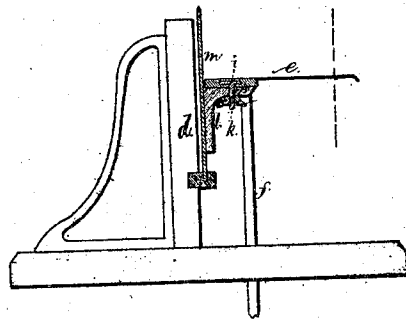


*F. H. Howe,  
Sewing Machine.*

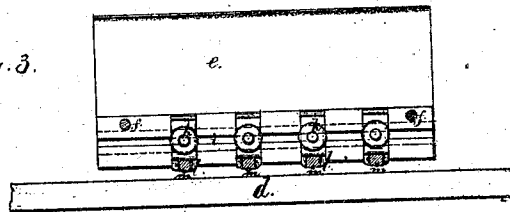
*No. 100407.*

*Patented. Mar. 1. 1870.*

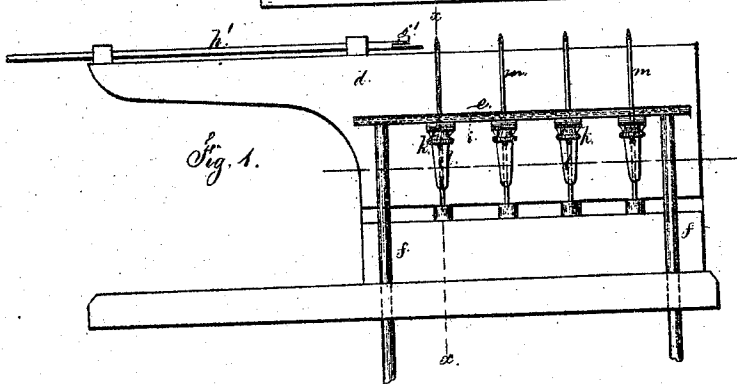
*Fig. 2.*



*Fig. 3.*



*Fig. 1.*



*Witnesses.*

*Chas. Smith  
Geo. D. Walden*

*F. H. Howe  
per L. W. Perrell atty*

# United States Patent Office.

FREDERIC WEBSTER HOWE, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO HENRY G. THOMPSON, OF NEW YORK CITY, AND REUNE MARTIN, OF ORANGE, NEW JERSEY.

Letters Patent No. 100,407, dated March 1, 1870.

## IMPROVEMENT IN MACHINES FOR SEWING BOOKS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, FREDERIC WEBSTER HOWE, of Providence, in the State of Rhode Island, have invented an Improvement in Machinery for Sewing Books; and the following is declared to be a correct description thereof.

This invention is an improvement upon the machinery for sewing books, patented June 8, 1869, No. 91,175, and a reference is hereby made to the said patent for a description of the parts that are used with my improvement and for the details of the construction and operation of the book-sewing machine.

In the before-named patent the folded and notched sheets of paper are laid upon a table, and this table rises as the table descends that receives the sewed sheets.

Needles are provided with eyes near the point, and they stand in a row contiguous to the descending table so as to occupy the notches in the folded edges of the sheets, and these needles receive through their eyes the cords or "bands" that are drawn into the said notches as the pile of sewed sheets is raised up to draw said pile off the stationary needles.

The thread is laid into the fold of the sheet in front of the needles by means of a traveling or reciprocating hook, and the sheet is folded over and pressed upon the pile on the receiving-bed by means of lifters or folders, as will more fully appear by reference to the said Letters Patent.

In practice it is found that the long slender needles that are made use of, are liable to bend and sometimes to break under the pressure to which they are subjected, as the pile of sewed sheets is being forced down upon the receiving-table and along the said needles.

My present invention relates to a device for supporting these needles and preventing them bending under the endwise pressure and strain to which they are subjected.

In the accompanying drawings—

Figure 1 is an elevation of the receiving-table, needles, and supports;

Figure 2 is a transverse section at the line  $xx$ ; and Figure 3 is an inverted plan of the receiving-table and needle-supports.

The receiving-table  $e$  is upon the standards  $f$  that contain rack-teeth, so that the table is moved by pinions, as in aforesaid patent, or otherwise.

The hook  $g'$  on the reciprocating bar  $h$  is illustrative of the correspondingly-marked parts in the aforesaid patent, and being fully described therein do not require further explanation.

Upon the under side of the receiving-table  $e$  are bars with an undercut groove,  $i$ , between them, receiving the heads of the bolts  $k$ , which bolts pass through elongated holes in the supporting-brackets  $l$ .

Each of these brackets  $l$  has a groove at one edge for the needle  $m$ , so as to support the needle below the table  $e$  and prevent said needle springing or bending. The plate  $D$  being contiguous to the needle, prevents the same springing away from the support  $l$ ; hence the needles are not as liable to be injured as in the machines heretofore constructed.

The supporting-brackets being secured by the bolt  $k$ , can be moved to any position corresponding to that of the needles and their clamps. These grooved supporting-brackets become guides that keep the needles in position for receiving the first sheets in commencing the sewing.

If the plate  $d$  was made with shallow grooves, the needles might be supported by the same in connection with brackets having flat edges instead of grooved edges, but I prefer the construction before described.

I claim as my invention—

The supporting-brackets  $l$ , connected adjustably to the receiving-table  $e$ , in combination with the needles  $m$ , substantially as specified.

Dated this 24th day of January, A. D. 1870.

F. W. HOWE.

Witnesses:

JAMES TILLINGHAST,

GEO. M. CARPENTER, Jr.