

(No Model.)

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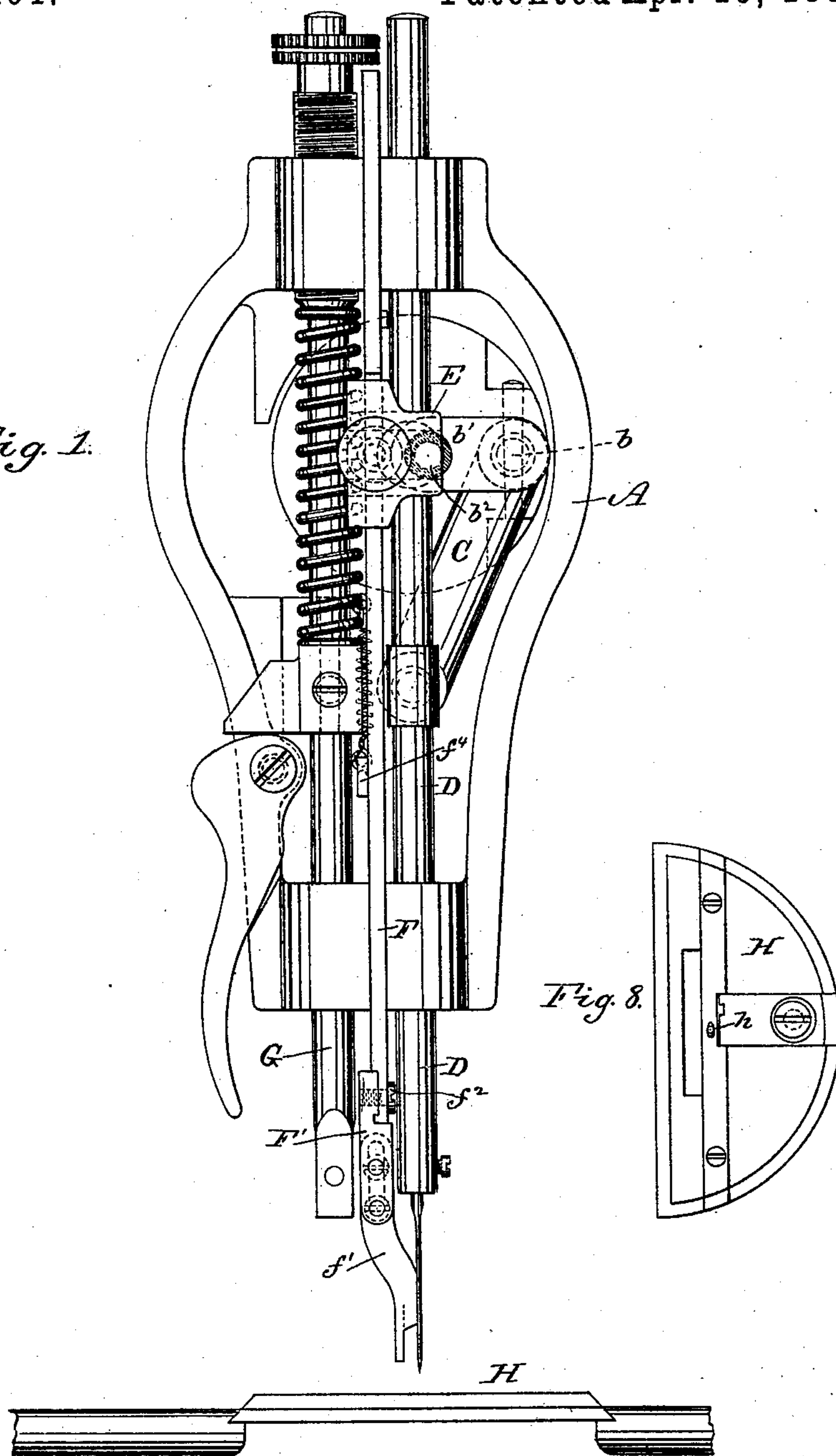
P. DIEHL.

TRIMMING ATTACHMENT FOR SEWING MACHINES.

No. 361,401.

Patented Apr. 19, 1887.

Fig. 1.



WITNESSES:

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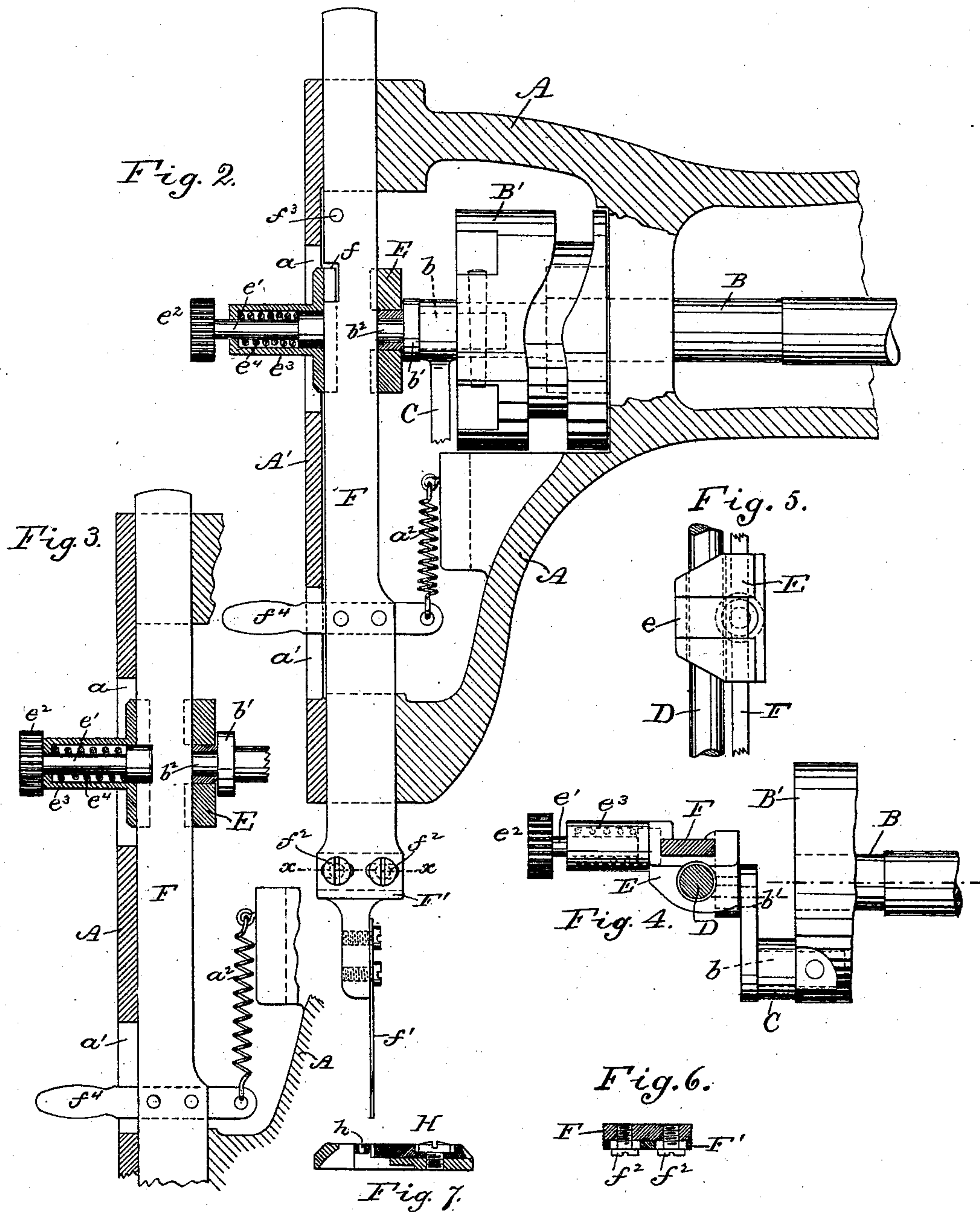
2 Sheets—Sheet 2.

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TRIMMING ATTACHMENT FOR SEWING MACHINES.

No. 361,401.

Patented Apr. 19, 1887.



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TRIMMING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 361,401, dated April 19, 1887.

Application filed December 27, 1886. Serial No. 222,620. (No model.)

To all whom it may concern:

Be it known that I, PHILIP DIEHL, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Trimming Attachments for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 My invention relates to that class of trimming attachments for sewing-machines in which the knife or cutter is carried by a bar reciprocating vertically in bearings in the head of the machine, the said knife or cutter
15 working in a slot in the throat-plate; and the object of my invention is to provide a convenient device of the class referred to, in which the cutter-carrying bar may be readily thrown into or out of operation when desired, and in
20 which the knife may be adjusted on its carrying-bar relative to the needle or the line of stitches.

According to my invention, the cutter-carrying bar is reciprocated vertically in the
25 head of the machine by a sliding block embracing the needle-bar and operated from the crank disk or cylinder at the forward end of the driving-shaft by a crank having a lesser throw than the needle-bar-operating crank.
30 The said sliding block is slotted to receive the pin or roller of its operating-crank, and is coupled with the cutter-carrying bar by a spring-pin entering a notch or recess in said bar. When the cutter-bar is to be thrown out
35 of operation, the said pin is withdrawn from its notch or recess, and the said bar will then be lifted by a spring connected therewith, so that the notch will be beyond the range of the spring-pressed coupling-pin on the reciprocating coupling-block. The cutter-carrying
40 bar is provided with a projecting handle, by which it may be depressed in opposition to the stress of its lifting-spring to bring the notch within the range of the coupling-pin when the
45 cutter is to be thrown into operation. The cutter is secured to a block adjustably attached to the lower end of the cutter-bar, so as to be adapted to be moved laterally toward or from the needle or the line of stitches made
50 thereby.

In the accompanying drawings, Figure 1 is

a partial front end view of a "Singer" sewing-machine embodying my invention, with the face-plate removed. Fig. 2 is a sectional view of the same. Fig. 3 is a sectional view
55 similar to Fig. 2, with the parts in different positions, and with some parts omitted. Fig. 4 is a detail plan view with the needle and cutter bars in horizontal section. Fig. 5 is a detail view of the sliding coupling-block, to
60 show the crank-pin slot. Fig. 6 is a detail section of the cutter-bar and knife-carrying block on line *x x*, Fig. 2; and Figs. 7 and 8 are sectional and plan views, respectively, of the throat-plate. 65

A denotes the head or the forward part of the arm of a sewing-machine, and A' the face-plate, the latter having openings or slots *a* and *a'*.

B is the driving-shaft, and B' the cam-cylinder secured thereto and having a crank-pin, *b*, connected by a link, C, with the needle-bar D, in the usual manner. Rigidly secured to or formed integral with the crank-pin *b* is a crank-arm, *b'*, having a pin or roller, *b''*,
75 slightly eccentric to the driving-shaft, so as to have in practice a throw of about one-quarter of an inch, the said pin or roller entering a slot, *e*, in a coupling-block, E, preferably surrounding the needle-bar D, and recessed or
80 slotted to embrace the cutter-bar F, which has vertical bearings in the arm or head A between the said needle-bar and the presser-bar G. The coupling-block E carries a coupling-pin, *e'*, having a head, *e''*, the said block having a recessed projection, *e'''*, extending outward through the slot *a* in the face-plate and adapted to receive a light spring, *e''''*, which forces the said pin into a notch, *f*, in the cutter-bar when the latter is to be coupled with
90 the reciprocating block E.

When it is desired to run the machine without operating the cutter-bar and cutter, the spring-pressed pin *e''''* is withdrawn from the notch *f* in the said bar, and the latter will then
95 be lifted by the spring *a''*, attached to a stationary part of the arm or head, and to a handle, *f''*, secured to the cutter-bar and projecting outward through the slot *a'* in the face-plate A'. When the cutter is thus lifted by
100 the spring *a''*, (see Fig. 2,) the notch *f* therein will be out of range of the pin *e'*, carried by

the reciprocating coupling-block, so that the latter will move up and down idly without imparting movement to said bar. When the cutter-bar is to be set in motion, the operator presses down on the handle e^5 , to bring the notch f into register with the pin e' , and thus couple the said bar with the block E, as shown in Fig. 3, a stop-pin, f^3 , which comes into contact with the block E, limiting the downward movement of the cutter-bar when the said notch is in register with the coupling-pin.

The spring e^4 is light, so that when the pin e' is out of the notch f the frictional contact between the said pin and the cutter-bar will not be sufficient to overcome the stress of the lifting spring a^2 , otherwise the said bar might accidentally be thrown in operation when not desired by the friction of the said pin.

To provide for a lateral adjustment of the blade or cutter f' toward or from the needle-hole h in the throat-plate H, the said cutter is carried by a block, F' , adjustably secured to the cutter-bar by the screws f^2 , passing through slots in the lower end of the said bar. The shank of the knife or cutter f' is also slotted, (see dotted lines in Fig. 1,) to provide for vertical adjustment thereof.

From the foregoing it will be apparent that the cutter-bar may be readily thrown into or out of operation when desired, and that the knife or cutter may be adjusted as may be required. When the cutter-bar is thrown out of action, as in Figs. 1 and 2, the finger at the lower end of the cutter or knife will be lifted above the throat-plate; but when the said cutter is in operation its throw is so small that the said finger is not disengaged from the throat-plate.

I claim as my invention—

1. In a sewing-machine trimming attachment, the combination, with a notched or recessed cutter-bar, of a reciprocating coupling-block and a spring-pressed pin carried by the latter and adapted to engage the notch or recess in the said bar.

2. In a sewing-machine trimming attachment, the combination, with a notched or recessed cutter-bar and a lifting-spring for the latter, of a reciprocating coupling-block and a spring-pressed pin carried by the latter.

3. In a sewing-machine trimming attachment, the combination, with the cutter-bar having the notch f and the outwardly-projecting handle f^4 , of the lifting-spring a^2 and the reciprocating coupling-block E, having the spring-pressed pin e' .

4. The combination, with the driving-shaft B and a crank cylinder or disk therein, of the needle-bar-operating crank-pin b , having a rigid arm carrying a crank pin or roller, the slotted coupling-block E, the spring-pressed pin e' , carried thereby, and the notched or recessed cutter-bar.

5. In a trimming attachment for sewing-machines, the combination, with the vertically-movable cutter-bar F, of the laterally-adjustable knife-carrying block F' , secured to the said bar, and the knife adjustably secured to the said block.

In testimony whereof I affix my signature in presence of two witnesses.

PHILIP DIEHL.

Witnesses:

J. G. GREENE,
W. BRANDT.