

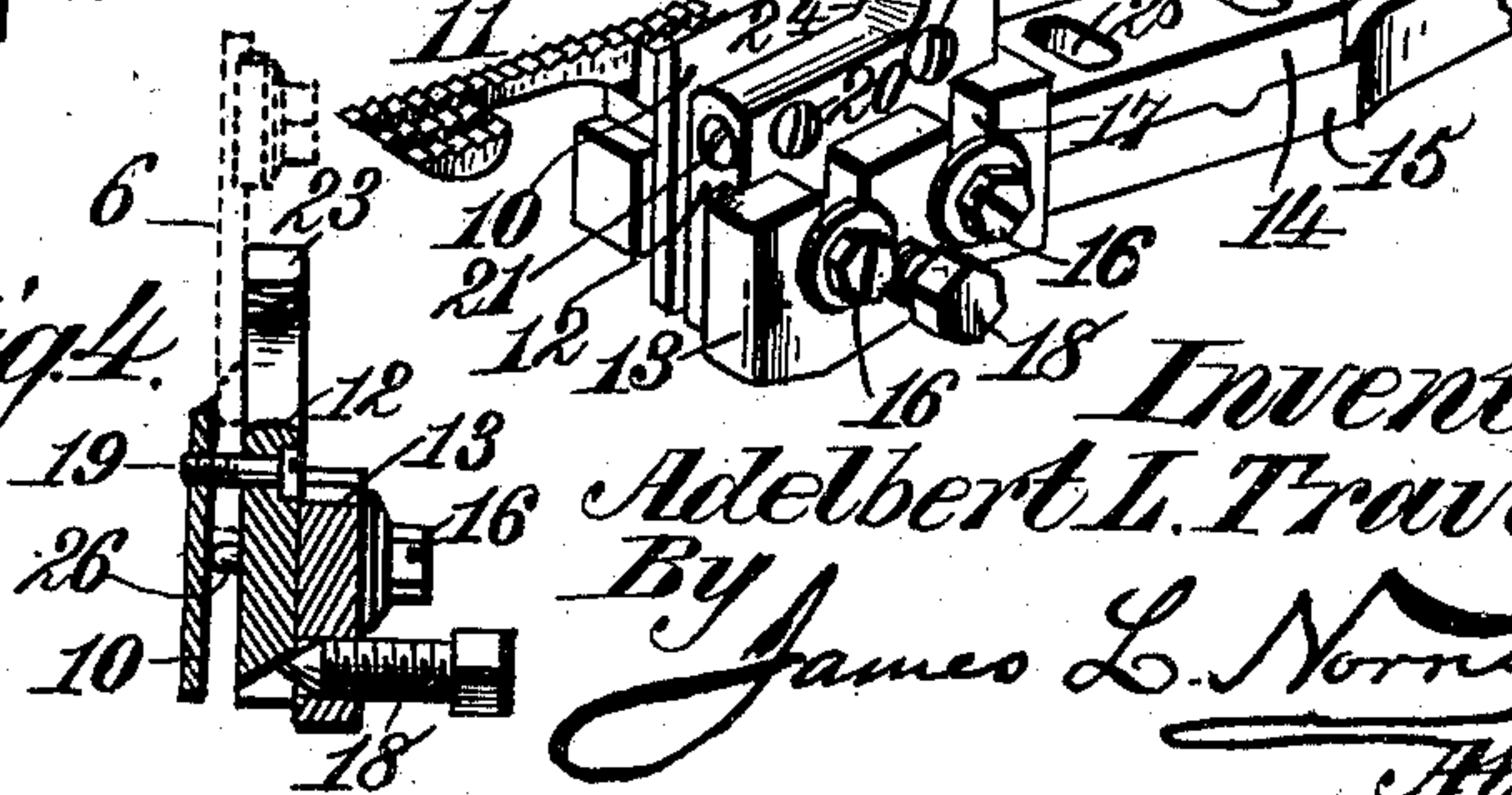
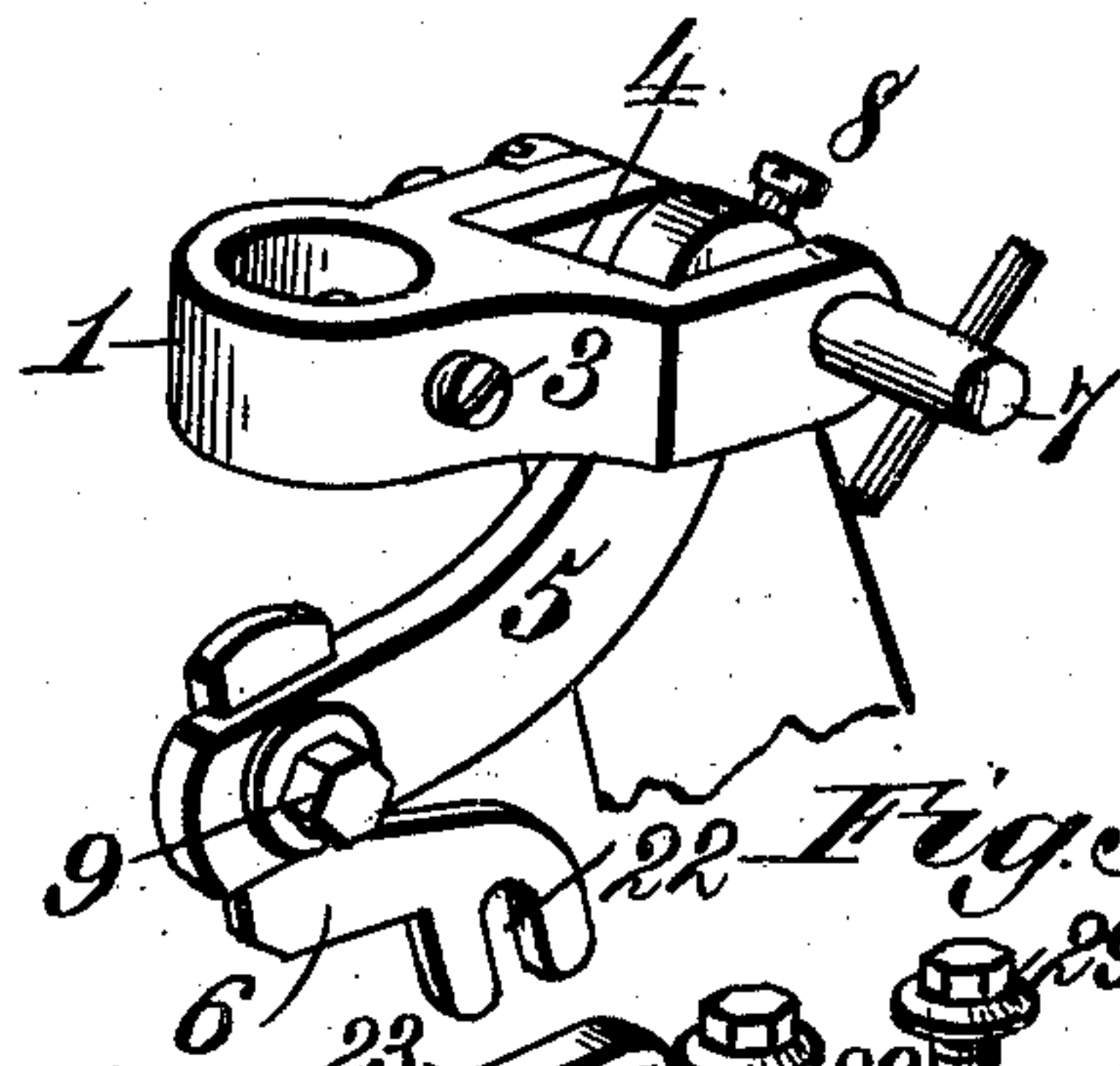
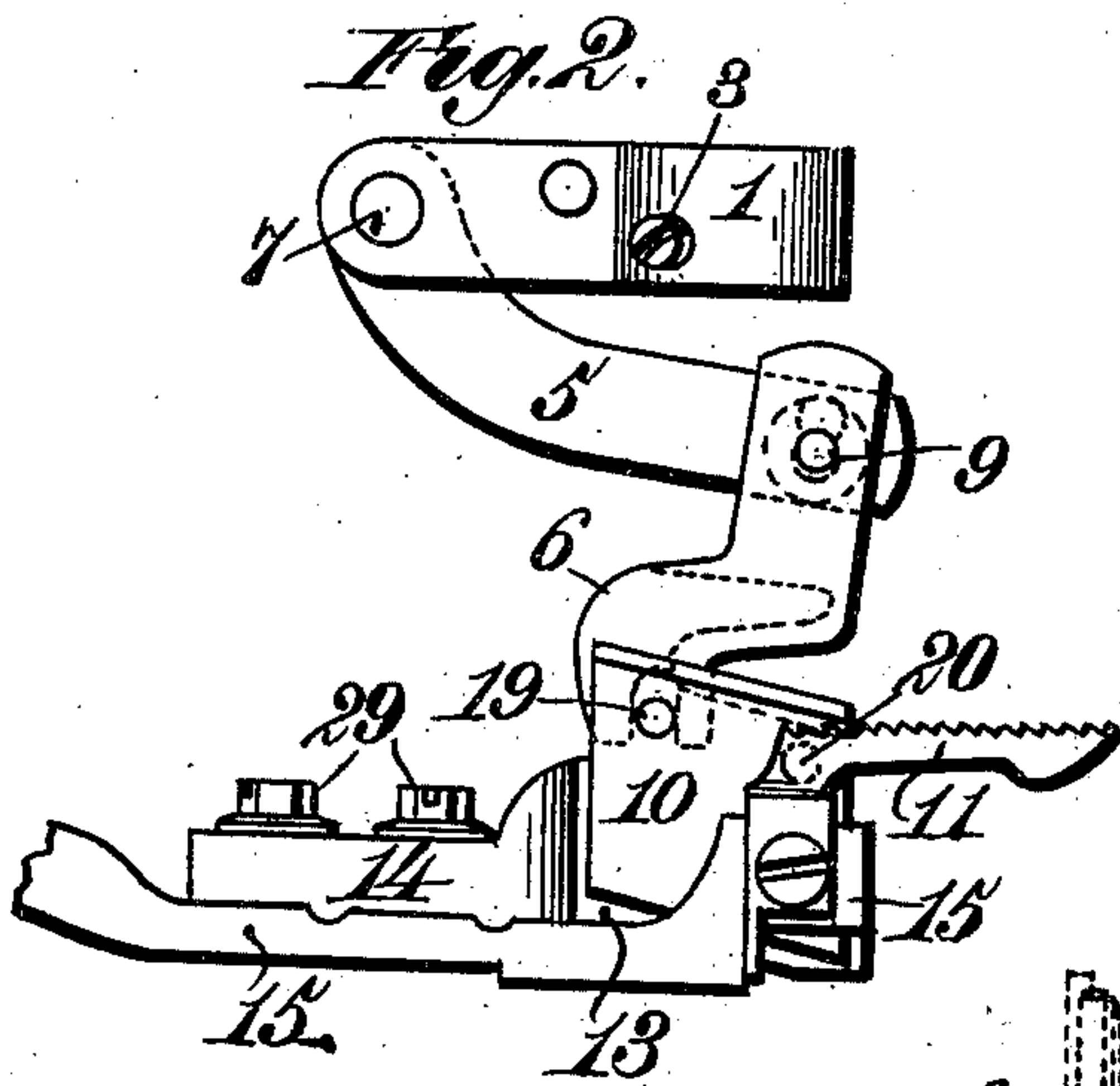
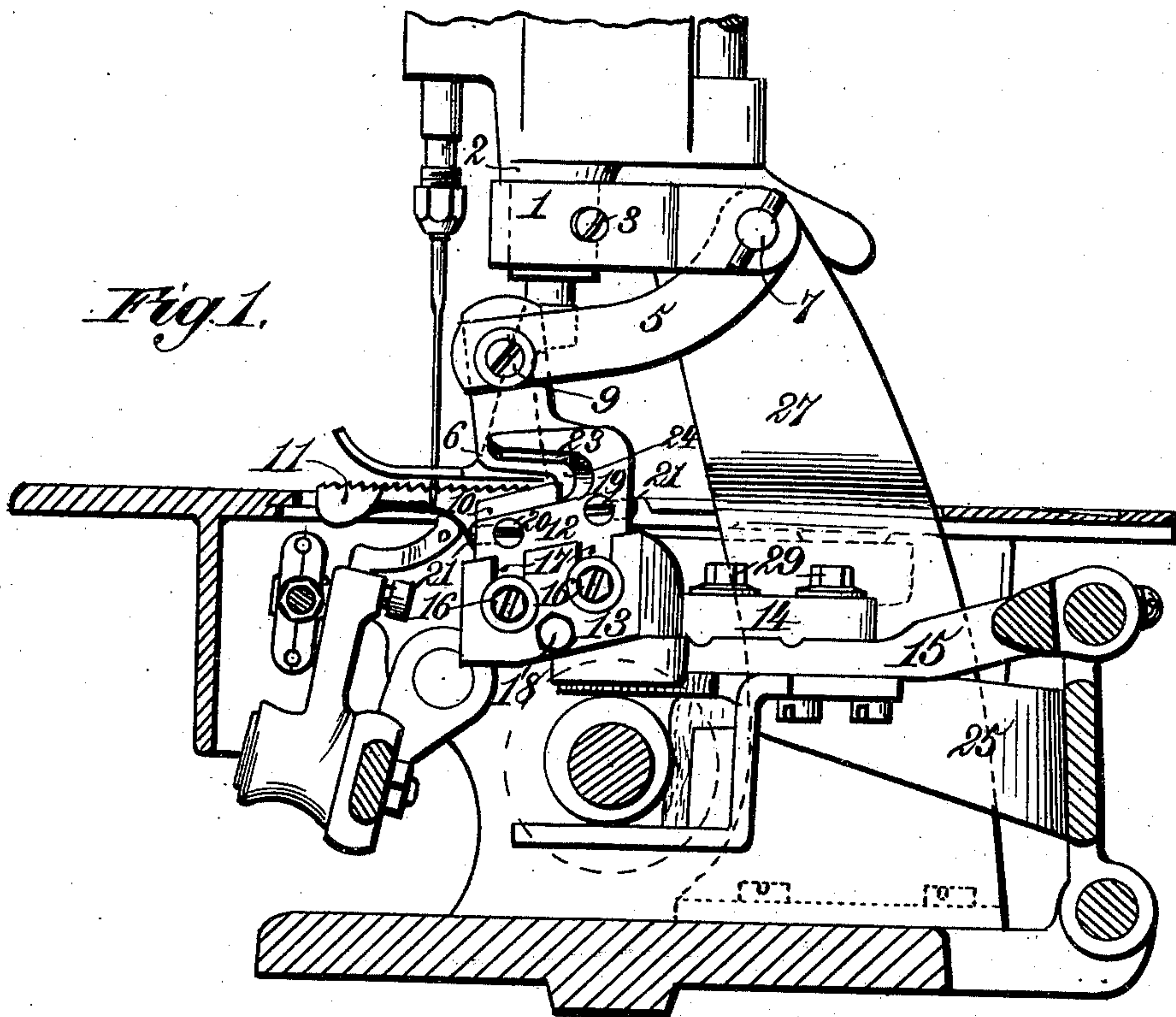
No. 644,952.

Patented Mar. 6. 1900.

A. L. TRAVER.
SEWING MACHINE TRIMMER.

(Application filed Nov. 23, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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SEWING-MACHINE TRIMMER.

SPECIFICATION forming part of Letters Patent No. 644,952, dated March 6, 1900.

Application filed November 23, 1898. Serial No. 697,269. (No model.)

To all whom it may concern:

Be it known that I, ADELBERT L. TRAVER, a citizen of the United States, residing at Philmont, in the county of Columbia and State of New York, have invented new and useful Improvements in Sewing-Machine Trimmers, of which the following is a specification.

This invention relates to sewing-machine trimmers, and has for its object to improve that class of trimming mechanism that is actuated from the feed and by which the material beyond the seam is cut off simultaneously with the sewing operation and at a regulated distance from the line of stitching.

The invention consists in features of construction and novel combinations of parts in a sewing-machine trimmer, as hereinafter described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a vertical transverse section of a portion of a sewing-machine looking toward the rear or inner side of the machine-head. Fig. 2 is a front elevation of the trimming mechanism detached from the machine-head. Fig. 3 is a perspective of the trimming mechanism detached from the machine and with the upper and lower cutters separated from each other. Fig. 4 is a vertical transverse section of the trimming mechanism.

Referring to the drawings, Figs. 1, 2, and 3, the numeral 1 designates a block that is secured to the head 2 of a sewing-machine by means of set-screws 3 or otherwise. In a laterally-projecting portion of the block 1 there is a bifurcation 4, Fig. 3, in which is pivoted the upper end of a curved lever 5, to which the upper cutter 6 is securely attached. The block or support 1 and lever 5 are connected by a longitudinally-movable rock-shaft or pin 7, to which the head of the lever 5 may be secured by means of a set-screw 8, and the bifurcation in the block 1 should be sufficiently wide to permit lateral movement of the said lever in conformity with any adjustment of the trimming mechanism toward and from the line of stitching. At its lower end the lever 5 is suitably recessed to receive the shank portion of the upper cutter 6, a bolt or screw 9 being provided to securely and adjustably connect the said parts.

The lower cutter 10 is mounted adjacent to the feed-dog 11 and is secured to a clamp-

ing guide-plate 12, that is adjustably attached to an arm 13 of a bracket 14, which is supported by the feed-bar 15, so as to move therewith. In one side of the bracket-arm 13 there is preferably formed a recess to receive the bottom portion of the clamping guide-plate 12, that is adjustably secured to said bracket-arm by means of bolts or screws 16, passed through vertical slots 17 of the bracket-arm, so as to permit a vertical adjustment of the plate 12 and lower cutter 10 to bring it into accord with any vertical adjustment that may be given to the feed-dog.

For the purpose of obtaining a nice vertical adjustment of the lower cutter 10 the clamping bolts or screws 16 may be loosened, and then the plate 12 and attached cutter 10 may be raised to the desired degree by turning a screw-bolt 18, that is mounted in the bracket-arm 13, the said screw-bolt being provided with a beveled or tapered point that is adapted to exert a lifting action against the lower edge of the plate 12 when the screw-bolt 18 is turned in the proper direction.

The upper cutter 6 and lower cutter 10 are kept in a properly closed and lapping operative relation by means of the clamping guide-plate 12, that is suitably spaced apart from the lower cutter 10 to provide for receiving the upper cutter between said plate and attached lower cutter. The lower cutter 10 is secured to the plate 12 by means of screws 19 and 20, that are held from rotation by other screws 21 bearing thereon at right angles in such manner as to form a lock that will prevent the said screws 19 and 20 from working loose under jars or vibrations incident to a high speed of the machine.

In a depending heel portion of the upper cutter 6 there is formed a vertical open-ended slot 22, that straddles the screw 19, which thus serves also as a fulcrum or pivot for the two cutter-blades.

The clamping guide-plate 12 has an arm 23, that projects above the lower cutter 10 and bears against the side of the upper cutter 6 to keep the cutting edges of the two cutter-blades in operative relation. Below this arm 23 there is a slot or passage 24, that affords a clearance for the trimmed-off material.

The clamping-plate 12, attached lower cutter 10, and the feed-dog 11 are actuated to-

gether from a rocker-frame 25, with which the feed-bar 15 is pivotally connected, and from the lower cutter 10 corresponding movements are imparted to the pivotally-attached upper cutter 6, so that the two cutters will move in unison with the feed and act on the sewed material with a shear cut. Thus as the lower cutter rises the upper cutter closes down, and the two cutter-blades move along together in the direction of the feed, and then as the lower cutter drops the upper one rises and the two blades come ahead, together with the feed-dog, to meet the advancing work and continue the trimming of the material as it is fed on through the machine. By this action of the cutter-blades coincident with the movements of the feed the trimming mechanism is made to have a longer shear cut than usual and is thereby adapted to the requirements of a sewing-machine to be operated at a high speed. The cutter-blades 6 and 10 being held together by the clamping guide-plate 12, it is impossible for the cutting edges to get apart, and therefore the shear cut is true and accurate. In order to insure this result, the clamping-plate 12 is preferably provided with one or more bearings 26, Fig. 4, on which the lower cutter-blade 10 will rock when the screws 19 and 20 are tightened, and in this manner the edges of the cutters can be readily maintained in such relation as to give a shear cut.

It will be seen that the lever 5 and rock-shaft or pin 7 afford a vibratory support for the upper cutter 6, so that through the engagement of its slot 22 on or around the screw 19 the said upper cutter will readily take part in the required operation of the trimming mechanism.

Where heavy work is required, the block 1 on the head 2 may be securely braced by having its projecting portion fastened to a standard 27, that is bolted to the machine-frame. This arrangement imparts greater durability and makes the operation of the trimmer more steady and satisfactory.

For the purpose of permitting adjustment of the trimmer toward and from the line of stitch the bracket 14 is provided with transversely-arranged slots 28, Fig. 3, through which are inserted the screws 29, that secure the said bracket and attached trimmer to the feed-bar. By loosening these screws the trimmer can be moved toward or from the line of stitch, so as to have any desired adjustment, according to the requirements of the work. The width of the bifurcation 4 in the block 1 should be such as to permit lateral movement of the lever 5 and attached upper cutter 6 along with the lateral adjustment imparted to the lower cutter.

What I claim as my invention is—

1. In a trimming mechanism for sewing-machines, the combination with the feed-bar and feed-dog, of a vertically and laterally adjustable lower cutter-blade carried with said

feed-bar and feed-dog, an upper cutter-blade in pivotal lapping engagement with said lower cutter-blade and actuated therefrom, a vibratory lever to support the upper cutter-blade, said vibratory lever and upper cutter-blade being adjustable with the lower cutter-blade, a guide-plate carried with the feed-bar and lower cutter-blade, and means for imparting a rocking adjustment to said guide-plate to maintain the lapping edges of said cutter-blades in close operative relation, substantially as described.

2. In a trimming mechanism for sewing-machines, the combination with the upper and lower cutter-blades, the feed-bar and attached feed-dog, of a bracket mounted on said feed-bar, a clamping guide-plate attached to said bracket and adapted to keep the cutting edges of said upper and lower cutter-blades in operative relation, the said upper cutter being provided with a slot through which it is adapted to pivot on one of the attaching-screws of the said clamping guide-plate, and a vibratory support for said upper cutter, substantially as described.

3. In a trimming mechanism for sewing-machines, the combination with the feed-bar and attached feed-dog, of a bracket attached to said feed-bar, a lower cutter-blade, an upper cutter-blade having a pivotal connection with said lower cutter-blade, a vibratory support for the upper cutter-blade, and a clamping guide-plate adjustably attached to an arm of the feed-bar bracket and adapted to keep the cutting edges of the upper and lower cutters in operative relation, the lower cutter being carried by said plate, substantially as described.

4. In a trimming mechanism for sewing-machines, the combination with the feed-bar and feed-dog, of a bracket adjustable on said feed-bar, a lower cutter-blade actuated through the feed-bar, an upper cutter-blade in pivotal connection with the lower blade and actuated therefrom, a clamping guide-plate attached to an arm of the feed-bar bracket and adapted to keep the cutting edges of the upper and lower cutters in operative relation, a vibratory lever to support the upper cutter, a block secured to the machine-head and having a bifurcated arm to receive the upper end of said lever, a rock-pin through which the said lever is connected with said bifurcated arm, and means for adjusting the said cutter-blades toward and from the line of stitch, substantially as described.

5. In a trimming mechanism for sewing-machines the combination with the feed-bar and attached feed-dog, of a lower cutter-blade mounted on and actuated through said feed-bar, an upper cutter-blade actuated from said lower blade and in close pivotal relation therewith, a clamping guide-plate carried by the feed-bar and adapted to maintain the cutting edges of said cutter-blades in close lapping operative relation, a vibratory lever to sup-

port the upper cutter, a block secured to the machine-head and having an arm with which the upper end of said lever is pivotally connected, and a standard to brace said block and its arm, substantially as described.

6. In a trimming mechanism for sewing-machines, the combination with the feed-bar and attached feed-dog, and the upper cutter-blade and lower cutter-blade arranged in lapping operative relation, the said upper blade being in pivotal connection with and actuated from the said lower blade, of a clamping guide-plate carried on the feed-bar with said lower cutter-blade and having on one side a bearing or bearings against which the lower cutter-blade is adapted to be rocked for giving the edge of said lower blade a shear-cut adjustment with relation to the lapping edge of the upper cutter-blade, and screws for attaching the lower cutter-blade to said clamping-plate and for coacting with said bearings

in imparting a rocking adjustment to said lower blade, substantially as described.

7. In a trimming mechanism for sewing-machines, the combination with the feed-bar and attached feed-dog, of a vertically and laterally adjustable lower cutter-blade carried with said feed-bar and feed-dog, an upper cutter-blade actuated from the lower cutter-blade and in pivotal lapping engagement therewith, and means for giving a rocking adjustment to the lower cutter-blade toward the lapping edge of the upper cutter-blade, for maintaining a shear cut, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ADELBERT L. TRAVER.

Witnesses:

NOAH H. BROWNING,
C. P. COLLIER.