

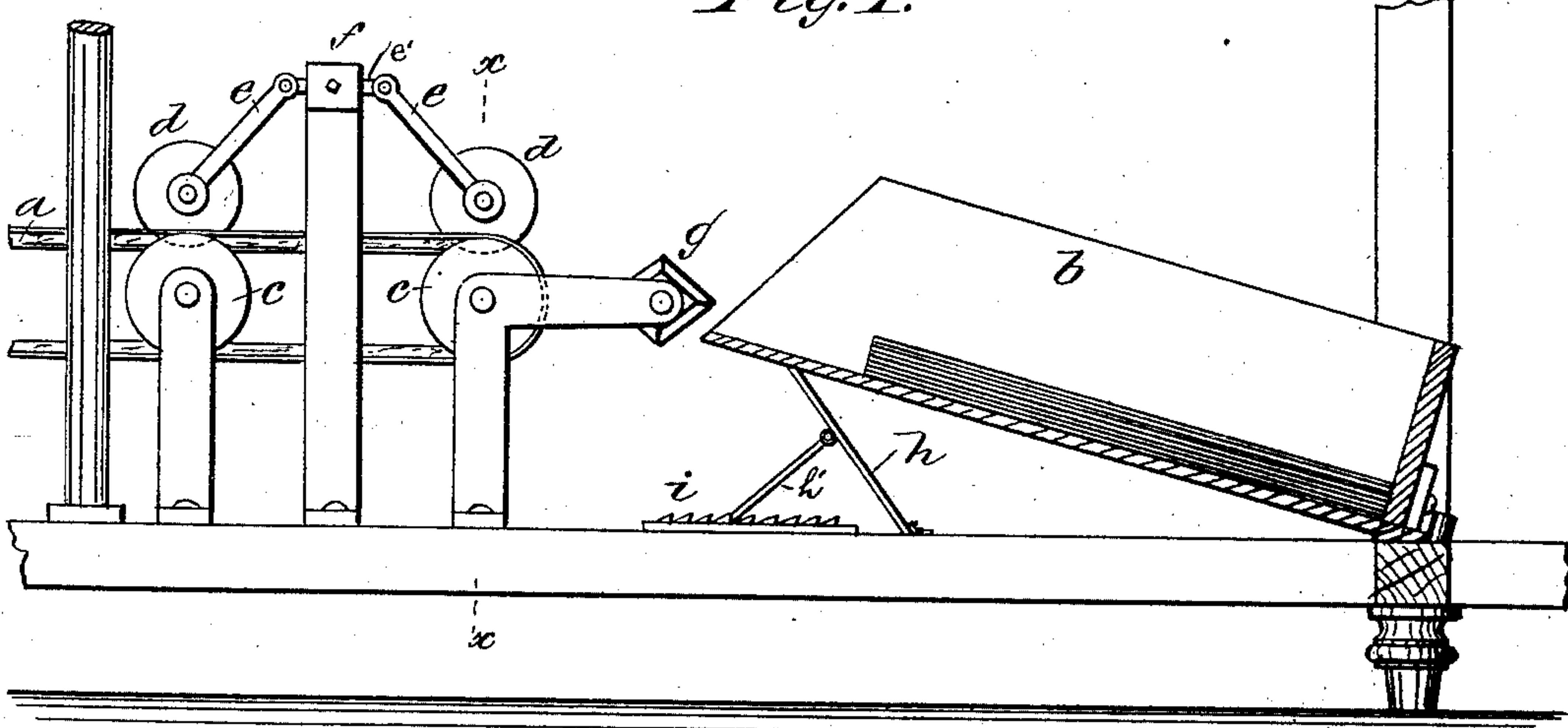
(No Model.)

T. W. WHARMBY.  
RULING MACHINE.

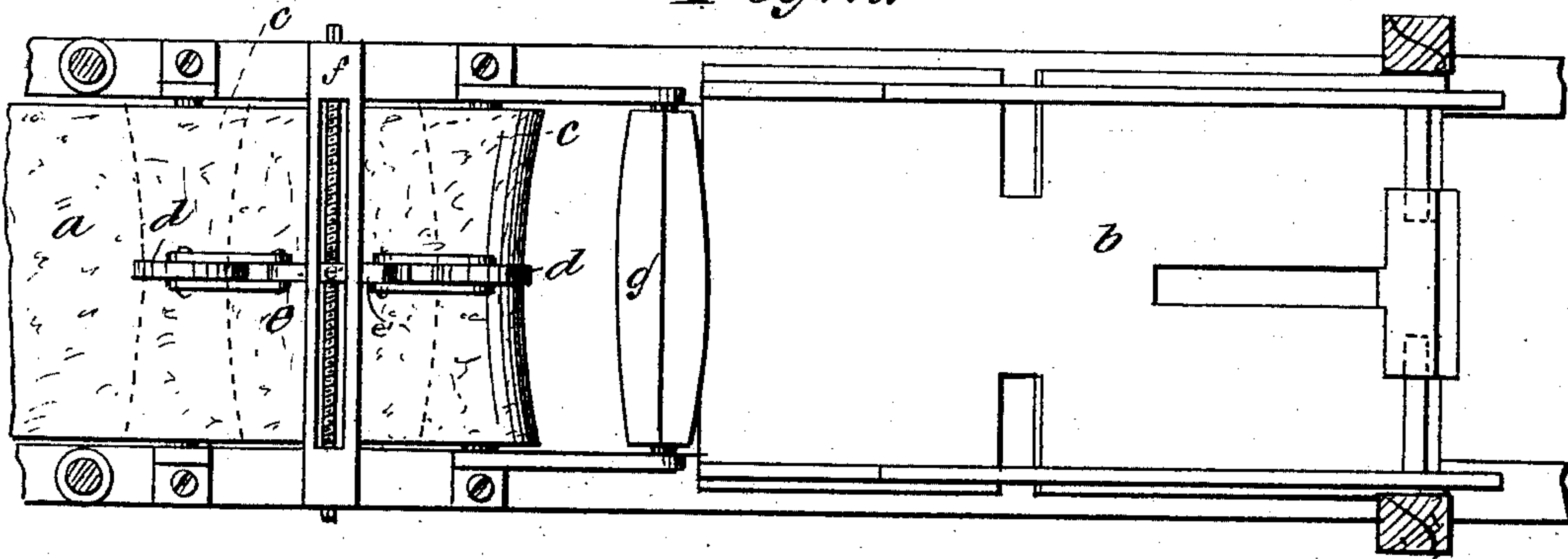
No. 341,195.

Patented May 4, 1886.

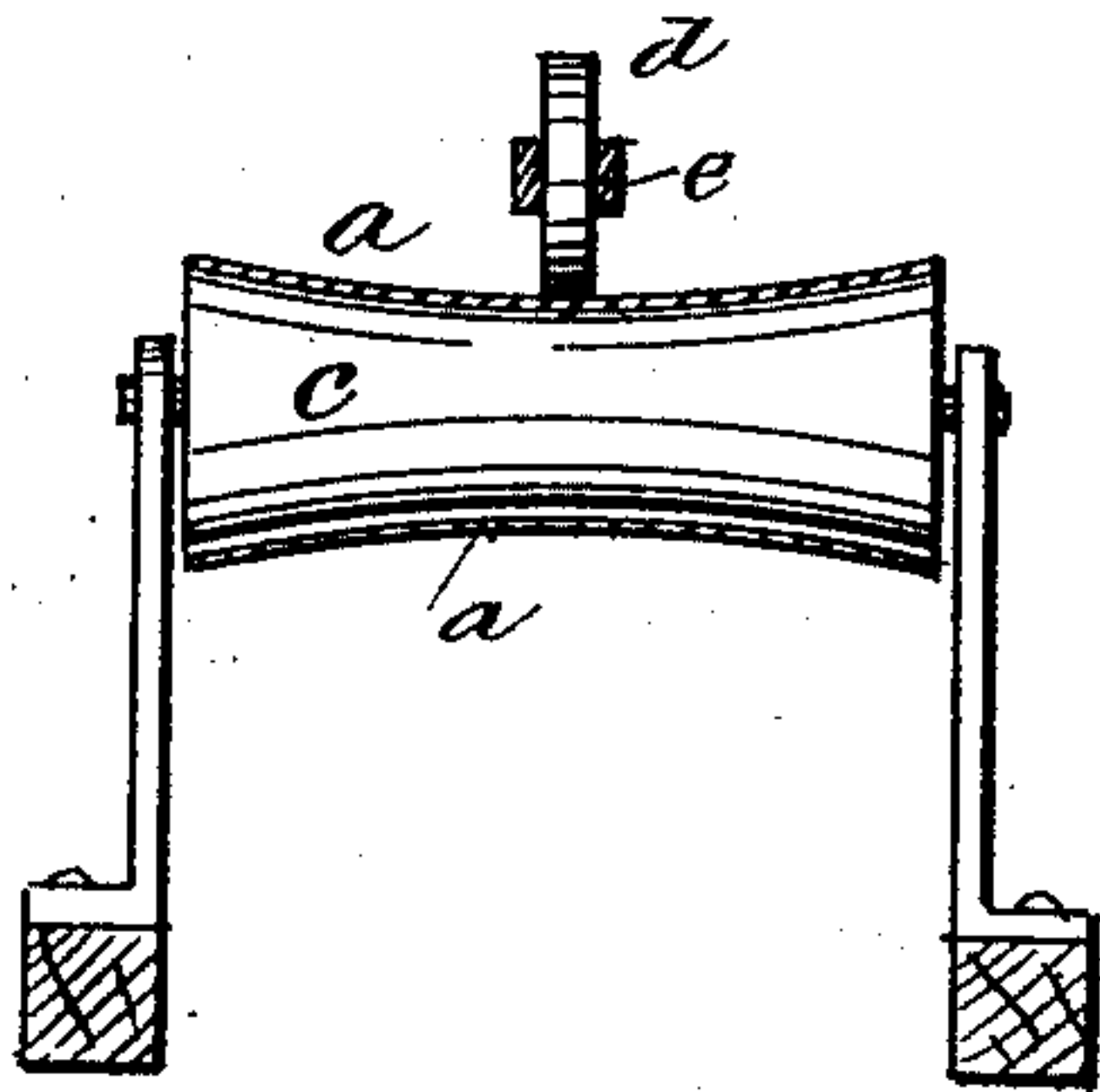
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES:

*Theo. G. Hostetler*  
*C. Bedgwick*

INVENTOR:

*T. W. Wharmby*

BY *Munn & Co.*

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

THOMAS W. WHARMBY, OF CLEVELAND, OHIO.

## RULING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 341,195, dated May 4, 1886.

Application filed October 15, 1884. Serial No. 145,571. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS W. WHARMBY, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful  
5 Improvements in Paper-Ruling Machines, of which the following is a full, clear, and exact description.

My improvements relate to the laying mechanism and drop-boxes of paper-ruling machines, and have the object to prevent the corners of the ruled sheets from turning down as the sheets are discharged into the box. For that purpose I employ concave rollers over which the ruled sheets pass as they are dis-  
15 charged, as hereinafter described and claimed.

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.

20 Figure 1 is a side view of a portion of a ruling-machine with my improvements. Fig. 2 is a plan view of the same, and Fig. 3 is a cross-section.

*a* is the endless cloth or apron on which the ruled sheets are brought to the discharge end of the machine and delivered into the drop-box *b*. The apron passes over two concave rollers, *c c*, above which wheels *d* are hung by means of arms *e* from a traveling piece or nut, *e'*, guided  
30 in a slot, *f'*, in a cross-bar, *f*, and the arms *e* are adjustable transversely of the bar *f* by means of a screw or other suitable device, so that the wheels *d* can be set to bear at any desired place on the concave rollers. The wheels *d*, bearing upon the apron *a*, press the same upon the concave surface of the rollers *c*, and consequently hold or press the paper in the same manner as it passes underneath the wheels *d*.  
40 At the end of the apron is an agitating-roller, *g*, of four-sided and convex form, which serves to pass the lagging-sheets into the box *b*. The drop-box *b* is supported at its outer end so that its inner end can be held at the required height by means of the foot-piece *h* and rack *i*.  
45 The foot-piece *h* is to be hinged at its lower end to the frame, and has hinged to its under side pawl *h'*, that engages the rack *i*, so that the adjustment of the foot-piece will also cause the adjustment of the box, the under  
50 side of which rests on the upper end of said foot-piece. The sides of the box are attached

to strips fitted to move in and out in slots in the bottom, so that the box can be contracted and widened, and the back is also fitted to be moved inward either by a slot in the bottom 55 or on the sides. As the sheets of paper pass over the concave rollers, they are given a concave form also, so that the forward corners of the sheet will be higher than the center, and will be prevented from being turned down by 60 striking the roller *g* or the table.

In the operation of the machine, the sheets of paper, being pressed to the form of the concave rollers *c* by the wheels *d*, are given a shape that prevents their corners from turn- 65 ing down as they enter the drop-box, and the proper piling of the sheets is thus insured. The sides of the box are to be moved by screws.

Having thus described my invention, what I 70 claim as new, and desire to secure by Letters Patent, is—

1. In a paper-ruling machine, the combination, with a concave roller journaled on the frame and the endless apron passing over the same, of the presser-wheel suspended above 75 the said concave roller and bearing on the endless apron, thereby causing it to assume a concave shape at that point, substantially as set forth. 80

2. The combination, with the concave rollers *c c*, journaled in the same horizontal plane, the endless apron passing over said rollers, and a cross-bar above the space between the two rollers, of two laterally-adjustable arms 85 extending over the said rollers and the two presser-wheels journaled one on each arm, substantially as set forth.

3. The combination, with two concave rollers, *c c*, journaled in the same horizontal plane, 90 the endless apron *a*, and the cross-bar *f*, having a slot, *f'*, of the nut *e'*, the adjusting-screw engaging said nut, the arms *e*, suspended from opposite sides of said nut, and presser-wheels *d d*, journaled on said arms and pressing the 95 endless apron upon the concave rollers, substantially as set forth.

THOMAS W. WHARMBY.

Witnesses:

JNO. M. IMFIELD,  
ELMER GOUPTEL.