

(No Model.)

J. McADAMS.
RULING MACHINE.

No. 477,380.

Patented June 21, 1892.

Fig. 3.

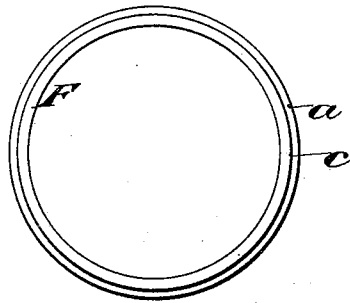


Fig. 4.



Fig. 1.

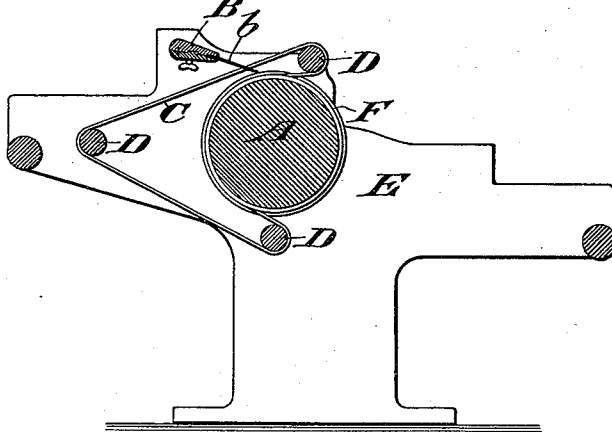
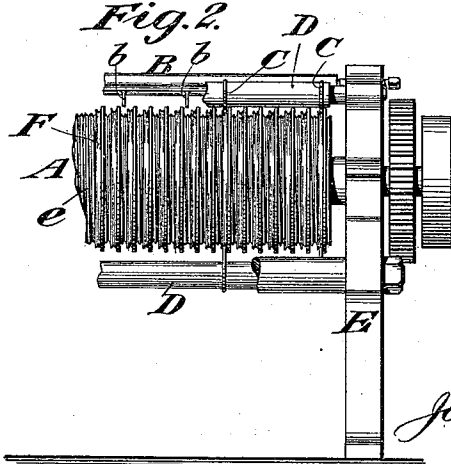


Fig. 2.



Witnesses:-

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UNITED STATES PATENT OFFICE.

JOHN McADAMS, OF BROOKLYN, NEW YORK.

RULING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 477,380, dated June 21, 1892.

Application filed November 16, 1891. Serial No. 411,977. (No model.)

To all whom it may concern:

Be it known that I, JOHN McADAMS, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Ruling-Machines, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates particularly to what are known as "pen-ruling machines." In such machines the paper to be ruled runs on a cylinder or roll known as the "pen-roll." This cylinder or roll has on it a series of narrow circumferential ridges for the support of the paper. These circumferential ridges are commonly formed integral with the cylinder or roll by making the entire cylinder or roll of solid metal and turning grooves in it. It is desirable that the supporting-ridges of the cylinder or roll should be nearly but not quite opposite the pens, and as it is necessary to adjust the pens at different distances apart for ruling differently-spaced lines, the ridges in such solid cylinder or roll cannot always be in the most desirable position relatively to the pens.

The object of this invention is to provide for the adjustment of the ridges on the cylinder or roll in proper relation to the pens, and to this end I construct the periphery of the cylinder or roll with a fine screw-thread running from end to end thereof, and construct the paper-supporting ridges, as herein-after described, on rings, which are internally screw-threaded to fit the screw-thread of the cylinder.

Figure 1 in the drawings represents a transverse vertical sectional view of the principal parts of a ruling-machine embodying my invention. Fig. 2 is a front view of a part of the length of the machine corresponding with Fig. 1. Fig. 3 is a side view, and Fig. 4 an axial section, of one of the rings, hereinbefore mentioned on a larger scale than Figs. 1 and 2.

Similar letters of reference designate corresponding parts in all the figures.

A is the pen-roll, and B the pen-bar, carrying the pens *b b*.

C C are the strings which carry the paper round the pen-roll or cylinder A, and D D the rollers on which said strings run. These parts are or may be all supported in the standards or end frames E of the machine in the usual manner and, except the pen-roll or cylinder A, are all of usual construction.

The pen-roll or cylinder A has a fine screw-thread cut upon its exterior along its entire length to receive the adjustable internally-screw-threaded rings F, the combination of which with the said screw-threaded cylinder constitutes my invention. These rings F have each around one edge a deep flange *a*, around the other edge a shallower flange *c*, and between these flanges a groove *d*, the outer edge of the flange *a* serving as a paper-supporting ridge or surface, the groove *d* serving to receive one of the strings C and the outer flange *c* serving in connection with the flange *a* to keep the string in the groove *d*. These rings, which may be of brass or other somewhat elastic metal, are of such size that in their normal condition their internal screw-threads will fit quite loosely to the screw-thread *e* on the exterior of the cylinder; but by striking them on one side before putting them on the cylinder their circular shape is very slightly but sufficiently distorted to make them hug the screw-thread of the cylinder tightly enough to enable them to retain the positions in which they may be placed lengthwise of the cylinder, and yet to permit them to be turned on the cylinder by the attendant taking them between his thumb and finger for the purpose of adjusting them thereon to the proper positions lengthwise thereof to suit the position of the pens *b* on the pen-bar B.

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

1. A pen-roll or cylinder for a ruling-machine, consisting of an externally-screw-threaded cylinder and a series of internally-screw-threaded paper-supporting rings fitted

to the external screw-thread of the cylinder and adjustable thereon to vary their positions lengthwise of the cylinder, substantially as herein set forth.

- 5 2. The combination, in the pen-roll or cylinder for a ruling-machine, of an externally-screw-threaded cylinder and a series of internally-threaded rings F, constructed with

deep flanges *a*, shallower flanges *c*, and grooves *d* between said flanges and placed adjustably on the screw-thread of the cylinder, substantially as herein set forth.

JOHN MCADAMS.

Witnesses:

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