

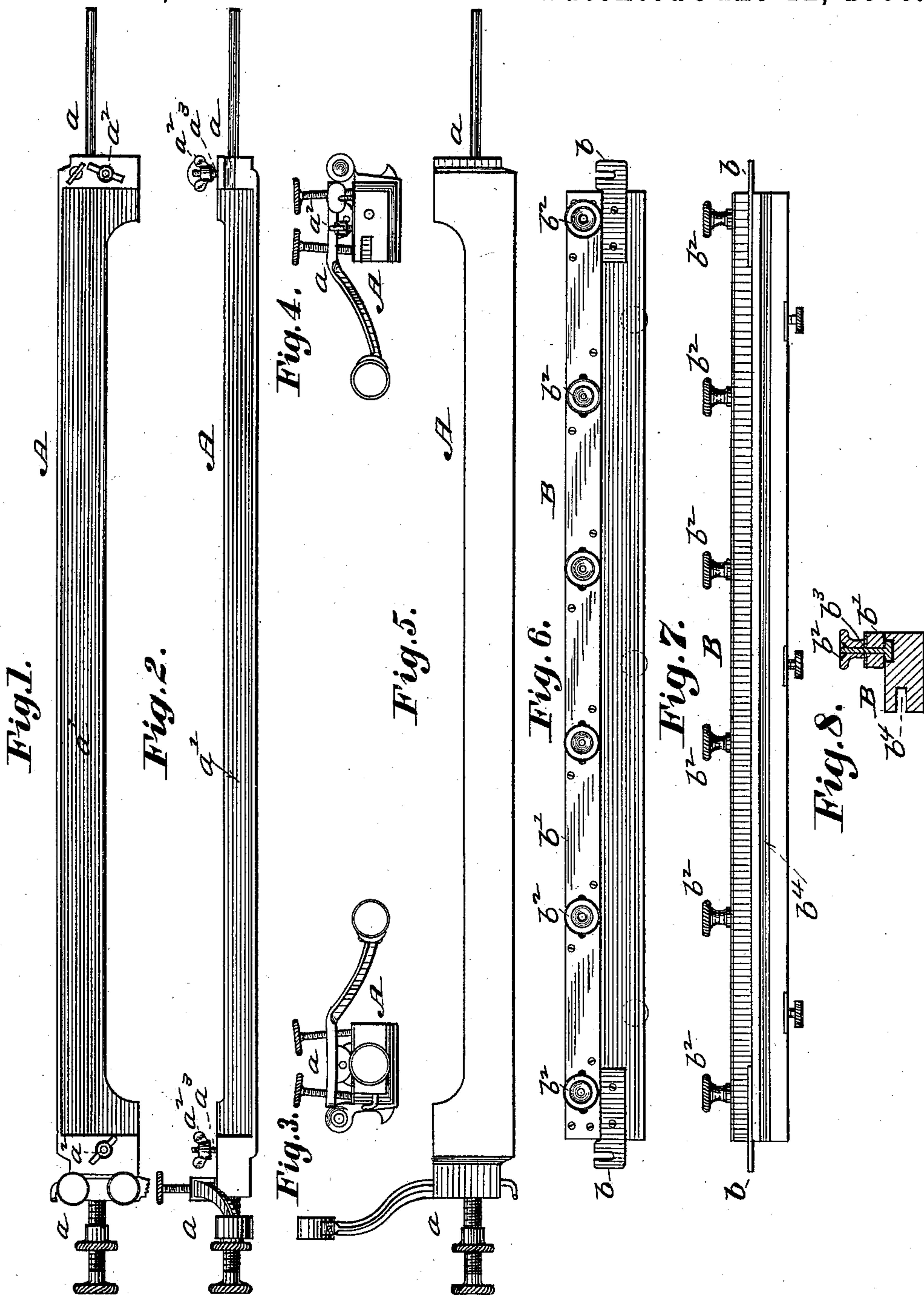
(No Model.)

2 Sheets—Sheet 1.

G. D. BARNARD & E. KNAPP.  
RULING MACHINE.

No. 384,497.

Patented June 12, 1888.



Witnesses:

J. W. Hoke.  
Edward W. Furrell.

Inventors:

George D. Barnard.  
Edward Knapp.  
by C. D. Moody, atty

(No Model.)

2 Sheets—Sheet 2.

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Fig. 9.

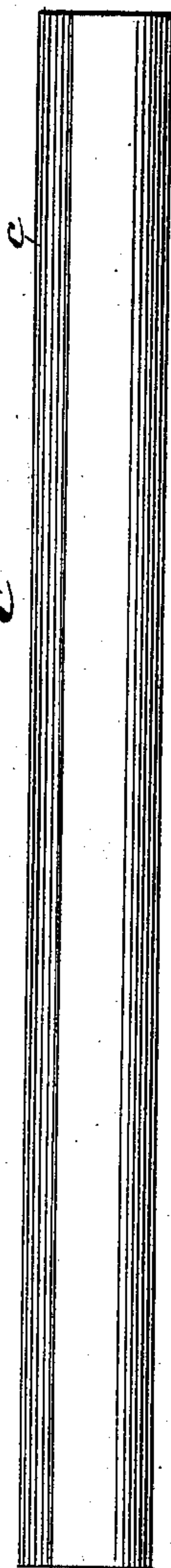


Fig. 10.



Fig. 11

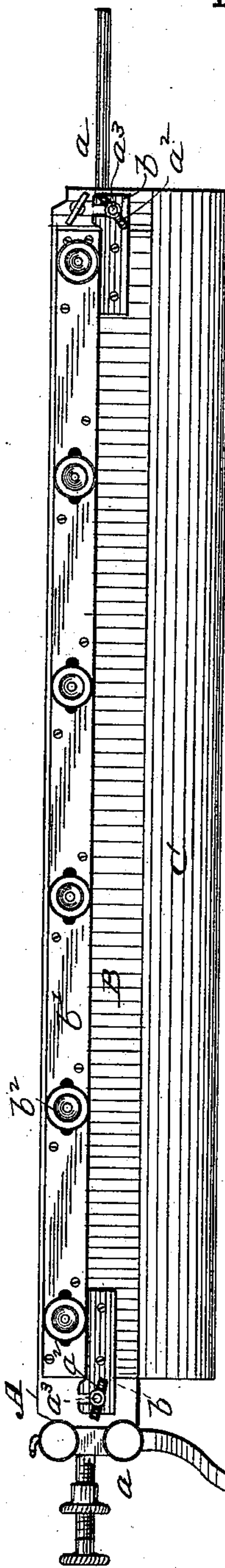


Fig. 12

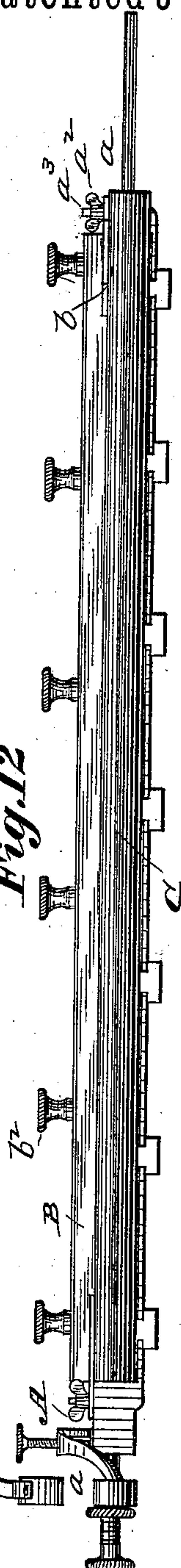
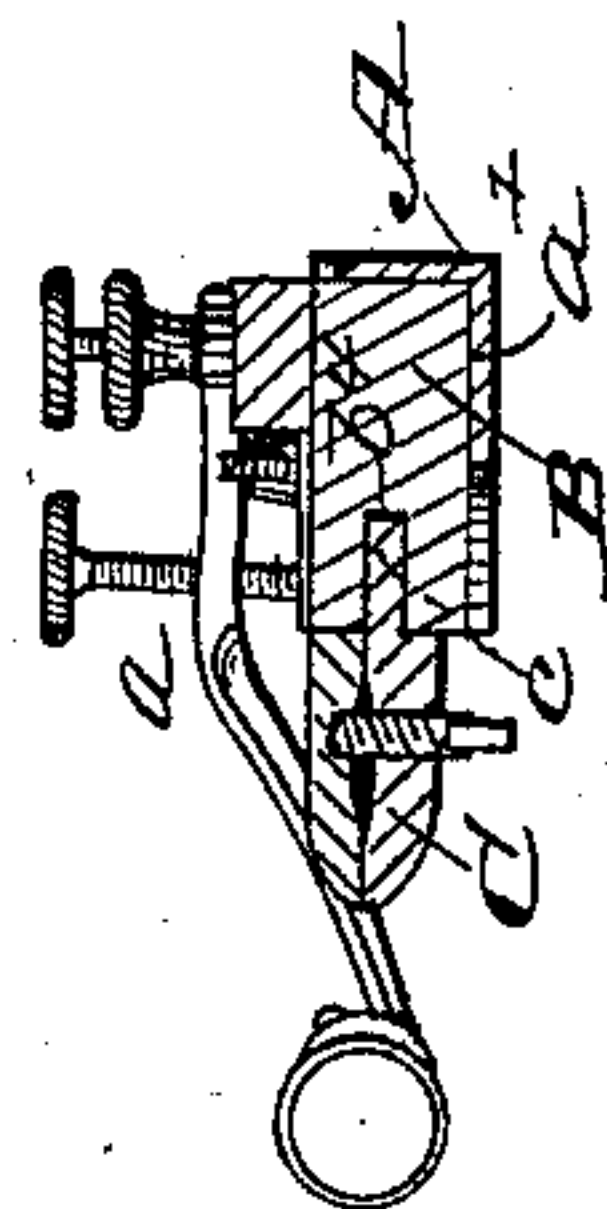


Fig. 13.



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# UNITED STATES PATENT OFFICE.

GEORGE D. BARNARD AND EDWARD KNAPP, OF ST. LOUIS, MISSOURI.

## RULING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 384,497, dated June 12, 1888.

Application filed August 16, 1886. Serial No. 211,032. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE D. BARNARD and EDWARD KNAPP, both of St. Louis, Missouri, have jointly made a new and useful Improvement in Ruling-Machines, of which the following is a full, clear, and exact description.

The improvement relates to that portion of a ruling-machine which is used in holding the pens. As ruling-machines have hitherto been made the pen-beam has been held in place by means of connections at its ends with the beam-standards at the sides, respectively, of the machine, and whenever the pens require to be readjusted the beam and its connections must be removed from the machine, and until they are restored the machine must remain idle. In stationers' establishments using ruling-machines the pens on an average are readjusted many times daily, and hence the usefulness of the machine is materially abridged.

To provide means whereby this difficulty can be largely obviated is the aim of the present improvement, which consists, mainly, in providing what may be considered a permanent holder for the beam, and making the beam readily detachable from the holder, so that the beam-clamp and pens can be at once detached from the holder and removed to where the pens can be changed, and meanwhile leaving the holder to receive another beam and clamp having another set of pens already adjusted for the new piece of work, and in turn to be removed from the holder and the first-named or another beam to be inserted in the holder whenever a third adjustment of pens is required, by means whereof the machine can be kept substantially continuously in use.

The most desirable mode of carrying out the improvement is shown in the annexed drawings, making part of this specification, in which—

Figure 1 is a plan of the holder. Fig. 2 is a front elevation of the holder. Fig. 3 is an end elevation of one end of the holder, and Fig. 4 is an end elevation of the opposite end of the holder. Fig. 5 is a bottom view of the holder. Fig. 6 is a plan of the pen-beam. Fig. 7 is a front elevation of the pen-beam. Fig. 8 is a cross-section of the pen-beam. Fig. 9 is a plan of the clamp. Fig. 10 is a front elevation of

the clamp. Fig. 11 is a plan of the holder, having the beam and clamp in position for use. Fig. 12 is a front elevation of the parts of Fig. 11, and Fig. 13 is a cross-section of the same.

The same letters of reference denote the same parts.

A, Figs. 1, 2, 3, 4, 5, 11, 12, and 13, represents the part termed the "holder." It is in the nature of a cross-bar long enough to extend across the machine in the position hitherto occupied by the pen-beam, and at its ends it is provided with the connections *a a*, for the purpose of attaching the holder to the customary beam-standards at the sides, respectively, of the machine. As these connections are substantially similar to those hitherto employed in supporting the customary pen-beam, they need not be particularly described in this relation. The holder between its ends is shaped to form a seat, *a'*, for the improved pen-beam B, Figs. 6, 7, 8, 11, 12, and 13. This last-named part is fitted to the holder-seat *a'*, and after being placed therein it is secured by means of the clamp-nuts *a''* of the holder and the hook-shaped parts *b* of the beam, the hooks as the beam is placed in its seat fitting around the bolts *a'''*, and the nuts *a''* then being screwed down to bear upon the hooks—an operation readily performed, and the insertion and removal of the beam thereby made easy. The pen-beam B is suitably constructed to hold the pens and clamp, for the former purpose being provided with the plate or bar *b'*, which can be loosened to admit the pen-holders, and then tightened thereupon by means of the nuts *b''* and bolts *b'''*, and for the latter purpose being grooved at *b''''* to admit the tongue *c* of the clamp C, Figs. 9, 10, 11, 12, and 13. No claim, however, is made either to the pen-holding mechanism of the beam or to the clamp, they being constructed and operated in the ordinary manner.

The holder A in practice remains a fixture upon the machine, but adjustable thereon, to enable the pen-beam and the parts thereto attached to be held in any of the positions usually required in ruling-machines. The beam, as stated, is detachable from the holder, and it and the clamp are removed from the holder to make the adjustment of the pens. The form of the holder can be varied without departing

from the principle of the improvement; but it is better to employ a cross bar extending entirely across the machine, as described.

We are aware that heretofore the part 5 termed the "clamp" has been made detachable from the pen-beam, and hence we lay no claim to that feature of the construction.

We are aware that in slate-ruling machines detachable chisels have been used for marking 10 the slate. We do not claim such a device or construction.

We claim—

1. In a ruling-machine, the combination of the adjustable holder A, having seat  $a'$ , the

detachable pen-beam B, the bar  $b'$ , held by 15 nuts and bolts and grooved at  $b^4$ , and clamp C, having tongue  $c$ , substantially as described.

2. The combination of the holder A, having the seat  $a'$ , the bolts  $a^3$ , and the nuts  $a^2$ , with the detachable beam B, having the hooks  $b$ , sub- 20 stantially as described.

Witness our hands.

GEORGE D. BARNARD.  
EDWARD KNAPP.

Witnesses:

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B. F. REX.