

(No Model.)

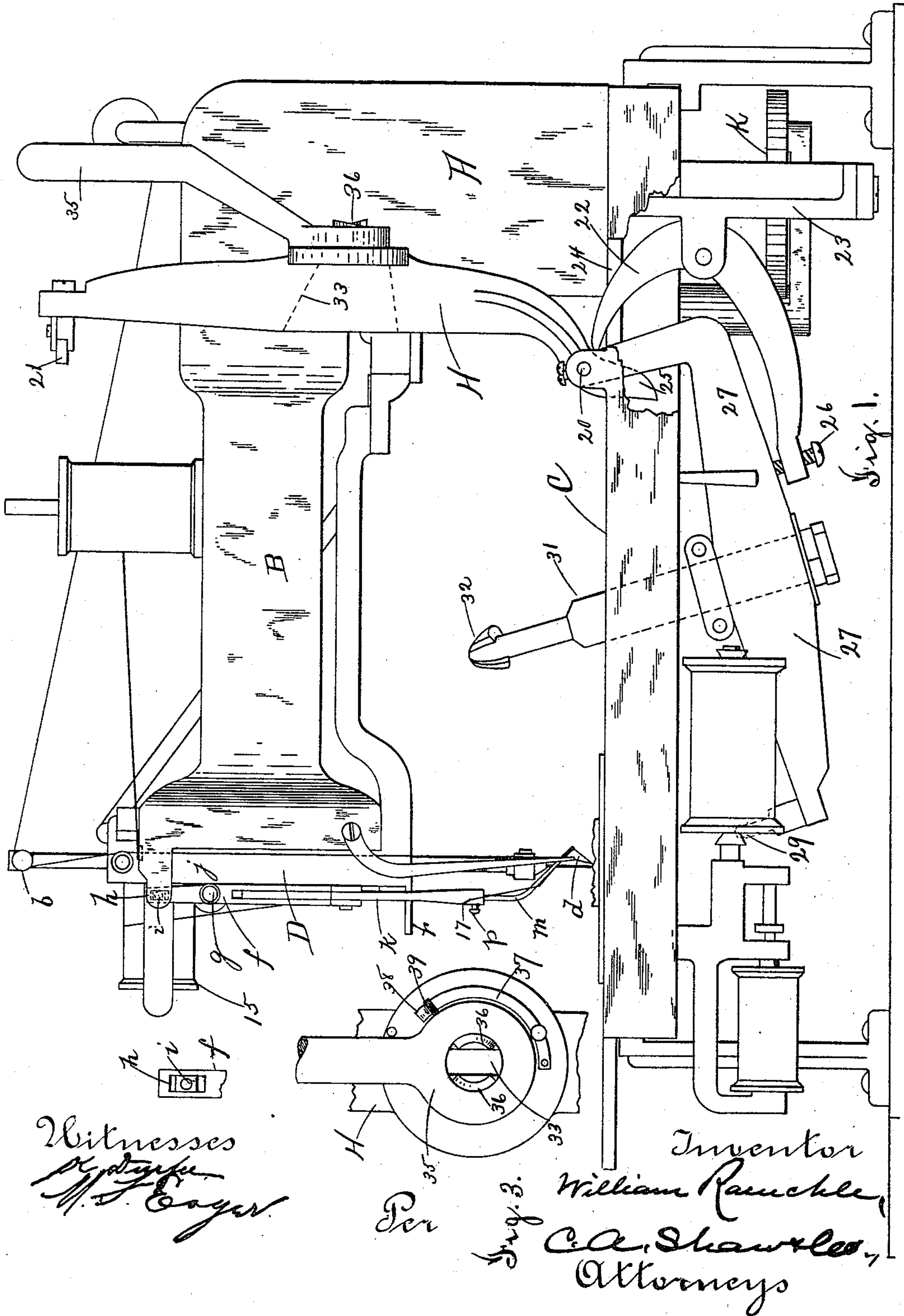
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W. RAEUCHLE.

BUTTON HOLE CUTTING MECHANISM FOR SEWING MACHINES.

No. 440,760.

Patented Nov. 18, 1890.



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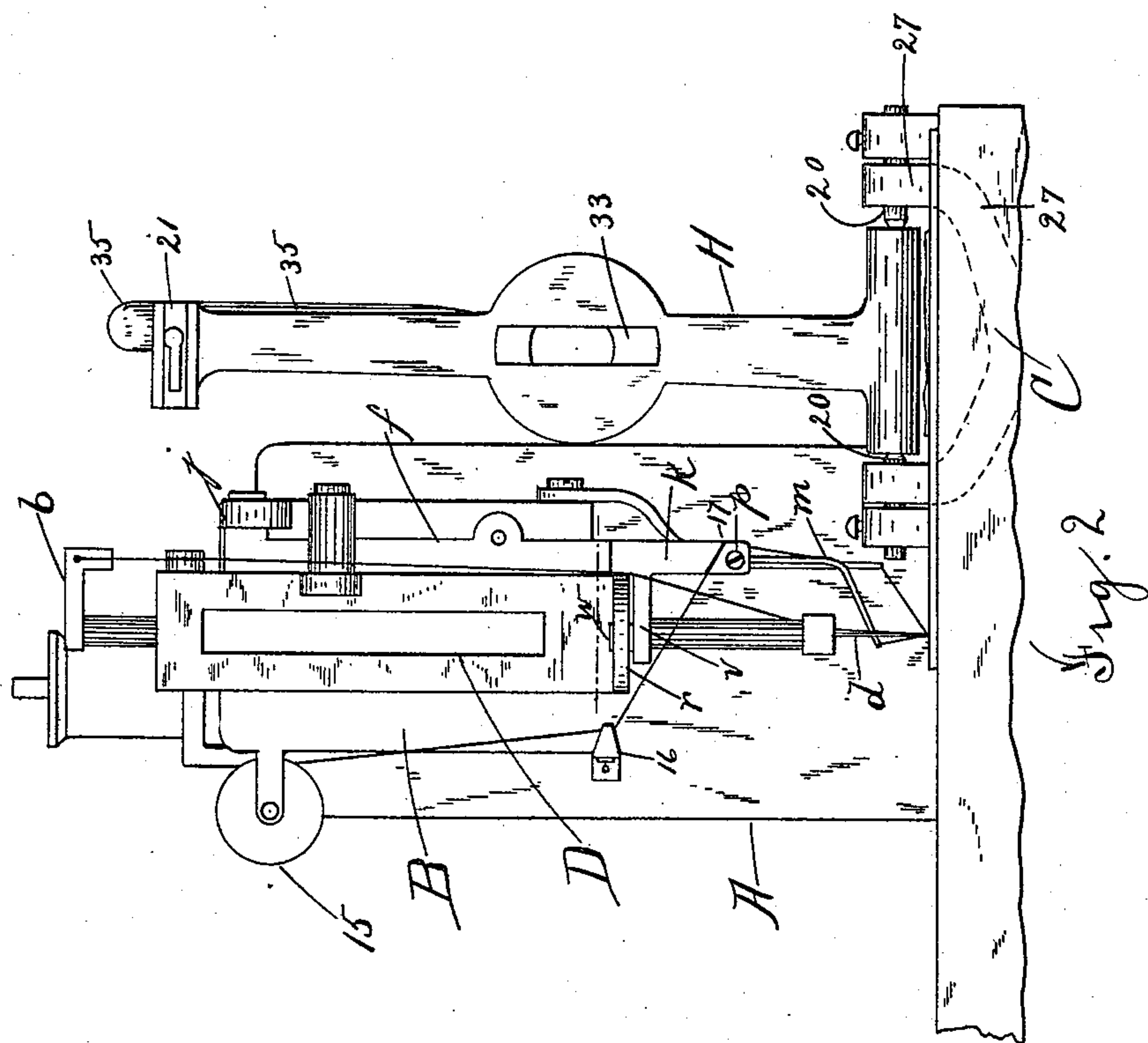
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# BUTTON HOLE CUTTING MECHANISM FOR SEWING MACHINES.

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Patented Nov. 18, 1890.



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM RAEUCHLE, OF BOSTON, MASSACHUSETTS.

## BUTTON-HOLE-CUTTING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 440,760, dated November 18, 1890.

Application filed May 22, 1890. Serial No. 352,712. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM RAEUCHLE, of Boston, in the county of Suffolk, State of Massachusetts, have invented certain new and useful Improvements in Button-Hole-Cutting Mechanism for Sewing-Machines, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of my improved machine; Fig. 2, an end elevation of the same; Fig. 3, a sectional elevation of a portion of the cutter-lever, showing the cam-opening.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates especially to the mechanism for cutting button-holes; and it consists in certain novel features, hereinafter fully set forth and claimed, the object being to produce a more effective device of this character than is now in ordinary use.

In the drawings, A represents the standard, B the machine-arm, and C the table or bed. The ordinary vertical and horizontal driving-shafts are mounted in the arm and standard in the usual manner. The needle-bar-carrier reciprocating mechanism, which may be of any suitable construction, is mounted on the arm in the usual way, and as these parts are of ordinary form and construction it is not deemed essential to specifically describe them.

The needle-bar carrier D is mounted on the end of the arm B, the thread passing through a guide *b* on the top of the bar to the needle *d*.

The mechanism for cutting button-holes in cloth comprises a lever H, pivoted by cone-bearings 20 (see Fig. 2) to swing vertically on the table C. In the upper end of said lever a cutter-block 21 is mounted. A vertically-swinging curved lever 22 is pivoted to a bracket 23 below the table, and has one arm projecting through a slot 24 therein in position to be engaged by the lower or short arm 25 of the lever H, whereby said lever 22 is actuated. An adjusting-screw 26 is disposed in the lower arm of the lever 22. Pivoted by one end on the bearings of the lever

H there is an angle-lever 27, which projects longitudinally under the table C and bears a knife 29 on its free end, adapted to be projected in the usual manner through a slot in the table when said lever is elevated. A vertically-arranged rod 31 is adjustably secured to the lever 27 and projects through the table, the upper end of said rod bearing a cam-shaped head 32. An opening 33, (see dotted lines in Fig. 1,) having inclined walls, is formed on the lever H to receive the head 32 when said lever is depressed. At the mouth of said opening a clamping-lever 35 is pivoted to swing laterally, said lever being provided with an opening through which said cam-head may project, and with cam-tracks 36, adapted to engage said head and draw the rod 31 upward as said lever 35 is swung outward.

In the use of the hole-cutting mechanism the cloth is disposed over the opening 30. The lever H is then depressed until the cutter-block 21 meets the upper face of the cloth. As said lever is moved, its short arm 25 actuates the lever 22 and throws the cutting-lever 27 upward, its knife 29 engaging the cloth on the under side and the cam-head 32 of the rod 31, projecting through the openings in the levers H 35. By throwing the lever 35 outward said rod 31 is drawn upward, carrying with it the lever 27 and forcing the knife 29 through the cloth. A flat spring 37 on the lever H, provided with a head 38, engaged by a pin 39 on the lever 35, prevents said lever 35 from accidentally falling downward when in the vertical position shown in Fig. 1.

I claim as my invention—

1. In a button-hole sewing-machine, the combination of a table, a main lever pivoted near its lower end to said table and having a short arm extending below the table, a pivoted angle-lever extending below the table, a cutter-block at the outer end of one of said levers and a cutter at the outer end of the other lever, and a curved lever pivoted below the plane of said table, the upper end of said curved lever being engaged by the short arm of said main lever and the lower arm of said curved lever extending under and engaging said angle-lever, substantially as set forth.

2. In a button-hole sewing-machine, the combination of a table, a main lever pivoted near its lower end to said table and having a



short arm extending below the table, a piv-  
oted angle-lever extending below the table, a  
cutter-block at the outer end of one of said  
levers, a cutter at the outer end of the other  
5 lever, and a curved lever pivoted below the  
plane of said table, the upper arm of said  
curved lever being engaged by the arm of  
said main lever, the lower arm thereof engag-  
ing said angle-lever and being provided with  
10 an adjusting-screw, substantially as de-  
scribed.

3. In a button-hole sewing-machine, the  
combination of two pivoted levers provided  
with a cutter-block and cutter, respectively,  
15 one of said levers being provided with a cen-  
tral slot and with a slotted cam-lever adjacent  
to said slot, and a locking-rod secured to the  
other lever and provided with a head adapted  
to project through the slots of said lever and  
20 cam and to be engaged by said cam, substan-  
tially as described.

4. In a button-hole sewing-machine, the  
combination of a table, a main lever pivoted  
near its lower end to said table and having a  
central slot and a short arm extending below 25  
the table, a pivoted angle-lever extending be-  
low the table, a cutter-block at the outer end  
of one of said levers, a cutter at the outer  
end of the other lever, a curved lever pivoted  
below the plane of said table, the upper arm 30  
of said curved lever being engaged by the  
arm of said main lever, the lower arm thereof  
engaging said angle-lever, a locking-rod at-  
tached to said angle-lever and provided with  
a head adapted to pass through the slot of 35  
the main lever, and a slotted cam-lever on said  
main lever opposite said slot for engaging  
said head, substantially as described.

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Witnesses:

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