

(No Model.)

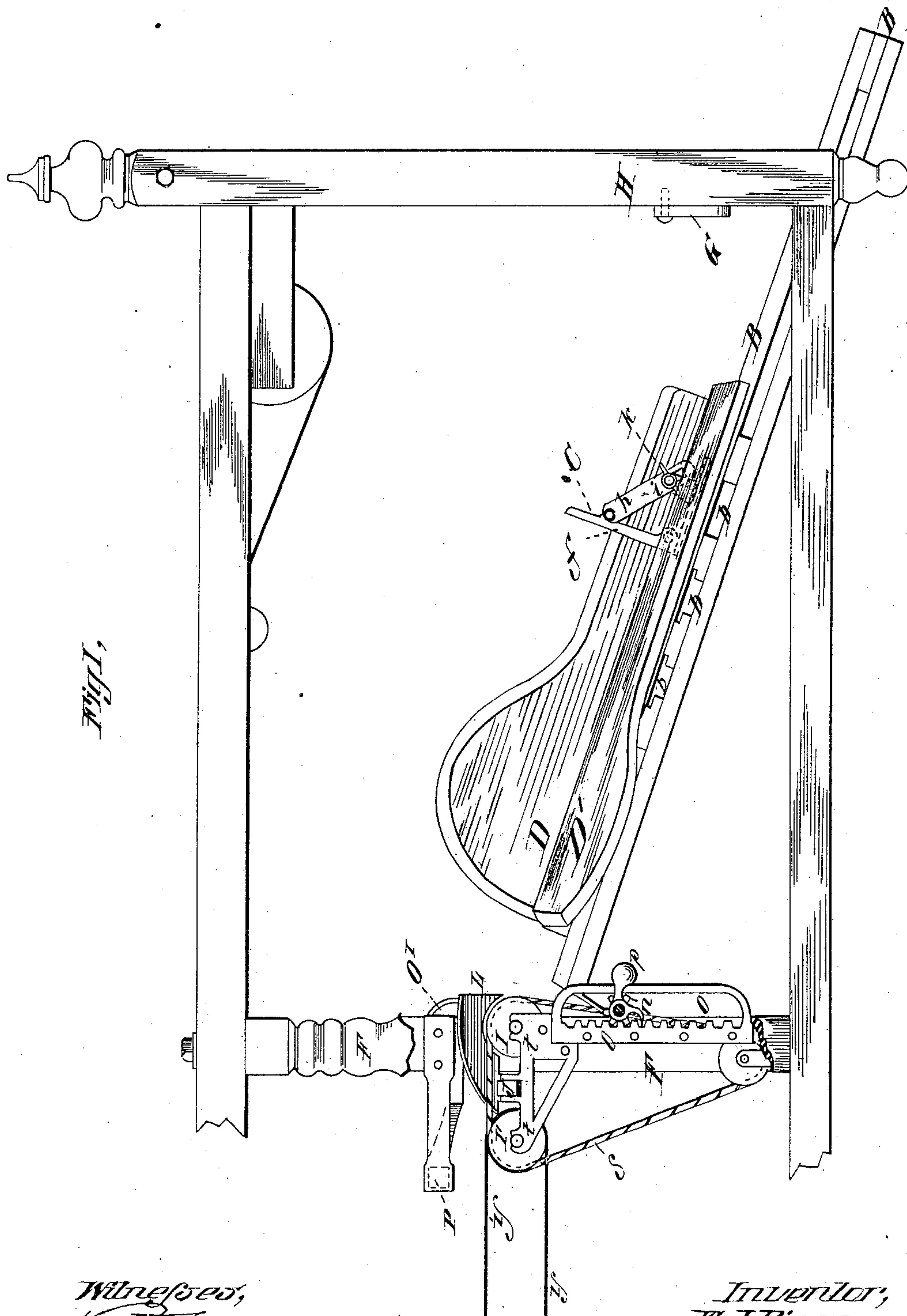
2 Sheets—Sheet 1.

E. J. PIPER.

PAPER RULING MACHINE.

No. 284,665.

Patented Sept. 11, 1883.



Witnesses,
R. F. Hyde
Am. H. Chapin

Inventor,
E. J. Piper,
By Henry A. Chapin
att'y.

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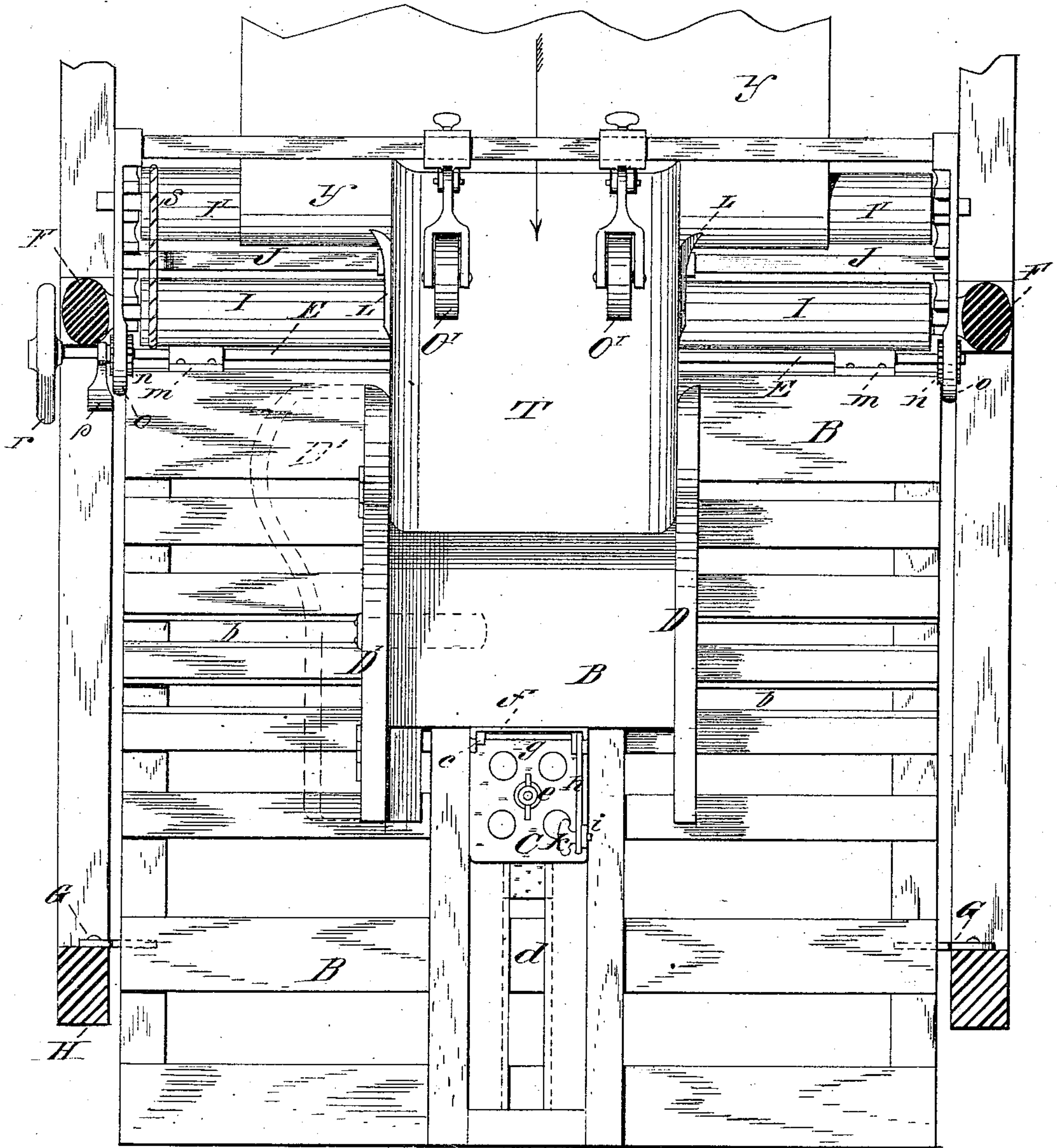


Fig. II,

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UNITED STATES PATENT OFFICE.

EDWIN J. PIPER, OF SPRINGFIELD, MASSACHUSETTS.

PAPER-RULING MACHINE.

SPECIFICATION forming part of Letters Patent No. 284,665, dated September 11, 1883.

Application filed January 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWIN J. PIPER, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Paper-Ruling Machines, of which the following is a specification.

This invention relates to improvements in paper-ruling machines; and it consists in a novel construction and arrangement of the delivery-board and of mechanism connected therewith, whereby the delivery-board is capable of being converted at will into either a lay-box or drop-box.

In the drawings, Figure I is a side elevation of a portion of a ruling-machine having my improvements; and Fig. II is a plan view of my invention combined with a ruling-machine, shown in partial section.

Heretofore the delivery-boards have only been capable of conducting the paper against a foot-rest on said board; but in this device the sheets of paper can be evenly piled as they are delivered against said rest or between the side guides. To accomplish this result I construct my device as follows:

B is the delivery-board, provided with transverse grooves *b*, in which may be adjusted the side guides, *D' D*, to varying widths of the sheets of paper, and with a longitudinal groove, *d*, forming the track, in which may be adjusted the foot-rest *C*. One side guide, *D'*, is also made adjustable upon hinges to fold down upon the bed, to give access to the paper when no longer required as a guiding or evening surface; and both guides *D' D* may be moved to oppose no frictional resistance to sheets moving to the lower end of the board *B*.

The foot-rest *C*, movable in the track *d* and provided with a clamp screw and nut, *e*, for securing it therein, consists of a plane surface-piece, *f*, hinged at its bottom to the base *g* at *e*, and connected by an arm, *h*, also to the base at *i*, the arm being provided with a clamp-nut, *k*, (see Fig. I,) by which an adjustable connection is made to the base, to enable the part *f* to be set to any angle to the face of the board *B*. The delivery-board, having its bearing-surface thus constructed, is hinged at *m m* to the rod *E*. The rod *E*, extending transversely across the frame of the machine, has its ends

provided with pinions *n n*, fixed thereto, and which are received in the looped rack-pieces *o o*, bolted to the posts *F F* of the frame. A weighted pawl, *p*, hinged upon rod *E*, holds the pinions *n n* to any position in the racks *o o* to which they may be set, and a hand-wheel, *r*, upon the extreme end of rod *E* enables the rod, when released by the pawl, to be revolved, to have its ends simultaneously raised or lowered. Hooks *G G*, hinged to the frame-posts *H H*, are adapted to be caught under the delivery-board when its free end is raised, as shown in Fig. II. Thus it will be seen that by means of the adjustable hinged rod *E* any angle may be given to the face of the board *B*, and that, in combination with the hooks *G G*, it may hold the board in a horizontal position or at a departure from it in either direction.

As a drop-box the angle may be varied to the weight of the paper, while as a lay-box the hinged end may be lowered to make room for a large pile.

In place of the single delivery-roll in general use, over which move the cords or apron *y*, I employ two of the same size, removed from each other in the same plane, and caused to move in unison by the cord *s*, having pulleys in grooves in their ends, as shown in the drawings. These rolls *I' I* have their journals in the pieces *t*, bolted to the posts *F F*, and the interval between them affords a space for the bar *J*, carrying the adjustable scoots *L L*, the bar *J* having its ends supported in the pieces *t*. The scoots are sleeved to the square bar *J*, to be supported by it, and can be moved upon the bar to be adjusted to the width of the sheet of paper to be piled, or can be moved to the ends of their rod, to be out of the way of paper moving to the drop-box. The scoots, arranged as shown in Fig. II, receive the paper from the roll *I'*, curve its edges to impart the required rigidity, and hold it so while delivered by roll *I* against the guides *D' D* and foot-rest *C*, for giving shape to the pile. *T* represents a sheet of paper being so deposited. By this arrangement of rolls and intermediate scoot-bearing bar *J*, I am able to pile the paper upon the board *B*, hinged to the frame immediately beneath the delivery-roll *I*, and in the relative position to said roll necessary for a drop-box. The hinged holding-wheels *O' O'* bear upon the

sheet of paper above the roll I, as is common in delivery-rolls, and are made adjustable upon their supporting-rod P, as is also common.

In Fig. 1 a portion of the near frame-post F 5 is broken away to expose the parts immediately behind it.

By these means a device is constructed which permits, in few movements, a drop-box to be converted into a lay-box, or the reverse.

10 What I claim is—

1. In a paper-ruling machine, a delivery-board, B, hinged at one end below the delivery-roll within the frame, provided with means to secure its other end in a raised position 15 within the frame, and having on its face an adjustable foot-rest, and side guides, in combination with a pair of delivery-rolls and pair of adjustable scoots secured intermediately to said rolls, all arranged to operate in the manner and for the purpose substantially as set 20 forth.

2. The combination and arrangement, substantially as set forth, in a paper-ruling ma-

chine, of the board B, transversely-adjustable guides D' D, longitudinally-adjustable foot- 25 rest C, hooks G, or similar end fastenings, hinge-rod E, provided with pinions *n n*, wheel *r*, and pawl, looped rack *o*, delivery-rolls I' I, moving in unison through cord *s*, and scoots L L, with bar J. 30

3. The combination, with the hinged delivery-board B, having both ends adjustable to varying heights, and provided with the adjustable foot-rest C and side guide D, of the folding-guide D', as and for the purpose set 35 forth.

4. The foot-rest C, consisting of the base *g*, adapted to move upon the face of board B and be clamped thereto, the upright face *f*, hinged to the base at *c*, and the arm *h*, hinged to part 40 *f* and base *g*, and adjustable to vary the angle of face *f* to base *g*, substantially as shown.

EDWIN J. PIPER.

Witnesses:

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WM. H. CHAPIN.