

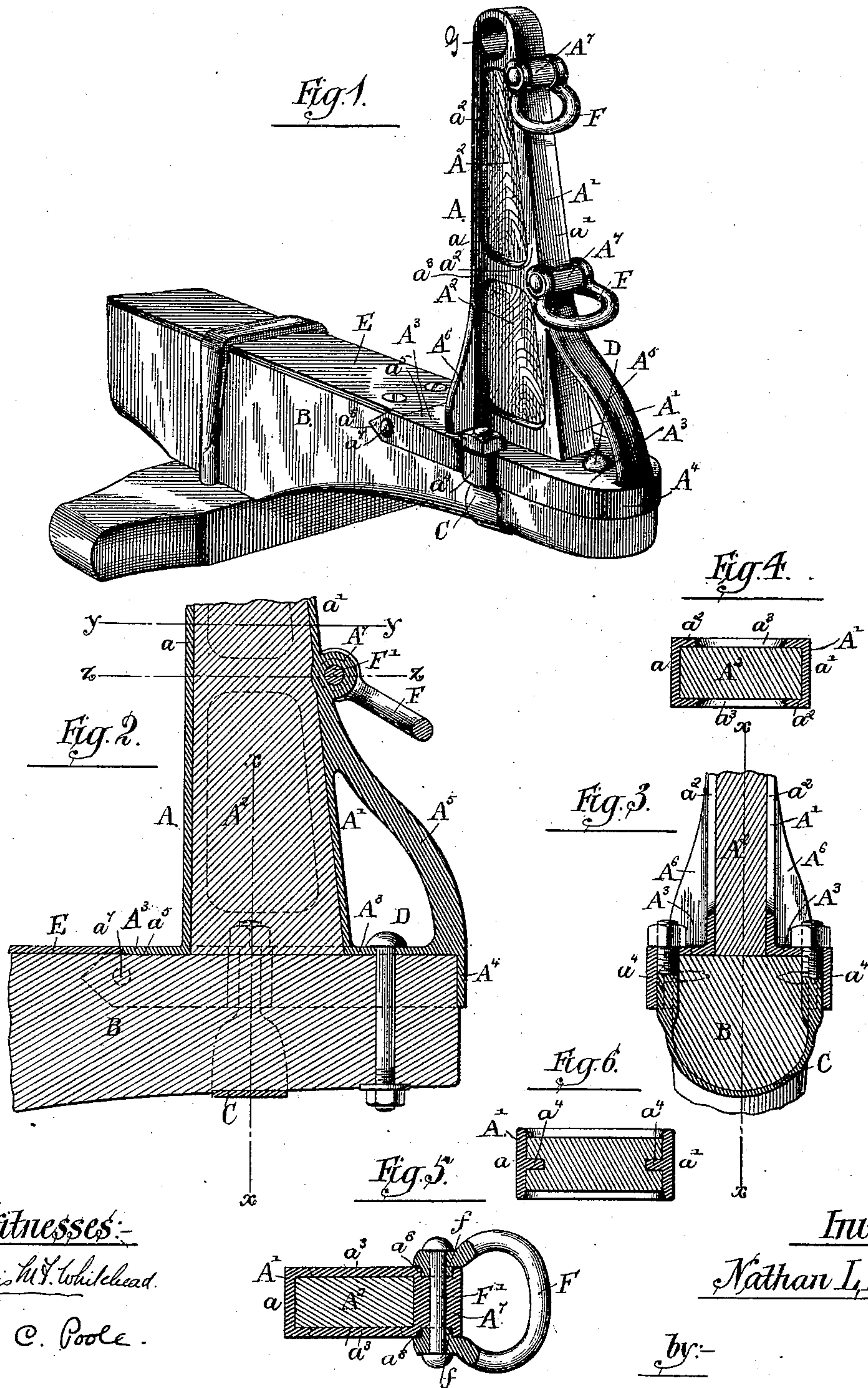
(No Model.)

N. L. HOLMES.

WAGON STAKE.

No. 343,273.

Patented June 8, 1886.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## WAGON-STAKE.

SPECIFICATION forming part of Letters Patent No. 343,273, dated June 8, 1886.

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*To all whom it may concern:*

Be it known that I, NATHAN L. HOLMES, of Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Wagon-Stakes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in wagon-stakes; and it consists in the matters hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, showing a device embodying my invention, Figure 1 is a perspective view of the end of a wagon-bolster and a stake, illustrating my invention. Fig. 2 is a central vertical section of the lower part of the stake and the end of the bolster, taken upon line *x x* of Fig. 3. Fig. 3 is a transverse vertical section of the same, taken upon line *x x* of Fig. 2. Fig. 4 is a transverse section of the stake, taken upon line *y y* of Fig. 2. Fig. 5 is a similar section taken upon line *z z* of Fig. 2. Fig. 6 illustrates a modified sectional form of the stake.

As illustrated in the said drawings, A indicates the stake, and B the bolster. The stake A consists, generally, of a hollow cast-metal casing or shell, A', and a wooden filling, A<sup>2</sup>, which is made to accurately fit and fill the hollow interior of the metal part of the stake. The latter may be made of any desired form or design, it being, as herein shown, formed by inner and outer walls, *a* and *a'*, and side walls, *a*<sup>2</sup>, the latter being parallel, and the outer wall, *a'*, being inclined inwardly, so that the walls *a* and *a'* converge toward the top of the stake. The side walls, *a*<sup>2</sup>, are, for the purpose of lessening the weight of the casting, apertured, so as to expose the wooden filling, suitable cross-bars, as *a*<sup>3</sup>, being retained to properly unite the walls *a* and *a'*.

The metal part of the stake is preferably made of malleable iron, and relatively thin, and the wooden filling is forced in by the application of considerable pressure, so that the latter will come to a firm bearing against the walls of the casting. The wooden filling, applied in this manner, obviously operates to greatly strengthen the metal part, so that the

latter may be made much lighter, and consequently less expensive, than cast-iron stakes such as heretofore used, while at the same time possessing all the advantages as to durability possessed by stakes composed exclusively of metal.

In a somewhat different form of the casing or shell A' shown in Fig. 6 the parts *a* and *a'* thereof are provided with inwardly-projecting ribs *a*<sup>4</sup>, which serve to strengthen the said parts from lateral deflection, and which, in case the inwardly-projecting flanges shown in Figs. 1 and 4 as extending over the side faces of the filling are absent, as appears in said Fig. 6, may serve to hold the filling and the said parts *a* and *a'* from relative movement.

Upon the lower end of the metal part A' of the stake shown is cast a flange or plate, A<sup>3</sup>, adapted to rest upon the top surface of the bolster. Said plate is preferably provided about its margin with a depending flange, A<sup>4</sup>, constructed to fit closely the end portion of the bolster, and the parts are cast with an inclined brace, A<sup>5</sup>, connecting the outer end of the plate with the stake, and with laterally-projecting flanges or wings A<sup>6</sup>, located in the angles between the sides of the stake and the plate A<sup>3</sup>, and forming continuations of the inner walls, *a*, of the said stake. The brace A<sup>5</sup> and flanges A<sup>6</sup> obviously serve to strengthen and make more rigid the connection between the metal part of the stake and the plate A<sup>3</sup>. The flange A<sup>4</sup> obviously serves to hold the stake in place upon and to prevent it from being shifted laterally with reference to the bolster, and said flange is preferably made sufficiently deep or wide to act as a strap about the end of the bolster to prevent splitting of the latter by strains upon the fastening-bolt, which will usually be present therein, or otherwise.

The means shown for attaching the stake to the bolster consist of a clip, C, passing around the bolster beneath the stake, and engaged with laterally-projecting parts or lugs *a*<sup>4</sup> upon the plate A<sup>3</sup>, and a vertical bolt, D, inserted through the plate A<sup>3</sup> and the bolster, near the outer end of the latter.

The clip C is, as shown, located near the inner face of the stake, and is therefore in a position favorable to resist the tipping of the stake by pressure tending to thrust the top of



the latter outwardly. The use of a clip at this point is of advantage also, as by its use the weakening of the bolster near the base of the stake by the presence of bolt-holes therein is avoided. The use of the bolt D near the outer end of the bolster is not objectionable, inasmuch as the bolster is of ample size at this point, and the stake is not so liable to receive strains tending to thrust its top inward.

In the particular form of the stake shown the horizontal plate A<sup>3</sup> of the stake is extended inwardly from the inner face of the stake over the top surface of the bolster, as indicated at a<sup>5</sup>, Figs. 1 and 2, and the bolster is provided with a metal strap, E, coming flush with the top of the part a<sup>5</sup> to protect the upper surface of the bolster from abrasion. In this construction the side flanges, A<sup>4</sup>, are preferably extended slightly past the part a<sup>5</sup>, so as to overlap the side edges of the end portions of the strap, and the projecting parts a<sup>6</sup> of the flange thus formed are held from displacement either by nails or screws a<sup>7</sup> driven into the bolster, as shown, or by an equivalent nut or bolt.

The usual loops or rings, F, to receive an additional or high stake, herein shown, are pivotally connected with projections or lugs A<sup>7</sup> upon the outer edge of the metal part of the stake. The said lugs, as shown, are provided with circular sockets or depressions a<sup>8</sup> in their end faces, into which corresponding projections, f, upon the end portions of the loop are adapted to fit, the parts being held permanently together by rivets F' inserted through the lugs and the ends of the loops concentrically with the said sockets and projections.

By the construction set forth it is obvious that strains upon the loop will be taken by the said projections, instead of coming upon the rivets, and the parts will therefore be much more strongly united, and the rivets may be made lighter than heretofore.

The sockets a<sup>8</sup> and the projections f will usually be made relatively shallow, so that the loops may be made in their final form, and the ends thereof spread or sprung apart to permit their engagement with the stake.

The usual ring or aperture, G, at the top of the stake is, as shown, formed in the metal of the shell at its upper end, said aperture being formed entirely in the metal part of the stake, and with a continuous inner surface, so that the hollow interior of the shell is entirely closed at the top, and access of moisture to the upper end of the stake is prevented.

A stake constructed with a hollow metal casing and wooden filling may obviously be secured to a bolster by other means than the particular devices shown for this purpose, and in the appended broad claims the said stake is claimed without restriction to any particular attaching devices.

It is to be understood that the several claims hereto appended cover the devices or parts thereof therein set forth, when said devices or parts thereof are in form to secure either, any, or all of the advantages, functions, or purposes which are secured by said devices or parts thereof when the latter are constructed in the particular manner herein shown.

I claim as my invention—

1. A wagon-stake consisting of a malleable-iron exterior shell having four connected lateral walls extending the entire length of the stake, combined with a filling of wood, substantially as described.

2. A wagon-stake consisting of a malleable-iron shell extending the entire length of the stake, and having its opposite side walls centrally cut away, leaving side flanges, as shown, and a filling of wood inserted in said shell, substantially as described.

3. A wagon-stake consisting of a malleable-iron exterior shell comprising four walls extending the entire length of the stake, and provided with a circular opening or ring formed in the metal at the top of the shell, and a filling of wood inserted in the shell, substantially as described.

4. A wagon-stake consisting of a malleable-iron exterior shell provided with a lug, A<sup>7</sup>, cast integral therewith, and a wood filling, combined with a ring, F, pivoted to the said lug, substantially as described.

5. A wagon-stake consisting of a malleable-iron shell, A', having opposite inner and outer walls and apertured side walls, and provided with a lug, A<sup>7</sup>, between its ends, and with a connecting-piece, as a<sup>3</sup>, uniting the said inner and outer walls at a point adjacent to the lug, substantially as described.

6. The combination, with a bolster, of a stake provided with a horizontal flange or plate, A<sup>3</sup>, extended over the bolster at the inner face of the stake, and a metal strap, E, secured to the top surface of the bolster flush with the plate A<sup>3</sup>, substantially as described.

7. The combination, with a bolster, of a stake provided with a horizontal flange or plate, A<sup>3</sup>, extended over the bolster at the inner face of the stake, and a strap, E, secured to the top surface of the bolster flush with the plate A<sup>3</sup>, said plate A<sup>3</sup> being provided with a depending flange extended at its inner ends beyond the plate, so as to overlap the side edges of the strap, substantially as described.

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

NATHAN L. HOLMES.

Witnesses:

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