J. T. SMITH.
Harness-Pad.

No. 202,879. Patented April 23, 1878.

Fig. I.

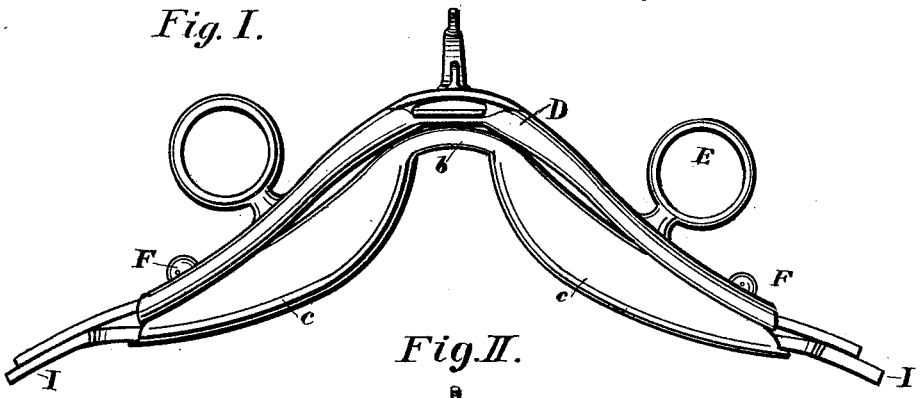


Fig. II.

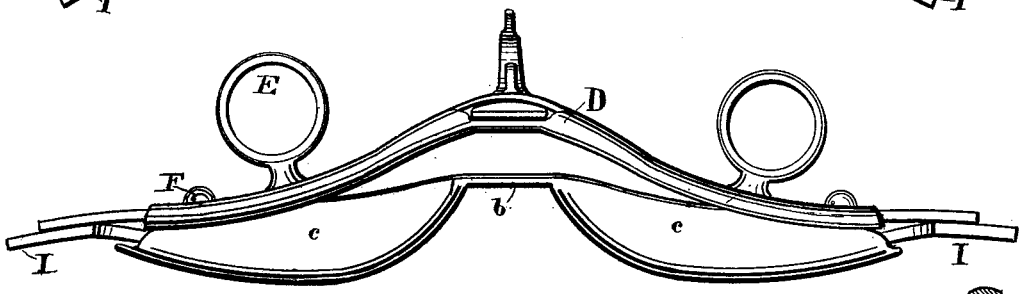


Fig. III.

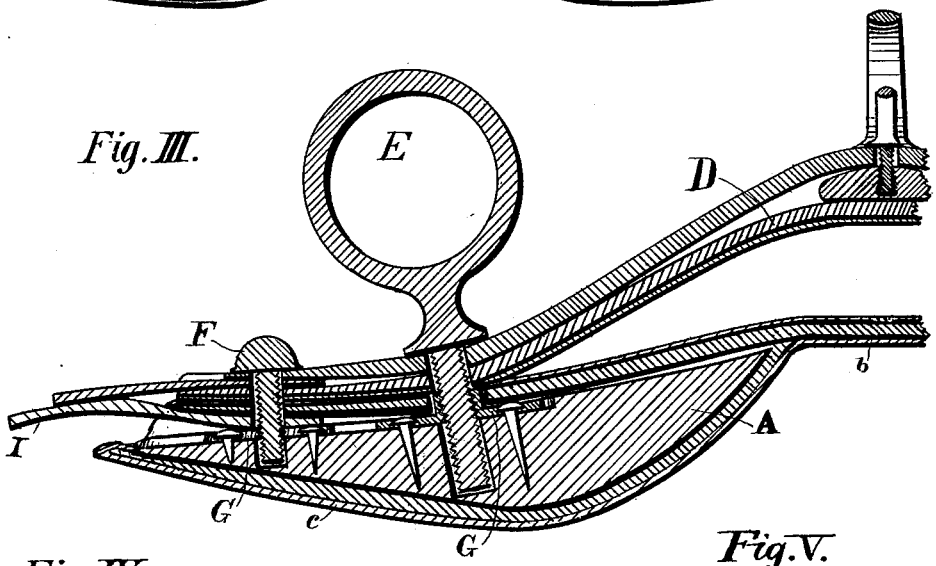


Fig. IV.

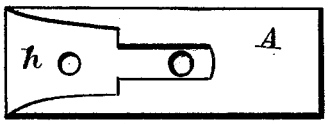
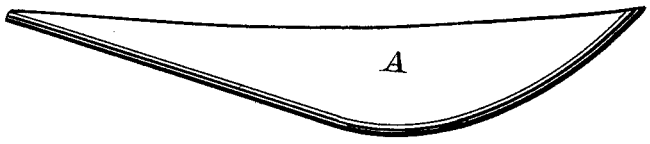


Fig. V.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN T. SMITH, OF AURORA, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO WILLIAM G. MORRIS, OF SAME PLACE.

IMPROVEMENT IN HARNESS-PADS.

Specification forming part of Letters Patent No. **202,879**, dated April 23, 1878; application filed March 29, 1878.

To all whom it may concern:

Be it known that I, JOHN T. SMITH, of Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Self-Adjusting Harness-Pads; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to improve adjustable harness-pads of that class or variety in which the two pads have a yielding or flexible connection instead of a rigid or unyielding one.

As heretofore constructed, pads have been stuffed and filled mainly with a flexible material, and sometimes this flexible material has been supported at its top by a metal shaping-plate, and such plate again strengthened or re-enforced along its edges by metallic rods to preserve the form and integrity of the plate. But flexible stuffing alone is found in practice to be very undesirable in self-adjusting pads, for the reason that it will change its form, and after the pad has been used on a slender horse with a high backbone the stuffing takes a set in its contour or shape on its under side, so that it is no longer adapted to fit a stouter horse; and the same difficulty arises, when it has been used for some time on a large or stout horse, upon its being next attempted to be applied to the back of a small or lean one.

In my present invention, while I retain all the advantages which attach to a flexible as distinguished from a rigid connection between the two pads, I avoid all liability of any disturbance of or disadvantageous change in the predetermined shape or contour of the under side of the pads; and I also avoid all need or use of any metal plates or re-enforcing bars or rods within the pads to sustain the stuffing or to sustain each other, and consequently all liability of cutting the leather or rusting or rotting the material by the action of such plates.

To this end my invention consists in the employment of two separate wooden or unyielding pads, one for each side of the horse's back, each of these pads itself being shaped to the requisite contour on its under as well as on its upper side, and then, when covered with leather, united by a leather strip, so that, while they may be strapped down to suit any horse, no amount of wear can alter the general form of the pads themselves, or render them unfitted for the backs of other horses, whether fat or lean or larger or smaller ones.

In the drawings, Figure 1 is an elevation of a harness-pad made in accordance with my invention in a position adapted for a horse with a high backbone or a lean body; Fig. 2, the same in a position for a horse with a broader back and a backbone not so prominent; Fig. 3, a vertical detail section, showing one of the internal wooden pads; Fig. 4, a plan of the upper side of one of the wooden pads, and Fig. 5 an enlarged side view of one of the wooden pads detached.

A represents one of the solid and unyielding pads, made of wood or other equivalent rigid material, adapted to preserve the form given it, one of such pads being placed on each side of the central flexible or leather connecting part *b* of the harness, and both being secured within an appropriate leather or other covering, *c*, and which covering I prefer to make of a piece or pieces long enough to contain both the solid pads, and also to leave the unpadded part *b* between them; and this part *b* admits of all the requisite adjustment for different animals, serving as a hinge. Between this outer covering *c* and the under or convex side of the wooden pad, I prefer to place a thin layer of hair or other suitable soft material; but it is so laid as to conform to the fashioned or shaped surface of the pad, and is by no means the pad itself, and may in some cases be dispensed with, for it is the solid pad on which I rely to give and to preserve at all times the required permanent form, and to insure that there shall be no material change in the contour of the pad imparted to it by wear, whereas if the pads, instead of being solid, were entirely of hair or similar compressible stuffing, it is evident, and practice proves, that they will be practically useful just so long

as this stuffing retains its proper shape, and no longer, and that the self-adjusting feature of adaptation to different horses is lost permanently as soon as the more prominent point or swell of the pad becomes flattened down, and which flattening is unavoidable under constant pressure mainly at one point or fulcrum, aided often by perspiration, rains, &c., tending to compact the mass of stuffing. Nor is such compressibility and permanent flattening of the stuffing prevented by securing the pad at its upper side to flat metal plates, for such plates serve no purpose except to make the top of the pad stiff, leaving the body of it soft and pliable.

By my construction, also, I do not depend upon or use any such plates of concave form to aid in giving a convex form to that part of the pad which rests on the back of the horse at either side of his spine, as my pad has within itself all the required convexity on its under face, with complete adaptability, in conjunction with the connecting flexible joint *b* and the flexible back-strap D, to conform itself at all times to the back of any horse, and to relieve his spine from pressure or chafing, or any injury or inconvenience to him.

Another advantage due to these wooden pads is the stronger hold which the terrets E and screws F can take in fastening the back-band to the pads, as they can be screwed directly into the wood to any desired depth, or into threaded sockets F, which may be nailed or screwed firmly to the wood pads. Such security of fastening cannot be so well or so readily made where the pads are simply stuffed ones, nor where a thin metal plate is employed, as above referred to.

The upper sides of the wooden pads also admit of being cut out or recessed, as seen at *h* in Fig. 4, to admit not only the metal sockets F, but also to receive the ends of straps I.

In any kind of soft pads the lower ends of the terrets will in wear soon work down, so as to project through, or nearly through, the pads and form lumps on their under face, and which then press at those points into the back of the horse, tending to fret him and to make sore or raw places, and they must then be taken out and cut off to prevent this. My pad entirely avoids this difficulty, for the ends of my terrets cannot under any conditions extend through the wood, as the latter is not compressible.

I am aware that harness-saddles have been made of wood, but without any joint or any self-adjusting feature; and also that wooden pads have been made and rigidly connected together by an iron band or strap, thus preventing any flexibility or adjustability. Such constructions, therefore, I disclaim, as neither of them can accomplish the results which follow the use of my invention; but

What I claim is as follows:

1. The two solid or wooden covered pads A, each having a concaved upper surface and an under surface convexed, as described, to conform to the back of the horse, in combination with a leather or flexible connection, the same being the only connection between them.

2. The harness-pad described, as made with the two separate wooden or solid pads A, each being convex on its under side and slightly concave on its upper face, in combination with the leather flexible connection *b*, and with the flexible back-band D, these forming the only connections, all substantially as shown and described.

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Witnesses:
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