

G. A. BRADY.
Tension Device for Sewing-Machines.

No. 226,028

Patented Mar. 30, 1880.

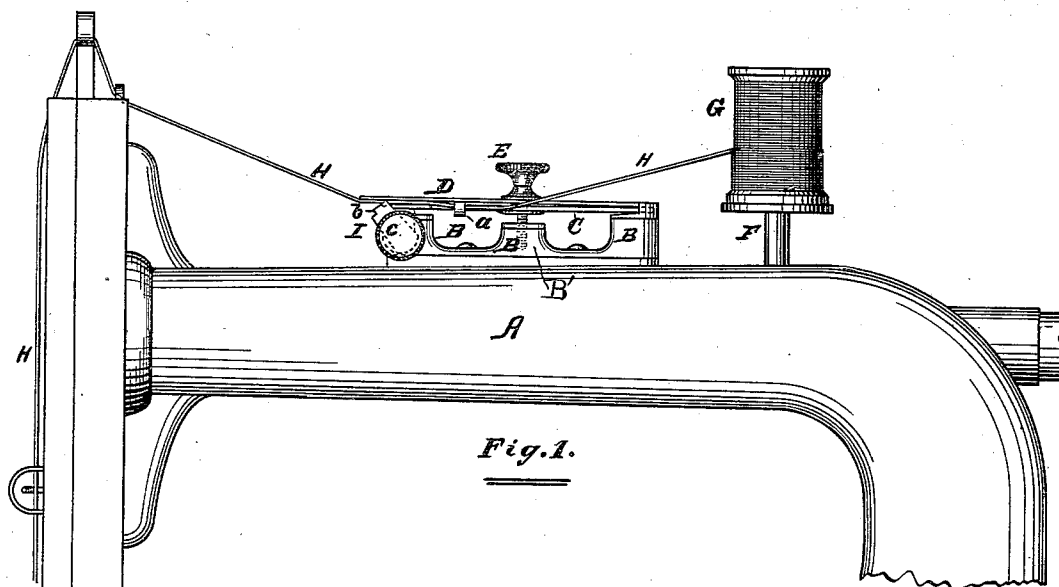


Fig. 1.

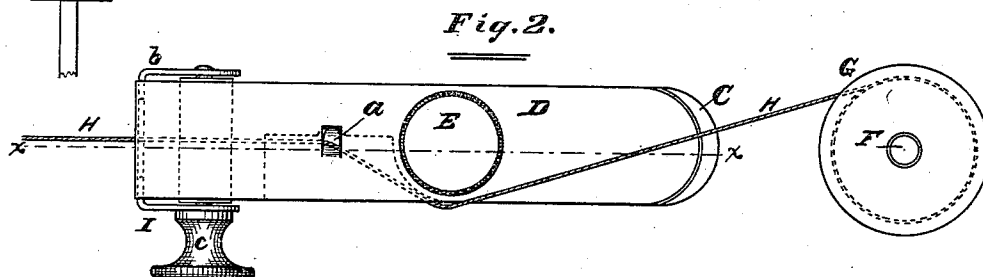


Fig. 2.

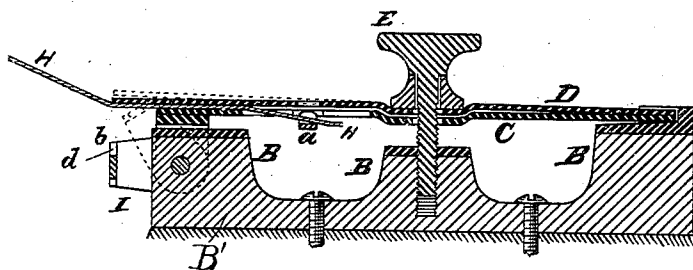


Fig. 3.

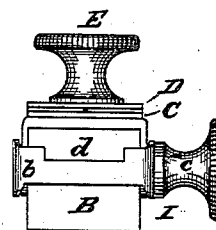


Fig. 4.

Attest:

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UNITED STATES PATENT OFFICE.

GILBERT A. BRADY, OF CHICAGO, ILLINOIS.

TENSION DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 226,028, dated March 30, 1880.

Application filed August 28, 1879.

To all whom it may concern:

Be it known that I, GILBERT A. BRADY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Tension Devices for Sewing-Machines, of which the following, in connection with the accompanying drawings, is a specification.

10 In the drawings, Figure 1 is a side elevation of a portion of a sewing-machine embodying my invention; Fig. 2, a top or plan view of my tension device; Fig. 3, a section in the plane of the line *x x* of Fig. 2; and Fig. 4 is an end view.

15 Like letters of reference indicate like parts.

A represents the arm of a machine, in connection with which a flat plate may be used as a tension. This machine may, for example, be such as the "New Home" or "Domestic."

20 B B are vertical projections, which are, by preference, made in one and the same block or piece, B', so as to adapt the tension to be applied to different machines and to old machines with facility; but these projections
25 may also be cast on or made in the same part or piece with the arm A. The central projection B is, by preference, the lowest, as represented.

30 C is a plate or bridge supported on the outer projections, B B, of a block, B', and secured thereto in any suitable way, and D is a plate overlying the plate C, and having thereon the tongue or finger *a*, made in the same piece therewith, and struck down there-
35 from so as to extend laterally and lie horizontally a little way below the lower face of the said plate, excepting, of course, at the point of junction of the tongue with its plate. The plate or bridge C is cut away below and about
40 the tongue *a*, as indicated in the broken or dotted lines in Fig. 2.

E is a thumb-screw resting on the plate D, and passing freely through slots or openings in the plates C and D, and entering the central
45 projection, B, which is screw-threaded to receive it.

F is the spool-holder; G, a spool, and H the thread. The spool-holder may or may not form a part of the tension-block.

50 To apply the thread to the tension the thread

should be passed between the plates C and D at their forward ends, then carried around until it slips underneath and past the tongue *a*, and then carried back until it is caught by the said tongue, as indicated in the drawings. 55 It may then be threaded in the usual manner.

To regulate the tension on the thread it is only necessary to depress or raise the screw E, when the forward end of the plate D will be brought down with greater or less pressure 60 toward the forward end of the plate C, between which parts the thread passes after leaving the tongue *a*, and the thread will thus be clamped with greater or less force between those parts, and the tension will be either 65 strong or weak according to the degree of pressure exerted upon the thread at that point, and that degree may be regulated by means of the screw E until the proper tension is obtained. 70

I is a tension-release, which I employ to release the thread without disturbing the screw E, so that the tension need not be altered each time it may be necessary to remove the thread. This tension-release consists of the crank arm or lever *b*, pivoted to or having a bearing in the forward projection B, and provided with a thumb-piece or handle, *c*, the vibrating part of the said arm being so arranged that it may be thrown up against the forward end of the plate D, so as to raise that end of the plate 80 enough to release the pressure upon the thread, as indicated by the dotted lines in Fig. 3. That end of the release I which is arranged to strike the plate D is notched, as shown at *d*, so as not to pinch the thread against the plate when the release of the thread is desired, and also so as to act as a guide for the thread, as is clearly indicated in Fig. 4; but only one of 85 the projections formed by the said notch will be sufficient to release the thread, though I deem it preferable to employ two to serve as a guide. To set the tension again it is only necessary to turn the arm *b* down or away from the plate D, when the same degree of tension 95 will be exerted upon the thread as before.

I am aware that the general structural plan of the tension now described is old; but the tongue *a*, so far as I am aware, has heretofore consisted of a separate piece or part applied 100

to the plate D, thus not only increasing the expense and trouble of construction, but also the difficulty of threading the tension.

I am also aware that various parts of sewing-machines have heretofore been provided with slotted eyes to facilitate threading. The central slot formed in the plate D by striking down the tongue *a* therefrom also enables the operator to view the thread for the purpose of ascertaining whether or not it lies on the tongue *a* and is properly threaded. I do not, therefore, here intend to claim the tension when provided with a tongue, *a*, broadly; neither do I here intend to claim, broadly, a crank arm or lever when employed as a release, as I am aware that a lever extended to the presser-foot bar has heretofore been employed to release the tension automatically by releasing the presser-foot; but,

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

1. The combination, with the block B', provided with projections B, of the plate C, the slotted plate D, having on its under face the downward and laterally extending tongue *a*, arranged directly underneath the slot in the said plate, and the screw E, substantially as and for the purpose specified.

2. The combination of the block B', provided with the projections B, the plate C, the slotted plate D, having on its under face the downward and laterally projecting tongue *a*, arranged directly underneath the slot in the said plate, the screw E, and the tension-release I, consisting of the crank-lever *b*, having one or more projections on its releasing end, and provided with a handle, *c*, substantially as and for the purposes specified.

GILBERT A. BRADY.

In presence of—

F. F. WARNER,
THOMAS McDONOUGH.