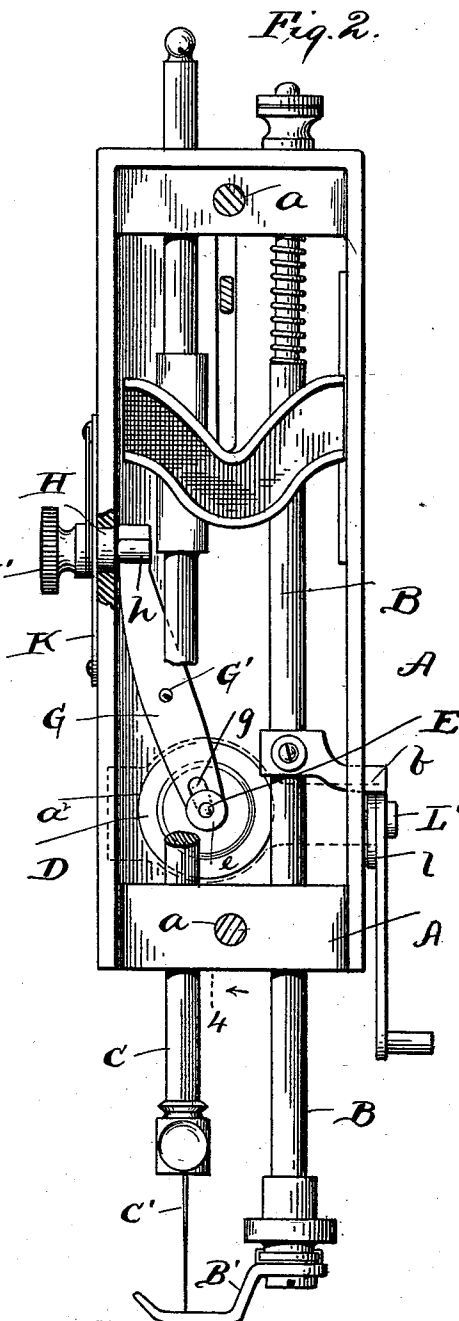
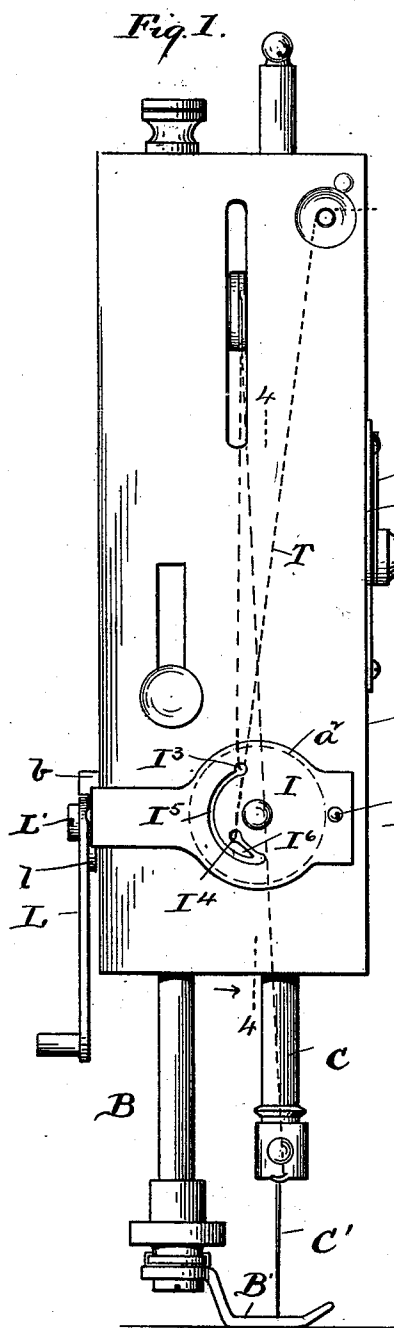


G. W. BAKER.

TENSION DEVICE FOR SEWING MACHINES.

No. 521,075.

Patented June 5, 1894.



Witnesses
E. P. Gilchrist
[Signature]

Inventor
George W. Baker
[Signature]
By [Signature] and [Signature]
[Signature]

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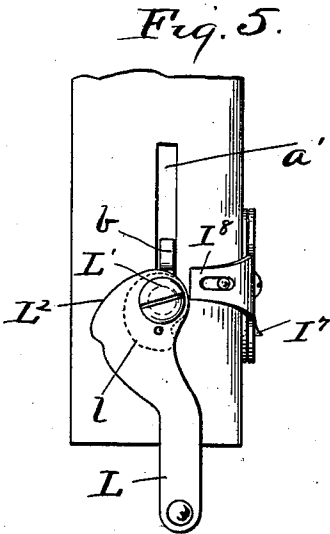


Fig. 4.

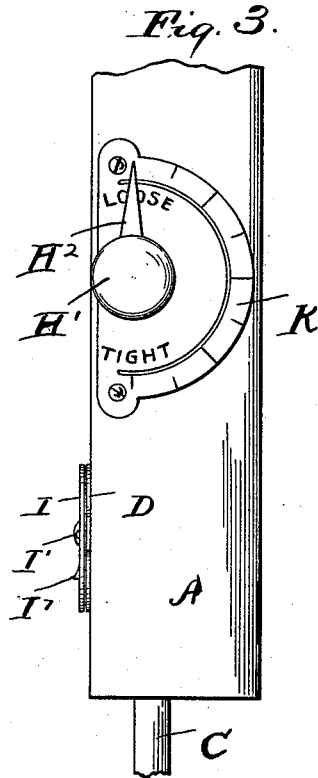
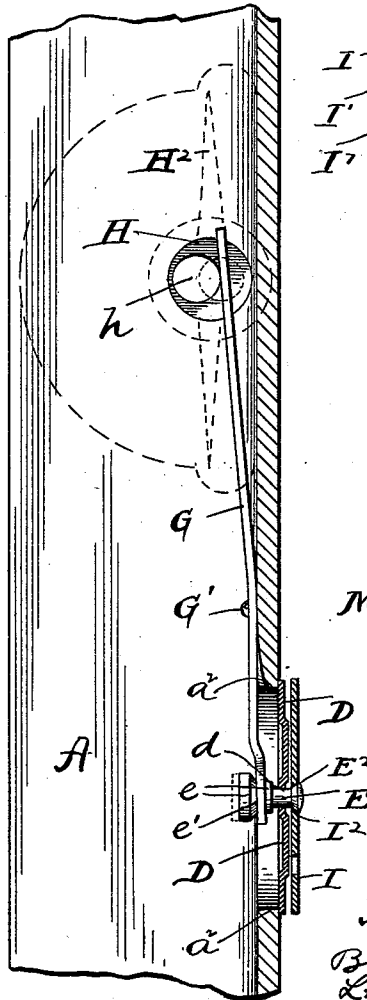
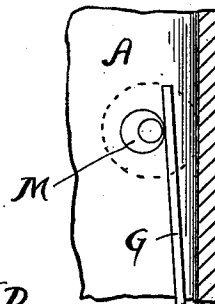


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE W. BAKER, OF CLEVELAND, OHIO, ASSIGNOR TO THE WHITE SEWING MACHINE COMPANY, OF SAME PLACE.

TENSION DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 521,075, dated June 5, 1894.

Application filed March 16, 1893. Serial No. 466,242. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BAKER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Tension Devices for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in tension-devices for sewing-machines; and it consists in certain features of construction and in combinations of parts hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is an outer side elevation of the supporting-casing of the presser-bar and needle-bar of a sewing-machine. Fig. 2 is an inner side elevation of the same, showing in section the screws for securing said casing to the overhanging arm or goose-neck of the head of a sewing-machine, portions being broken away and in section to more clearly show certain features of the construction. Fig. 3 is a front side elevation of a portion of the same. Fig. 4 is an enlarged section on line 4—4, Figs. 1 and 2, looking in the direction of the arrow, and showing all the parts removed excepting those involved in carrying out my invention. Fig. 5 is a rear side elevation of a portion of said casing, exhibiting the means employed for lifting the presser-bar and the means operatively connected with said presser-bar lifter for removing the tension from the thread upon the elevation of said lifter. Fig. 6 shows an enlarged view in detail, and partly in section, exhibiting a slight modification hereinafter described. Fig. 7 exhibits a slight modification hereinafter described.

Referring to the drawings, A represents the casing that supports the presser-bar and needle-bar, and that is adapted to be secured in the usual manner, by means of screws a , to the outer end of the overhanging arm or goose-neck (not shown) of the head of a sewing-machine.

B represents the presser-bar; C the needle-bar; B' the presser-foot, and C' the needle, said parts being arranged and constructed as heretofore.

To the outer side of casing A, preferably near the lower portion thereof, is rigidly secured, in any suitable manner, a plate or disk, D, and casing A adjacent said plate is slotted or open, as at a^2 . (See Fig. 4.) A pin, E, has suitable bearings in the central portion of plate or disk D, said pin extending easily through a hole, d , in said plate and being provided, at the inner side of disk D, with a pair of annular shoulders or collars, e , that are located a suitable interval apart to form an annular groove or recess, e' , that is straddled by the slotted end g of a lever, G, that is composed preferably of a thin elongated stiff but elastic plate or metallic strip and is pivoted or fulcrumed, as at G', near its central portion, to the front side of casing A. The free end of lever G is engaged and held in the desired adjustment by the pin or lug h projecting from a cam or eccentric H that has bearing in casing A, (see Figs. 2 and 4.) Cam or eccentric H has operatively connected therewith, a thumb or finger-piece, H', whereby said cam or eccentric may be turned in the one direction or the other, member H' being located outside of casing A.

Upon the outer end of pin E, outside of disk D, is loosely mounted a plate, I, that, at or near its forward end, is fastened to disk D, as at I'. Pin E, at its outer end, is preferably provided with a countersunk head, E², that engages a corresponding hole or perforation I² in plate I. Plate I, a suitable interval apart, is provided with two holes, I³ and I⁴, arranged preferably as shown in Fig. 1, the one above the other, and the thread, T, in its course from the spool (not shown) to the needle, from the outer side of plate I through the lower hole I⁴ and then between the two plates or disks D and I out through the upper hole I³, plate I being preferably provided with a slot, I⁵, that establishes open communication between holes I³ I⁴, and in conjunction with a tongue, I⁶ formed by a turn in the lower end of said slot and bent outwardly at its free end, as at I⁷ (see Figs. 1, 3 and 5), facilitates the introduction of the thread between said plates or disks.

By the construction hereinbefore described it will be observed that plate I is adjustable laterally toward and from disk D and more

or less tension is given to the thread passing between said plates or disks, according as lever G, by thumb and finger-piece H' and means operatively connected with member H', is actuated and adjusted in the one direction or the other. Thumb-piece H' is preferably provided with a pointer or index-finger, H², (see Fig. 3) that is adapted to indicate upon a dial or graduated plate K suitably secured to the outer side of casing A, the degree of tension given to the thread. Plate I, at its rear end, is bent inwardly, as at I⁸, against the rear side of casing A. The inner extremity or edge of said inwardly-bent portion of plate I is adapted to be engaged and actuated, to loosen plate I relative to plate or disk D, by a cam l operatively connected or integral with the presser-bar lifting-lever, L, that is suitably pivoted, as at L', to the rear side of casing A, and is also provided with a cam, L², engaging the under side of an arm, b, projecting laterally from the presser-bar through a slot a' in the rear side of casing A. The arrangement of parts is such that upon actuating the presser-bar lifter to lift, cam l will be actuated to engage the inwardly-projecting member I⁸ of plate I and loosen the latter relative to disk D, as required to remove the tension from the thread preparatory to the removal of the work, and I would here remark that lever G being made of elastic material, as hereinbefore indicated, it will yield to the actuation of plate I by cam l without interfering with the adjustment of said lever.

I desire to have it understood that the scope of my invention is not confined to the precise construction and arrangement of parts shown. For instance, in lieu of cam or eccentric H having a projecting-member h, a cam M, shown in Fig. 6, might be employed to directly engage and actuate lever G, and in lieu of a stationary dial or graduated disk and removable index-finger as shown in Fig. 3, a stationary index-finger secured to casing A and a movable dial or graduated disk op-

eratively connected with thumb and finger-piece H' might be employed, as shown in Fig. 7.

What I claim is--

1. In a tension device for sewing machines, the combination with the section or casing A of the arm of the sewing machine and an inner tension disk or plate secured against the outer side of the lower portion of said casing, of a yielding lever located within said casing and pivoted thereto at a point between its ends an outer tension disk or plate adapted to co-operate with the inner disk, the said outer disk being connected to the lower end of the pivoted lever by a pin passing through the inner disk, a cam located within said casing and engaging the upper end of the pivoted lever, a dial resting against the outer face of the casing, a pointer or index finger for said dial, and a finger piece connected to the cam for actuating same, substantially as set forth.

2. In a tension device for sewing machines the combination with the section or casing A of the arm of the sewing machine and an inner tension disk or plate secured against the outer side of the lower portion of said section or casing, of a yielding lever located within said casing and pivoted thereto at a point between its ends, an outer tension disk or plate adapted to co-operate with the inner disk, the said outer disk being connected to the lower end of the pivoted lever, means for moving said lever for regulating the pressure of the outer tension disk against the inner disk, a pressure bar and a lifter for lifting said pressure bar and directly engaging the outer disk for moving the latter away from the inner disk, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 22d day of February, 1893.

GEORGE W. BAKER.

Witnesses:

CHAS. D. GREAR,
JOHN D. WARE.