H. C. KOCHENSPERGER.

Wagon Irons.

No. 109,425. Patented Nov. 22, 1870.

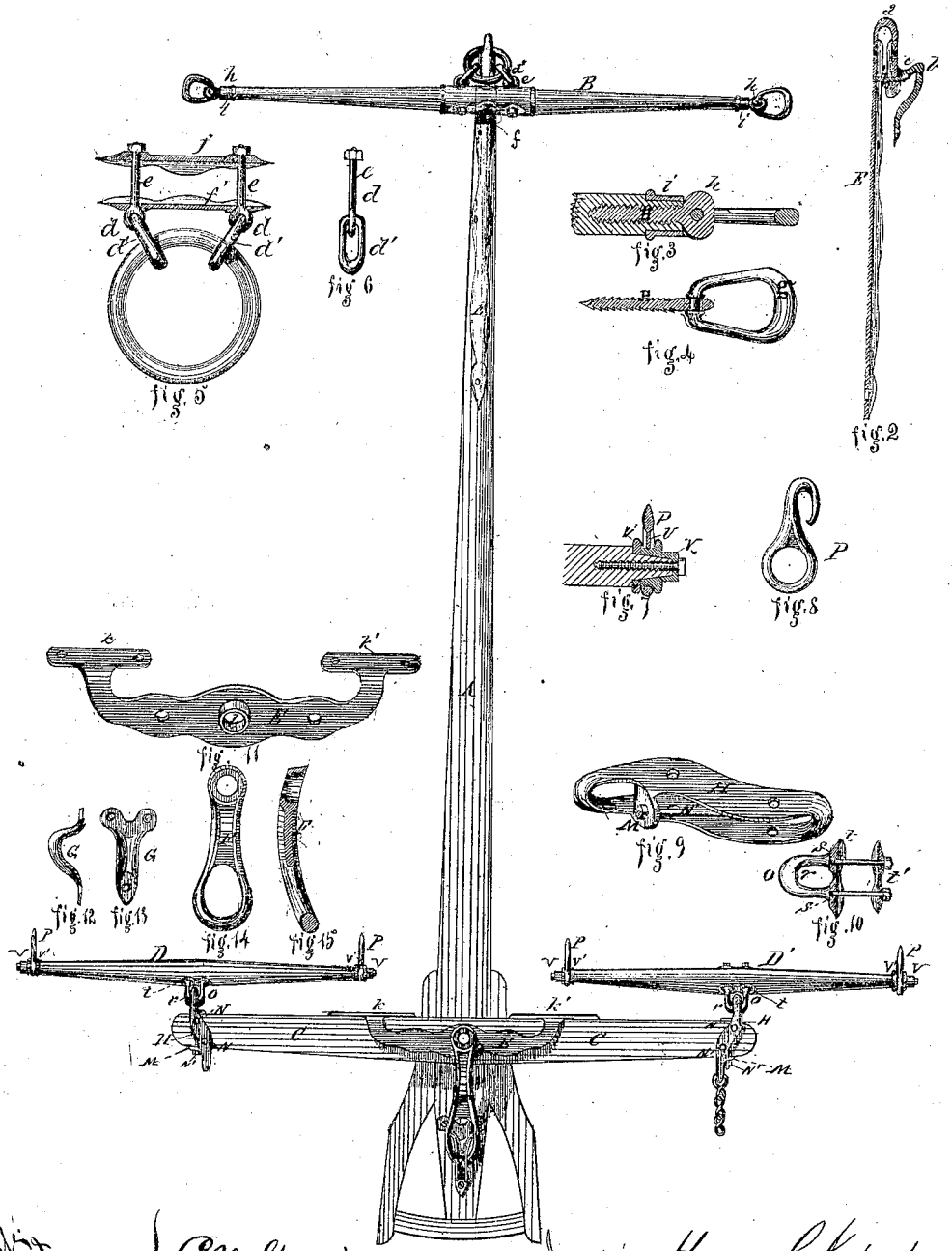

fig. 1.

Witnesses { C. M. Gorin, Francis P. Blatz

Inventor Henry C. Kochensperger

United States Patent Office.

HENRY C. KOCHENSPERGER, OF THORNVILLE, OHIO.

Letters Patent No. 109,425, dated November 22, 1870.

IMPROVEMENT IN WAGON-IRONS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY C. KOCHENSPERGER, of the town of Thornville, in the county of Perry and State of Ohio, have invented certain Improvements in Wagon-Irons; said improvements relating to the ironing of the tongue and the parts connected to it; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a view of the tongue of a wagon with the neck-yoke, double-tree, and single or whiffletree;

Figure 2, tongue, clevis, and bracket;

Figures 3 and 4, details of breast-strap ring;

Figures 5 and 6, details of neck-yoke ring and swivels;

Figures 7 and 8, details of single-tree hook;

Figures 9 and 10, details of double tree and single-tree clevises;

Figure 11, double-tree plate;

Figures 12 and 13, details of hammer-strap bracket; and

Figures 14 and 15, details of hammer-strap.

My invention consists in making the irons described by casting them of malleable iron instead of forging them, and in so distributing the metal as to obtain the largest wearing-surfaces where required, and the greatest strength with the least expenditure of metal, producing more perfect rings, hooks, clevises, &c., than can be forged, and at less cost.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same.

A is the wagon-tongue.

B, neck-yoke.

C, double-tree.

D D', single-trees or whiffletrees.

E is the tongue-clevis, shown in section in fig. 2.

The plate of this clevis is long, and extends back some distance along the tongue, to which it is secured by bolts, screws, or rivets. It is slightly curved to conform to the rounded tongue; at the end where it turns over the metal is thickened, as shown at *a*, fig. 2, making a strong clevis. After the turn the metal again flattens out, forming a plate on the lower side of the tongue.

The bracket *b*, which prevents the neck-yoke ring from slipping back, passes through the lower side of the plate, its shoulder resting on the plate, through the tongue and upper part of the plate, where it is riveted, joining the plate, bracket, and tongue firmly together. The tail of the bracket is secured by a screw or bolt.

The wearing-surface of the bracket, which is at *c*, is very heavy, while the remainder of the casting is light.

The neck-yoke ring is of wrought-iron. It is secured to the neck-yoke by the swivels *d*, which are cast.

The link *d'* in the swivel is thickened at the lower end where the large ring rests.

The head of the ring-bolt *e* is very strong.

The plates *f* and *f'* fit on opposite sides of the yoke, and are drawn closely to it by the ring-bolts, which pass through them, as shown in fig. 5.

The plates are thickened at the bolt-holes. The holes in the lower plate are slightly slotted, that the rings may be drawn in slightly.

The breast-strap rings are of the shape shown in figs. 3 and 4. They are much lighter on the sides than at the upper end, where they hang on the breast-strap or chain and are subject to wear.

They are cast in the head of the bolt *h*, a slight shoulder being left on each side of the head of the bolt, as shown in fig. 4.

A wood-screw is cut on the bolt *h*, as shown in fig. 3, or a ratchet-nail is used in place of the bolt, as shown in fig. 4, the teeth on the nail preventing its pulling out.

The ferrule *i*, ornamented and strengthened by a bead, fits over the end of the yoke and prevents its splitting.

The double-tree plate E, figs. 1 and 11, is cast of the shape shown. It rests on the top of the double-tree, and is secured to it with screws and bolts.

Two lugs, *k k'*, turn down over the front edge of the double-tree, strengthening it, and at the same time affording an iron surface for the whiffletree to strike against, and preventing it from marring the wood of the double-tree.

The pin which secures the double-tree to the tongue passes through the hole *l* in the plate.

The hammer-strap F, figs. 1, 14, and 15, fits over the thimble *l* on the plate E. This strap is a light casting, as shown by the section fig. 15, heaviest at the lower end where the bracket G passes through it. This bracket, shown in figs. 12 and 13, is fastened to the tongue by screws, as shown. The hammer-strap relieves the pin, which secures the double-tree from much strain.

The double-tree clevis, H, fig. 1, shown by itself, fig. 9, is cast in one piece. Its shape is clearly shown in the drawing.

The clevis slips over the end of the double-tree, to which it is secured by the bolts N N and the long bolt N'. This bolt passes through the lug M at the back of the clevis, and through the wood of the double-tree, preventing the wood from splitting.

The front end of the clevis, to which the whiffletree is attached, is made very heavy, as is also the back end, to which the stay-chain is fastened, this arrangement saving the expense of an extra clevis for the stay-chain.

The whiffletree-clevis O, figs. 1 and 10, is cast with a heavy wearing-surface, *r*, where it draws against the double-tree clevis, and shoulders S S, which rest

on the plate *t*. This plate and the plate *t'* are thickened, as shown, to support the shoulders of the clevis on the one side, and the nuts on the other.

The trace-hooks P, figs. 1, 7, and 8, are cast very light, thickened at the turn of the hook where the trace-chain wears, and strengthened by the thin metal gland or fin *u*.

The hook is secured to the end of the whiffletree by the thimble *v*, on which it turns. The washer *v'* is first driven onto the end of the whiffletree. This has been turned down to fit the thimble, which is fitted on, as shown in fig. 7, the whole being then secured either with a ratchet-nail driven into the end of the whiffletree, or by a long wood screw-bolt, forming a strong, neat finish to the end of the whiffletree.

Claims

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. The tongue-clevis E, in combination with the bracket *b*, when the latter is provided with the pin *b'*, which passes through the lower branch of the clevis and through the tongue, and is riveted at its upper end into the upper branch of the clevis, and all the parts specified are constructed and arranged as described.

2. The combination of the hammer-strap F, double-tree plate E, provided with the thimble *l*, and lugs *k k'*, and bracket G, all constructed and arranged as specified.

3. The double-tree clevis H, provided with the lug M, and combined with the pin N', in the manner set forth.

4. The hook P, in combination with the washer *v'* and flanged thimble *v*, in the manner explained.

HENRY C. KOCHENSPERGER. [L. S.]

Witnesses:

FRANCIS L. CLARK,

C. M. GORVIN.