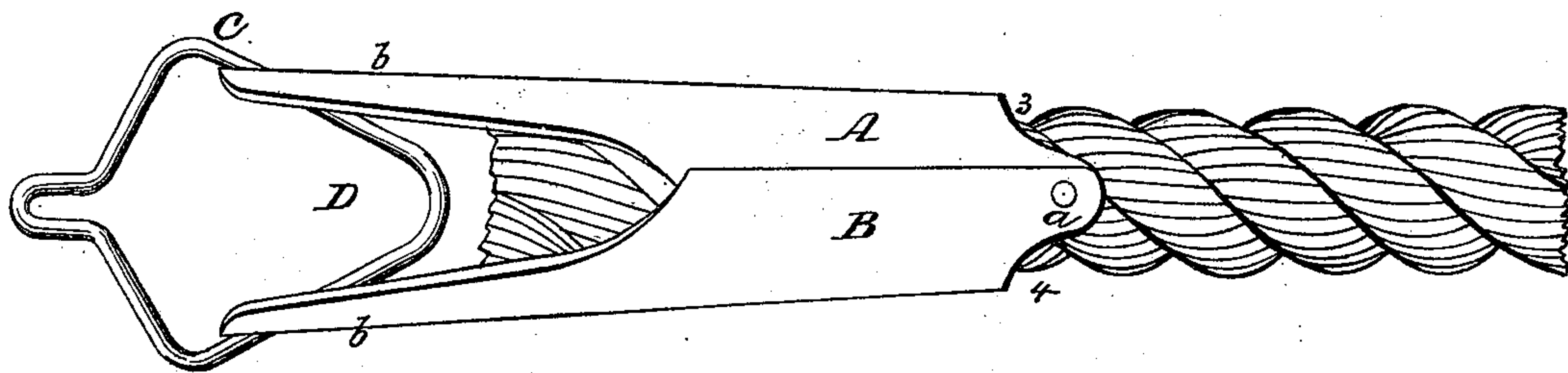
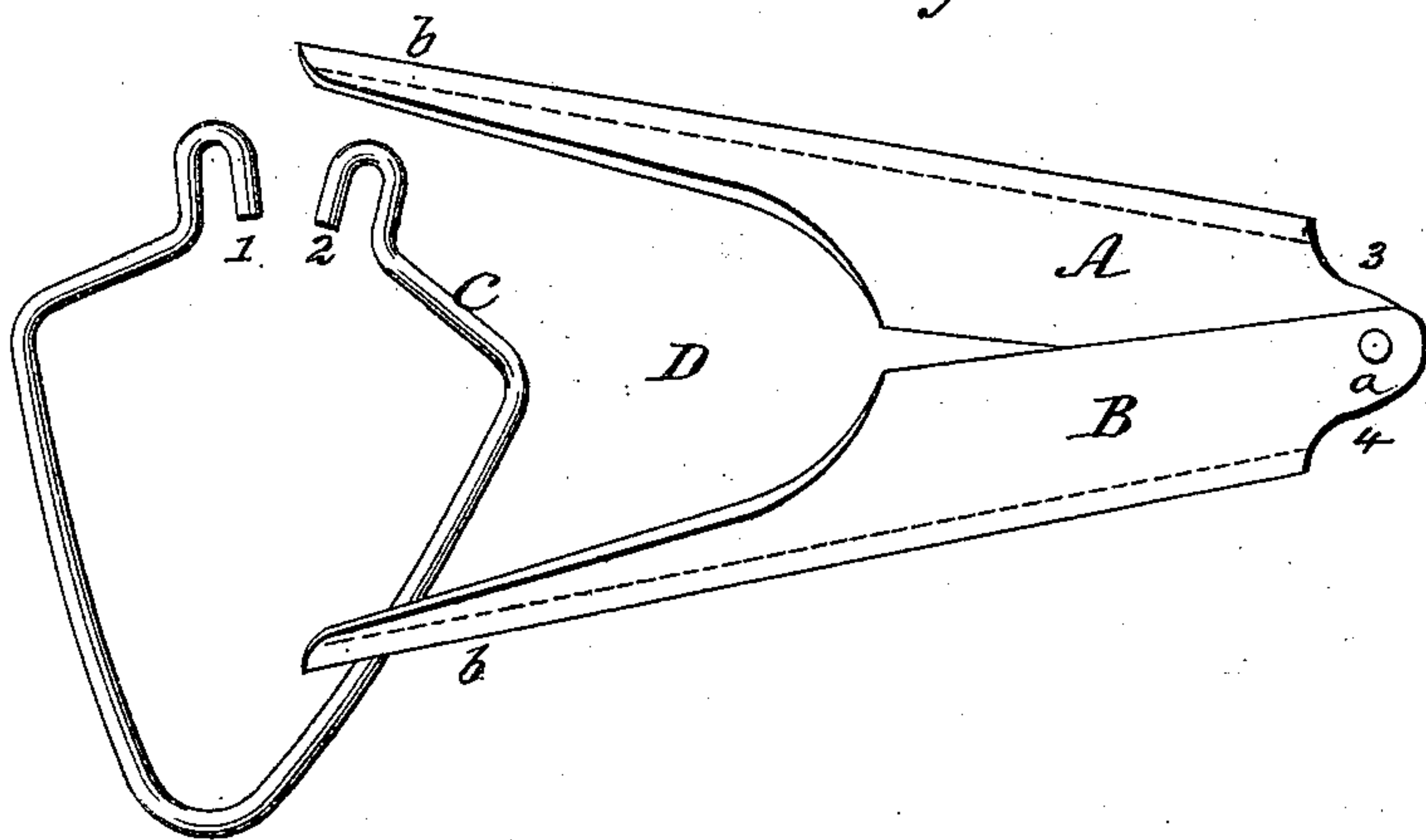


Fig. 2.



WITNESSES.

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Letters Patent No. 86,938, dated February 16, 1869.

IMPROVED CLIP FOR HARNESS-TRACES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, J. D. S. NEWELL, of the parish of Tensas, and State of Louisiana, have invented a certain new and useful Improvement in Harness; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification.

My invention consists of a metallic clamp-termination, or "tip," for the traces of harness, that is so constructed as to permit the end of a rope trace to be easily inserted in it, and which will then clamp the same with a pressure or gripe that increases, in precise proportion to the strain put on the trace, in the tenacity of its hold with the increase of tension to which it is subjected, the object to be accomplished being to avoid the loss of anything save the piece of rope that constitutes the trace, when the same is broken or worn out, and the quick and easy substitution of a new trace in the place of an old one, without even taking the harness off the animal, if the harness should be in use at the time when it is desirable to make such substitution.

But my invention will be better understood by referring to the drawings, on which, at—

Figure 1, it is shown as when attached to the end of a rope trace in actual use, and at

Figure 2, as when detached from a trace and ready to receive the end of one.

An inspection of these figures exhibits the fact that my invention consists of two principal parts, A and B, that are riveted together at the extremity at which the end of the trace is introduced, in a way not to interfere with the opening there, by two rivets, and provided at the other end with an irregularly-formed elliptic ring, C, which, passing through slots *b*, embraces within it the ends of the parts A B that are farthest from the trace, and so acts, when tension is applied to the trace, as to compress or force the said parts toward each other, and clamp securely the end of the trace between them.

These parts A B may be described as longitudinal half sections of a tube, which may be constructed either of wrought or malleable iron, or of copper, brass, or any other suitable metal, which, for about half their length, as shown, are cut away, so as to provide a transverse opening, D, of tapering form, through that part of the device.

The ring C, if I may so denominate it, may be of the form as shown on the drawings; that is to say, the metal of which it is formed may be divided, and the ends at the point of division bent into hooks, as shown at 1 and 2, or it may be of unbroken continuity, and bent up at the point where the hooks appear on the drawing, so as to provide against its slipping around in the ring or chain-link, as the case may be, that is employed to establish a connection with the hames, or

the whiffle-tree, or such other part of the harness or vehicle with which a connection is necessary in the practical application of the device to use.

The ring C may also vary from the form as shown in any other respect, provided, always, it present converging sides, for something more than half its length, to act upon the parts A and B, and force them together, or more accurately toward each other, whenever tension is applied, in order to develop the clamping-pressure on the end of the trace that is requisite to secure it within the device. In some cases this ring may be of exact elliptic form, but even then its greatest transverse diameter should be considerably nearer the end to be attached to the hames or whiffle-tree by intermediate rings, links, or chains, than to the other, in order to provide a sufficient length in the converging sides to secure a pressure that will prevent the end of the trace from slipping out.

The intermediate means for connecting the device to that part of the harness or vehicle with which it is to be connected, may consist of any that are usually applied to such purpose in other modes of fastening, for my invention does not refer to such means, which form no part of it, but is wholly independent thereof, so far, at least, as the question of novelty is concerned. I may connect the tip at the front end of the trace to the hames, directly to the eye-bolts that are usually attached to each section or bow of a hames, or I may use one or more intermediate rings or a short chain, accordingly as I may deem expedient in given cases, and so also may I employ similar means for connecting the rear end of the trace or traces to the whiffle-tree or other part of the vehicle to which it is proper to attach it.

Although especially designed to bring about a substitution of rope for leather traces, for purposes of economy, my invention is equally as well adapted to secure the ends of round leather traces, as the ends of rope traces, for while it dispenses with rivets and all other extraneous means of fastening, it is obvious it will clamp any trace that is round, or nearly so, with equal tenacity, whether the same be of one or another material, and that it can, with the same facility, be disconnected from a trace, whatever the substance of which the latter is composed.

Designed particularly for the purposes indicated, it is not probable I shall endeavor to apply my invention to flat traces, but yet it is not difficult so to modify it as to make it applicable to them, and I reserve the right to make such modification, if future circumstances shall induce me to believe it expedient to do so.

In the application of my invention to practice, the parts A and B are opened, as shown at fig. 2, and the end of a rope or round leather trace, as the case may be, is introduced, until it occupies substantially the relation to the device that is shown at fig. 1. This operation is easy, because the articulation of the parts

A and B being on the rivets *a a*, which are as near as it is possible to place them, to the receiving-end of the device, and a portion of these parts being cut away, as shown at 3 and 4, the circular opening, at the point at which the end of the trace is inserted, is expanded or made larger by the vibration of these parts from each other on the said rivets. But in order to open the device for the reception of a trace, it is first necessary to turn the elliptic ring C about forty-five degrees from its normal position, so as to bring its longest length in the direction of the movement of the parts A and B as they are opened. The ring C may or may not be disconnected from one of these parts, as shown at fig. 2. Usually there will be no necessity for a disconnection, and when the ring is continuous or uncut at any point, such a thing is impossible.

In some cases I propose to throw out, around the inner surfaces of the parts A and B, narrow and very slight projections, either in the form of serrated or plain concentric flanches, to serve as teeth, to take into the trace, and make the slipping of it out of the tip a sheer impossibility.

When a trace is broken or worn out, the ends of it are drawn out of the two tips at its ends, without difficulty, on spreading apart the two sections or parts A B, as is done in the operation of inserting them.

No knots in the ends of the traces are necessary to secure them in the tips, the clamping-pressure alone being sufficient for this purpose, but still, to prevent an undue expansion of the ends, and make their introduction easier, it may be useful, with particular kinds of rope, to wrap the ends with twine.

It will be seen, from what I have said, and an inspection of the drawings, that on the application of force or tension, the converging sides of the ring C will act on the parts A B, on the principle of the wedge or of two incline planes, in such manner as to bring

them toward each other with a power that is precisely proportionate to the tension or strain to which they are subjected, and that hence, the greater the tension that is applied, the more tenacious and secure will the gripe or hold be of the device on the trace.

I am aware that metallic tips or terminations for traces and other parts of harness have been devised, the object of which, as in the case of my own invention or improvement, has been to make it possible to substitute rope for leather in order to cheapen harness without diminishing the strength of any of its parts, for Thomas Newman's tip, in which rivets are employed to secure an attachment to the end of the trace, and William Jordan's socket-tip, in which a connection is secured by the action of reverse angles in the device and the ends of the traces, are well known to me, and I do not claim, broadly, the application of a metallic tip to the ends of rope traces, nor to any other part of a harness, but only the improvement which I have myself devised, and herein described, and shown on the annexed drawings; that is to say, having thus described my invention as shown on the drawings, and as it may manifestly be modified without departing from the clamping-principle, which I for the first time apply to such purpose by a new combination of mechanical parts,

What I claim, and desire to secure by Letters Patent of the United States, is—

The combination of the tapering concave clamps A B, when the same are secured together by and articulate upon the rivets *a a'*, or the equivalents thereof, with the elliptic ring C, substantially as and for the purpose set forth.

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Witnesses:

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C. W. WAILEY.