

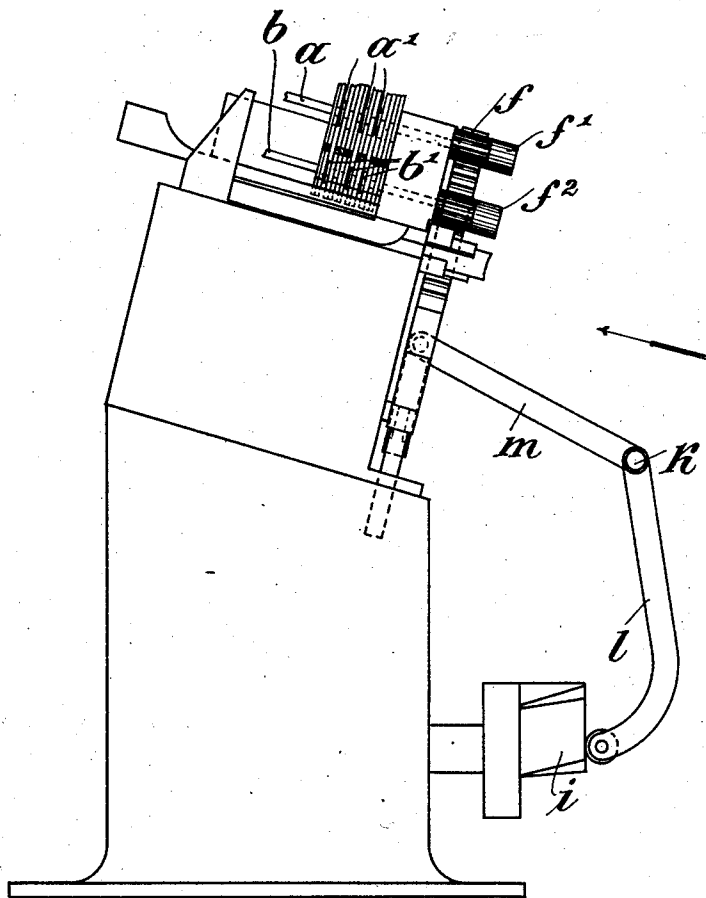
J. DORNETH.
MATRIX SETTING AND LINE CASTING MACHINE.
APPLICATION FILED JAN. 4, 1910.

1,021,827.

Patented Apr. 2, 1912.

2 SHEETS-SHEET 1.

Fig. 1



Witnesses
A. E. Peterson
F. R. Miller

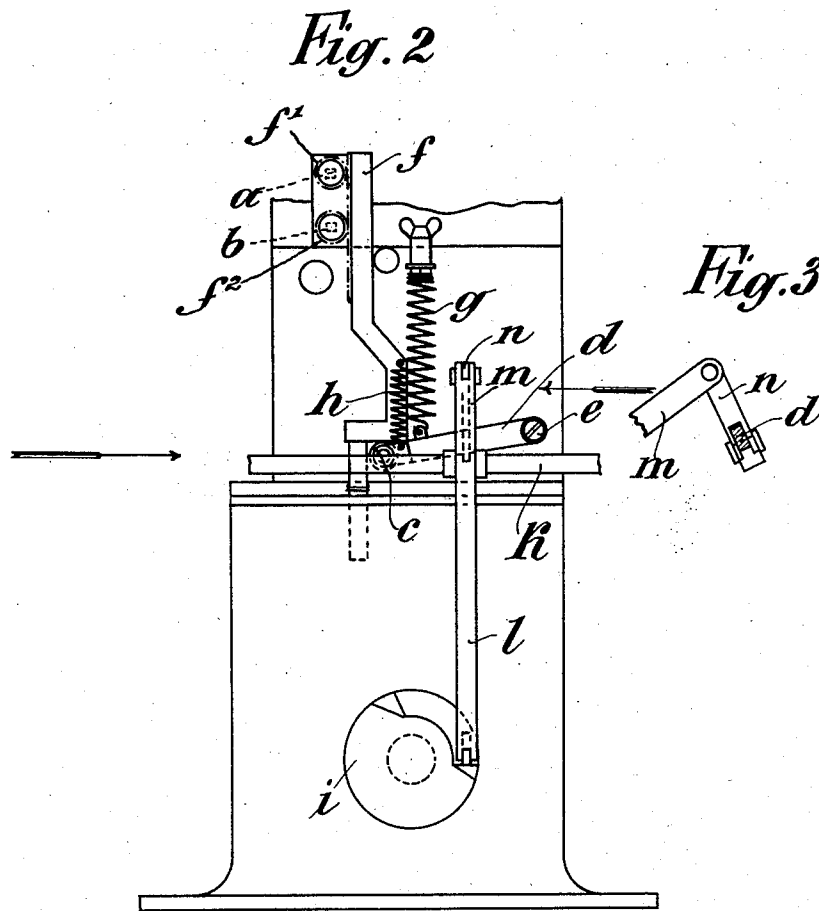
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UNITED STATES PATENT OFFICE.

JULIUS DORNETH, OF BERLIN, GERMANY, ASSIGNOR TO TYPOGRAPH G. M. B. H., OF
BERLIN, GERMANY.

MATRIX-SETTING AND LINE-CASTING MACHINE.

1,021,827.

Specification of Letters Patent.

Patented Apr. 2, 1912.

Application filed January 4, 1910. Serial No. 536,441.

To all whom it may concern:

Be it known that I, JULIUS DORNETH, workmaster, a citizen of the Kingdom of Prussia, residing at No. 45 Elberfeld street, Berlin, N. W., Germany, have invented certain new and useful Improvements in or Relating to Matrix-Setting and Line-Casting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In matrix setting and line casting machines in which the matrix bars are guided on wires and in which a folding matrix basket is employed, the device effecting the setting of the spaces, is operated by means of a spring constantly acting on the same, and is then brought back to the position of rest in a positive manner, in opposition to the action of the spring, by means of a separate moving device. This has several disadvantages, among others the fact that the distributing of the spaces can be effected only after the operation of the machine is completed.

According to this invention, the device effecting the setting of spaces is not brought back to the position of rest by means of a moving device. The latter device is done away with entirely, and the setting device is merely withdrawn from the action of the spring operating the same, so that the distributing of the spaces can be effected without waiting until the operation of the machine is completed. Owing to the suppression of the moving device, the working is also rendered much less noisy than hitherto.

A construction of the device according to the present invention is illustrated by way of example in the accompanying drawing.

Figure 1 is a side elevation of a machine embodying my invention, viewed from the left-hand side; Fig. 2 is a front view thereof; and Fig. 3 a detail view showing the engagement of the arm *n* with the lever *d*.

The spindles *a b* carrying the space rings *a' b'* are rotated by means of a tooth rack *f*, engaging with toothed wheels *f' f''* mounted upon the spindles *a—b*, the movement of which upward effects the justification in well known manner. With the tooth rack engages from below, by means of a roller *c*, a lever *d* which may rotate about a fixed

point *e* and which is drawn upward by a main spring *g*. A weak secondary spring *h* connects the tooth rack to the lever *d*.

On the fixed frame of the machine is mounted a constantly rotating cam disk *i*. It acts on a double lever *l m*, pivoted about a spindle *k*, and engaging with one arm *n* over the lever *d*.

When the lever *l m* is in engagement with the raised portion of the cam disk *i*, it is turned about the pin *k*, and its arm *n* has depressed the lever *d* in opposition to the action of the spring *g*. This is the position shown in the drawing. The lever *d* and consequently also the spring *g*, can, therefore, no longer act on the tooth rack *f*. The latter, owing to its weight and to the action of the weak spring *h*, is drawn downward. Consequently the space shafts or spindles *a—b* are turned back, the spaces returned to their original positions, and the set line becomes loose. If, however, the lever *l m* rests against the low portion of the cam disk *i*, the arm *n* will be raised, and the tooth rack *f* may rise under the action of the spring *g*, whereby the space spindles *a—b* are rotated again and the line is justified.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. In a matrix setting and line casting machine the combination of a spindle carrying the space rings, a rack for rotating the spindle, a strong spring for moving said rack in one direction to rotate the spindle and justify the line, means for temporarily preventing said spring from acting upon the rack and a light spring connected to the rack and serving to move it in the reverse direction when the stronger spring is not acting on said rack.

2. In a matrix setting and line casting machine the combination of a spindle carrying the space rings, a rack for rotating said spindle, a lever engaging said rack, a strong spring connected to said lever and to a rigid part and serving to move said rack in one direction to rotate the space ring spindles and justify the line, a lighter spring connected to said lever and to the rack and serving to move the rack to reverse the space ring spindles, and means for engaging the lever to relieve the rack of the pressure of

the stronger spring and permitting said rack to be moved under the influence of the lighter spring.

3. In a matrix setting and line casting machine, the combination of a spindle carrying space rings, a rack for rotating the spindle, means for moving said rack in one direction to rotate the spindle and thereby justify the line, means for disconnecting said rack moving means from the rack, yieldable means operatively connected to said rack and acting after the rack moving means is disconnected to return said rack to its normal position and thereby rotate the spindle in the reverse direction, whereby the yieldable means will remove the spacing rings from their justifying positions in the line.

4. In a matrix setting and line casting machine, the combination of a spindle carrying space rings, a rack for rotating said spindle, a spring for moving said rack in one direction to rotate the spindle and thereby justify the line, means for rendering the rack moving means inoperative after the line has been justified, and yieldable means operatively connected to said rack and acting thereon after the spring has been rendered inoperative to return said rack to its normal position and thereby rotate the spindle to remove the space rings from their justifying positions in the line.

5. In a matrix setting and line casting machine, the combination of a spindle carrying space rings, means for rotating said spindle to justify the line, means for rendering said means inoperative after the line is justified, and yieldable means for restoring said rack and said spindle to their normal positions, said yieldable means acting after the rack moving means has been rendered inoperative.

6. A matrix setting and line casting machine comprising a spindle carrying space rings, a rack for rotating said spindle, a spring for moving said rack to justify the line, means for permitting said spring to act on the rack, said means removing said spring pressure from the rack after the line is justified and a lighter spring operatively connected to the rack and acting to return said rack to its normal position when the first-mentioned spring is rendered inoperative.

7. In a matrix setting and line casting machine, the combination of means for carrying spacing devices, a strong spring operatively connected to and adapted to move said spacing devices to justify the line, a lighter spring connected to the means for moving the spacing devices, and adapted to return the spacing devices to their normal positions when the stronger spring is inoperative, and means to render the stronger spring inoperative and to thereby permit the lighter spring to return the spacing devices to their normal positions.

8. In a matrix setting and line casting machine, the combination of means for carrying spacing devices, a main spring operatively connected to and adapted to move said spacing devices to justify the line, a secondary spring connected to the means for moving the spacing devices and adapted to return the spacing devices to their normal positions when the main spring is inoperative.

Dated this 20th day of December 1909.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JULIUS DORNETH.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.