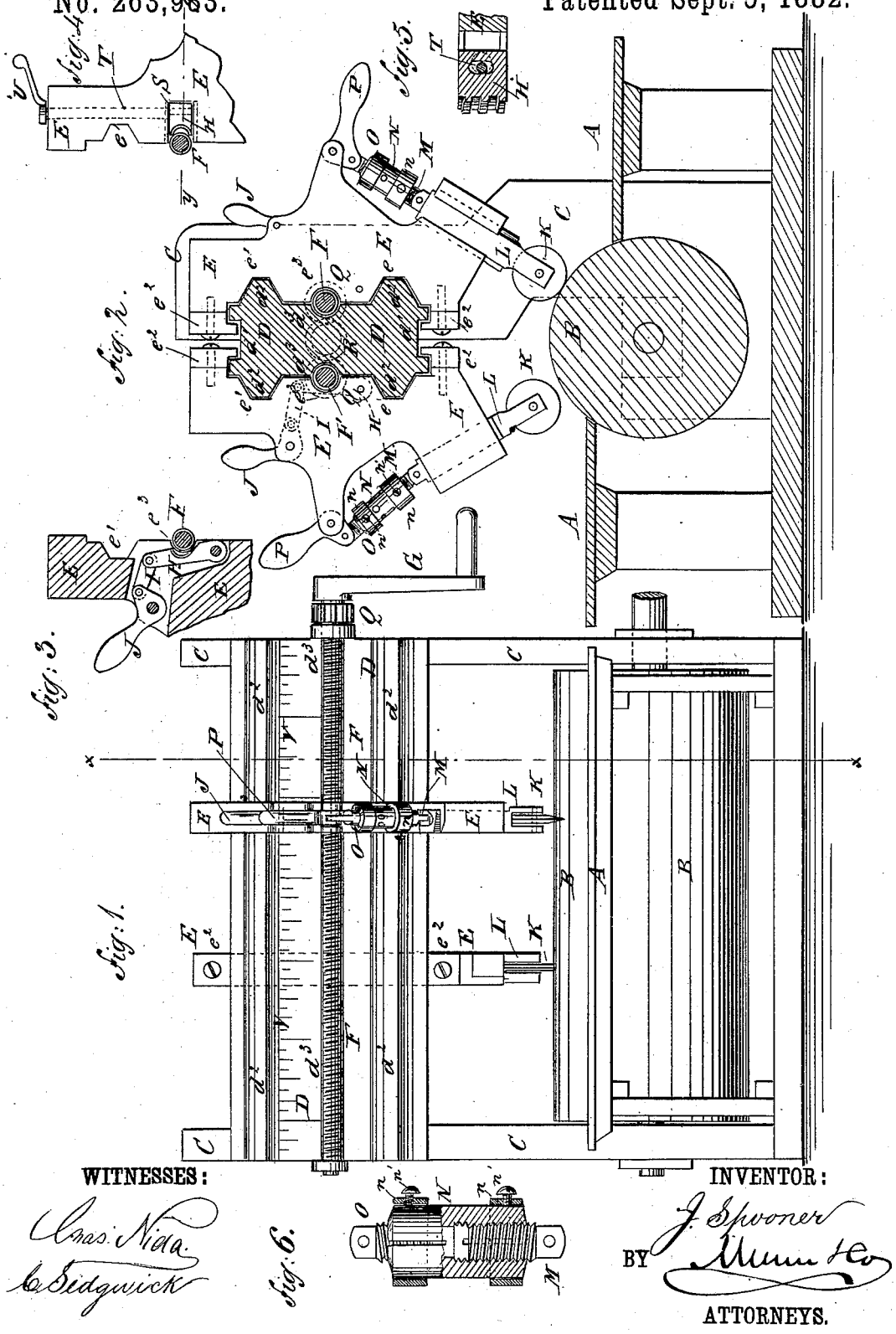
(No Model.)

J. SPOONER.

PAPER SCORER AND CUTTER.

No. 263,983. Patented Sept. 5, 1882.



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PAPER SCORER AND CUTTER.

SPECIFICATION forming part of Letters Patent No. 263,983, dated September 5, 1882.

Application filed April 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SPOONER, of the city, county, and State of New York, have invented certain new and useful Improvements in Paper Scorers and Cutters, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my improvement. Fig. 2 is a sectional side elevation of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a sectional elevation of a part of one of the cutter-stocks. Fig. 4 is an elevation of a part of one of the cutter-stocks, showing another mechanism for moving the half-nut. Fig. 5 is a sectional plan view of the same, taken through the line *y y*, Fig. 4. Fig. 6 is a side elevation, partly in section, of a set of the cutter-adjusting screws and nuts.

The object of this invention is to facilitate the scoring and cutting of paper for making paper boxes, and for other uses, and to promote convenience and economize time in setting and adjusting the cutters as the work may require.

The invention consists in the combination, with the cutter-stock and the cutter-holder, of hinged right and left screws, a right and left nut receiving the said screws, and a lever whereby the cutters can be readily and quickly thrown into and out of a working position.

The invention further consists in the details of construction, as hereinafter fully described, and pointed out in the claims.

A are the tables, B is the roll, and C are the standards, of the machine, about the construction of which parts there is nothing new.

To the upper parts of the standards C are attached the ends of the cutter-bar D, which has wide longitudinal grooves *d'* formed in its upper and lower edges and longitudinal ribs d^2 formed upon the upper and lower parts of its sides. The grooves *d'* may be of rectangular or V or dovetailed shape, as may be desired, and the ribs d^2 may be made V-shaped, or of any other desired form.

E are the cutter-stocks, the inner edges of which are so formed as to fit against the sides of the cutter-bar D, the notches *e'*, formed in them, receiving and fitting upon the ribs d^2 of the said cutter-bar, which ribs thus serve as ways for the cutter-stocks to slide upon and as guards to keep the said stocks vertical.

The ends of the cutter-stocks E project above and below the cutter-bar D, and have blocks e^2 secured to their inner edges to enter the grooves *d'*, and thus hold the said stocks in place against the said cutter-bar.

In the middle part of the inner edges of the stocks E are formed half-round notches e^3, to receive the screws F, which are placed in half-round grooves d^3, formed in the middle parts of the sides of the cutter-bar D, and are swiveled to bearings attached to the standards C.

One or both ends of the swiveled screws F project, and to them are attached gear-wheels Q, the teeth of which mesh into the teeth of an intermediate gear-wheel, R, pivoted to the end or ends of the cutter-bar D, or to some suitable support attached to the said cutter-bar, or to the standards C, so that the two screws F will always turn together.

To the end of one of the screws F, or to one of the gear-wheels Q R Q, is attached a hand-wheel or crank, G, for convenience in turning the said screws.

H is a half-nut, the screw-threads of which fit into the screw-threads of the screw F. The half-nut H is placed in a recess in the cutter-stock E, and is pivoted at its lower end to the said stock E.

To the upper end of the half-nut H is pivoted the end of a link, I, the other end of which is pivoted to a bent or cam lever, J, pivoted in a recess in the cutter-stock E, with its handle projecting for convenience in operating it, to apply the half-nut H to and withdraw it from the swiveled screw F.

K are the cutters, which are pivoted in slots in the lower ends of the holders L. The holders L are placed and slide in inclined holes or slots in the lower outer parts of the stocks E, and to their upper ends are hinged or jointed short screws M, which screw into the lower ends of the long nuts N.

Into the upper ends of the long nuts N are screwed short screws O, which are hinged or

jointed to the bent or cam levers P, pivoted to the projecting middle parts of the stocks E.

The nuts N are made with a right screw-thread at one end and a left screw-thread at the other, and one of the screws M O is made with a right screw-thread and the other with a left screw-thread, so that by turning the nuts N in one or the other direction the holders L and the cutters K will be adjusted as the work to be done may require.

In the centers of the long nuts N are formed radial holes to receive pins to serve as levers in turning the said nuts to adjust the cutters.

The ends of the nuts N are split, and upon the said ends are placed bands *n*, provided with set-screws *n'*, so that the said split ends can be drawn together upon the screws M O, to take up the wear by means of the said set-screws. With this construction the cutters K are lowered into and raised from a working position by operating the levers P, and are adjusted to work at any desired closeness to the roll B by turning the right and left nuts N.

In setting the cutters the half-nuts H are thrown into gear with the swiveled screws F, and the said screws F are turned until the cutters have been brought into exactly the right position, when the nuts H are thrown out of gear, and the stocks will then be unaffected by any movement of the screws F.

If desired, the links I and levers J may be replaced by an eccentric or crank, S, working in a short slot in the half-nut H and attached to or formed upon the shaft or stem T. The shafts T work in bearings in the stocks E, and to their upper ends are attached crank arms or levers U. In this case the half-nuts H are moved toward and from the screws F upon radial lines.

Upon the sides of the cutter-bar D are formed or to them are attached rules V, laid off in inches and fractions of an inch for convenience in adjusting the cutters. I prefer to make the rules V of strips of steel and insert them in grooves in the sides of the cutter-bar D.

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

1. In a paper scorer and cutter, the combination, with the cutter-stock E and the cutter-holder L, of the hinged right and left screws M O, the right and left nut N, and the lever P, substantially as herein shown and described, whereby the cutters can be readily and quickly thrown into and out of working position, as set forth.

2. In a paper scorer and cutter, the combination, with the right and left screws M O, of the right and left nut N, having one or both ends slitted, the bands *n*, and set-screws *n'*, substantially as and for the purpose set forth.

3. In a paper scorer and cutter, the combination, with the grooved cutter-bar D and the correspondingly grooved cutter-stocks E, adapted to slide thereon, of the swiveled screws F, provided with pinions Q on their ends, the intermediate gear-wheel, R, the half-nuts H, the links I, and the levers J, substantially as and for the purpose set forth.

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Witnesses:
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