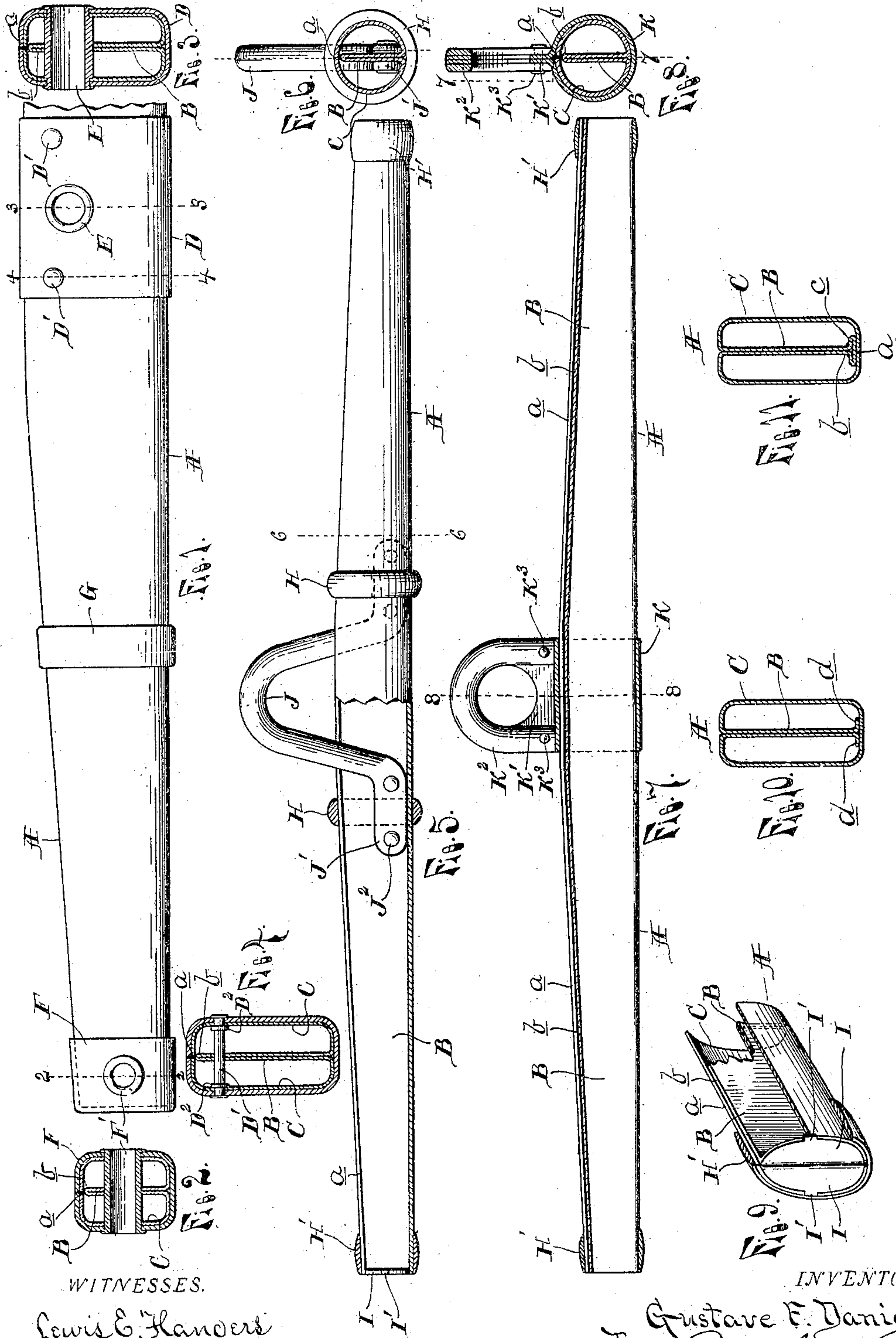


No. 798,268.

PATENTED AUG. 29, 1905.

G. F. DANIELSON.  
WHIFFLETREE.

APPLICATION FILED AUG. 4, 1904.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

GUSTAVE F. DANIELSON, OF YPSILANTI, MICHIGAN.

## WHIFFLETREE.

No. 798,268.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed August 4, 1904. Serial No. 219,457.

*To all whom it may concern:*

Be it known that I, GUSTAVE F. DANIELSON, a citizen of the United States of America, residing at Ypsilanti, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Whiffletrees, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to improvements in whiffletrees, doubletrees, and other draft appliances which are formed wholly or in part of sheet metal; and its object is to provide a construction whereby such devices may be  
15 formed from a single sheet of metal and to provide the same with certain other new and useful features in their construction whereby they may be manufactured with greater facility and a much stronger, cheaper, and better-finished device secured, all as hereinafter  
20 more fully described, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of a portion of a doubletree embodying the invention; Fig. 2,  
25 a section of the same on the line 2 2 of Fig. 1; Fig. 3, a section on the line 3 3; Fig. 4, a section on the line 4 4. Fig. 5 is a side elevation of a whiffletree with parts broken away to show the construction; Fig. 6, a section of the  
30 same on the line 6 6 of Fig. 5; Fig. 7, a longitudinal section on the line 7 7 of Fig. 8 of a whiffletree embodying a modified form of draft-loop; Fig. 8, a section of the same on the line 8 8. Fig. 9 is a detail of one end of the  
35 whiffletree with parts broken away to show the construction, and Figs. 10 and 11 are cross-sections of modified forms of doubletree.

The body A of the doubletree or other article is formed from a single sheet of metal  
40 which is first folded upon itself along its longitudinal center line to form the central longitudinal strengthening-rib B, and then the two edge portions of the metal are turned outwardly in opposite directions and bent  
45 around until their edges *a* meet close to the free edge *b* of the rib, thus forming the outer walls or shell C, which may be shaped as desired, it being preferably made substantially circular in form for a whiffletree and with parallel sides and edges with rounded corners  
50 for a doubletree. The modified form shown in Fig. 11 is substantially the same as that shown in Fig. 1, except that the sheet is folded so as to form in cross-section a T-rib, the  
55 transverse portion *c* at the outer edge *b* of the rib forming a wide support for the edges

*a* of the sheet. In Fig. 10 a T-rib is also shown; but the metal is so folded that the edges of the sheet are on the inside, the edge portions lying close together to form the rib  
60 B and the edges *d* turned laterally in opposite directions to form the transverse portion which lies along the inside of the closed edge of the article. The body A thus formed is firmly held in the form in which it is folded  
65 by securing encircling bands or rings thereon, the doubletree being provided with a wide band D at its middle, secured thereon by rivets D', extending through the rib B, shell C, and band, said rivets being provided with  
70 shoulders D<sup>2</sup> to engage the inner side of the shell and support the same and riveted down upon the outside of the band. A shouldered tubular member E also passes through openings in the rib, shell, and band and is riveted  
75 down upon the outer side of the band to receive the draft-bolt by means of which the doubletree is attached to the tongue or other article and also to assist in securing the parts  
80 firmly together.

The doubletree is held at each end and closed by a cap F, which is secured thereon by a tubular member F', similar to the member E, the same passing through the rib, shell, and cap and riveted down upon the  
85 outer side of the cap. These members F' are adapted to receive draft-bolts by means of which the swingletrees are attached to the doubletrees. Intermediate the caps and band D rings G are provided to secure and  
90 strengthen the body.

In the form of whiffletree shown in Figs. 5 and 6 the body is held by plain rings H, one at a distance each side of the middle of the body, and end rings H', which may be driven  
95 on or otherwise secured in place and, if desired, may be provided with hooks (not shown) for the attachment of the harness-tugs. As shown in perspective in Fig. 9, the ends of the whiffletree are closed by so cutting  
100 the ends I of each web forming the rib B that when said projecting end portions I are bent in opposite directions and at right angles to the rib they will fill the space between it and the casing C, thus closing the ends, and  
105 by providing these portions with lugs I', projecting from their outer edges to engage notches in the casing, the ends are prevented from being accidentally bent inward. The portions I are turned outward before the  
110 rings H' are driven on, and therefore when the rings are forced to place the casing will be



forced into contact with the edges of these outturned portions, which will thus be firmly held and will in turn form a strengthening-brace and the ring will cover the lugs, forming a smooth finish. A draft-loop J is provided between the rings H, consisting of a rod bent U-shaped with outwardly-turned flattened ends J', and this loop is secured with its opposite ends one on each side of the rib B, to which it is secured by rivets J<sup>2</sup>, the edges *a* of the casing being cut away to fit around the rod.

In Fig. 7 a modified form of draft-loop is shown, the same consisting of a band or strap K of heavy sheet metal wrapped around the body at its middle and the ends K' thereof extended outward from the body. These ends are formed with a round opening and are rounded concentrically with said opening to form a loop, which loop is reinforced by U-shaped strips K<sup>2</sup>, secured upon each side of said ends K' by rivets K<sup>3</sup>, passing through said strips and ends and securing the ends together.

By forming the body of the article from a single sheet of metal the parts are all integral and no brazing is required, and by providing the rib of a width to extend across the body a very strong and rigid construction is secured.

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

1. An article of manufacture consisting of a body portion formed from a single sheet of metal, said metal being folded longitudinally upon itself to form an internal rib and the free edges bent laterally and around the rib to form the inclosing casing, with the edges of the metal meeting opposite the free edge of the rib.

2. An article of manufacture consisting of a body portion formed from a single sheet of metal, said metal being folded longitudinally to form a T-shaped internal rib and bent outwardly each way from and around said rib to form an inclosing casing with the edges of the metal meeting at the outer side of and engaging the transverse portion of the rib.

3. An article of manufacture consisting of a hollow sheet-metal body, a rib within said body extending longitudinally thereof and formed of two thicknesses of sheet metal, and portions on each end of the rib formed to fit the end of the body at each side of the rib and bent laterally at right angles to the rib to fill said ends.

4. An article of manufacture consisting of

a hollow sheet-metal body, a central longitudinal rib within said body formed by folding the metal of the body inward at one side, integral end portions on said rib bent laterally each way from the rib and formed to fit within the end of the body, lugs on said portions to engage notches in the body, and a ring on each end of the body to force the same into contact with the edges of said portions.

5. In an article for draft purposes, the combination of a hollow sheet-metal body formed with a central rib and provided with an opening through said rib and body, a tubular shouldered rivet in said opening to strengthen the body and adapted to form a continuous bearing for a draft-bolt.

6. In an article for draft purposes, the combination of a hollow sheet-metal body formed with a central rib and provided with openings, and a tubular rivet in one of said openings having shoulders engaging the inner surface of the body and riveted down at its outer ends upon the outer surface to form a continuous bearing-surface on its inside and rivets in the other openings having shoulders engaging the inner surface of the body and riveted down upon the outer surface.

7. In an article for draft purposes, the combination of a sheet-metal body having openings in its sides and divided longitudinally along one edge, a band encircling said body and provided with holes opposite said openings in the body, a tubular member in one of said openings and having shoulders engaging the inner surface of the body, and rivets in the other openings having shoulders engaging the inner surface of the body.

8. In an article for draft purposes, the combination of a sheet-metal body having a longitudinally-extending internal rib and openings in its side opposite said rib, and a draft-loop extending through said openings and secured at its inner ends to said rib.

9. In an article for draft purposes, the combination of a sheet-metal body having a longitudinally-extending internal rib, and openings in its side opposite said rib, and a U-shaped draft-loop having laterally-bent ends engaging said rib and secured thereto.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAVE F. DANIELSON.

Witnesses:

OTTO F. BARTHEL,

FRANK M. SCHOWALTER.