(No Model.)

B. C. QUINBY.

WOOD SCREW.

No. 374,701. Patented Dec. 13, 1887.

Fig. 1.

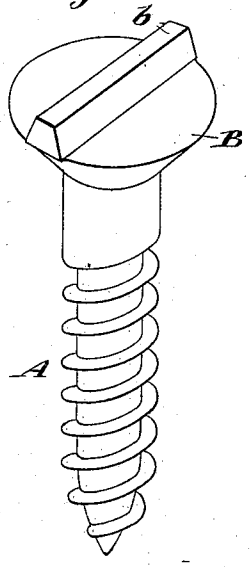


Fig. 2.

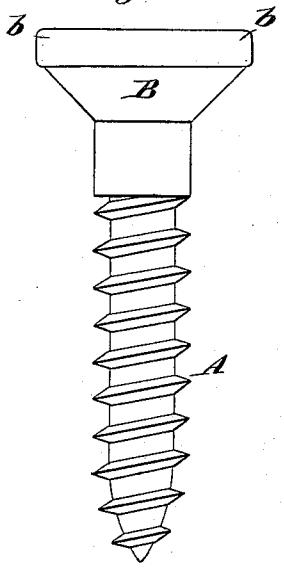


Fig. 3.

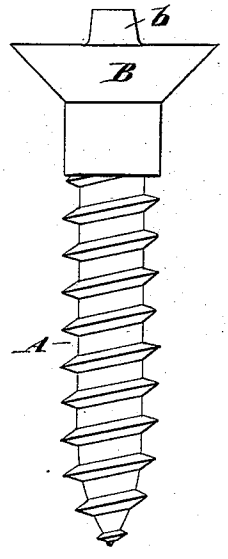
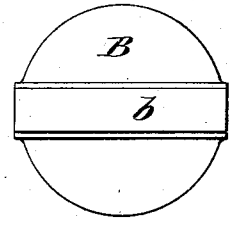


Fig. 4.



Witnesses:
W. Burroughs,
W. E. Chandler

Inventor:
Byron C. Quinby
by his attorney
Thomas Drew Stetson

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

BYRON C. QUINBY, OF PLYMOUTH, MASSACHUSETTS.

WOOD-SCREW.

SPECIFICATION forming part of Letters Patent No. 374,701, dated December 13, 1887.

Application filed August 11, 1887. Serial No. 246,698. (No model.)

To all whom it may concern:

Be it known that I, BYRON C. QUINBY, of Plymouth, in the county of Plymouth and State of Massachusetts, have invented a certain new and useful Improvement in Wood-Screws, of which the following is a specification.

My invention relates to certain improvements in wood-screws; and its object is the production of a screw that can be driven into hard wood without injuring the screw.

I have discovered that by acting on the screw-blank in the manufacture of the screw with a heading-die having a deep cross-groove sufficiently long to extend across the whole of the head a large proportion of the metal of the head will, under the action of the several dies, be forced into such groove, forming a stout ridge across the top of the head and extending somewhat beyond the boundary of the head proper. By the ridge or cross-bar thus cheaply formed the screw can be acted on by a proper instrument and turned with unusual force without danger of splitting the screw. It is easy to give the operating-tool any degree of strength required.

The accompanying drawings form a part of this specification.

Figure 1 is a perspective view. Fig. 2 is a side elevation. Fig. 3 is an elevation at right angles to Fig. 2. Fig. 4 is an end or top view.

It is a well-known fact that the ordinary screw, having a score milled across the head, when driven into hard wood, is likely to split at the head, as there is not enough metal on the sides of the groove to withstand the force required to drive it into the wood. When such screw becomes rusty or old, the head is also likely to split in removing it from the wood. In many operations where a screw is used it is desirable to drive it with a hammer, in which case one side or edge of the screw-head is liable to receive the main force of the blow, and in such case that side is knocked off, leaving a mutilated screw, which is very troublesome to remove. My screw, as will be seen, has a cross-ridge upon its head, and is driven by a tool having a cross-grooved end, into which the ridge on the screw-head fits.

Referring to the drawings, A is the body; B, the head, and *b* the cross-ridge on the upper face of the head.

This screw may be started into the wood by blows from a hammer without injuring it, as the ridges *b b* protect the thin edge of the screw-head B, and presenting a strong bearing at the crossing-point in line with the center of the screw the force of the blow is received and supported at the point of greatest resistance.

In the drawings but a single cross-ridge is shown; but it is obvious that more may be employed. I therefore do not confine myself to the use of one cross-ridge; but if more are used a tool having more cross-grooves must be used.

I have employed my screw to great advantage in the construction of wood wheels. I use them on each side of the spoke in the felly to prevent the felly from splitting, and as the wood used in the construction of wagon or carriage wheels is very hard ordinary screws with slotted heads cannot be used without first boring large holes in the wood to receive them. Otherwise the head of the screw would be split by the force required to make it enter the wood. The cutting or boring of such hole removes so much of the timber as to materially weaken it, and the screw does not hold as strongly as it would if forced into the wood more tightly. A small hole may be bored in very hard wood when my screw is employed.

The cost of making my screw is but little, because the die that forms the blank forges the elevation or projection at the same time the head of the screw is formed, while in the ordinary slotted form the head of the screw-blank is first "shaved" and afterward "slotted" or "grooved." This requires two operations and special tools or machinery to accomplish the end desired.

My screw being not only better but also

cheaper than ordinary screws, the work upon which it may be employed will also be improved and cheapened.

I claim as my invention—

1. A wood-screw having a cross-ridge, *b*, raised on the upper face of the head, adapted to serve as herein specified and described.

2. A V-threaded gimlet-pointed wood-screw having a cross-ridge, *b*, raised on the upper surface of the head, adapted to serve as herein specified and described.

In testimony whereof I have hereunto set my hand, at New York city, this 10th day of August, 1887, in the presence of two subscribing witnesses.

BYRON C. QUINBY.

Witnesses:
WM. C. QUINBY,
H. A. JOHNSTONE.