

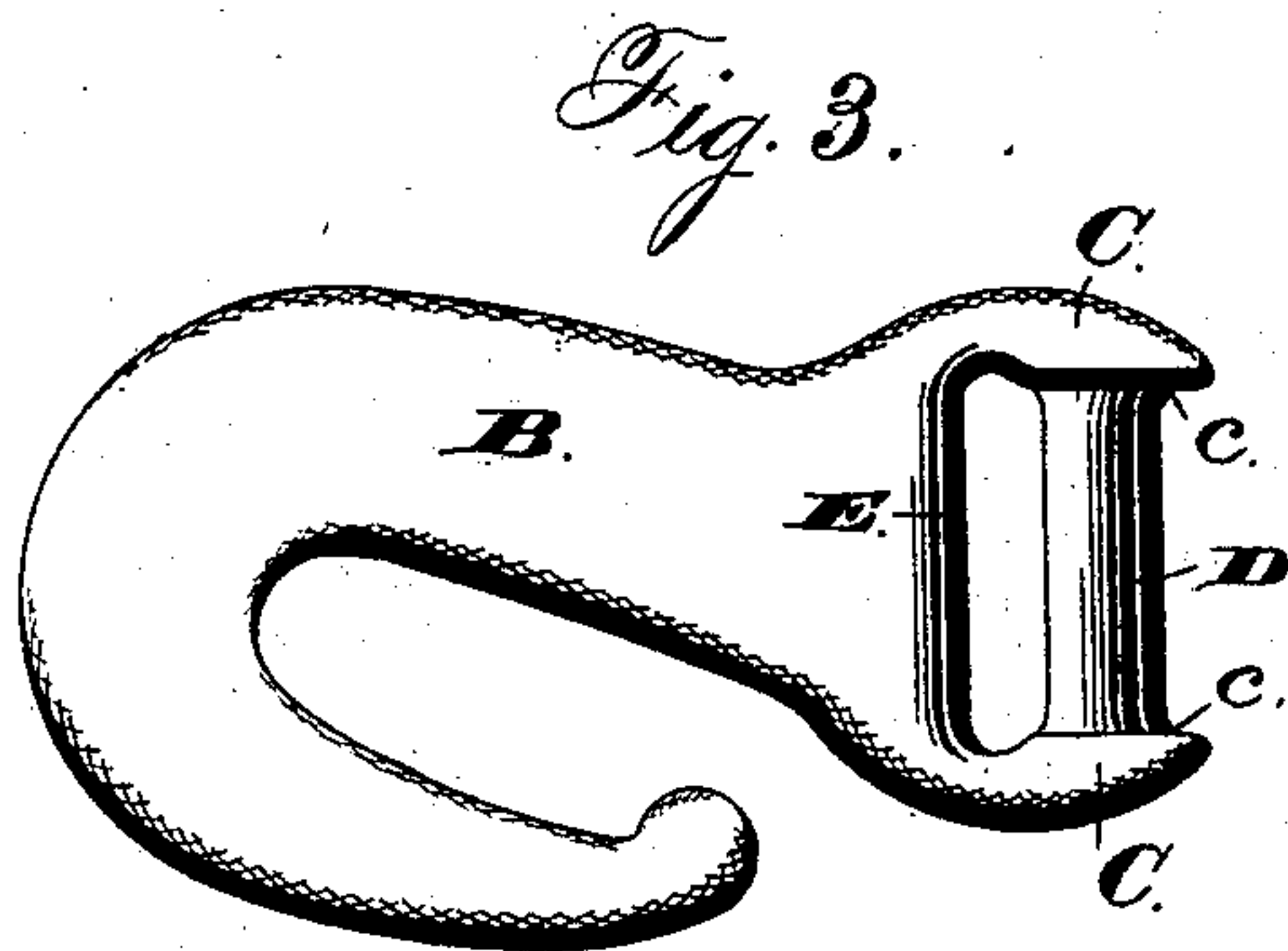
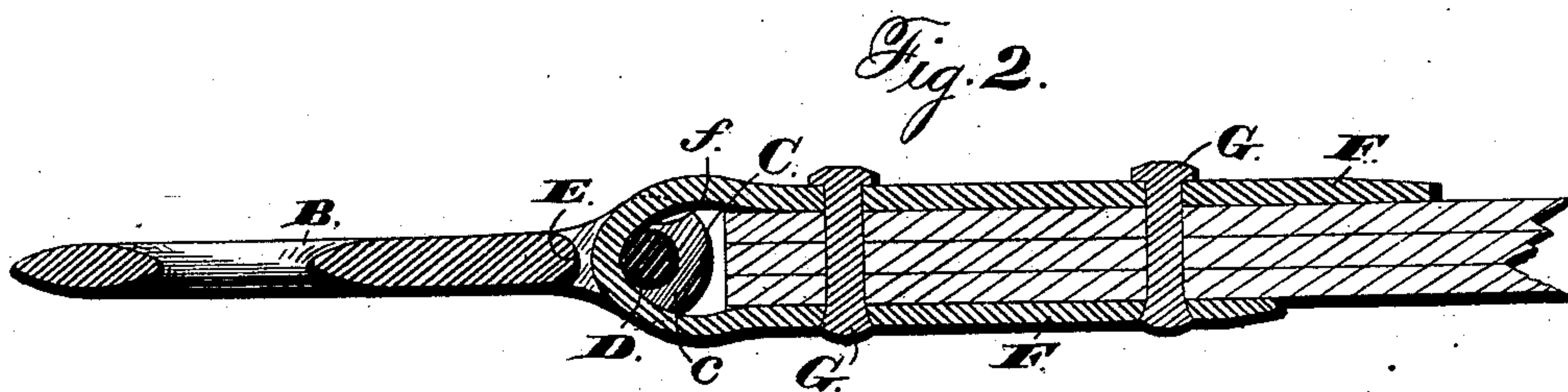
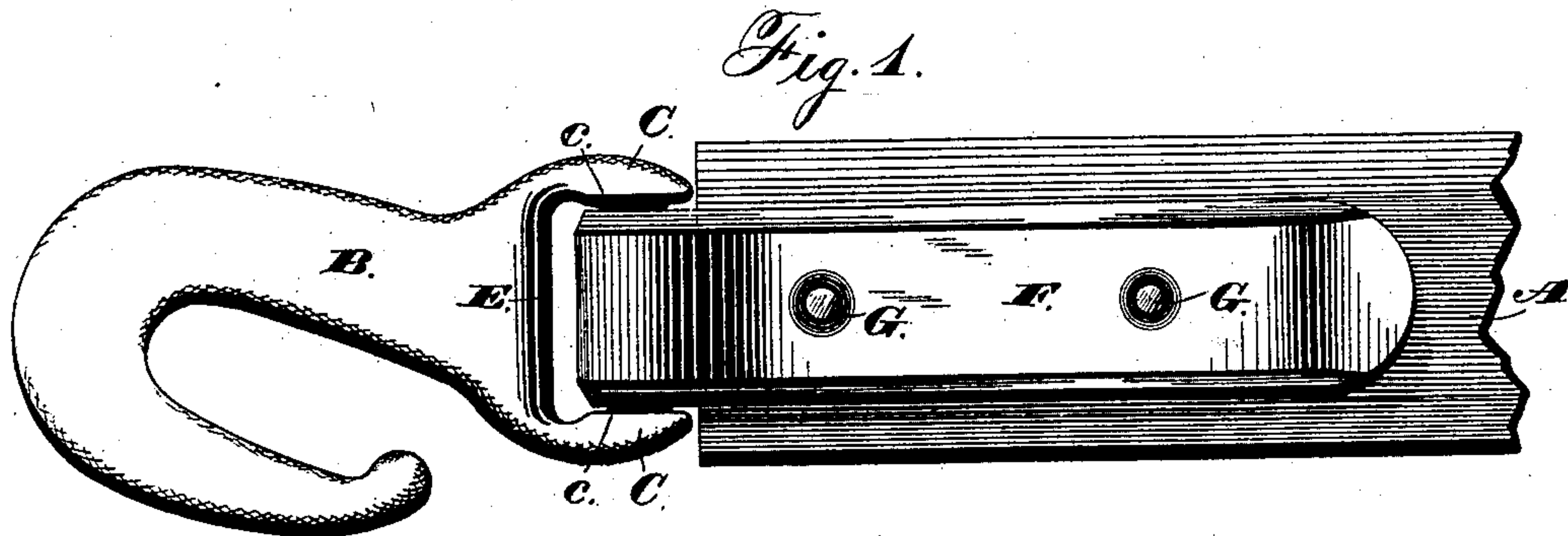
(No Model.)

C. H. ALLEN.

TRACE HOOK.

No. 272,182..

Patented Feb. 13, 1883.



Witnesses.

Jas. E. Hutchinson.

J. A. Rutherford

Inventor.

Cotton H. Allen,

By his Attorney,

James L. Norris.



# UNITED STATES PATENT OFFICE.

COTTON H. ALLEN, OF ST. LOUIS, MISSOURI.

## TRACE-HOOK.

SPECIFICATION forming part of Letters Patent No. 272,182, dated February 13, 1883.

Application filed October 31, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, COTTON H. ALLEN, a citizen of the United States, residing at St. Louis, in the county of St. Louis and State of Missouri, have invented new and useful Improvements in Clip Trace-Hooks for Harnesses, of which the following is a specification.

This invention relates to a novel mode of constructing and connecting a trace-hook with a harness-trace.

The object is to provide an improved hinge-connection between the trace and the hook which shall avoid liability of breakage of the hook, tearing of the leather, or disconnection of the hook from the trace during use, and which shall also prevent lateral play of the hook and cause the strain to be met squarely along the entire length of the pintle and its seat or socket, thereby rendering the wear uniform and preventing the seat from being unduly worn at its ends or corners. To such end I provide the trace-hook with ears connected together by a pintle, and provide a clip which is secured to the trace and bent so as to form at one end of the trace a seat for the pintle of the trace-hook. These ears have their inner opposing sides made plane-faced and of greater width than the diameter of the pintle, so that when the clip and the hook are connected the inner flat bearing-surfaces of the ears shall cover the seat or socket for the pintle at each end, and also overlap or embrace the edges of the clip at its bend which forms the pintle-seat, thereby preventing lateral play of the hook and causing the strain to be met squarely along the entire length of the pintle and its seat.

In the drawings, Figure 1 represents a trace-hook connected to a trace in accordance with my improvement. Fig. 2 represents a longitudinal section through the same. Fig. 3 represents the hook detached.

A indicates a portion of an ordinary leather trace.

B is the trace-hook, which is made flat, as usual, and designed for attachment to one end of the trace or tug. The trace-hook is enlarged at the end of its shank portion, and provided with a pair of parallel lugs or ears, C, which project from the corners of said enlarged end of the shank. These lugs or ears

are connected together by means of a cylindrical pintle, D, which is arranged parallel with and set out from the straight edge E at the end of the shank, so as to leave a space between the two. The clip F, for connecting this hook to the end of the trace, consists of a metal strap bent at or near its middle, so as to adapt it to fit upon the two sides of the trace. The two sides or leaves of this clip are contracted together or bent slightly inwardly at a point back of the bend, so that a seat or socket is formed for the pintle of the hook, which can be readily passed between the leaves of the clip into said seat before the clip is applied to the trace.

When the hook and the clip are connected together, the pintle D lies in the bend or seat *f* transversely to the length of the clip, while the bent portion of the clip which passes around the pintle also passes through the space which is bounded by the pintle, the straight end of the shank, and the inner sides of the two ears. This constitutes a simple and efficient hinge-connection between the hook and the clip and allows the pintle, which is rigid with the hook, to turn freely in the bend or seat in the clip. The leaves of this clip are provided with any suitable number of perforations for the rivets G, which can be passed through said leaves and the trace and then headed up in any convenient manner.

The lugs or ears C can be rounded on their outer sides, so as to give a finished appearance to the article; but upon their inner opposing faces, *c*, they are made flat, so that when the hook and clip are connected together the edges of the latter at its bend shall be embraced by two plane bearing-surfaces. These flat sides of the ears extend over the edges of the clip; and to provide for such extension the metal forming the ears is spread out and flattened, as illustrated in Fig. 2. The ears are rounded at their edges, and are also rounded in outline at their free or outer ends, so that the latter, coming in contact with the end of the trace, will not injure the same, and also will not check the free movement of the hook. These ears, having flat inner sides embracing the edges of the clip at its bend, constitute guards which prevent undue sagging or lateral movement of the clip or hook, and also tend to keep the pintle squarely against the bend in the

clip, thereby preventing unequal wear at either corner or end of the seat in which the pintle is located.

5 Heretofore a trace-hook has had its shank somewhat extended, and such extension inserted and secured between the leathers comprising the trace; but the advantage of the hinged connection between the trace and the hook will be apparent, since by employing  
10 such hinged connection the parts are not liable to break. The trace sets easier and better, and is not liable to be torn or injured, since the clip serves to strengthen rather than to weaken it.

15 Having thus described my invention, what I claim is—

The combination of the trace-hook B, provided with a pintle, D, connecting together a

pair of ears extending from the shank portion of the hook with the herein-described clip, consisting of a metal strap having its ends adapted 20 to be secured to the sides of the trace and bent near its middle to form an eye for the pintle on the hook, said pintle being located in the eye at the end of the trace, and the clip being contracted back of its eye, the hook and clip 25 being hinged or pivoted together, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

COTTON H. ALLEN.

Witnesses:

W. H. BRIGHAM,  
GEO. N. SWORMSTEDT.