W. J. Thorn,

2 Sheets. Sheet. 1.

Horse Collar.

No. 112,196. Patented Feb. 28. 1871.

Fig. 1

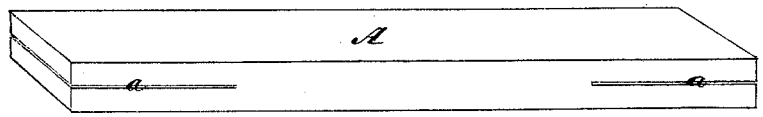


Fig. 2.

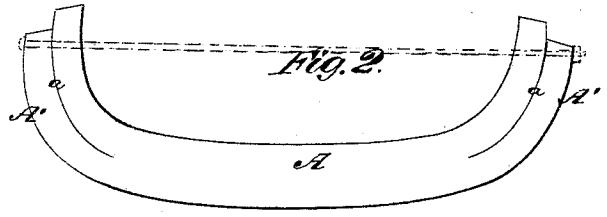


Fig. 3

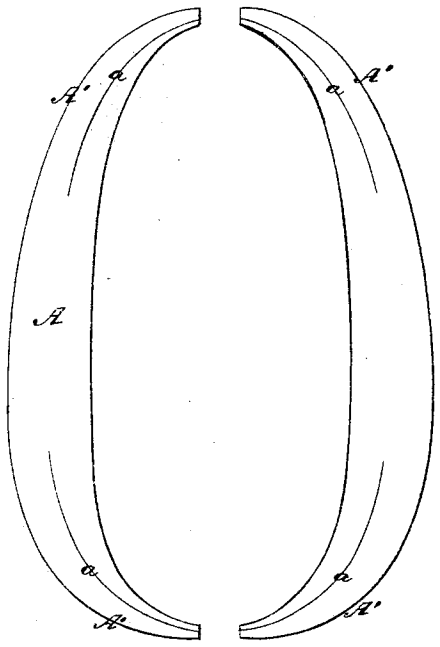
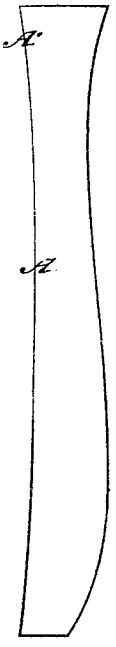


Fig. 4



Witnesses.

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Horse Collar.

No. 112,196. Patented Feb. 28, 1871.

Fig. 5

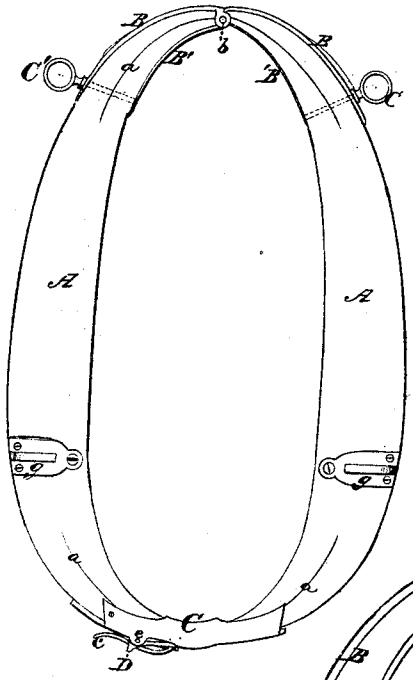


Fig. 6

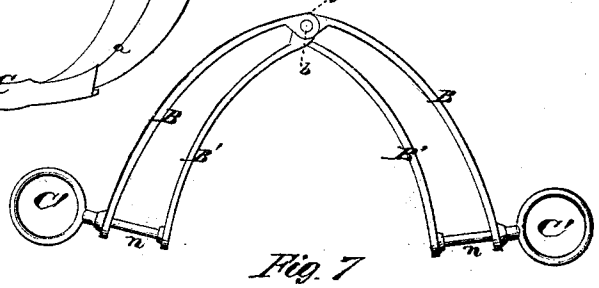


Fig. 7

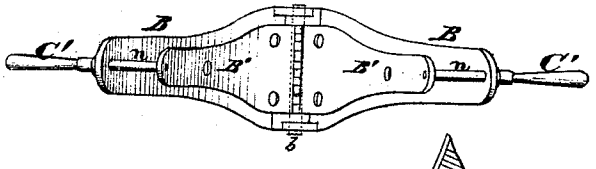
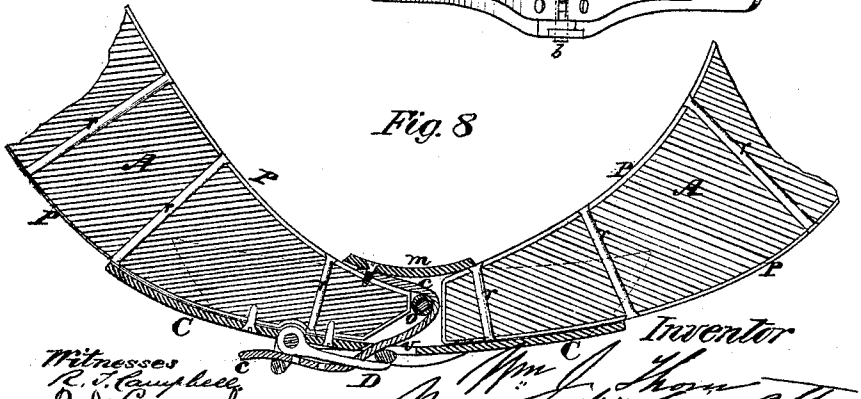


Fig. 8



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WILLIAM J. THORN, OF NEW YORK, N. Y.

Letters Patent No. 112,196, dated February 28, 1871.

IMPROVEMENT IN HORSE-COLLARS.

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, WILLIAM J. THORN, of the city and county of New York, in the State of New York, have invented certain Improvements in Horse-Collars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, plate 1, is a perspective view of one of the blanks or bolts from which the side pieces of the collar are made.

Figure 2, plate 1, is a view of the blank after it is bent and before it is finished.

Figure 3, plate 1, show two of the side pieces finished and ready for furnishing.

Figure 4, plate 1, is an edge view of one of the side pieces.

Figure 5, plate 2, shows the collar complete.

Figure 6, plate 2, is an edge view of the double-strapped hinge for the top of the collar.

Figure 7, plate 2, is a bottom view of the double-strapped hinge.

Figure 8, plate 2, is a sectional view, showing the devices for connecting together the bottom ends of the collar-bars.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements on the construction of the side bars of wooden collars, and also to certain novel devices for connecting together the side bars.

The nature of my invention consists—

First, in a wooden horse-collar, which is produced by steaming and bending its side bars, as will be hereinafter explained.

Second, in a metallic hinged sheath or double-strapped hinge for connecting together the upper ends of the collar-bars by a single pintle, and at the same time strengthening the ends of the bars.

Third, in a strap-and-buckle connection for the lower ends of the collar-bars, in combination with a segment sheath, which will receive and keep in place said ends of the collar-bars, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

Instead of sawing out the material to form the collar-blank, fig. 2, as has been hitherto practiced, I first produce a straight blank or bolt, as shown in fig. 1, and saw into its ends, as shown at *a a*. I then steam this straight piece and bend it around a suitable former, which will give to it the shape substantially as represented by fig. 2. In order to preserve this shape until the wood is properly seasoned a clamp or tie-bar may be used, as indicated by dotted lines in fig. 2.

Kerfs *a a* are made by means of a saw, for the purpose of facilitating the bending of the wood, and also for the purpose of preserving the proper shape of the bars A in the finished collar.

It will be seen by reference to fig. 2 that the portions A′ will slip while in the act of bending the ends of the bolt, and thus, when the split portions are firmly bolted together, after they are bent they will be prevented from losing the curvature given to them by the bracing action of the external portions A′.

When the bent blank, shown in fig. 2, is properly seasoned, it is curved and shaped to fit the neck and shoulder of a horse, and presents the appearance shown in figs. 3 and 4, ready for furnishing.

The bars, prepared as above described from narrow pieces of wood, are solid, substantial, and durable. They can be produced at a much less cost than collar-bars which are sawed out of wide pieces of wood, and they are less liable to break, as in the steamed and bent bars the grain of the wood is in a direction with the length of the bars at all points, which is of course not the case with sawed bars.

I connect the upper ends of the collar-bars A A together by a hinge-joint, which will allow the lower ends of these bars to be adjusted.

The peculiarity of this hinge is that it has four leaves or bracing-straps, which are constructed with interlocking eyes *f*, that allow the leaves to be connected together by a single pintle, *b*, shown in figs. 6 and 7.

The leaves B B′ on each side of the joint diverge, and are shaped so as to receive between them the tapered end of a bar, A.

The leaves are then secured in place by means of bolts, rivets, or screws, which firmly secure together the split ends of the bar and preserve the curvature given thereto.

The leaves or straps B B′ B B′ form sheaths, which will strengthen and brace the ends of the collar-bars.

The leading-line rings C′ are secured to the collar-bars by means of their screw-stems *n*, which pass through the straps of the hinge and through the collar-bars.

The draft-irons *g g* are secured to the front of the collar, and constructed of flat plates, having perforated lugs formed on them. The neck-yoke rings, and also the tug-eyes, will be applied to the perforations through said lugs.

The lower ends of the collar-bars A A are shod with straps P P, shown in fig. 8, which are secured in place by means of long rivets *r r*. These rivets connect firmly together the split ends, and preserve the shape originally given to them.

For connecting together the lower ends of the bars A A, I employ a metal sheath, C, of such shape and

size as will neatly receive the tapered ends of the said bars.

This sheath is permanently secured to one of the bars in any suitable manner, and between the upper side of such bar and a bridge, *m*, of the sheath, a leather strap, *c*, is secured.

Beneath the bridge *m* a passage, *v*, for strap *c*, is made through the bottom of the sheath, and a little on one side of this passage *v* a buckle, D, is pivoted to the bottom of the sheath.

To the end of the bar A, which does not have sheath C secured to it, a staple, *o*, is applied, through which the strap *c* is passed before it is carried out of opening *v* and buckled.

The strap *c* is intended to connect the lower ends of the collar-bars together within the sheath, and allow these ends of the bars to be separated, more or less, to accommodate the collar to the horse.

The sheath C is intended to prevent displacement of the lower ends of the collar, and to afford a stiff connection.

In practice, a spring latch, or a pin, or other suitable device, may be employed to keep the lower ends of the collar separated at the required distance apart after adjustment.

As a modification of my invention, in order to use lighter or thinner pieces of wood, and thus make available waste strips in the construction of horse-collar bars, I may take two or more pieces of wood and bend the same into shape by the same processes as herein described, and glue them together after being thus bent, and then chamfer off or shape down the bent mass.

Having described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. Wooden collar-bars, when said bars are steamed and bent in the manner substantially as described.

2. The curved straps B B B′ B′, united by the pintle *b*, adapted for the upper stays and joint of the collar-bars, and also as a support for the terrets, all in the manner described.

3. The sheath C and buckle D on one end of one of the collar-bars, in combination with the loop *o* on the other collar-bar, substantially as described.

WILLIAM J. THORN.

Witnesses:
J. N. CAMPBELL,
EDM. F. BROWN.