J. STEWART.

Paper-Ruling Machine.

No. 167,859. Patented Sept. 21, 1875.

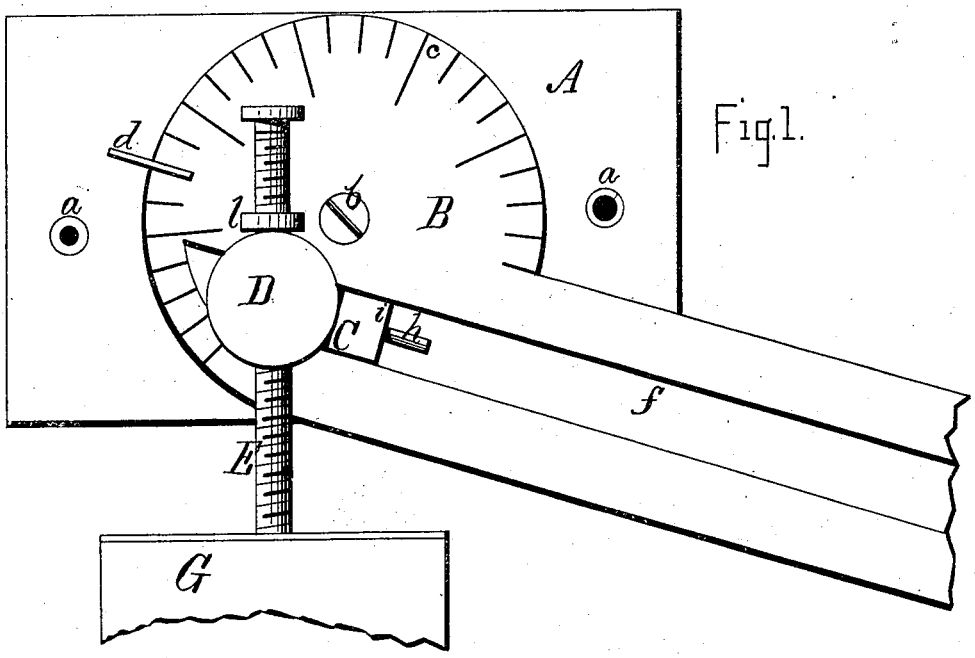


Fig. 1.

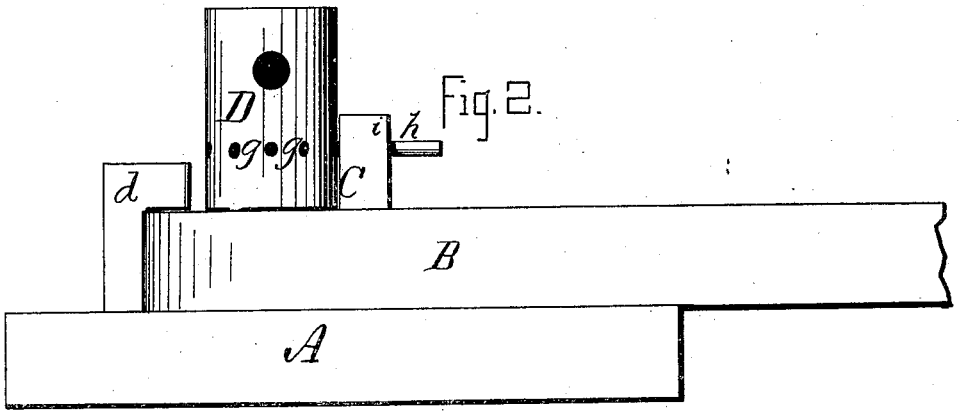
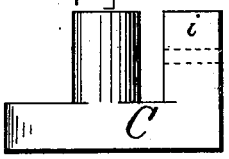


Fig. 2.

Fig. 3.



WITNESSES

E. M. Gallaher.

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By

INVENTOR

James Stewart

UNITED STATES PATENT OFFICE.

JAMES STEWART, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN PAPER-RULING MACHINES.

Specification forming part of Letters Patent No. **167,859**, dated September 21, 1875; application filed March 25, 1875.

To all whom it may concern:

Be it known that I, JAMES STEWART, of Washington, in the county of Washington and District of Columbia, have invented an Improvement in Paper-Ruling Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings making part of this specification—

Figure 1 being a top view of one of the duplicate parts composing my improvement; Fig. 2, a side view of the same; Fig. 3, a side view of a part detached.

Like letters designate corresponding parts in all of the figures.

The nature of my improvement consists in a device, which, being attached to an ordinary ruling-machine, enables lines to be ruled across the paper at any oblique angle which may be required.

In the drawings, A represents a block or support, which, by screws inserted at *a a*, or equivalent means, may be attached, when desired, to the bed or table of an ordinary ruling-machine. On this block the parts composing the adjustable oblique ruling device are mounted, there being one of these blocks attached to the bed near the upper end or edge thereof, and a similar one near the opposite end or edge. Upon each block A an adjustable ruling-guide, B, is mounted by means of a pivot pin or screw, *b*, around which the guide turns in adjusting its angle. One part of the guide is concentric around this pivot, as shown in Fig. 1, and is divided off into a scale of degrees at its periphery *c* to determine the angle of obliquity to be given to the guide, in connection with a suitable fixed index, *d*, attached to the bed. The guide is held at the angle to which it is adjusted by means of the screw-pivot *b*, or other suitable means. The guide proper has a suitable longitudinal groove or way, *f*, in which the pen-beam carrier C slides to produce the ruling. On this carrier a pivot-head, D, is mounted, having a bearing to receive a vertical pivot or journal of the carrier, so that it can turn thereon to any angle desired. There are holes *g g* at regular intervals in the periphery of the pivot-head to receive a fastening-pin *h*, passed through an upward projection *i* of the carrier, for holding the said pivot-head in any position required, or any equivalent means of securing it in place may be employed. Horizontally through this pivot-head extends a screw-rod, E, which bears one end of the pen-beam G, the other end thereof being held by similar means in the other corresponding device near the other end of the machine. This screw-rod is adjusted longitudinally in position by a nut, *z*, screwed on the rod up to the pivot-head, as shown. Thus the pen-beam is always kept parallel with the side edges of the paper, to whatever oblique angle the ruling-guides may be adjusted.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the adjustable guides B, sliding carriers C, and adjustable pivot-heads D, with the pen-beam G, constructed and operating substantially as and for the purpose herein specified.

JAMES STEWART.

Witnesses:

J. S. BROWN,

E. M. GALLAHER.