J. D. SMITH.

Needle-Board for Registering Bank-Notes and other Prints.

No. 163,271. Patented May 11, 1875.

Fig. 1.

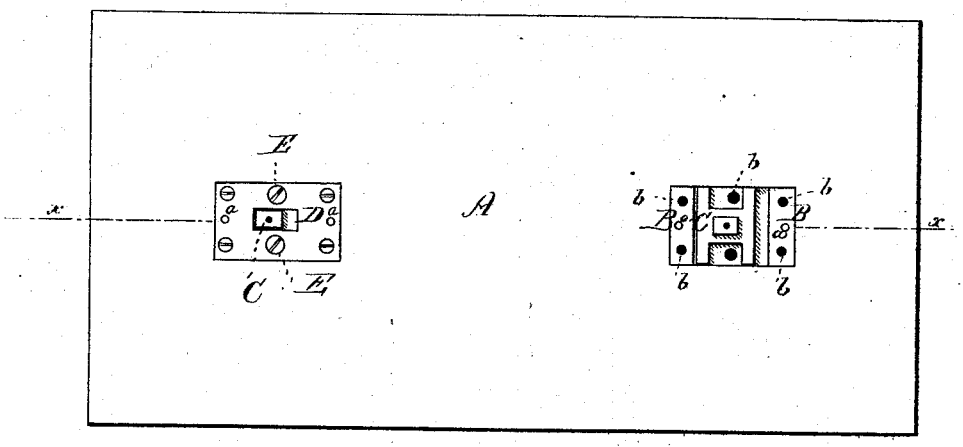


Fig. 2.

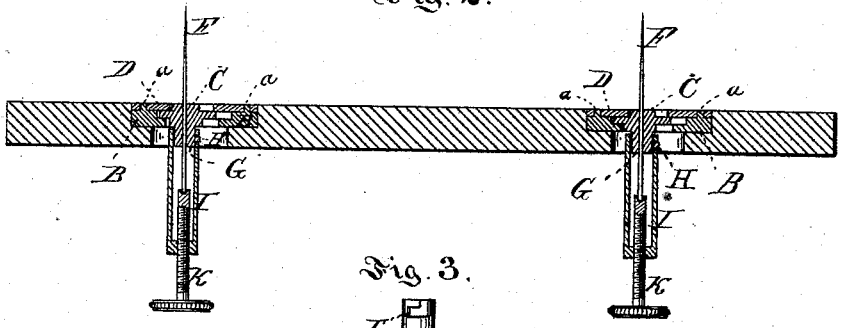
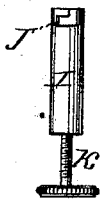


Fig. 3.



Witnesses:

T. C. Smith

Wasny Alleman

Inventor:

James D. Smith

By atty Wm C. Whittemore

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JAMES D. SMITH, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN NEEDLE-BOARDS FOR REGISTERING BANK-NOTES AND OTHER PRINTS.

Specification forming part of Letters Patent No. **163,271**, dated May 11, 1875; application filed February 12, 1875.

To all whom it may concern:

Be it known that I, JAMES D. SMITH, of Washington, in the county of Washington and District of Columbia, have invented certain new and useful Improvements in Needle-Boards; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification.

My invention relates to a novel construction of "needle-boards" for registering bank-notes and other prints. It has for its object to make the needle-points adjustable vertically and longitudinally within their bearings; and consists in providing the board with metal sockets for containing the needle, adapted to be adjusted longitudinally under a clamp-plate, and provided on the under side with a removable tube, in which is arranged a screw having a hole or socket designed to receive the butt of the needle, and by which it may be adjusted vertically, as will be hereinafter more fully set forth.

Previous to my invention it has been customary to form a needle-board by simply determining, first, the desired points of register thereon for any given purpose, and then driving the butt of the needle into the board a sufficient distance to maintain it in a vertical position. The disadvantages of this kind of needle-board are, that great accuracy is necessary in erecting the needles, and if any change is desired it can only be accomplished by removing a needle from the board and again placing it with expertness, and where it is intended to impale upon the needles any considerable number of notes or sheets the needles must extend above the board to such an extent that their slender height induces to an irregularity in the location of their points; or, in other words, they bend and shake to such an extent as to render the impalement of any considerable number of sheets inaccurate.

My invention overcomes all these objections and renders the needle-board absolutely certain, even in the hands of inexpert operatives.

In order that my invention may be better understood, I will proceed to describe its construction and operation, referring by letters to the accompanying drawings, in which—

Figure 1 is a top view of a needle-board provided with my improvements; Fig. 2, a vertical section at the line *x x*, Fig. 1; and Fig. 3, a plan view of device for producing the vertical adjustment of the needles.

Similar letters indicate like parts in the several figures.

A represents the ordinary board, cut away at either end to receive a bearing-plate, B, which is let into the board and countersunk below the top plane thereof. C is the needle-socket, provided with a solid central portion, having a hole bored through it vertically to receive the needle, and flanged sides and ends to lie upon the metal bed-plate or bearing B, which is cut away centrally, so as to allow the socket C to move therein longitudinally a limited and proper distance, the board being also so cut away as to permit this movement. The construction of the socket-piece is clearly shown in a top view at the right-hand end of Fig. 1, and in section at Fig. 2. The bearing-plate B has upwardly-projecting teats *a a*, upon which a top or covering plate, D, with corresponding holes or depressions, drops. The plate D is secured in position by two or more screws, E, which, passing through holes *b* in the bed-plate B, also secures it in position, the socket-plate C being cut away, as shown at Fig. 1, so that its longitudinal movement will not be prevented by the said screws. When the screws E, and especially the two central ones, are screwed down firmly, the flanges of the socket-plate C are firmly clamped between the bed plate or bearing B and covering-plate D; but, when desirable to adjust the socket C, carrying the needle F, longitudinally, the screws E are loosened and the socket readily moved, when, the screws being again tightened, the needles are fixed. The socket-plates C are provided on the under side with a cylindrical hub, G, having a projection or key, H, adapted to secure and hold the tube I by the bayonet-socket J. Within the tube I is a screw-rod, K, adapted to be run up and down by a screw-thread through the bottom of the tube. The upper end of this screw-rod K has a central bore or socket, into which the butt-end of the needle may penetrate, so that when the screw-rod K is withdrawn or run out partially, as shown in Fig. 2, the needle F may be forced down, so that but a short

point protrudes above the surface of the board, and is consequently more rigid and less liable to vibration. As the sheets are registered upon the needles, the latter may be "set" up by the screw-rods K, and the impaling of the sheets be continued, those already impaled accurately serving as a means to steady the needle as its protrusion above the board is increased.

Of course I do not wish to limit myself to the exact construction and design as shown, as a variation in the details may be made without departing from the spirit of my invention; but

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

1. In combination with the needle-board and bearing-plate B, the needle-socket C and clamping-plate D, constructed and operating substantially as and for the purposes set forth.

2. In combination with the socket-plate C, having a hole through the same, the tube I and screw-rod K, whereby the needle may be adjusted vertically, substantially as and for the purposes described.

JAS. D. SMITH.

In presence of—
THOMAS H. RIDGATE,
VAN DEUSEN NAYLOR.