

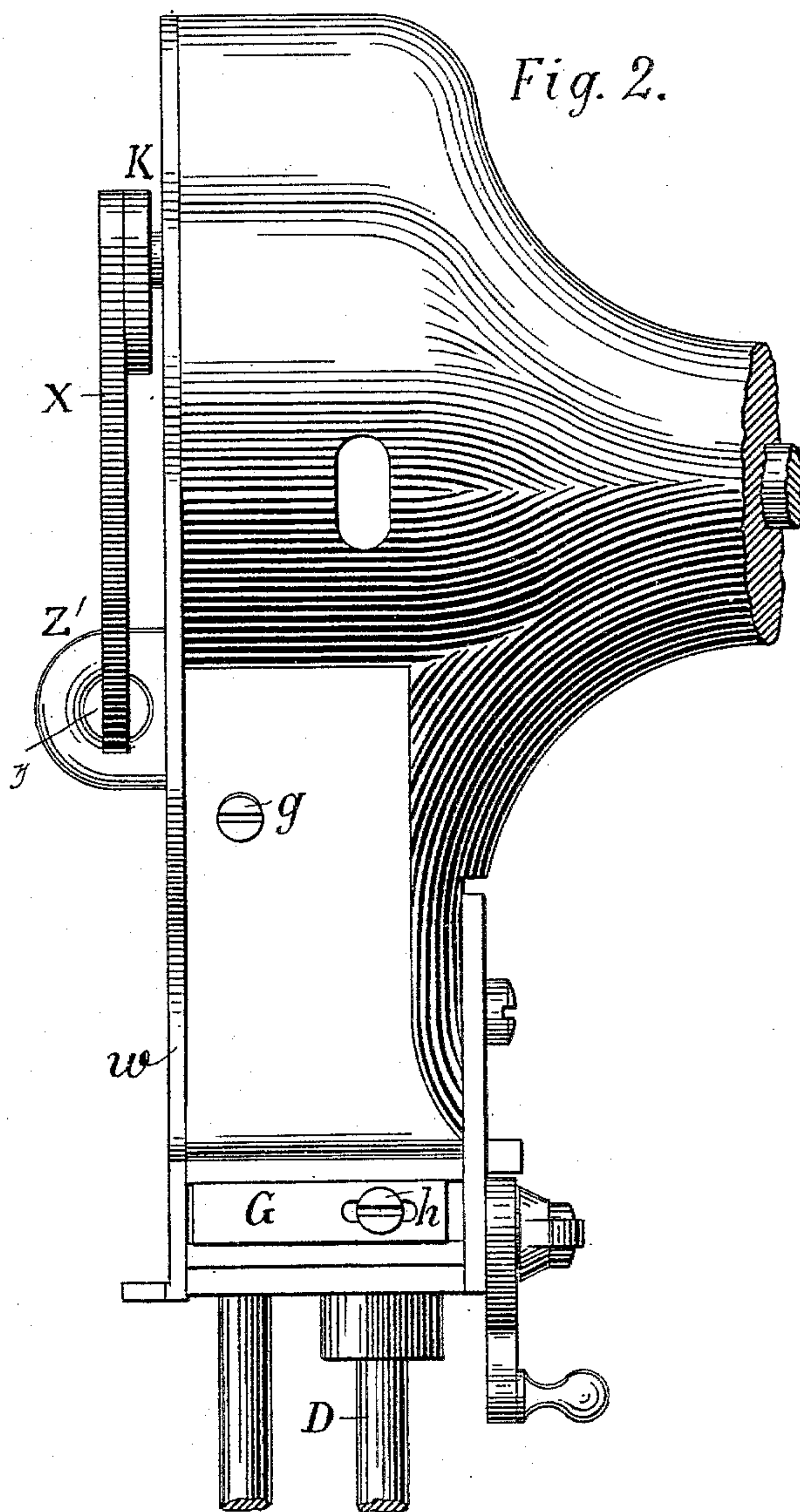
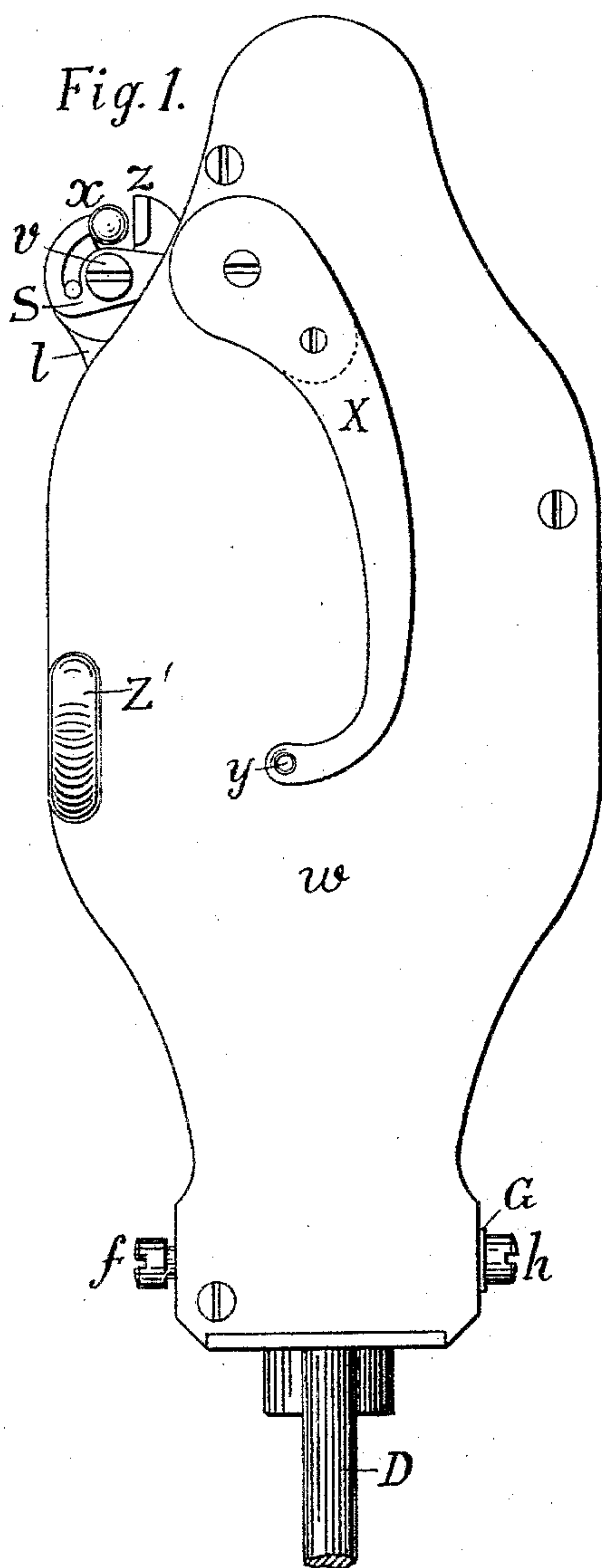
(Model.)

2 Sheets—Sheet 1.

K. S. KLOGEL.
SEWING MACHINE.

No. 597,802.

Patented Jan. 25, 1898.



Witnesses.
C. H. Lund
T. A. Muhlberg.

Inventor.
K. S. Klogel.

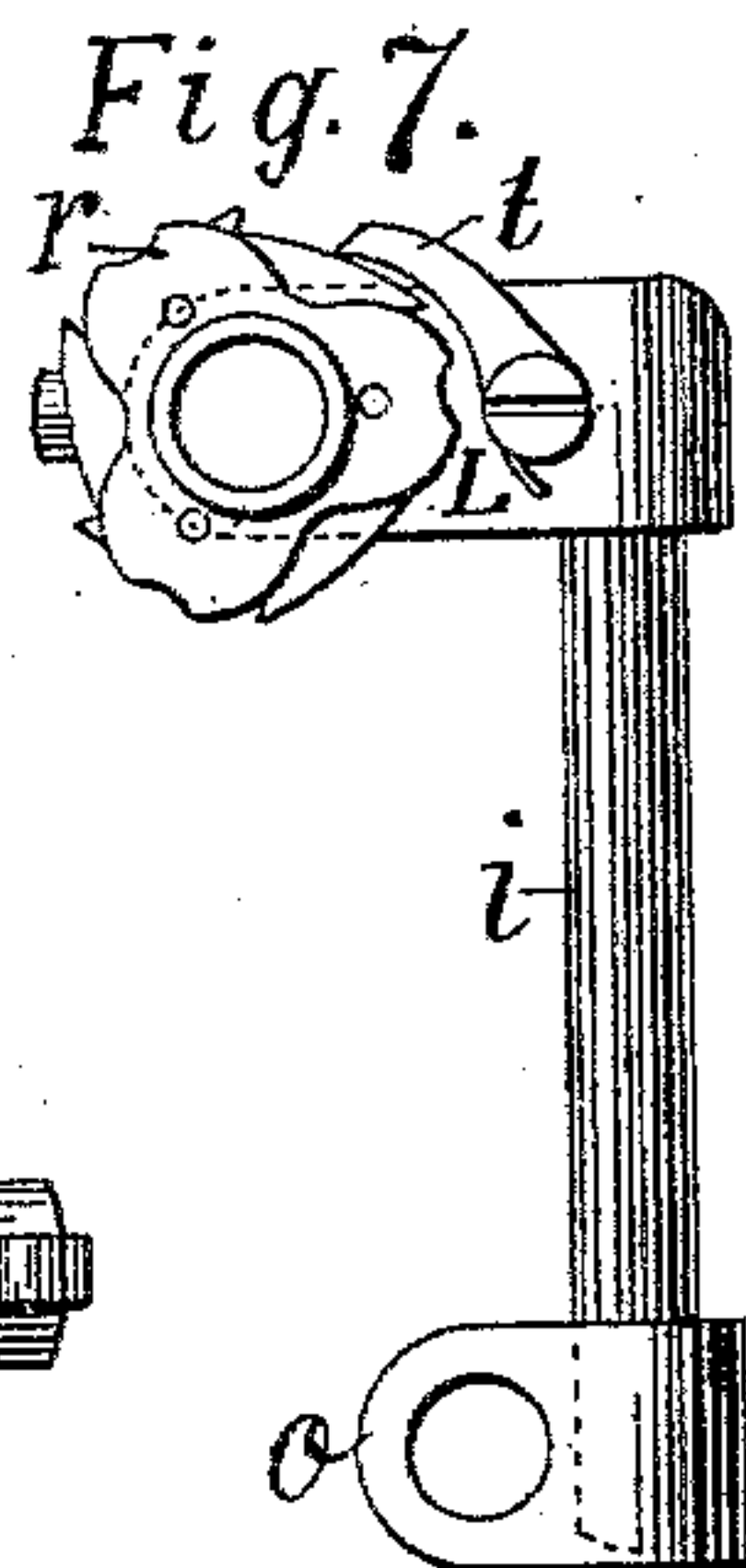
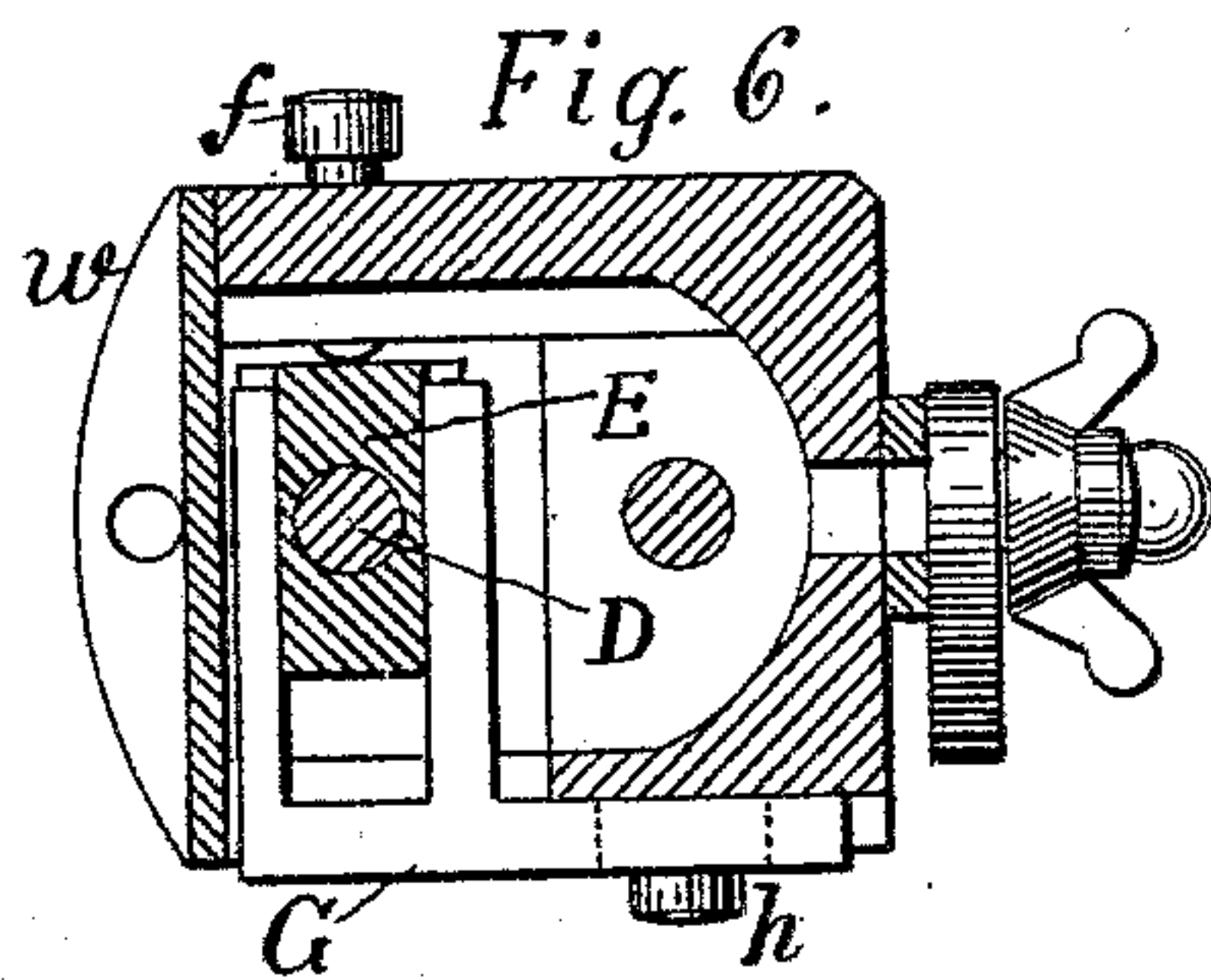
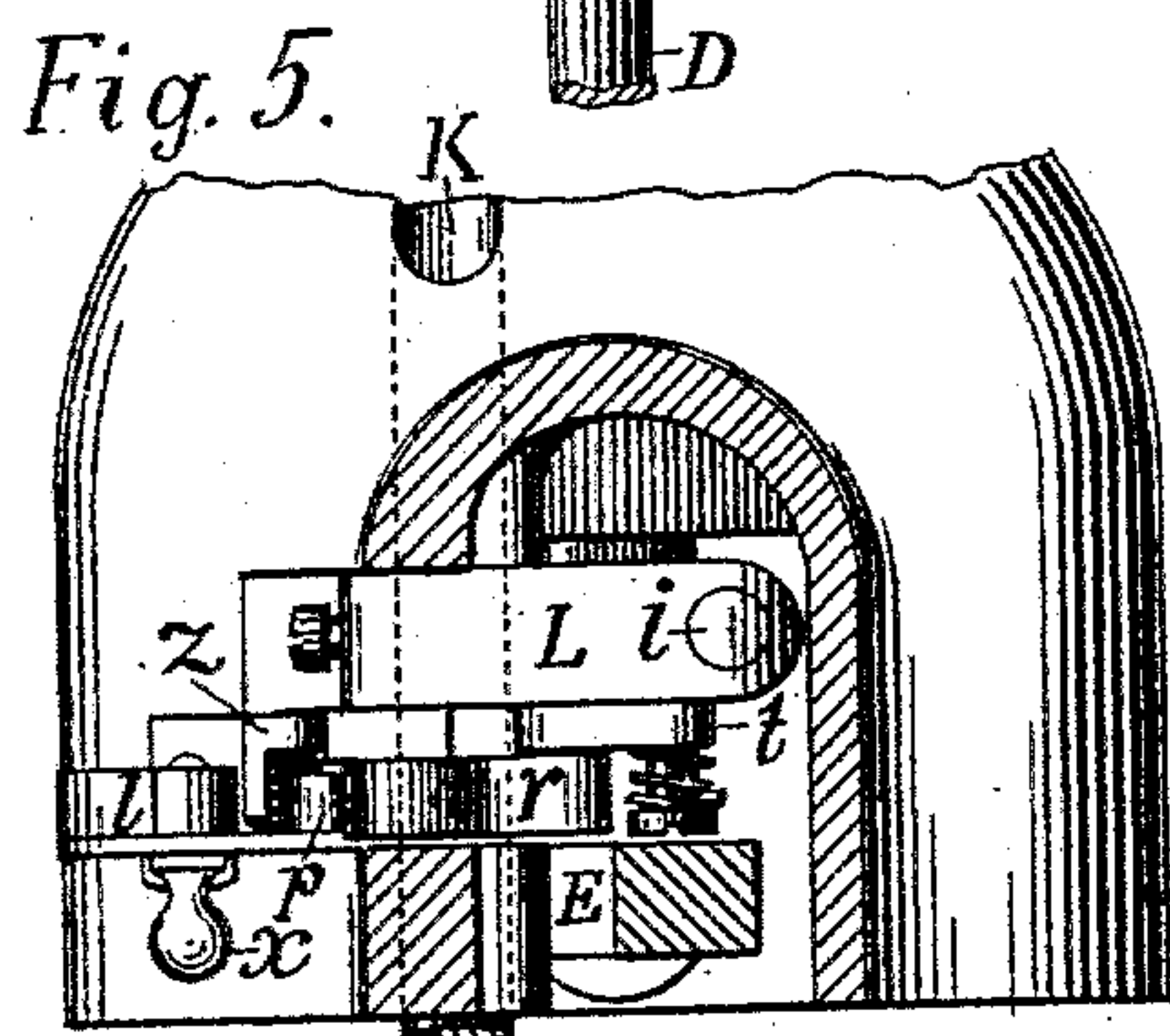
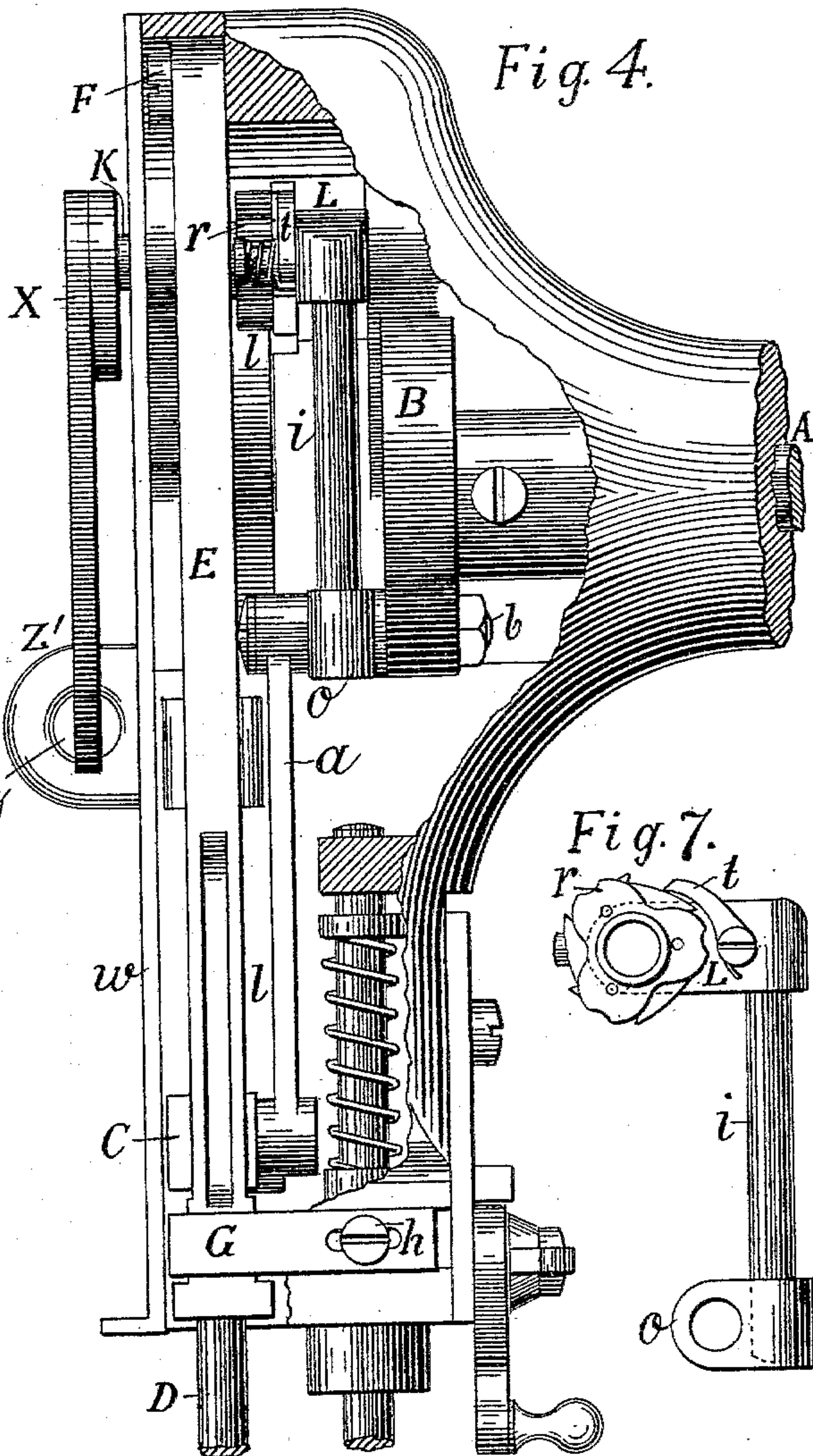
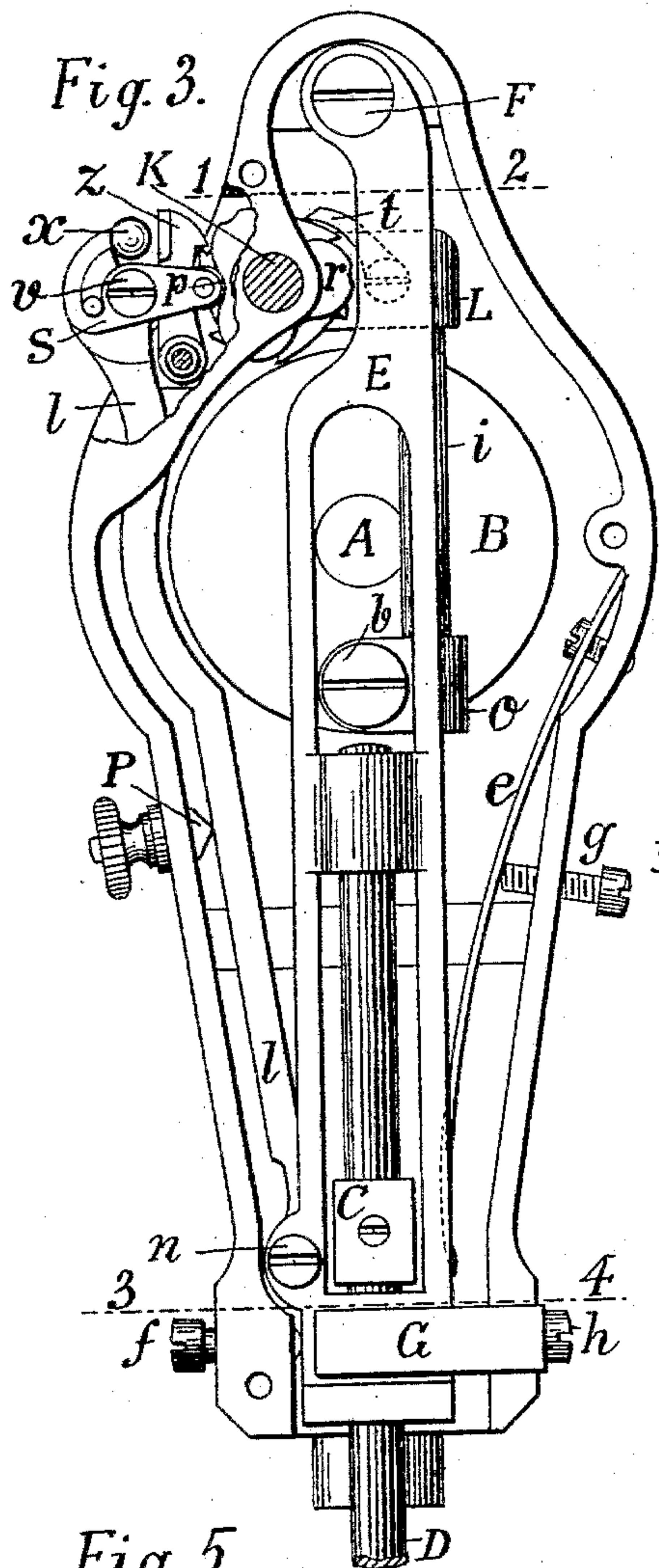
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2 Sheets—Sheet 2.

K. S. KLOGEL.
SEWING MACHINE.

No. 597,802.

Patented Jan. 25, 1898.



Witnesses.

G. S. Lund
J. A. Wahlberg.

Inventor.
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UNITED STATES PATENT OFFICE.

KARL S. KLOGEL, OF NEW YORK, N. Y.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 597,802, dated January 25, 1898.

Application filed January 20, 1892. Serial No. 418,697. (Model.)

To all whom it may concern:

Be it known that I, KARL SIGURD KLOGEL, residing at New York city, in the county and State of New York, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification.

My invention relates in general to improvements in the construction and arrangement of the working parts in combination with the arm-head; and the objects of my improvements are, first, to provide a special guide for the needle-bar suspended on the head by a pivot, so as to be capable of pendulum oscillations in a plane square with a longitudinal arm-shaft and with the free end adjustable in a direction parallel with a longitudinal arm-shaft, and means for adjusting the free end of the needle-bar guide in both the named directions, so that the reciprocating needle passes in the center of the needle-hole in the throat-plate; second, an improved mechanism whereby the needle-bar guide can be moved regularly in the named plane of oscillations, so that the reciprocating needle produces the overseaming-stitch, and, third, a simple and compact take-up device operated by the needle-actuating crank-pin without the aid of any cam-groove. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the head. Fig. 2 is a side view of the head. Fig. 3 is a front view of the head as it appears after the removal of the take-up and the face-plate. Fig. 4 is a side view of the head, the forward side thereof removed. Fig. 5 is a horizontal section of the head on the line 1 2, Fig. 3. Fig. 6 is a horizontal section of the head on the line 3 4, Fig. 3. Fig. 7 is a detailed view of the overseaming-cam and take-up-operating device.

Similar letters refer to similar parts throughout the several views.

In the arm turns a shaft A, carrying in its end inside of the head a crank-disk B, (see Figs. 3 and 4,) the crank-pin *b* on which is by the pitman *a* connected to a pin provided with a hub C, through which the needle-bar D passes and to which it is secured by means of a clamping-screw in the usual way. The needle-bar D, reciprocated by the shaft A, has

its ways in a special guide E, suspended on the head by the pivot F and thereby held loosely enough to be enabled to oscillate in a plane square with the shaft A and slightly adjustable with its free end in a direction parallel with the said shaft A. The lower free end of the needle-bar guide E is adapted to fit into a forked piece G, (see Figs. 3, 4, and 6,) whereby it is guided in its oscillations. The guide-fork G, (see Figs. 4 and 6,) having a tailpiece fitting into a groove cut in the head in a direction parallel with the shaft A and provided with a slot in the said tailpiece for its clamping-screw *h*, is thereby adjustable in the said direction. An arm-spring *e* is with one end secured to the side of the head, (see Fig. 3,) and, extending the other end into a groove on the lower part of the needle-bar guide E, it presses the said guide E against a set-screw *f* in the head in the same direction that the needle-operating pitman *a* and the crank-pin *b* tend to push the free end of the needle-bar guide by the rotation of the shaft A. The tension of the spring *e* can be regulated by a set-screw *g*. (See Fig. 3.) By the described arrangement of the needle-bar guide E the guide-fork G, the spring *e*, and the set-screw *f* the free lower end of the needle-bar guide E is adjustable in all directions horizontally, and thus the reciprocating needle can be adjusted to pass in the center of the needle-hole in the throat-plate, which is effected by the proper adjustment of the set-screw *f* and the guide-fork G.

Parallel with the main shaft A is the shaft K, journaled in the upper part of the head and carrying between its bearings the block L, to which is secured a bar *i*, connected to the crank-pin *b* by a short link or block *o*, journaled upon said crank-pin and adapted to slide upon the bar *i* by the rotation of the crank-disk B, and thus the crank-pin *b* imparts an oscillating movement to the bar *i*, the block L, and to the shaft K. For overseaming this oscillating movement is transmitted to the needle-bar by means of a lever *l*, pivoted on the needle-bar guide E at its lower end by the pivot *n* and balanced against the wedge P as a fulcrum. In its upper end the lever *l* is provided with an antifriction-roller *p*, engaging the cam-wheel *r*, which is pinned together with a ratchet, both jour-

naled upon the shaft K between its bearings and actuated by the pawl *t*, pivoted on the oscillatory block L. The wedge P is adjustable in a vertical slot in the side of the head, whereby the amplitude of the needle oscillations—that is to say, the length of the overseaming stitch—can be regulated. The anti-friction-roller *p* has its journal-pin secured in a plate S, attached to the lever *l* by means of a pivot *v* and provided with a handle *x*, whereby it can be turned out of its contact with the cam-wheel *r*. A stop hook or pawl *z* is pivoted in a recess in the arm-head and by a spiral spring coiled around its pivot-bolt pressed against the ratchet-wheel. It has for its purpose to prevent the ratchet and cam-wheel from turning backward with the rock-shaft K when the overseaming apparatus is in operation. In its upper end the hook *z* is provided with a sidewise-projecting plate, which is caught by the anti-friction-roller *p* when the plate S is turned by the handle *x*, and thereby the stop-hook *z* is disengaged at the same time with the anti-friction-roller *p* when the overseaming device is not in use. When the anti-friction-roller *p* is returned, the hook *z* is also returned to its operative position by its spring. The take-up arm X is secured to the rock-shaft K in front of the face-plate *w*, and participating in the oscillations of the rock-shaft it takes up the thread through the loop *z'*, attached to the face-plate *w*, adjacent to the path of movements of the free end of the take-up arm, which is provided with an eye *y*, through which the thread between the tension device and the needle-eye is passed.

Having thus described my invention, what I claim is—

1. In a sewing-machine, the combination with the head, the reciprocating needle-bar and the needle-bar guide, suspended on the head by a pivot, so as to be capable of pendulum oscillations in a vertical plane and adjustable in a direction at right angles to the plane of oscillations, and means effecting the said oscillations, of a guide, secured on the head and adapted to engage the free end of the pivoted needle-bar guide and provided with means, whereby it can be adjusted in a

direction at right angles to the plane of oscillations of the needle-bar guide, substantially as set forth, for the purpose specified.

2. In a sewing-machine for overseaming, the combination with the head, the reciprocating needle-bar and the oscillating needle-bar guide, of a lever, with one end pivoted on the needle-bar guide and having an adjustable fulcrum on the head, and means for imparting an oscillating movement to the free end of the said lever, all substantially as set forth.

3. In a sewing-machine for overseaming, the combination with the head, the longitudinal arm-shaft, carrying a crank-pin inside of the head, the reciprocating needle-bar, the oscillating needle-bar guide, the cam-wheel and ratchet operatively connected and journaled in the head, the lever pivoted on the needle-bar guide with one end and having an adjustable fulcrum on the head and with the other end adapted to engage the cam-wheel, of a swinging arm, pivoted in the head and carrying a pawl arranged to operate the ratchet and cam-wheel, and means operatively connecting the pawl-carrying arm directly with the crank-pin, all substantially as set forth.

4. In a sewing-machine for overseaming, the combination with the head, the longitudinal arm-shaft carrying a crank-pin inside of the head, the reciprocating needle-bar and the oscillating needle-bar guide and a take-up rock-shaft, journaled in the head parallel with the longitudinal arm-shaft and carrying a pawl, pivoted upon an arm secured to the said rock-shaft, of a ratchet and cam-wheel, journaled together upon the said rock-shaft and operated by the pawl, a lever pivoted on the needle-bar guide with one end and having an adjustable fulcrum on the head, and provided at its other end with means, whereby it may be operated by the cam-wheel, and means operatively connecting the pawl-carrying arm on the rock-shaft directly with the crank-pin, all substantially as set forth.

KARL S. KLOGEL.

Witnesses:

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T. A. WAHLBERG.