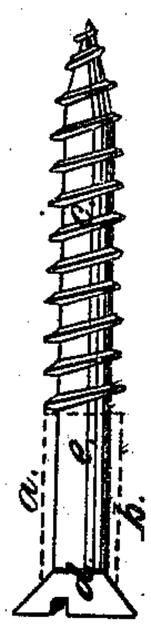
C. MILLER.

WOOD SCREW.

No. 26,509. Patented Dec. 20, 1859.



Witnesses:

Wm Baker.

Charles Barnum.

Inventor:

Charles Millar

UNITED STATES PATENT OFFICE.

CHARLES MILLAR, OF UTICA, NEW YORK.

WOOD-SCREW.

Specification of Letters Patent No. 26,509, dated December 20, 1859.

To all whom it may concern:

Be it known that I, CHARLES MILLAR, of the city of Utica, in the county of Oneida and State of New York, have invented a new and useful Improvement in Wood-Screws; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in reducing the diameter of the shank of the screw, or that part of the wire, or bolt of which the screw is formed, which lies between the threaded portion, and the head of the screw. In other words: In so constructing the screw that the shank, or that part above the thread, will follow the hole made by the stem or base of the screw without objectionable friction.

In the construction of wood screws, the thread is formed by turning out the intermediate spaces between its convolutions and leaving the diameter of the threaded part—measuring from outside to outside of the thread,—and that of the shank, which lies between the threaded part and the head—of equal diameter. In driving such a screw the thread makes a spiral trench or incision beyond the circumference of the stem; but the clear perforation left for the entrance of the shank is only of the size of the stem or cylindrical base of the thread. When the shank of such a screw reaches the wood in driving and care is not taken to enlarge the orifice for its entrance there is more or less difficulty in forcing it down; and the great friction occasioned by the process draws severely upon the fibers of the wood which lie between the coils of the screw thread, thereby greatly weakening the hold of the screw. To guard against this friction, a larger gimlet is sometimes used to enlarge the outer part of the orifice. But in the use of the gimlet pointed screw where many of the smaller sizes are driven in soft wood without the use of either gimlet, or brad awl, this enlargement cannot always be made; and the screw is necessarily forced down against all obstructions. My invention entirely obviates all these difficulties. I turn off the shank of the screw to the size, or nearly to the size of the stem, leaving it a close fit to the orifice made by the stem of the screw.

Figure 1 in the anexed drawing is a representation of my improved screw. It is made of a wire of the diameter of the threaded part of the screw as here shown, the thread included, the original diameter of the wire for the shank being indicated by the dotted lines *a*, and *b*. I turn off or reduce this part of the wire, making the shank *e*, equal in diameter with that of the stem *c*, or nearly so. It is evident that this screw may be driven quite down to the head *d*, without any objectionable friction, and that little or no obstruction to the sinking of the head into the wood will be offered by reason of the crowding of the shank of the screw in its orifice, by means of which the screw itself is unharmed by the process of driving and its hold on the fibers of the wood is unimpaired.

It is obvious that this improvement is applicable to all wood screws, without regard to their size, to the character of the thread or the point of the screw.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is:

The construction of wood screws, having a shank; or that portion of the wire lying between the thread, and the head of the screw, reduced in its diameter, so that without any enlargement of the orifice beyond that made by the stem, the screw may be driven home without increase of friction at the shank, and without injury to the screw, or to the hold thereof upon the fibers of the wood, as herein described.

CHARLES MILLAR.

Witnesses:
WM. BAKER,
CHARLES BARNUM.