J. Russell.

Card-Setting Machine.

No. 69,709. Patented Oct. 8, 1867.

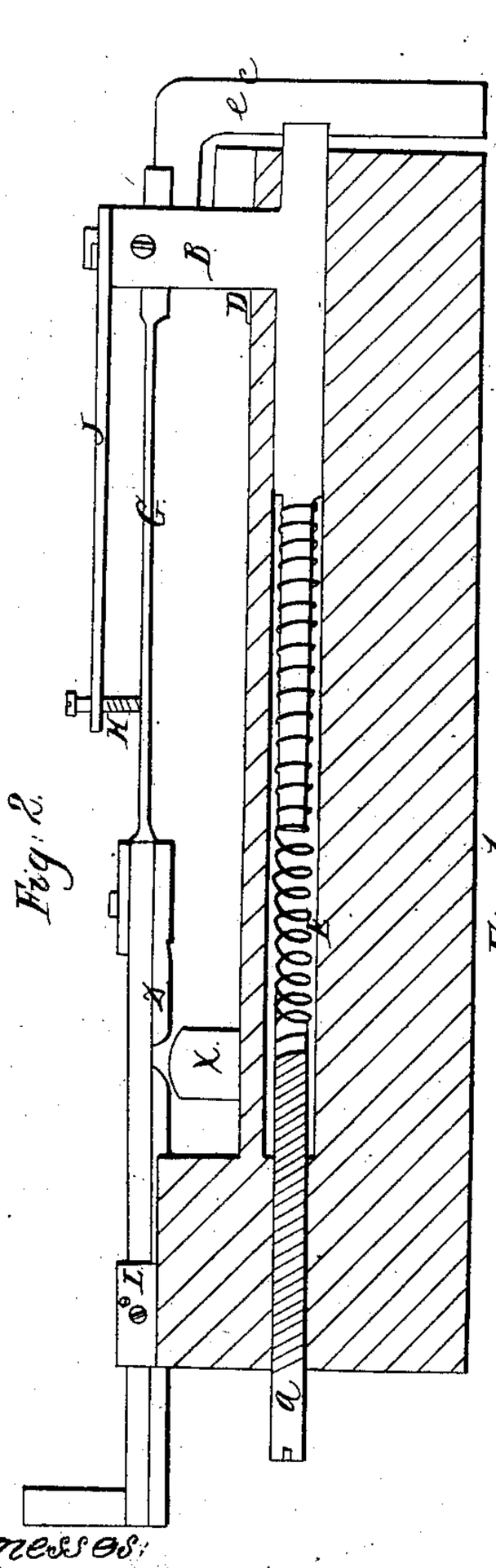

Fig. 2.

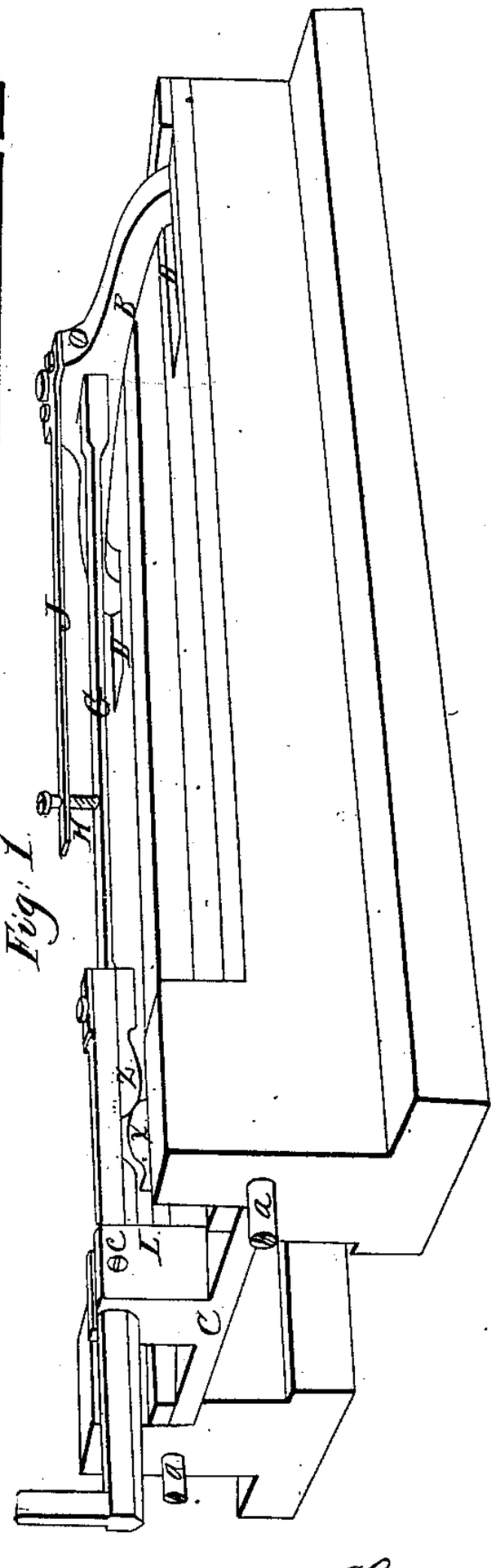

Fig. 1.

Witnesses:
Edward H. Hyde
Louis Roche

Inventor:
James Russell

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

United States Patent Office.

JAMES RUSSELL, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND H. A. COLLINS, OF SAME PLACE.

Letters Patent No. 69,709, *dated October* 8, 1867.

IMPROVEMENT IN CARD-SETTING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JAMES RUSSELL, of Springfield, Hampden county, Commonwealth of Massachusetts, have invented certain Improvements in Card-Setting Machine; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to letters of reference marked thereon. In the drawings—

Figure 1 is a perspective view of part of a card-setting machine, showing my invention.

Figure 2 is a side view and partial section of the same.

My invention is an improvement on the card-setting machine patented by Coates and Russell August 1, 1854, and consists in the improved arrangement of the carrier-plate of the former, which is made independent of the other slides which carry the crowner and bending-fingers.

To accomplish this I attach the carrier at its rear end to a piece, B, which straddles the plate C, to which the bending-fingers are attached, and enters the sides of the frame at D D′. At these points the springs E E′ are placed so as to press against the front side of the piece B; and their pressure is regulated by means of the set-screws *a a′*.

It is unnecessary to explain the operation of forming and inserting the teeth, as that is in all respects like that in the patented machine of Coates and Russell before referred to.

My improvement being, as before mentioned, in the arrangement of the carrier of the former, this is moved by a cam acting on the piece B at *c*, the carrier being forced back against this cam by the springs E E′ at the sides. In the arrangement used in the previous way this carrier was drawn back against the cam by means of a spring under the top plate of the machine, guided by a rod; and this same spring under the plate operated by its tension to draw down the carrier. This old arrangement is objectionable from the fact that this under spring is obliged to perform two functions, namely, drawing the plate downward, and in a backward direction. In my improved arrangement the springs *a a* force the carrier back, as described, and the part G of the carrier-rod is formed there so that it acts as a downward spring. This is made adjustable by the set-screw H, fitted in the arm J so as to press on the carrier-bar, increasing or diminishing the pressure on it as it is screwed up or down. This carrier-rod is operated up and down by the inclined planes *z* on it, and *x* on the finger-bar plate, as in the old arrangement, and works through the guide-block L on the plate, where it is adjusted laterally by the small set-screws *e e*. By means of the set-screws *a a′* I adjust the pressure of the springs E E upon the carrier; also these are of service in putting the machine together when these screws may be loosened, so that the springs do not press on the carrier, thus making it much easier to be put together than as formerly arranged.

The advantages I claim for this invention are that by my arrangement I entirely disconnect the carrier of the former from the other parts, and render it independent in its action, so that it may be easier in its movements, and comparatively without friction, and do away entirely with the under guide-rod.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The spring G, formed in the carrier-rod, and adjusted by means of the arm J and set-screw H, substantially in the manner and for the purpose herein set forth.

JAMES RUSSELL.

Witnesses:

J. B. GARDINER,

EDW. H. HYDE.