S. B. HARMON.

Carriage Thill.

No. 74,820. Patented Feb. 25, 1868.

Fig. 1.

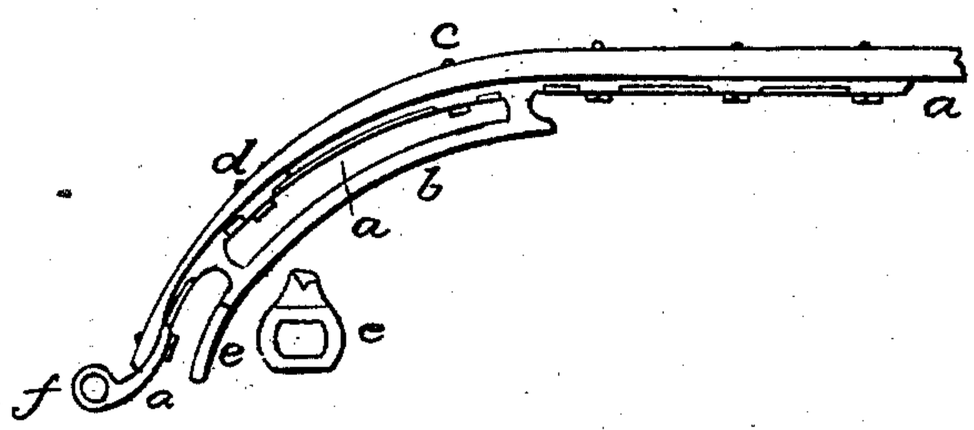
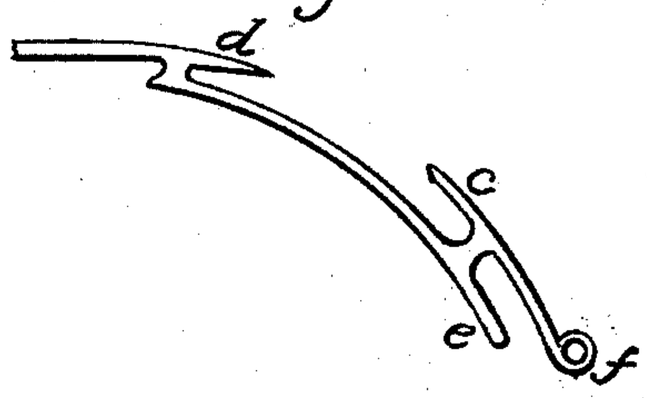


Fig. 2.



Witnesses:

Wm. H. Clifford

Jno. Franck Lacey

Inventor:

Silas B. Harmon

United States Patent Office.

SILAS B. HARMON, OF PORTLAND, MAINE.

Letters Patent No. 74,820, *dated February* 25, 1868.

IMPROVEMENT IN CARRIAGE-THILL.

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, SILAS B. HARMON, of Portland, county of Cumberland, State of Maine, have invented a new and useful Improved Carriage-Thill; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of a carriage-shaft or thill with my invention attached.

Figure 2 shows another form of my invention from that seen in fig. 1.

The object of my invention is to provide an improved method of strengthening the curved part of the thill or arm next to the axle.

My device is an additional security against the straightening of this curved part, and at the same time may be made very ornamental in the hands of a skilful iron-worker or painter, so as to add to the elegance as well as utility of a vehicle. I effect this by adding to the shaft-iron, which is commonly bolted to the lower side of the arm or thill, a projecting brace so arranged as to receive the greater part of the strain of the thill either in backing or drawing the carriage. I also do away with the necessity of bolting the shaft-iron to the shaft at the curved and weakened part thereof. As now made, bolts have to be passed through this iron and the thill in order to unite them closely, thus materially weakening the shaft at this point, by the bolt-holes; and it is frequently the case that with a heavily-loaded vehicle, the arm is either more bent in backing, or somewhat straightened in drawing. This is rendered less likely by the use of my invention. Reference to the drawing will explain my improvement.

In fig. 1 at *a* is the shaft-iron now in common use. *b* is the brace, which I add to the same. One end of it is attached at the point where the curved part of the thill commences, and the other near the end of the thill nearest the axle. This brace is somewhat less curved than the thill itself, so as to receive any strain almost directly in the direction of its length, and, with the exception of the points of connection with the iron *a*, is separated from the shaft. The brace is either bolted to the shaft-iron, or else forms a part of the same by being welded thereto.

Another form of my invention is seen at fig. 2, where the portion of the shaft-iron between the bolts *c* and *d* is omitted, and is well designed for light vehicles, sleighs, or carriages, in which case it answers the purpose of combined elegance and strength, and adds strength without additional weight. The lower extremity of the brace is formed into a loop, *e*, to receive a safety-strap. The unequal length of the thills—occasioned by one of them straightening at its curved part more than the other—is obviated by my invention. When this accident occurs it has the same effect as if the axle were sprung, viz, one wheel runs in advance of the other. This is a serious impediment to the easy movement of the carriage. The firmness which my brace produces renders this of much less frequent occurrence. Indeed, the straightening of one shaft more than the other is nearly impossible.

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

The thill-brace *b*, when applied substantially as and for the purposes set forth.

SILAS B. HARMON.

Witnesses:

W. H. CLIFFORD,

WM. FRANK SEAVEY.