

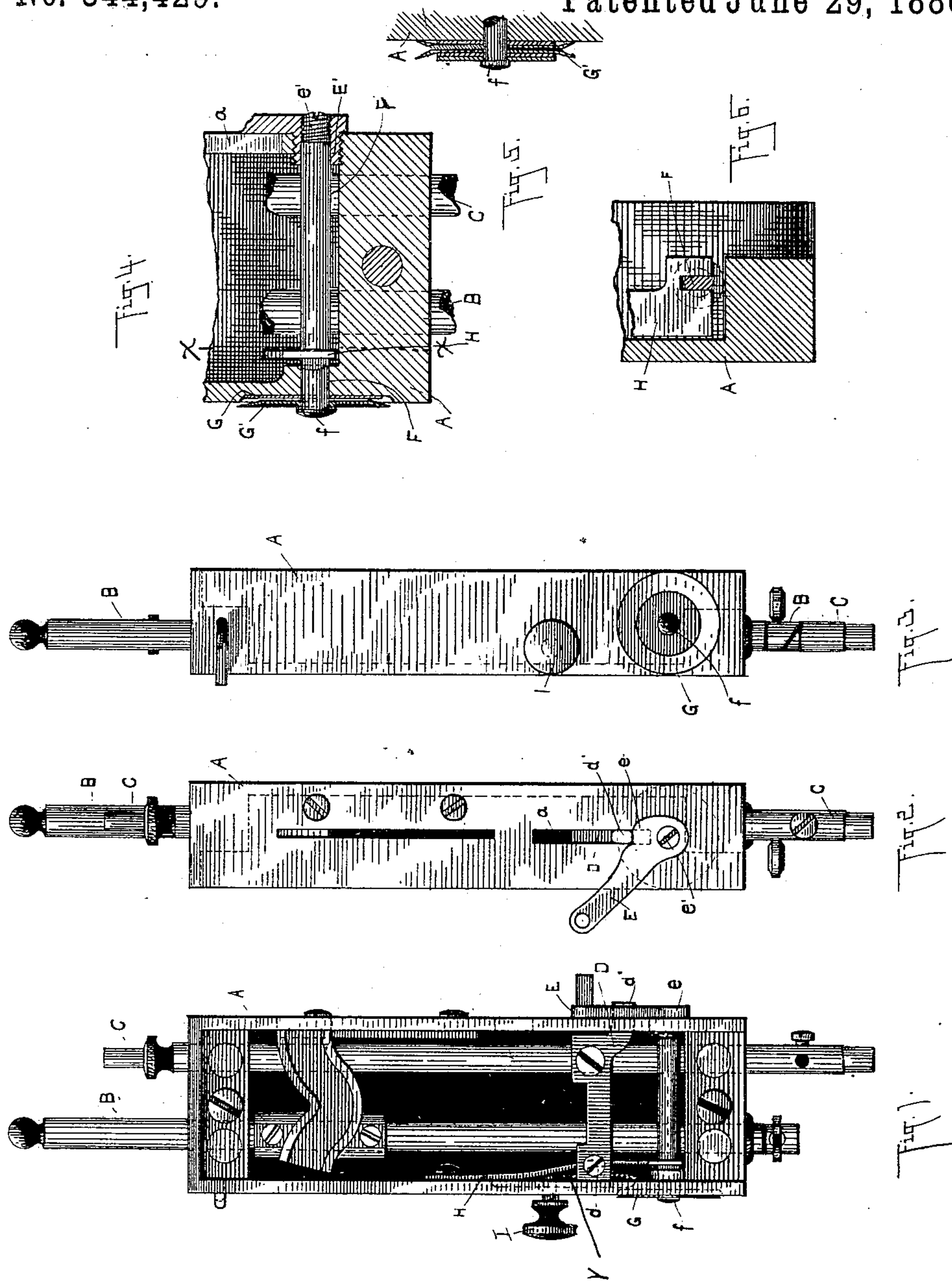
(No Model.)

R. W. WHITNEY.

TENSION RELEASE FOR SEWING MACHINES.

No. 344,429.

Patented June 29, 1886.



WITNESSES:

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RUEL W. WHITNEY, OF CLEVELAND, OHIO, ASSIGNOR TO THE WHITE SEWING MACHINE COMPANY, OF SAME PLACE.

TENSION-RELEASE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 344,429, dated June 29, 1886.

Application filed December 7, 1885. Serial No. 184,878. (No model.)

To all whom it may concern:

Be it known that I, RUEL W. WHITNEY, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Tension-Releasers 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 that class of tension-releasers that are operated by the presser-foot lifter, in which a lever has a cam on the edge thereof for lifting the presser-foot, said lever having a hub that is threaded externally and screws into a threaded hole in the wall of the head, said hub forming a fulcrum or pivot for the lever, said hub having an axial socket that receives the end of the tension-disk pin, by means of which, when the lever is raised to lift the presser-foot, by means of the threaded hub, the lever is carried laterally and forces the tension-disk pin against the action of the tension-spring and releases the tension-disk, the object being to simplify and reduce the initial cost of this class of sewing-machine mechanism.

With these objects in view my invention consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation of the head of the machine, as seen from the rear when the head is detached, showing the internal mechanism with my improvements attached. Fig. 2 is a side elevation of the head, looking at the presser-foot lifter. Fig. 3 is an elevation of the opposite side of the head, looking at the tension-disks. Fig. 4 is an enlarged elevation in section of the lower portion of the head, being a rear view, as in Fig. 1. Fig. 5 is an enlarged elevation in section of the tension-disks. Fig. 6 is an elevation in section at right angles to and on the line *xx*, Fig. 4.

A represents the sewing-machine head, B the needle-bar, and C the presser-bar.

D is an arm with a hub that embraces the presser-bar, to which it is secured by a set-screw, as shown. The left-hand end of the arm, as shown in Fig. 1, is in two parts, that

are fastened together by a screw, *d*, the ends thereof being separate to embrace a vertical rib on the head for guiding the arm D. The vertical rib (see dotted line Y, Fig. 1) on the head for guiding the arm and the arm made in two parts secured together by a screw for embracing the rib are of usual and well-known construction. The other end of the arm *d'* extends through the slot *a* in the wall of the head and overhangs the cam *e* of the lever E. This lever has a hub, *E'*. (Shown more clearly in Fig. 4.) This hub is screw-threaded externally, and engages a screw-threaded hole in the head, by means of which, when the lever is elevated to lift the presser-foot, the lever is drawn by the screw-thread toward the head. The hub has an axial bore that receives the end of the rod F, the outer end of the bore being screw-threaded and provided with an abutment-screw, *e*, for adjusting the rod F endwise. The rod F passes through the opposite wall of the head, and has mounted loosely thereon the tension-disks G and G', the rod having a head, *f*, outside the tension-disks.

H is the tension-spring, that is regulated by the thumb-screw I. The lower end of the spring H is bifurcated, as shown in Fig. 6, the prongs embracing the rod F and engaging a groove in the rod, by means of which the action of the spring presses the rod in the direction to tighten the tension-disks. When the lever E is turned down, the cam *e* is out of the way of the part *d'*, so that the action of the presser-foot is not interfered with, and at the same time turning down the lever backs out the hub *E'*, so that the spring H can press the rod F inward and tighten the tension-disks.

The device is simple, durable, and inexpensive.

By my construction the swinging movement of the presser-foot-lifting lever gives to the lever a lateral or sidewise movement, by reason of the screw-threaded attachment of the same to the head of the machine, and this lateral movement is increased in proportion to the extent of the swinging movement by providing a comparatively coarse thread upon the hub of the lever and in the head.

Another advantage is, that a single hole in the head serves as a pivot-bearing of the lever and for the support of the end of the disk-pin.

What I claim is—

1. In a tension-releaser, a disk-pin arranged concentrically in, and in combination with, a presser-foot lever provided with a hub screw-threaded into the head of the machine, substantially as specified.

2. A presser-foot lever having a hub screw-threaded for pivotal mounting in a head and for movement in its bearing, in combination with a sewing-machine head screw-threaded to receive said hub, and with tension-disks and an intermediate disk and lever connecting device, whereby said movement may be utilized in releasing the pressure of tension devices connected therewith, substantially as specified.

3. The combination of tension-disks and a disk-pin with a presser-foot lever having a centrally-bored hub for supporting the pin, and interiorly screw-threaded for an adjusting-screw for said pin, and exteriorly screw-threaded on a coarser pitch for lateral movement in its bearing, substantially as specified.

4. In a sewing-machine, the combination,

with the presser-bar and attached arm, a lever, and cam for elevating the same, of a screw-threaded hub forming a pivot for the lever, an axial bore in said hub, a tension-disk pin extending into said bore, and an abutment-screw engaging the threaded end of the bore for adjusting the tension-disk pin, the parts being arranged substantially as set forth.

5. The combination, with a sewing-machine head, tension-disks mounted on a pin, the latter extending into the head, a groove in said pin engaged by a tension-spring, a screw-threaded hub having a bore for receiving the end of the tension-disk pin, an abutment-screw, lever, and cam, the parts being arranged substantially as described.

In testimony whereof I sign this specification, in the presence of two witnesses, this 4th day of December, 1885.

RUEL W. WHITNEY.

Witnesses:

G. W. SHUMWAY,
FREDK. KINSMAN.