

ORRIN C. BURDICK.

Improvement in Carriage Bolts.

No. 119,309

Patented Sep. 26, 1871.

Fig. I.

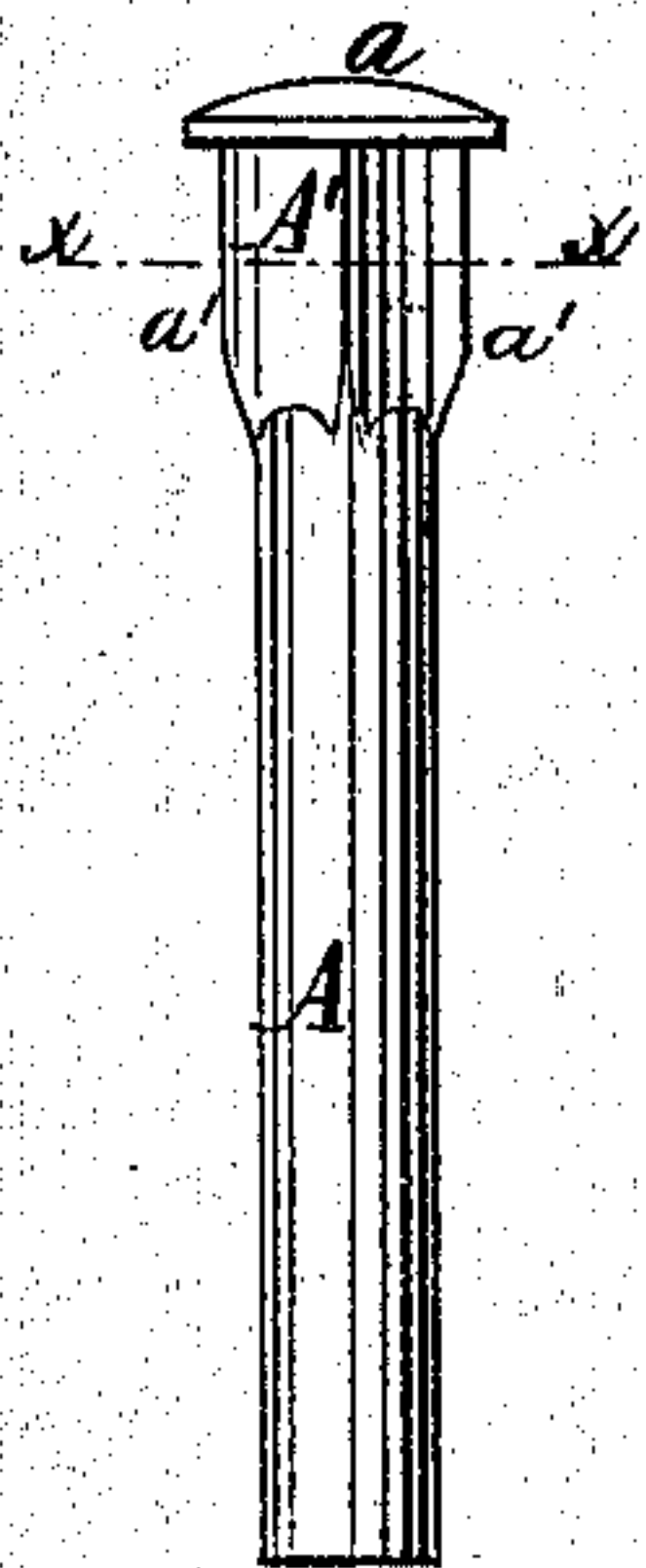


Fig. II.

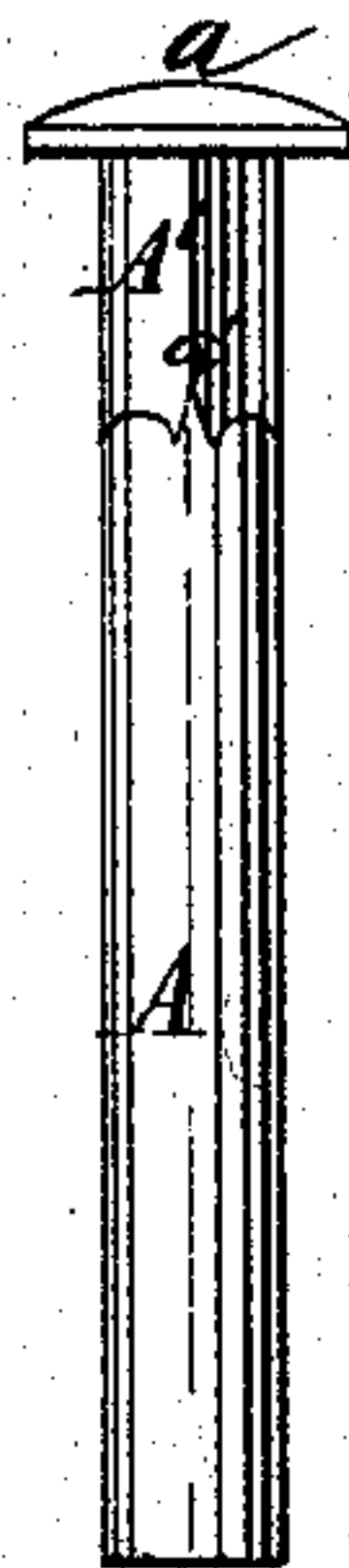
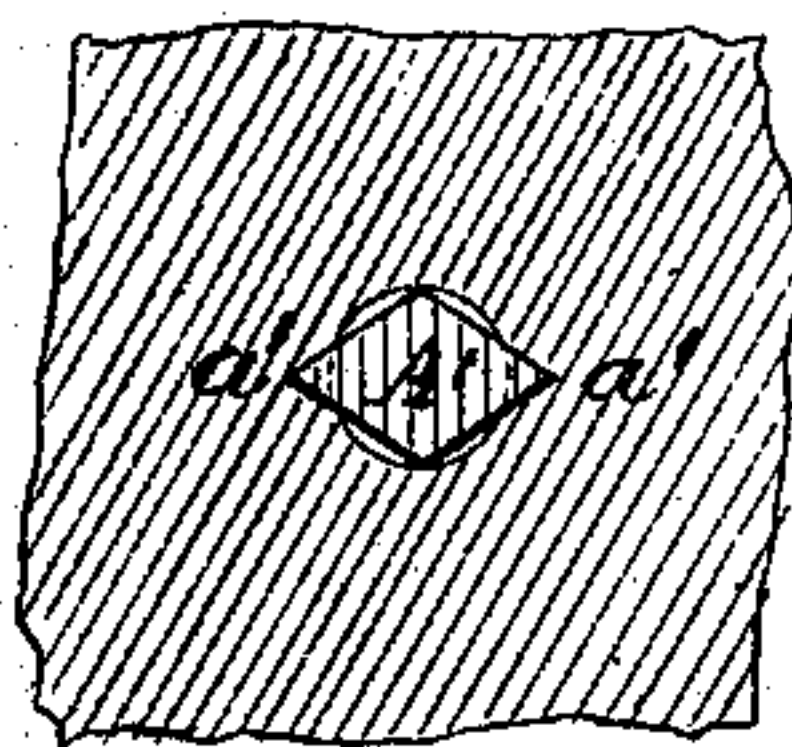


Fig. III.



Jno. J. Bonner
Edward Wilhelm } Witnesses

Orrin C. Burdick Inventor
by Jay Heyatt Atty.

UNITED STATES PATENT OFFICE.

ORRIN C. BURDICT, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO PLUMB & BURDICT.

IMPROVEMENT IN CARRIAGE-BOLTS.

Specification forming part of Letters Patent No. 119,309, dated September 26, 1871.

To all whom it may concern:

Be it known that I, ORRIN C. BURDICT, of the city and county of New Haven and State of Connecticut, have invented an Improvement in Carriage-Bolts, of which the following is a specification:

My invention relates, as an improvement, to a prior invention, for which Letters Patent of the United States were granted to me September 3, 1867, to which reference is here made for a description thereof. The present invention, as well as my former one, relates to that class of bolts commonly known as carriage-bolts. Previous to my aforesaid invention the neck of these bolts were made square to prevent them from turning in the wood while the nut was being screwed on. To form this square neck, which in cross-section was required to be of greater area than that of the round portion or body of the bolt, square iron was sometimes used, in which case the rod was required to be drawn down in forming the body. In other cases round iron has been used, when a portion of the rod is upset to increase its cross-sectional area. To avoid the labor involved in these methods of construction my former invention consisted in forming a rib on one or more sides of the bolt in a peculiar manner, as shown in my said patent. This rib (or ribs) penetrates the wood as the bolt is driven in place, and thus holds the latter from turning. This mode, however, was found objectionable in practice, owing to the expensive nature of the dies and unfinished appearance of the bolt when completed. The construction described in this specification was afterward adopted, and has since been employed with the most satisfactory results. My present invention consists of an improved bolt, made from round iron, of the required size of the body of the bolt, the neck of which in cross-section is of the shape of a rhombus or diamond, and is formed by swaging this portion of the blank between suitable dies, whereby the longer diameter of the rhomb thus formed is made to exceed that of the cylindrical portion of the bolt without requiring any

increase in sectional area, thereby forming two projecting edges, which extend sufficiently beyond the periphery of the body of the bolt to securely hold the latter against turning.

In the accompanying drawing, Figures I and II are views in elevation of my improved bolt at right angles to each other. Fig. III is a cross-section through the neck thereof on line *xx*, Fig. 1.

Like letters designate like parts in each of the figures.

A is the body or cylindrical portion of the bolt as it is cut from the rod; *a*, the head, formed in any usual manner; A', the neck thereof, of rhombus form; and *a' a'*, the projecting edges or angles at opposite sides, formed by simply compressing the portion of the blank designed for the neck between suitable and plainly-formed dies.

The dies, being plain, are of much cheaper construction and more durable in use, which enables bolts of the form hereinbefore described to be more cheaply made than by the former method. The bolts are adapted to fit in square holes formed in metallic plates by inserting them with the longer diameter in line of the diagonal of the hole. The form of the neck is such as to give the greatest strength, and, at the same time, greatest projection to the acute angles, which is a matter of importance when used in wood or other material where the bolt is liable to rust. It also presents a neat and finished appearance. Slight advantages, in an article which is manufactured at a cost but a trifle above the cost of the iron, become of comparatively great importance by reason of the low price at which the article must necessarily be produced.

What I claim is—

A carriage-bolt, consisting of a cylindrical portion A and diamond-shaped neck A' *a' a'*, formed by simply swaging a portion of the bolt-blank, as hereinbefore set forth.

O. C. BURDICT.

Witnesses:

JOHN J. BONNER,
JAY HYATT.

(45)