No. 840,331. PATENTED JAN. 1, 1907.

L. HÖLZERMANN.

RULING APPLIANCE.

APPLICATION FILED JAN. 25, 1906.

Fig. 1.

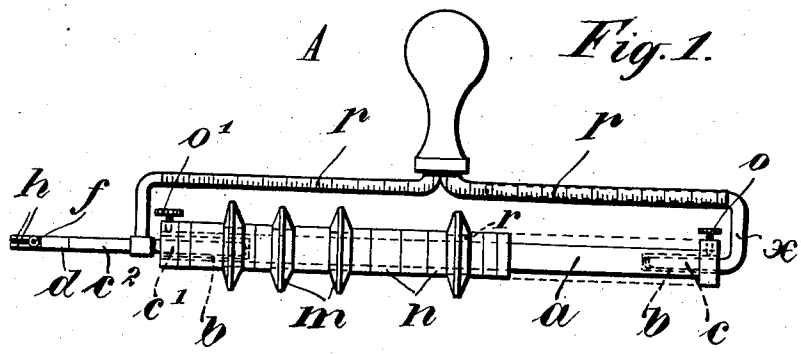


Fig. 2.

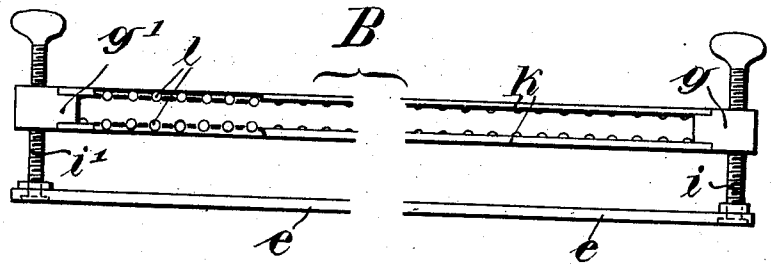
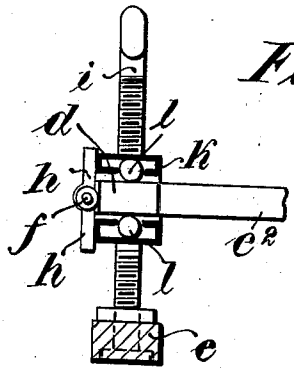


Fig. 3.



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UNITED STATES PATENT OFFICE.

LUDWIG HÖLZERMANN, OF ANTWERP, BELGIUM.

RULING APPLIANCE.

No. 840,331. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed January 25, 1906. Serial No. 297,848.

To all whom it may concern:

Be it known that I, LUDWIG HÖLZERMANN, a citizen of the Kingdom of Belgium, and a resident of Antwerp, Belgium, (whose post-office address is Antwerp, 31 Longue Rue de l'Hospital,) have invented certain new and useful Improvements in Ruling Appliances, of which the following is a specification.

The subject of my invention is a ruling appliance comprising a guide having a vertically-adjustable race and the actual ruling device, which possesses a spindle on which ruling-wheels or the like are mounted and has a terminal extension which fits into the guide and travels along the race of the same, whereby guidance is imparted to the ruling device during the operation of drawing lines on the surface to be ruled.

One form of the new appliance is illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the ruling device on the spindle of which four ruling-wheels and a number of spacing-disks are shown. Fig. 2 is an elevation and part section of the guide, the central portion of which is removed in order to save space on the drawing. Fig. 3 is a cross-section through Fig. 2, drawn on an enlarged scale.

A is the ruling device, the spindle *a* of which is of any suitable material and is preferably bushed at each end with a metallic lining *b* to receive the two axes *c c'*. The axis *c'* has an extension c^2, presenting a rectangular portion *d*, and two terminal members *h*, hinged to it at *f* in such manner that they can be flapped back at right angles to the extension c^2 and held in this position, as shown in Fig. 3.

On the spindle *a* are mounted the ruling-wheels *m*, by means of which the lines are drawn. These wheels *m* may be of any desirable composition—such as graphite, chalk, anilin-color mass, &c., pressed, molded, or turned, so as to present a suitable shape. The wheels may be made thicker at the center than at the periphery. To render them stronger, they may be fixed on a central ring *r* or the like, through which the spindle *a* passes. When an anilin-colored composition of ready solubility is used to make the wheels *m*, the device may before ruling be drawn across a damp felt blanket or pad, or a thin moist felt roller may be mounted on the device in such position that on ruling the marking-wheels *m* constantly rub against it, whereby they receive a uniform amount of moisture.

For the purpose of enabling lines to be ruled at any desired distance apart spacing-disks *n* of any suitable material are mounted between the wheels *m*. There may be a considerable number of these disks *n* in thicknesses varying, for instance, from one to ten millimeters, so that any desired space can be provided between any two ruling-wheels *m*. The two outer spacing-disks are provided with small set-screws *o* and *o'*, respectively, in order that they may be fixed on the spindle *a*, whereby the position of all the intermediate wheels and disks on the spindle is controlled.

p is the holder for the device, and it may be marked with millimeter-divisions, so that the desired distances between the several ruling-wheels may be the more readily adjusted.

In order to enable the wheels *m* and spacing-disks *n* to be conveniently pushed over the spindle *a* or drawn off the same, the one end of the holder *p* may be tubular, and into it there may fit one shank of a V bend *x*, the other shank of which constitutes the axis *c*. By drawing out the bend *x* the axis *c* leaves its bearing *b* and admits of the required manipulation of the wheels *m* and disks *n*. Instead of the employment of a sliding V bend *x* the bend may be hinged or pivoted so as to turn back.

The ruling device A is used in conjunction with the guide B. (Shown in Figs. 2 and 3.) This guide consists of a base-plate *e*, at the ends of which are the swivel-screws *i i'*, which pass through the tapped ends *g g'* of the race, which consists of two thin parallel bars *k k*. These may be of fine ground steel or, as shown in the drawings, may be two bars provided with antifriction-balls *l*. Between these bars *k k* there fits the rectangular portion *d* of the extension-piece c^2, Fig. 1. In the drawings the balls *l* are shown as protruding through apertures in the hollow bars *k*.

To use the appliance, the guide B must be laid at the left-hand side of the surface to be ruled, whereupon the end of the extension-piece c^2 must be inserted through the space between the bars *k k*, so that the rectangular portion *d* may lie between the two assemblages of balls *l*. Hereupon the two wings *h* must be flapped back at right angles to the extension-piece c^2. The ruling device A can

now be run over the surface to be ruled, slight uniform pressure being exerted to cause marking. If desired, cross-lining may be produced, the paper or other surface being, for instance, first ruled with horizontal lines and then with vertical ones. The appliance, therefore, is particularly adapted for rapidly ruling drawing-papers, &c., with squares of definite dimensions.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A ruling appliance, comprising a ruling device consisting of a holder, a spindle mounted therein and having a lateral extension on one end, and ruling-wheels mounted on the spindle, in combination with a guide to be arranged only on one side of the surface to be ruled and presenting a race along which said extension travels, substantially as described.

2. A ruling appliance, comprising a ruling device consisting of a holder having a movable terminal member, a spindle, having a terminal extension, and carried at one end by the body of the holder and at the other end by the said movable terminal member, and ruling-wheels mounted on the spindle; in combination with a guide presenting a race along which the said spindle extension travels, substantially as described.

3. A ruling appliance, comprising a ruling device consisting of a holder having a bent member sliding telescopically at one end, a spindle, having a terminal extension, and carried at one end by the body of the holder and receiving at the other end one limb of the telescopic member, and ruling-wheels mounted on the spindle; in combination with a guide presenting a race along which the said spindle extension travels, substantially as described.

4. A ruling appliance, comprising a ruling device consisting of a holder marked with a scale, a spindle removably mounted in the holder and having a terminal extension, and ruling-wheels and spacing-disks mounted on the spindle, the two outer disks being provided with set-screws on their periphery; in combination with a guide presenting a race along which the said spindle extension travels, substantially as described.

5. A ruling appliance, comprising a ruling device consisting of a holder, a spindle mounted therein and having a terminal extension which presents a rectangular portion and a terminal catch device, and ruling-wheels mounted on the spindle; in combination with a guide presenting a race along which the rectangular portion of the spindle extension travels, being retained therein by the said catch device; substantially as described.

6. A ruling appliance, comprising a ruling device consisting of a holder, a spindle mounted therein and having a terminal extension which presents a rectangular portion and a terminal catch device, and ruling-wheels mounted on the spindle; in combination with a guide consisting of a base, swivel-screws at the ends thereof, and a race consisting of two parallel bars tapped terminally to receive the screws and receiving the rectangular portion of the said spindle extension between them, which latter is retained in position by the said catch device, substantially as described.

7. A ruling appliance, comprising a ruling device consisting of a holder, a spindle mounted therein and having a terminal extension, which presents a rectangular portion and terminal hinged catches, and ruling-wheels mounted on the spindle; in combination with a guide consisting of a base, swivel-screws at the ends thereof, and a race consisting of two hollow parallel bars tapped terminally to receive the screws and having antifriction-balls projecting from their inner surfaces and receiving the rectangular portion of the said spindle extension between them, which latter is retained in position by the said catches, substantially as described.

The foregoing specification signed at Antwerp this 28th day of December, 1905.

LUDWIG HÖLZERMANN.

In presence of—

H. TUCK SHERMAN,

BAIN L. CAMPBELL.