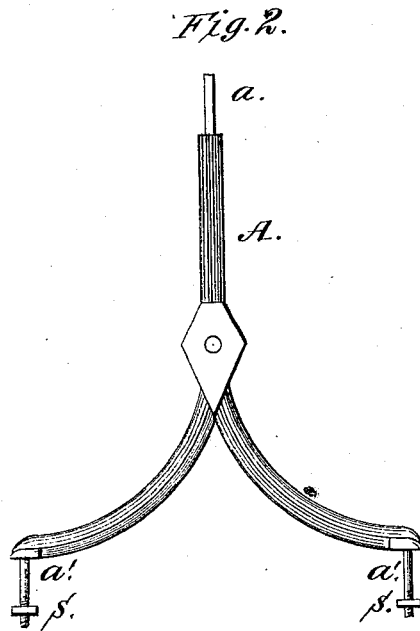
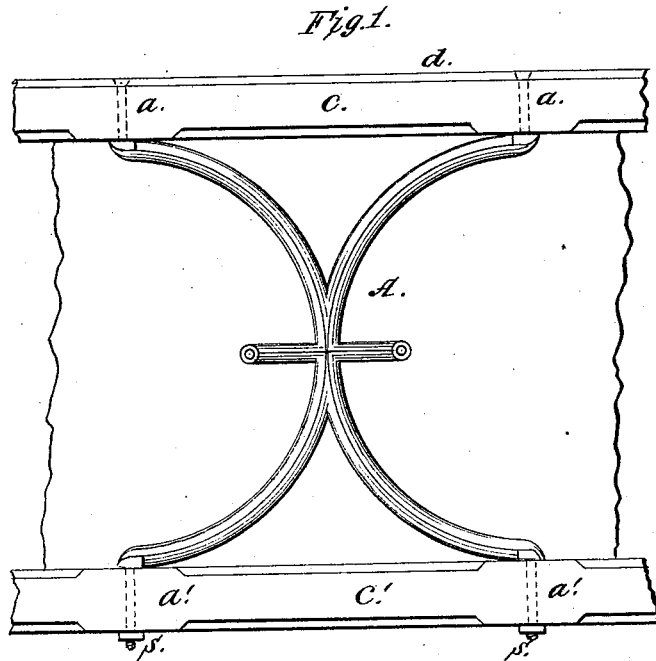


C. SPENCER.
Stud for Wagon-Bodies.

No. 163,894.

Patented June 1, 1875.



Witnesses:

*James E. Arnold
W. H. Johnston*

Inventor:

*Charles Spencer
By Atty
Benjamin Arnold*

UNITED STATES PATENT OFFICE.

CHARLES SPENCER, OF EAST GREENWICH, RHODE ISLAND.

IMPROVEMENT IN STUDS FOR WAGON-BODIES.

Specification forming part of Letters Patent No. **163,894**, dated June 1, 1875; application filed March 18, 1875.

To all whom it may concern :

Be it known that I, CHARLES SPENCER, of East Greenwich, in the county of Kent and State of Rhode Island, have invented certain Improvements in Studs for Carriage and Wagon Bodies, of which the following is a specification:

This invention consists in making a stud or support for the sides of carriages and wagons of malleable iron, with projecting pins or bolts at the upper and lower ends of the studs, to fasten the top and bottom rail to, these pins or bolts being cast or formed of one piece with the stud itself.

Figure 1 is an elevation of a part of the side of a wagon, showing the stud in place. Fig. 2 shows a different form of the stud.

A is the stud. *c* is the top rail of the wagon-side, and *c'* is the lower rail. *a a* are the projecting pins. *d* is a metallic strap surmounting the top rail, and through which the pins *a a* project, and are riveted to secure the rail. The lower pins *a' a'* have screw-threads

cut on them, with nuts *s* to secure the lower rail.

The lower pins may be riveted over washers, or in like manner as the upper ones, if preferred; but from their position it is easier to put screw-nuts on them, and they may be readily tightened if the rail shrinks, or removed if repairs are needed.

The contour and ornament of the studs may be varied to suit the taste, and the number of the projecting pins may be increased or diminished, as more or less strength may be required.

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

As a new article of manufacture, a stud for wagon-bodies, made of malleable metal, in one piece with the projecting pins *a a'*, substantially as set forth.

CHARLES SPENCER.

Witnesses:

GREEN A. SWEET,
NATHANIEL G. CARPENTER.