

(No Model.)

J. HOPE.
ENGRAVING MACHINE.

No. 281,509.

Patented July 17, 1883.

Fig. 1.

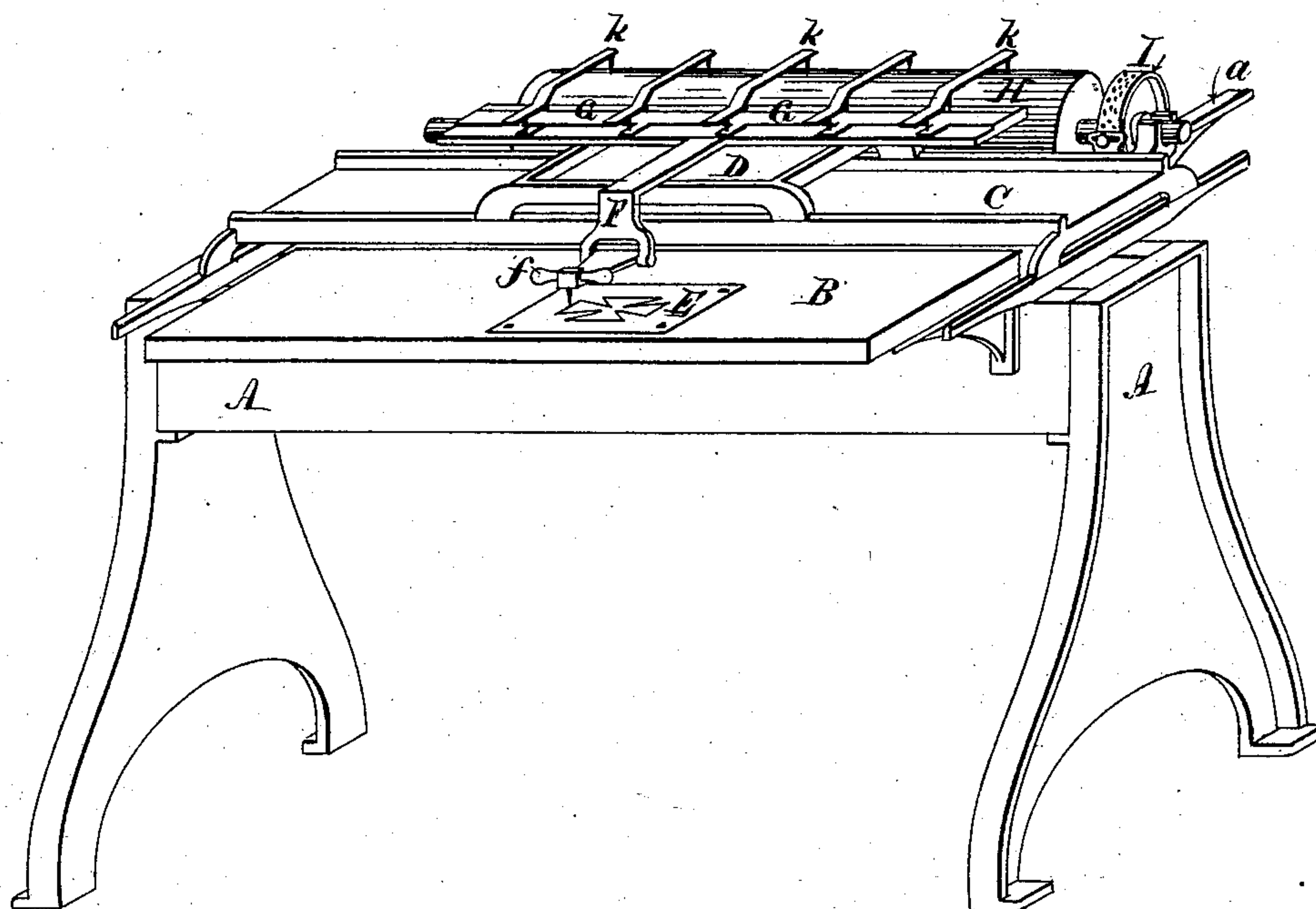


Fig. 2.

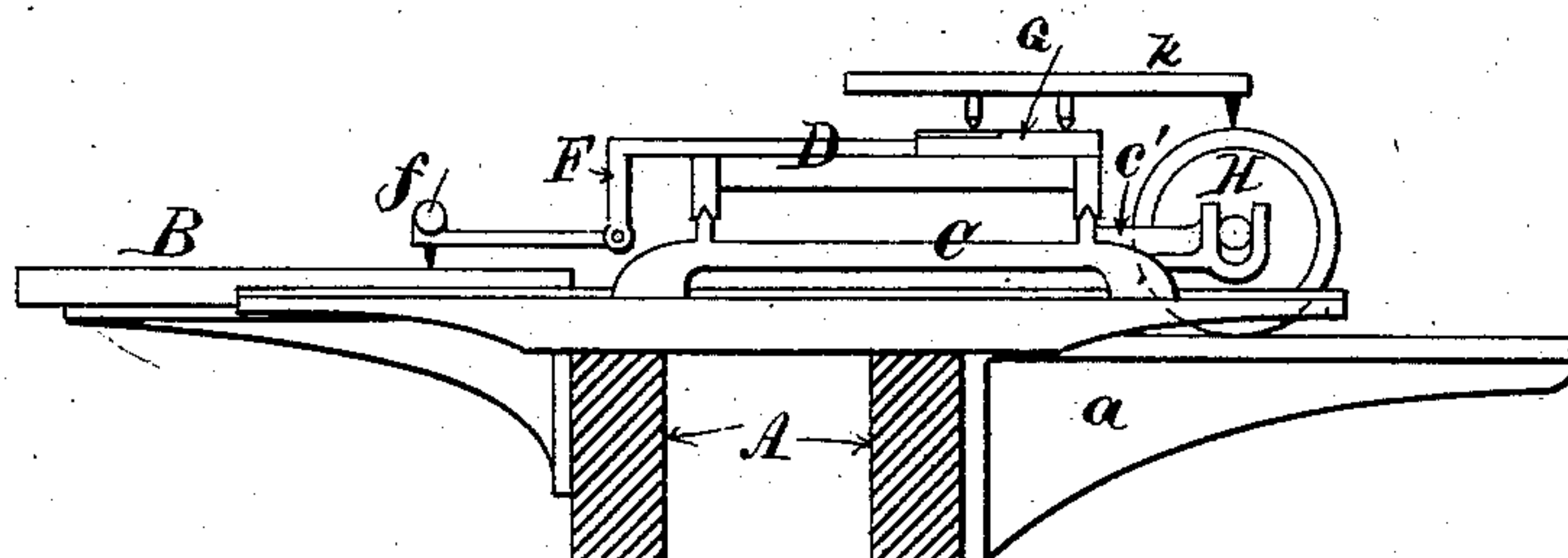
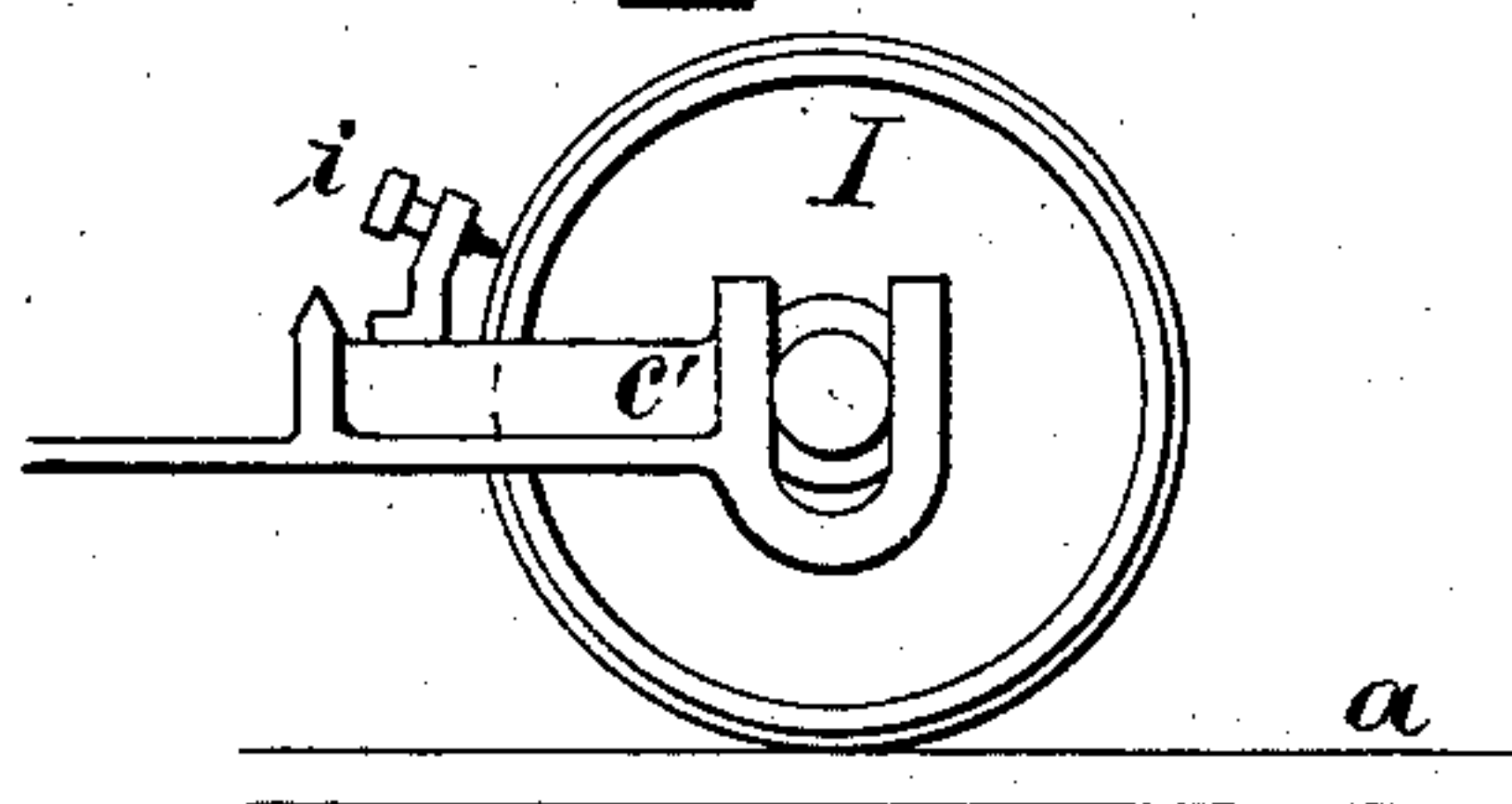


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN HOPE, OF PROVIDENCE, RHODE ISLAND.

ENGRAVING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 281,509, dated July 17, 1883.

Application filed May 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN HOPE, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Engraving-Machines; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

10 This invention has reference to an improvement in machines for engraving rolls for calico and other printing-plates for printing, and also various articles that are ornamented by engraving lines on the same.

15 The invention consists in the peculiar and novel construction of the machine by which the motion of the stylus is transmitted to a number of gravers, and so the pattern is duplicated of the same size as the original, as will be more fully set forth hereinafter.

20 Figure 1 is a perspective view of my improved engraving-machine, showing a roller for calico-printing mounted on the machine, and being engraved by means of five gravers. Fig. 2 is a sectional view of the same. Fig. 3 is an enlarged end view of the roller and its connection, showing the index by which the turning of the roller from one pattern to the next is regulated.

30 In the drawings, A is the frame or standard on which the machine is supported.

B is the table on which the pattern is secured.

35 C is a transverse bridge supported on ways, so that the same can be readily moved toward and from the operator. This bridge C is also provided with ways on which the carriage D is moved laterally, so that by these two motions any desired figures may be produced.

E is the pattern; F, the tracer-arm, on which the stylus *f* is hinged.

40 G is a bar on which the gravers are secured.

The machine is shown in the drawings arranged to engrave a calico-printer's roll.

H is the roll, and I an index-wheel secured to the shaft of the roll.

45 When a plain surface is to be engraved, the same is secured back of the bridge C.

Referring, now, again to the drawings and to the construction of the machine for engraving calico-printers' rollers, there are two brackets, one of which is shown at *a*, placed on the rear of the frame A to form ways on which the roll H rests, and on which it can be rolled.

There are also two brackets, one of which is shown at *c'*, extending from the bridge C, and having at their outer ends bearings which receive the journals of the roll H. When the bridge C is moved forward or backward, the roll will be turned on account of its frictional contact with the ways or brackets *a*, thus causing the same effect to be produced on the roll 60 by the gravers that would be produced on a flat plate fixed on the brackets. The gravers are indicated by the letter K.

The index-wheel I and the index-point *i* are for the purpose of turning the roll after one pattern has been completed, so as to start a new set of patterns, and for this purpose points or marks are made on the index-wheel to show how far the roller is to be turned, in the same manner as is usual in pantograph engraving- 70 machines.

In place of the pattern and stylus, the tracer-arm can be connected with such mechanism as will impart any desired motion to the gravers, and thus the motion of the tracer-arm will produce the designs or patterns on the plate or roll 75 by means of the gravers.

The operation of the machine is very simple. Every motion of the tracer is made by all the gravers, and the pattern on the table B is multiplied as often as there are gravers to cut it into the roll or plate, thus making a simple and efficient machine, on which many patterns can be as efficiently engraved as on the more costly pantograph-machines as heretofore constructed. 85

I am aware that in a machine for engraving calico-printers' rolls a series of gravers have been arranged to act simultaneously on the roller to be engraved; but such gravers have either remained stationary while the roller is moved longitudinally or they have been mounted on an independent slide to which motion is transmitted from the second carriage of the ordinary double carriage by means of intermediate complicated arrangement of motion-transmitting devices. I do not claim such construction or combinations of devices. 95

Having thus described my invention, I claim as new and desire to secure by Letters Patent— 100

1. In an engraving-machine, the combination, with the brackets or ways for supporting the work, of the bridge C, constructed and supported to move outward and inward, the

carriage D, mounted upon said bridge and arranged to move laterally thereon, the tracer-arm carried by said carriage D, the bar G, fixed upon said carriage, and the gravers K, secured
5 directly to the said bar and arranged to move with the carriage, substantially as described.

2. The combination, with the table B, frame A, and the brackets or ways for supporting

the work, of the bridge C, the carriage D, tracer-arm F, and the brackets *c'*, having the bearings for the roll-journals, substantially as described. 10

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Witnesses:

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