

(No Model.)

J. D. SMITH.
Screw.

No. 240,780.

Patented April 26, 1881.

FIG. 2.

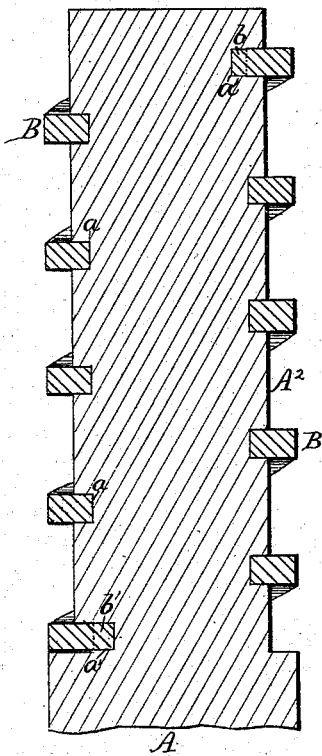


FIG. 1.

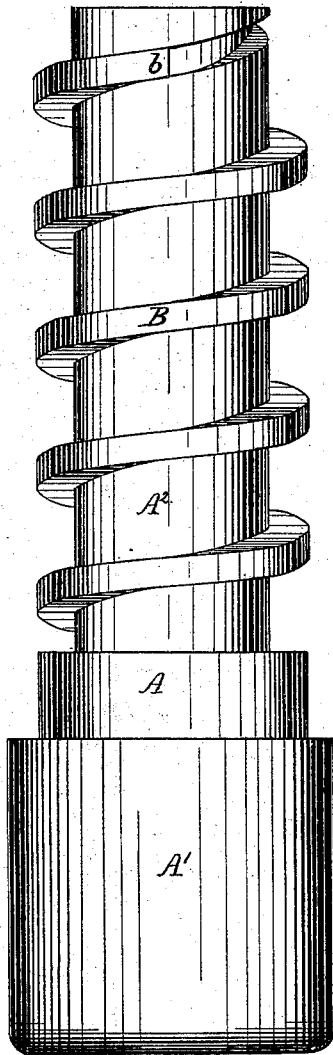
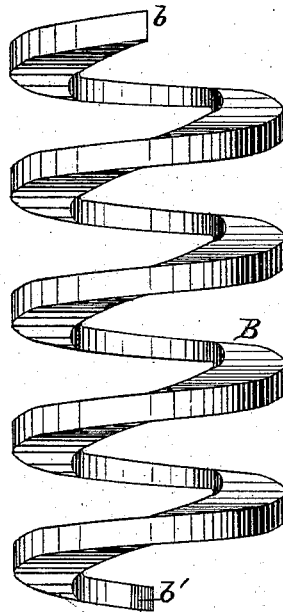


FIG. 3.



WITNESSES:

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INVENTOR:

Jno. Dawson Smith
BY *[Signature]*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN D. SMITH, OF FAYETTEVILLE, NORTH CAROLINA.

SCREW.

SPECIFICATION forming part of Letters Patent No. 240,780, dated April 26, 1881.

Application filed October 18, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN DAWSON SMITH, of Fayetteville, in the county of Cumberland and State of North Carolina, have invented a new and Improved Screw; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates more particularly to screws heretofore made entirely of wood and used to operate the vise-jaws of carpenters' benches, but which by my improved construction may be used for many purposes, such as for cider-presses, cotton-gins, and whenever a strong cheap screw is employed.

The object of my invention is to make the thread of the screw in an extremely cheap and simple manner and of sufficient strength to resist all strains that may come upon it, and that will be more durable, more efficient, and more easily operated than wood-screws of the usual construction.

To these ends my invention consists in forming a screw by winding a metal rod spirally around a cylindrical wooden body, and securing the two together by embedding the rod—which constitutes the thread of the screw—in the wood, as hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of a section of screw made according to my invention; Fig. 2, a central longitudinal section thereof, and Fig. 3 an elevation of the metal screw-thread detached.

The stock A is made of hard wood, and is of any required shape at its end to suit the purpose for which it is to be used, but in most cases has an enlarged head, A', through which a handle may be passed to operate it, and has a cylindrical portion, A², around which the metal thread B is secured. This may be done in various ways—as, for instance, the cylindrical portion A² of the stock may be cut with a spiral depression, a, of a pitch to correspond with that of the thread, into which depression the metal thread B may be screwed on from

the end of the stock, or into which it may be placed by wrapping it around the stock as the coil is made by suitable bending machinery. The thread B is preferably made of iron or steel, and may be shaped in cross-section to the established form for screw-threads, or it may be simply made of a rectangular bar. The ends b b' of the bar or thread-coil are turned or bent in radially to enter holes a' in the bottom of the depression a, by which means, together with the spiral depression, the thread is securely held in place upon the stock.

Another mode of securing the thread to the stock in a simpler manner, and by means of ordinary shop appliances, without the employment of a screw-cutting lathe to form the depression a, is by first coiling the rod to the required shape and then reheating it to a very high heat to expand it sufficiently to allow it to pass snugly over the cylindrical portion A² of the stock. The coil is then allowed to cool, and will burn the wood and shrink until it has embedded itself into the stock a sufficient distance to be firmly held upon the stock.

The nut into which the screw fits may be made to conform to the thread of the screw in the usual manner, and will work more freely upon it than if the thread were made of wood, as it is well known that the friction between wood and iron is less than the friction between wood and wood.

Other modes of securing the thread to the stock may be employed without departing from the spirit of my invention.

What I claim as new is—

A screw for a carpenter's bench-vise which consists of a cylindrical wooden body and a metal rod coiled spirally around it and partly embedded in its surface, as specified.

JOHN DAWSON SMITH.

Witnesses:

W. L. HAWLEY,
CHAS. GLOVER.