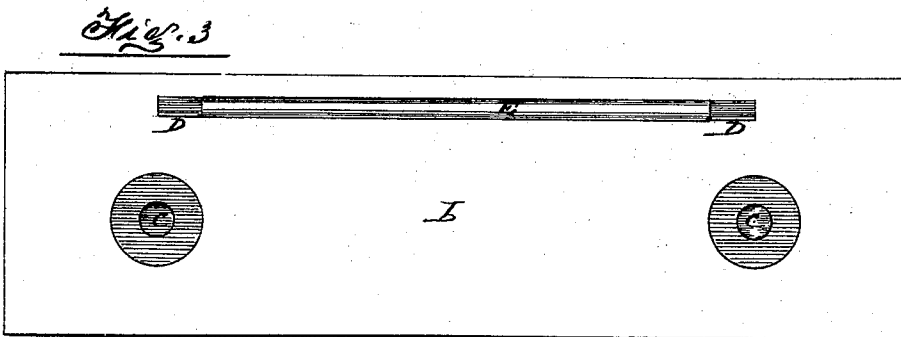
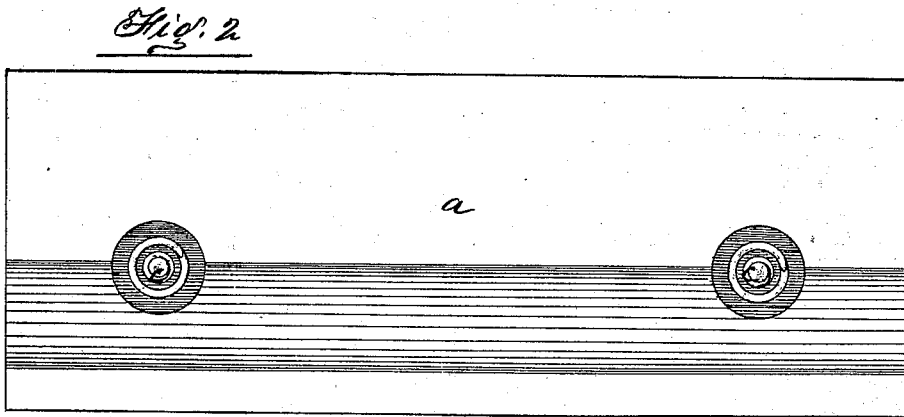
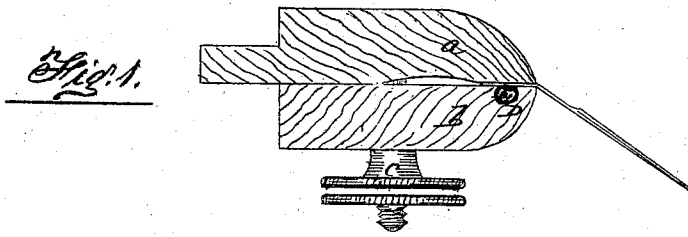


W. O. HICKOK.
PAPER RULING MACHINE.

No. 104,152.

Patented June 14, 1870.



Witnesses:
W. O. Hickok
S. Schriver

Inventor:
W. O. Hickok

United States Patent Office.

WILLIAM O. HICKOK, OF HARRISBURG, PENNSYLVANIA.

Letters Patent No. 104,152, dated June 14, 1870.

IMPROVEMENT IN PAPER-RULING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

I, WILLIAM O. HICKOK, of Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain Improvements in the Pen-Clamps of Paper-Ruling Machines, of which the following is a specification.

Nature and Objects of the Invention.

My invention relates to the combined arrangement of a slender cylindrical strip of elastic gum, or other similarly elastic material, in a groove made for the purpose in one of the jaws of the clamp along, parallel to, and at a short distance from the outer edge of the said jaw, so that the said strip will fit tightly in said groove, and present a convex surface a little above the plane of the jaw; the object of my invention being to obviate the difficulty which arises from any slight seasoning-changes in the wood of which the clamps are made, and from their wearing away, as well as such as arise from differences in the thickness of the sheet-metal of which the heads of the pens are made.

Description of Accompanying Drawing.

Figure 1 is a transverse section of a pen-clamp for a paper-ruling machine, embodying my invention.

Figure 2 is a plan view of the inner side of the upper jaw of the clamp.

Figure 3 is a plan view of the inner side of the lower jaw of the clamp.

General Description.

The upper and the lower jaws *a* and *b* are both made of mahogany wood, and adjustably clamped together by thumb and finger-screws, *c c*, in the usual manner. In either of the jaws, say the lower one, *b*, I make

a groove, *D*, along near its outer edge, and insert firmly therein a cylindrical strip of gum-elastic, *E*, so that the upper side of the said elastic strip will form a cushion, the upper side of which will be a little above the surface-plane of the jaw.

It will be readily understood, that, when the two jaws *a* and *b* of the clamp are compressed together, with the head-plates of a series of pens between, all the said head-plates will be compressed with sufficient uniformity to retain them in their proper adjusted positions, notwithstanding the usual variations in the thickness of the metal out of which the head-plates are made, and that any slight variation in the wood of the clamp from seasoning or wear will also be provided for.

It will also be understood that, as the projecting top surface of the elastic strip is convex, the head-plates of the pens can be readily slipped in and out without requiring more than a slight lessening of the pressure of the clamps.

I wish it to be understood that I do not intend to confine my invention to the use of gum-elastic for the cushion *E*, as other elastic substances may be used.

Claim.

I claim as my invention—
The cylindrical elastic strip *E*, and the groove *D*, when combined together and arranged in relation to the jaws *a b* of the pen-clamp of a paper-ruling machine, substantially as and for the purpose hereinbefore set forth.

Witnesses:

E. H. HICKOK,
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W. O. HICKOK.