

(No Model.)

E. L. McCLAIN.  
PAD FOR HORSE COLLARS.

No. 267,011.

Patented Nov. 7, 1882.

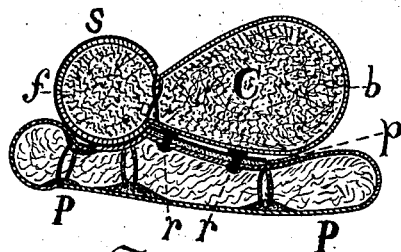


Fig. 1.

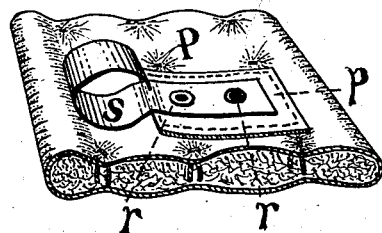


Fig. 2.

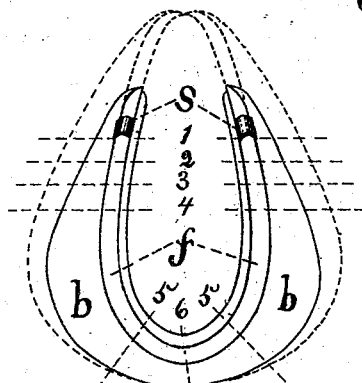


Fig. 3.

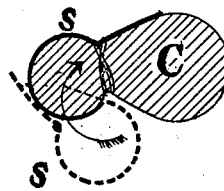


Fig. 4.

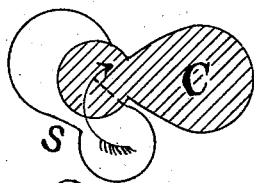


Fig. 5.

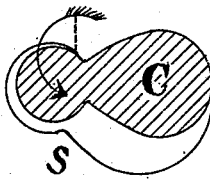


Fig. 6.

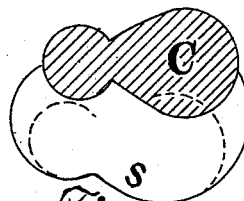


Fig. 7.

Witnesses:  
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Inventor:  
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per E. P. Robbins, att.

# UNITED STATES PATENT OFFICE.

EDWARD L. MCCLAIN, OF GREENFIELD, OHIO.

## PAD FOR HORSE-COLLARS.

SPECIFICATION forming part of Letters Patent No. 267,011, dated November 7, 1882.

Application filed August 11, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD L. MCCLAIN, a citizen of the United States, residing at Greenfield, in the county of Highland and State of Ohio, have invented new and useful Pads for Horse-Collars and other Parts of Harness, of which the following is a specification.

My invention relates to a device for attaching pads to horse-collars and other parts of harness where adjustable temporary pads are used.

The object of my invention is to furnish more perfect means of adjustably attaching pads to horse-collars than those yet devised, and the means now to be described are improvements upon those described and claimed in my patent for "pads for horse-collars," dated May 19, 1882, reference to which should be made in order to better understand the means herein described; and it is also my object to make such means applicable to other harness-pads.

While my improvements are intended to be applicable to various kinds of pads for horse-collars and other parts of harness, they are especially intended to apply to sweat or cushion pads which are placed beneath or under the collar and isolate the collar from the horse's shoulders and neck.

Figure 1 is a sectional view of a pad and a collar coincident with one side of the spring S. Fig. 2 is a perspective view of a portion of a pad with spring S attached.

Fig. 1 shows a section, P, of such a pad, with a fore roll, and to which is attached a curved metallic spring, S, which is so curved as to partly encircle and hug the fore roll of the horse-collar C, so as to hold that portion of the pad securely to the collar and yet not interfere with the hame. Said spring S differs materially from the spring in my previous patent. First, this spring has but one curved portion, intended for the fore roll only of the collar, instead of a curved portion for the fore roll and one for the back roll. The single-roll spring is applicable where the two-roll spring could not be used, and is preferable and cheaper even where the latter can be used.

By referring to Fig. 3 it will be easily seen that the fore roll, *f*, is approximately of uniform size in cross-section in the same collar, while the back roll, *b*, varies considerably in the size of its cross-sections 1 2 3 4 5 6, &c.,

increasing continually to near the bottom, where it gradually narrows again until it becomes quite small at the gullet. Hence it is seen that the spring S can be as easily placed around the fore roll at one position as at another—at the top, side, or bottom; but when a two-roll spring is used, while the curve for the fore roll will fit that roll at any position along the side of the collar, the curve for the back roll will fit that roll properly only when used in approximately the same position—at the same cross-section of that roll; and it should be here noticed that the use of a curved elastic spring as a means of adjustably attaching a pad to a horse-collar is not so much that said spring can be adjusted to fit different-sized collars as that such a spring enables the pad to be attached to or disengaged from a collar with ease and in the quickest manner possible.

Fig. 4 shows how a pad with a single-roll spring is attached or disengaged. The outer end of the spring is placed against the fore roll at or near the seam at the side of that roll, and then that portion of the pad is so moved that the spring rotates about said end until it comes in position around the fore roll, and that without deflecting much the curvature of said spring. The pad is disengaged from the collar by reversing the latter operation. Now, were it desired to similarly put a two roll spring on a collar, we would commence, as shown in Fig. 5, and rotate it into position, as shown in Fig. 6; but in order to put said spring on in that manner the roll-curves would have to be considerably deflected, as seen in Fig. 6, while the user would be as likely to attempt putting such a spring on the collar by bending both curves back, as shown in Fig. 7, until they would go on the collar without rotating any whatever. It is therefore seen that the two-roll springs are much more cumbersome to use than single-roll springs, while when the curves of the two-roll springs are repeatedly and much bent they lose their elasticity, and consequently their usefulness.

Fig. 3 shows a horse-collar having attached to it a pad provided with single-roll springs, and shows also by means of the dotted lines the outline of a larger or longer collar similarly placed, and how such a collar-pad could be fitted to a larger collar. The methods of attaching the single-roll springs are, however, as seen in

Figs. 1 and 2, similar to those used for the two-roll springs in my previous patent.

I show in Figs. 1 and 2 a stiffening-piece, *p*, of leather or other suitable material, placed between the spring *S* and the surface material of the pad *P*. The spring may be attached by passing rivets *r r* through the spring and stiffening-piece and then sewing the stiffening-piece to the surface material of the pad, as shown in Fig. 2, or by passing the rivets *r r* through the spring, stiffening-piece, and the surface material of the pad, as shown in Fig. 1. Also, as in my previous patent, the rivets *r r* may be passed entirely through the pad, if desired, and hence secure the spring to both surface-pieces of the pad and make the latter more firm at the place of attachment; but a stiffening-piece may not be used at all, or one may be used, as shown in Figs. 1 and 2, or on the inside or outside of either surface-piece or of both surface-pieces, as found desirable and practicable. The pad to which such springs are applicable may be any sweat or cushion pad which separates the collar from all portions of a horse's neck and shoulders, and which is open at the withers or top, at the gullet or bottom, or both at top and bottom, or which is not open at all, and any such pads or portions of pads may have fore rolls, back rolls, both fore rolls and back rolls, or no rolls at all. These springs can also be used on pads which are placed beneath the collar at the withers, or wherever a collar pad is used, for isolating a portion only of a collar from the horse's neck or shoulders. They can also be used for attaching pads to other portions of harness—as to breast-collars, &c.

Some horse-collars are made to open at the top and others at the bottom, and in being used they are sometimes opened on being removed from a horse's neck, and are again fastened on being replaced. Sometimes they are not opened at all, but are removed or replaced by being slipped over the horse's head.

It is common to make pads of the same kind to open at the top and others to open at the bottom, or not to open at all, to suit the kind of collar with which they are to be used or the habits of the user. As previously mentioned, my single curved springs are equally well adapted to any such pads. A great feature possessed by pads having the single-curved springs

is that they can be easily and speedily removed from or attached to a collar, and therefore can be separated from the collar when it is removed from a horse's neck; or the pad need not be disengaged from a collar at all, since the pad will remain attached by means of the springs to the collar when the latter is slipped over a horse's head; or, since a pad open at top can be used with a collar open at top, or a pad open at bottom with a collar open at bottom, and, further, since any such pad can be easily and speedily removed from or attached to a collar, it can be used with any style of collar, and therefore has general use.

As an article of manufacture the single-roll spring can be made and attached to a pad at much less expense than a two-roll spring. First, it does not require so much material; second, it is easier to form and may not require tempering, as the tempered steel in the market may answer where it has been found that such steel will not do for a two-roll spring; third, it is more convenient to attach by riveting by hand or by machinery, for riveting machinery now in use can be used on a single-roll spring, but not on a two-roll one, since the curved ends of the latter project over the rivets.

It is to be understood that my springs are to be metallic or of any suitable elastic substance, and that the pads to which they are to be attached may be of any kind, material, or construction whatever to which it would be suitable and desirable to attach such springs, and that I am to use such arrangements as may be most suitable.

I claim—

1. As an attachment to a horse-collar pad or other harness pad, and as a means of adjustably attaching a pad to a horse-collar or other part of harness, the elastic single-roll or single-curved spring *S*, constructed, arranged, attached, and operating substantially in the manner shown or described, and for or with the purposes set forth.

2. The combination, with a horse-collar pad, of elastic single-roll or single-curve spring *S*, substantially in the manner shown or described, and for the purposes set forth.

EDWARD L. McCLAIN.

Witnesses:

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