

(No Model.)

2 Sheets—Sheet 1.

C. SCHRAUBSTADTER, Jr. & C. R. SCHILLING.  
ROUTING MACHINE.

No. 527,025.

Patented Oct. 2, 1894.

Fig. I.

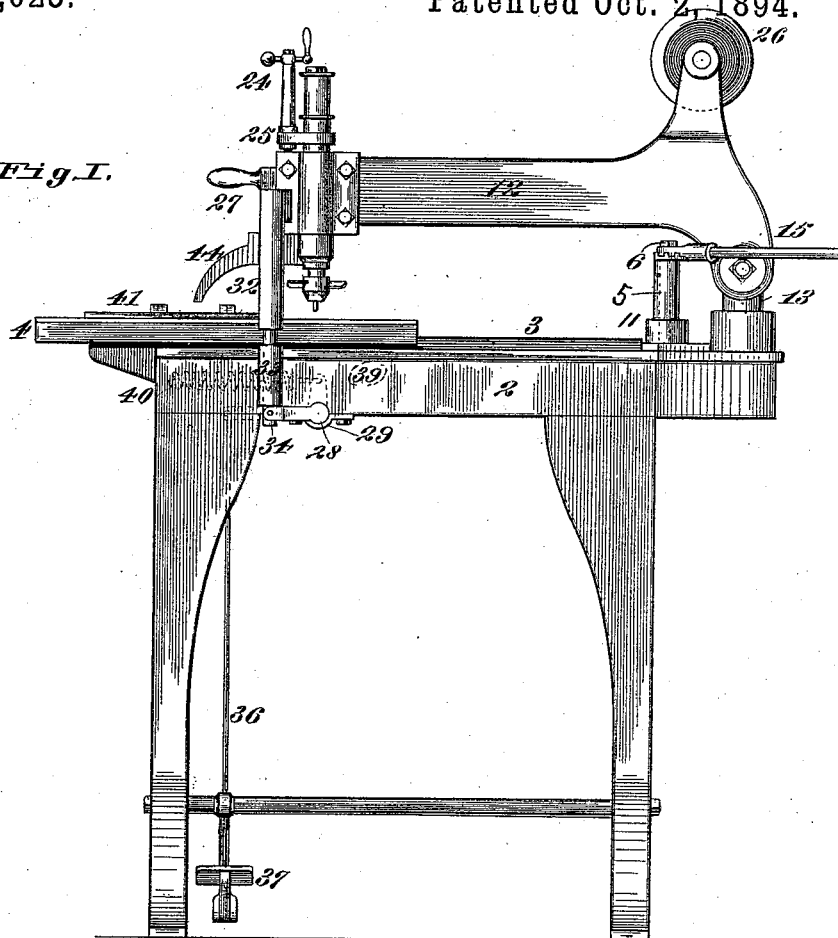
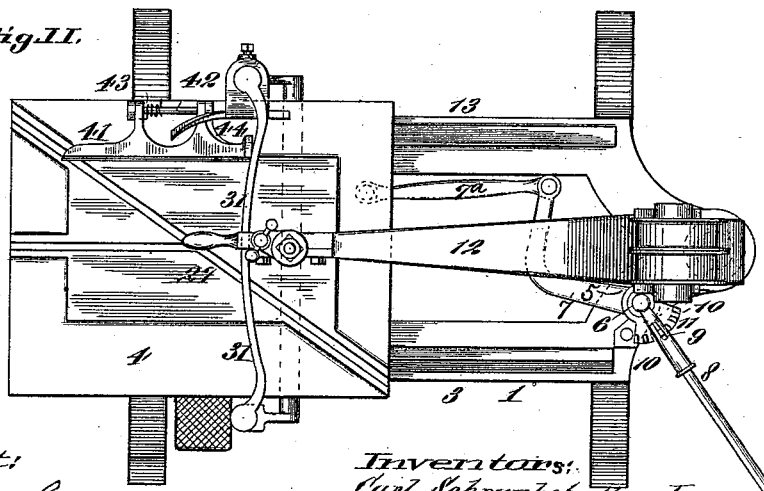


Fig. II.



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Fig. III.

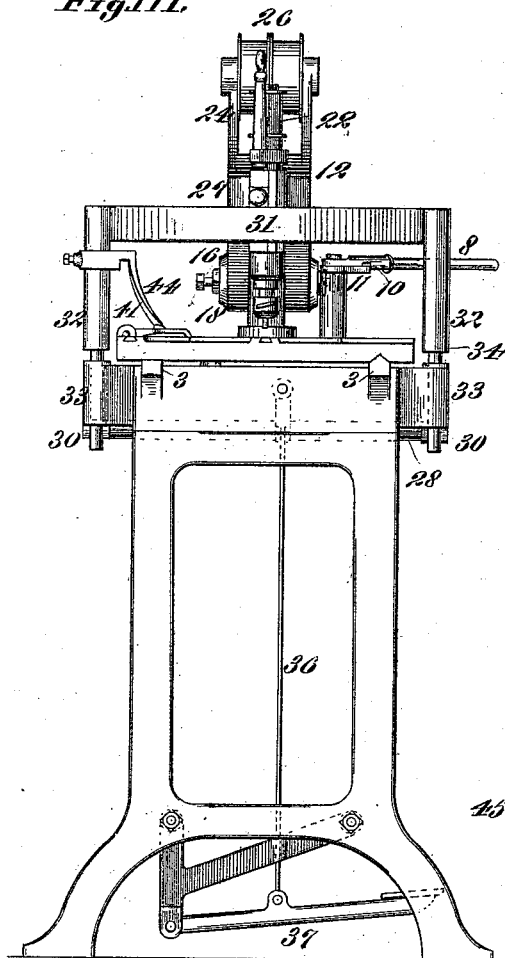


Fig. IV.

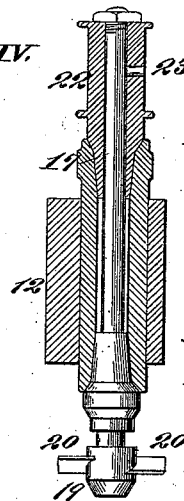


Fig. IX.

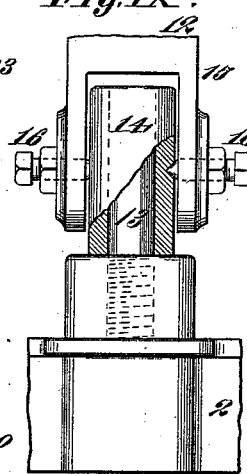


Fig. V.

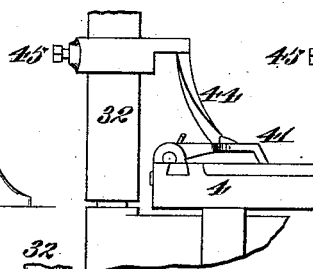


Fig. VI.

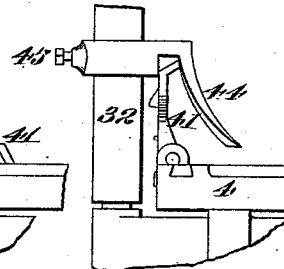


Fig. VII.

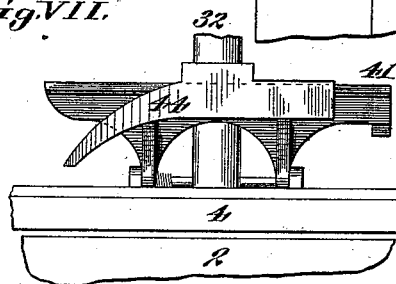
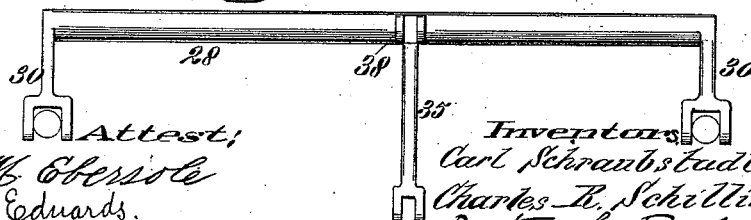


Fig. VIII.



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# UNITED STATES PATENT OFFICE.

CARL SCHRAUBSTADTER, JR., AND CHARLES R. SCHILLING, OF ST. LOUIS,  
MISSOURI, ASSIGNORS TO THE WESTERN ENGRAVERS' SUPPLY COMPANY,  
OF SAME PLACE.

## ROUTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 527,025, dated October 2, 1894.

Application filed December 1, 1893. Serial No. 492,431. (No model.)

### *To all whom it may concern:*

Be it known that we, CARL SCHRAUBSTADTER, Jr., and CHARLES R. SCHILLING, both of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Routing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Our invention relates to certain improvements in the construction of machines for routing printing blocks, and the like; and our invention consists in features of novelty hereinafter fully described and pointed out in the claims.

Figure I is a side elevation, illustrative of our improved machine. Fig. II is a top view. Fig. III is a front, end view or elevation. Fig. IV is an enlarged, vertical section of the spindle, with its support. Figs. V and VI are enlarged, detail views, illustrating the manner of automatically lifting the gage. Fig. VII is a detail view, showing the gage raised. Fig. VIII is an enlarged view of the rock-shaft, with its cranks or arms. Fig. IX is an enlarged, detail view, showing the manner of mounting the swinging arm on its support.

Referring to the drawings, 1 represents the frame of the machine, having a top 2, with rails or slides 3 upon which the table 4 moves.

5 represents a hub formed on top of the machine and which is adapted to receive a vertical shaft 6. The table is moved through means of an arm 7, on the shaft 6, and connected by a link 7<sup>a</sup> to the table.

8 is a lever pivotally connected to the shaft 6, and which has a slot or perforation 9 adapted to receive projections 10 on the head 11 on the shaft 6. The lever 8 is so connected at the pivot as to permit of its outer end being raised to an extent sufficient to disengage the slot or perforation 9 from the projections 10, so that the operator can move the outer end of the lever toward or from him, by raising it so as to disengage it from the notch or projections of the head 11, and then by lowering it again the slot 9 receives the desired projection 10, and thus the operator is enabled to move the

lever back and forth with relation to the arm 7, as may be found by him the most convenient position for the lever.

12 is an arm mounted on a stem 13, projecting upwardly from the top of the machine. The manner of mounting the arm on the stem is shown in Fig. IX, and consists in slipping a box 14 over the stem which is straddled by the bifurcated end 15 of the arm, and to which the arm is held by conically pointed set screws 16. By thus mounting the arm, its forward end can be swung either in a horizontal or vertical direction, as will be readily understood.

17 is a spindle which carries the routing tool 18, held to the spindle by a suitable form of chuck 19.

20 represents blades set at an angle on the outer surface of the chuck 19, and which produce a current of air sufficient to remove the portions of the printing block cut by the tool.

21 represents a sleeve or bushing fitting between the spindle 17 and the arm 12, and above which is a pulley 22, having a pin or other connection 23 with the spindle. The sleeve or bushing 21 is capable of being moved vertically in the arm 12, to feed the tool, and it is thus moved by a screw 24 passing through a projection 25 on the sleeve or bushing, and which screws into the upper surface of the arm 12.

The belt that drives the tool passes from the motor power, over pulleys 26, journaled on the inner end of the arm 12, and around the pulley 22.

The arm 12 has a hand-hold 27, by which it is swung or moved in its horizontal direction.

28 represents a rock-shaft secured to the under side of the top 2 of the machine, by means of journal boxes 29. On each end of this rock is an arm or crank 30. (See Fig. VIII.) Under the forward end of the arm 12 is a cross-head or bar 31, from which projects vertical rods 32, which pass through sleeves or boxes 33 secured to the top 2 of the frame of the machine; the rods being preferably reduced in size where they pass through the boxes so as to form shoulders 34 to limit the downward movement of the rods 32, and consequently the downward movement of the in-

ner end of the arm 12. To the lower end of the rods 32 the arms or cranks 30 are secured as shown at 34, Fig. I.

Projecting from near the central portion of the rock shaft 28 is an arm 35 connected by a rod 36 to a foot-treadle 37, and projecting also from the rock shaft 28 is an arm 38, from which projects a rod 39, (see dotted lines, Fig. I,) which is surrounded by an expansion spring 40. To depress the inner end of the arm 12, pressure is applied to the treadle 37, and when the pressure is removed from the treadle, the spring 40 restores the arm 12 to its normal position.

41 represents a gage for use in certain classes of work, and which is pivoted to the top 2 of the machine by a rod 42.

43 is a spring for holding the gage normally in its lower position upon the table.

44 is a cam secured to one of the rods 32 by means of a screw 45. When this cam is raised into the position shown in Fig. I, it will pass over the gage 41, but by lowering the cam the gage, in the backward movement of the table 4, engages the cam, causing the gage to be raised, as shown in Figs. VI and VII, so that when it is desired, the gage can be automatically lifted or raised, as the table recedes, and held in this supported position by the cam so

long as the table is not moved forward sufficiently far to carry the gage beyond the cam.

The object in raising the gage is to get it out of the way of the tool and of the operator so as not to interfere with the operator's view of the work while routing.

We claim as our invention—

1. In a routing machine, the combination of the movable table, a gage hinged to the table, and a stationary cam for automatically lifting the gage, substantially as set forth.

2. In a routing machine, the combination of an arm, a cross head or bar on which the arm rests, vertical rods extending from the cross-head, a cam secured to one of said rods, a movable table and a gage pivoted to the table, and adapted to be automatically lifted by said cams; substantially as and for the purpose set forth.

3. In a routing machine, the combination of a table, a gage hinged to the table, and an adjustable cam 44, substantially as and for the purpose set forth.

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CHARLES R. SCHILLING.

In presence of—

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BENJN. A. KNIGHT.