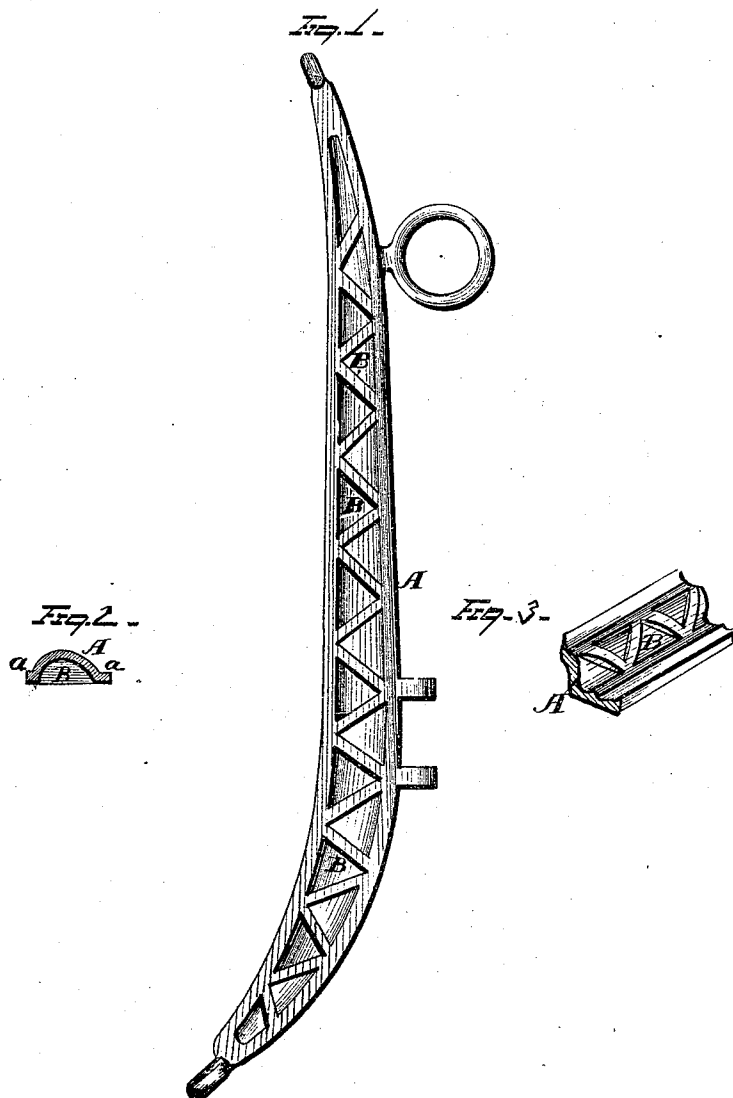


D. C. GUTTRIDGE.

HARNESS-HAMES.

No. 184,777.

Patented Nov. 28, 1876.



WITNESSES
Ed. A. Nottingham.
A. W. Briggs.

INVENTOR
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UNITED STATES PATENT OFFICE.

DAVID C. GUTTRIDGE, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO THE CRAWFORD MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN HARNESS-HAMES.

Specification forming part of Letters Patent No. 184,777, dated November 28, 1876; application filed August 19, 1876.

To all whom it may concern:

Be it known that I, DAVID C. GUTTRIDGE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Harness-Hames; 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.

My invention relates to harness-hames, designed to be of sufficient strength for all uses, and yet of very light weight and easy construction.

The improvement consists, first, in a skeleton structure, having an open interior webbed or netted surface, whereby the strength of the article is unimpaired and the article itself unencumbered by surplus material next to the collar of the harness; second, in a concavo-convex construction, provided with diagonal supports or braces and longitudinal lateral flanges.

Referring to the drawings, Figure 1 is an interior side elevation, and Fig. 2 a cross-section view; and Fig. 3, a modification of my improvement.

A is the body of the hame, constructed of a hollow semi-cylindrical form—that is, the exterior of the device is rounded or made convex along its entire length, but the interior or collar surface is recessed or made in the form of a longitudinal concavity. Rigidly secured to, or formed in the same piece with, this shell-like structure A, and connecting the two lateral edges of same, are diagonal cross supports or braces B, which strengthen and bind together the different parts of the hame. These cross-supports are seated in constant and continuous connection with the interior face-body of the hame, and extend out from same, so as to be flush with its lateral extremities, and hence present a plane surface, continuous with the interior lateral planes of the hame. Rings, loops, slotted attachments, and the usual appurtenances of a harness-hame may

be suitably formed upon, or connected with, the hame, as just described; but since they form no part of my invention, I have not thought it necessary to particularly describe them, it being understood that all appropriate attaching mechanism may be used with my improvement.

In Fig. 3 of the drawings I have shown a modification of my preferable form, in which I make the interior or collar surface of the hame solid, and a constant plane, flush with its edges, while the exterior or convex side of the hame is formed in open-work, having diagonal cross-braces. This form is in substitution of having the interior of the hame reticulated; but I desire to be understood that, in either instance, I am not confined to employing the flat flanges *a*, extending the length of the hame, but may, in either case, use them or omit them, as I may desire. These flat flanges *a*, extending the length of the hame, and on either side of same, serve to give a lateral bearing to the hame, and a snugger fit upon the collar.

The hame is constructed entire of malleable iron, afterward converted into steel, cast in one piece by a process which consists, essentially, in molding so that the hame "cores" itself. The process, more in detail, consists in casting the hame in molds, which, from the peculiar construction of the pattern, does not require a core separate and independent from the main lower bed of the mold, since in molding the hame in a two-part mold it is evident that the pattern can be lifted out direct from its supporting-mold, without breaking in cross-section the several cores forming the corresponding diagonal ribs or cross-pieces cast solid with the hame. If the hame were, on the contrary, a tube instead of an open-work skeleton structure, it is manifest that a core independent from and forming a distinct and separate part of the main molding process would be necessitated; but the present construction of the hame allows of the pattern being lifted out from the sand and leaving its own recesses, while a tubular construction would require a sand core laid in to form the hollow, and thereby necessitating the addi-

ional expense of making and handling such ores.

This hame is made entire of iron, converted into steel after casting, which process of conversion may be according to any of the usual steps. The well-known Bessemer process might be appropriately used.

Having fully described my invention, what I claim as new is—

1. The skeleton hame, constructed with an open interior reticulated surface, substantially as and for the purpose described.

2. The concavo-convex harness-hame, provided with flush diagonal cross-supports and longitudinal lateral flanges, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

DAVID C. GUTTRIDGE.

Witnesses:

JAMES M. HAMILL,
CHARLES HAUCH.