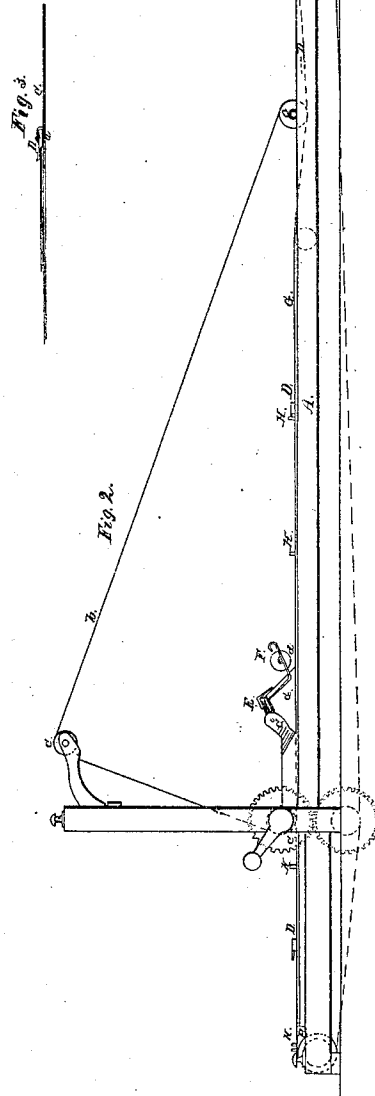
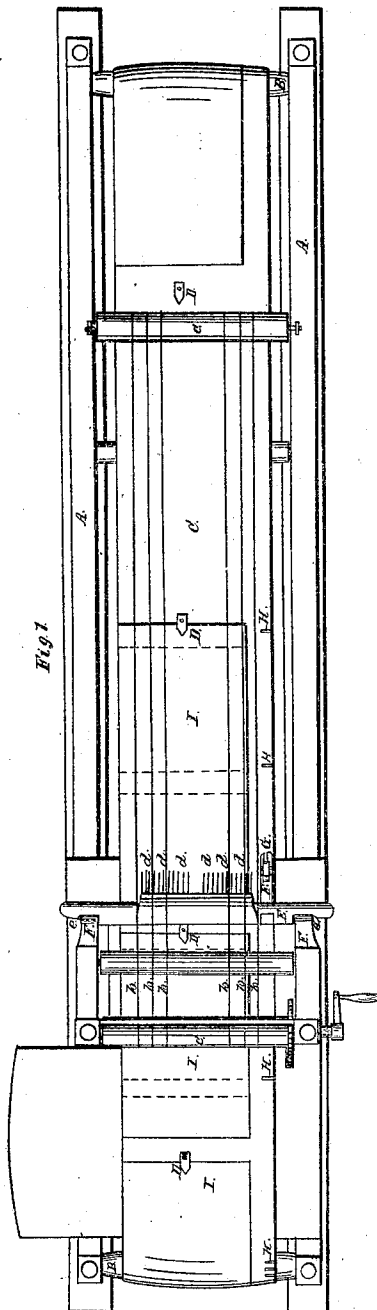


C. S. BOYNTON.
PAPER RULING MACHINE.

No. 9,898.

Patented Aug. 2, 1853.



UNITED STATES PATENT OFFICE.

C. S. BOYNTON, OF NEW YORK, N. Y.

PAPER-RULING MACHINE.

Specification of Letters Patent No. 9,898, dated August 2, 1853.

To all whom it may concern:

Be it known that I, C. S. BOYNTON, of the city, county, and State of New York, have invented certain new and useful Improvements in Machines for Ruling Paper; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a plan or top view of my improved machine. Fig. 2, is a side elevation of the same. Fig. 3, is a section, showing one of the feeding guides.

Similar letters of reference indicate corresponding parts, in each of the several figures.

1st, my invention consists in the employment of feeding-guides, attached to the endless apron, for the purpose of properly feeding the paper to the pens. 2d, in the employment or use of guides or stops, attached to the selvage of the apron; said guides or stops, as the apron moves, acting upon the pen-beam, and causing it to be elevated at proper intervals, so that the pens will not rest upon the paper, and consequently the paper be only ruled at such parts or distances corresponding to the adjustment of the guides or stops.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, represents the frame of the machine, constructed in any proper manner; and B, B, are rollers, placed one at each end of the machine. These rollers are of oval shape, or they are larger in diameter at the center than at the ends, as will be seen by referring to Fig. 1.

C, is an endless apron, which passes over the rollers, B, B. The apron is kept in its proper place on the rollers, owing to their shape. This will be understood by referring to Fig. 1. It will be seen that the rollers, being of larger diameter at their centers, prevent the apron from getting out of its proper place; that is, it is prevented from slipping laterally on the rollers.

D, D, D, D, are feeding-guides, attached permanently to the endless apron, C. These guides are flat metal strips, attached to blocks (a), which keep the strips some little

distance from the surface of the apron, as seen more particularly in Fig. 3.

The sheets of the paper, I, to be ruled, are placed upon the endless apron, C, and are kept upon it by the cords, (b), which pass over the rollers, (c), (c), (c). The guides, D, are for the purpose of allowing the paper to be properly adjusted upon the apron, and fit under the ruling-pens, (d).

E, is the pen-beam, to which the pens, (d), are attached. This beam, E, is attached by pivots, (e), (e), to the projections, F, F, which are attached to the frame, A. At one end of the pen-beam, there is a roller, F, which has its bearings in a lever, G, attached to the pen-beam.

H, are adjustable guides or stops, attached to the selvage of the endless apron. These guides or stops, as the apron is moved, raise the roller, F, and consequently, the pen-beam E. The pens, (d), are therefore raised from the paper, while each guide is passing under the roller F.

The stops H may be attached to the selvage of the endless apron C. by means of glue or other adhesive substance. This would be much preferable to set screws or any mechanical device, as the apron would be liable to get injured by repeated adjustments of the stops. By using an adhesive substance the stops may be firmly enough secured to the apron as they are not subject to any great force which would tend to derange them, and by merely moistening the apron under the stops the glue may be softened and the stops removed and attached at other points.

Now, it will readily be seen that the paper may be ruled by the pens, (d), as desired, the lines made of the proper length, and broken at required intervals.

This machine is of great importance for ruling account-books, when numerous cross-lines are required of various lengths and different distances apart. It is also valuable for ruling music-paper, and the like.

I do not claim the endless apron or any particular manner of operating it; for they are now employed in ruling-machines; but, Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is,

1. I claim the employment or use of the guides, D, by which the paper may be prop-

erly adjusted upon the apron, C, and fed underneath the pens, (d.)

2. I claim the guides or stops, H, attached to the selvage of the endless apron, C, for the purpose of elevating the pens, (d), from the paper at the required distances, according as the guides or stops are adjusted upon the apron, and thereby causing the paper

to be ruled in lines of the desired length, and having the requisite spaces between 10 them, as herein described.

C. S. BOYNTON.

Witnesses:

O. D. MUNN,
W. N. ELY.