F. B. MORSE.

Thill Coupling

No. 108,928. Patented Nov. 1, 1870

fig. 1.

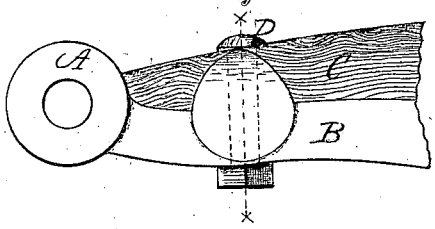



fig 2.

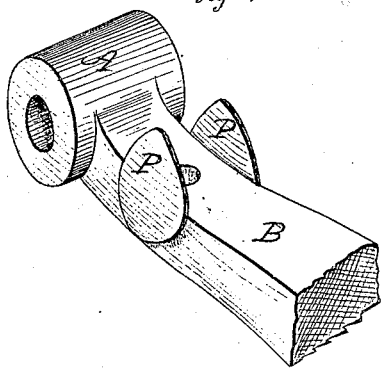
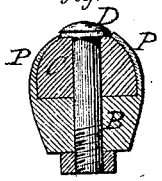



fig. 3.




Witnesses

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A. J. Tibbits

Francis B. Morse

Inventor

By his Attorney.

Thos. E. Ewell

# United States Patent Office.

FRANCIS B. MORSE, OF PLANTSVILLE, CONNECTICUT, ASSIGNOR TO himself and H. D. SMITH, & CO., OF SAME PLACE.

Letters Patent No. 108,928, dated November 1, 1870.

## IMPROVEMENT IN SHAFT-IRONS FOR CARRIAGES.

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, FRANCIS B. MORSE, of Plantsville, in the county of Hartford and State of Connecticut, have invented a new Improvement in Shaft-Irons for Carriages; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents in—

Figure 1, a side view of the shaft-iron, as attached to the shaft;

Figure 2, a perspective view of the article as prepared for the trade ready for use; and in

Figure 3, a transverse section on line $x\,x$ of fig. 1, illustrating the operation of the invention.

This invention relates to an improvement in the article of manufacture known to the trade as "shaft-irons for carriages," that is, the eye by which the shafts are attached to the shackle. These are formed into shape, and to them the shafts are fitted. The end of the shaft at the eye being worked down quite narrow, is liable to split, in consequence of the bolt which passes through it to secure the end of the shaft to the iron.

Another difficulty is the liability of the iron to break at the point where this first bolt passes through, for the iron at that point is nearly perpendicular, so that the draft or strain is nearly square across the iron.

The object of my invention is to construct the iron so as to afford a protection to that portion of the shaft, also to strengthen the iron at the first bolt; and

My invention consists in forming ears upon each side of the iron, extending up, so as to be closed over onto the shaft.

A is the eye, and

B, the shank of the iron, of the usual form.

Onto the top of the shank the shaft C is fitted, and secured by a bolt, D, passing through both the shaft and iron. The strain, consequent upon the use of the shafts, frequently splits the shafts at that point.

To avoid this, I form upon each side of the iron an ear, P, as seen in figs. 1 and 2, which is done in the process of forging, and are left perpendicular, as seen in fig. 2.

The consumer, after having fitted the shaft C, strikes the ears P down onto the shaft, as seen in fig. 3, the ears being of sufficient strength to sustain the shaft against the lateral strain and prevent the splitting of the shaft, and, at the same time, strengthen the iron at the same point, which is where the iron is most liable to break.

I claim as my invention—

As an improved article of manufacture, shaft-irons having the ears P P formed thereon, and so as to be closed down onto the shaft, as herein set forth.

F. B. MORSE.

Witnesses:

A. J. TIBBITS,

J. H. SHUMWAY.