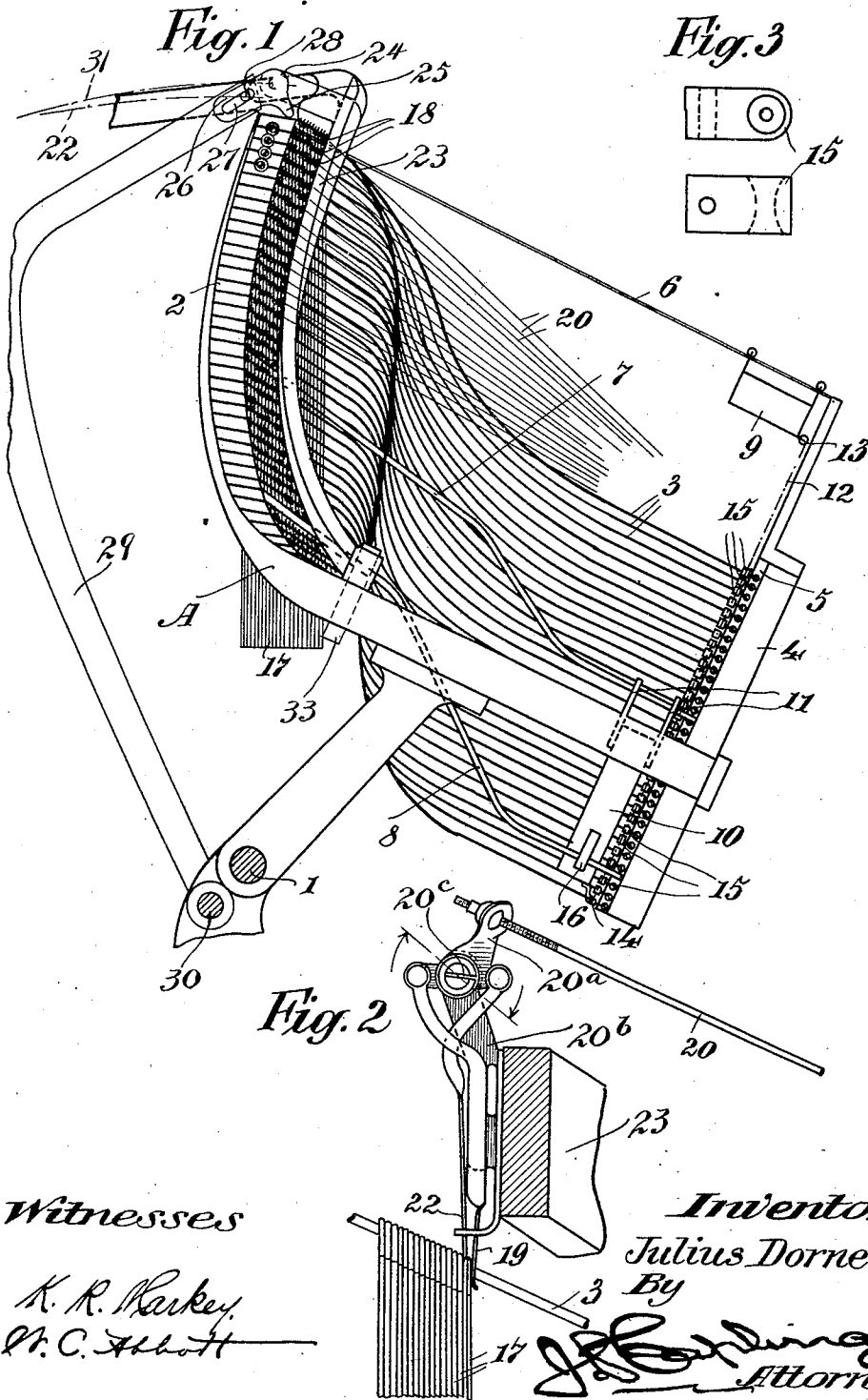


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 MATRIX SETTING AND LINE CASTING MACHINE.
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1,000,157.

Patented Aug. 8, 1911.



Witnesses

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MATRIX-SETTING AND LINE-CASTING MACHINE.

1,000,157.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JULIUS DORNETH, a subject of the Emperor of Germany, and a resident of Berlin, Germany, have invented certain Improvements in Matrix-Setting and Line-Casting Machines, of which the following is a specification.

In matrix setting and line casting machines with matrix bars guided on wires (typograph) the distributing of the matrices set for a line, is effected by tipping over the matrix basket. The matrices then slide back by gravity on the guide wires to a position behind the stop pawls raised by the raising of the basket, and are held by the same when the basket is tipped back. It happens, however, more particularly when the raising and the tipping down of the basket are done very quickly, that some of the matrices do not reach the stop pawls and therefore, on the basket being tipped down, they slide again to the place of setting and are then generally damaged by the basket coming on them. This sliding back of the matrix bars to the place of setting, is obviated according to this invention, of which one construction is illustrated in perspective in the accompanying drawing.

Figure 1 is a side elevation and Fig. 2 is a view in detail illustrating the matrix bars and stop pawls; and Fig. 3 is a view of a further detail.

A is the matrix basket which can be turned down or pivoted about the spindle 1 and carries the guide wires 3 for the matrix bars. On the front portion 4 of the basket is mounted an extension 5 reaching upward. The said extension is connected to the back portion 2 of the basket by means of a wire or bar 6. At each side of the basket are arranged two more wires or bars 7 and 8.

On the bar 6 is mounted on rollers a weight 9. The bars 7, 8 are also intended to receive a weight 10 provided at the top with two rotatable arms 11 by which it is held by the bar 7, and at the bottom with a longitudinal guide slot 16 with which engages the bar 8. Owing to this arrangement, the weight can easily follow the windings of the wires. The weight 9 is connected to the weight 10 by means of a chain, cord 12 or the like and the said cord engages at the point 13 with the weight 9 and at the point 14 with the weight 10. On the cord are mounted a number of tappets 15 (see

also Fig. 3) corresponding to the number of the guide wires 3. These tappets are small steel blocks perforated at two points at a right angle to each other. Through one of these perforations passes the cord 12, and by means of the other perforation each tappet travels on a matrix guide wire. The tappets are, therefore, mounted in a freely adjustable manner on the cord 12.

In the position of rest of the machine, the weights owing to the oblique position of the bars 6, 7, 8 have slid forward and have carried with them all the tappets. The latter rest direct against the front frame 4 of the basket A, so that the matrix bars 17 released can freely slide down along the guide wires. Then the basket, for the purpose of distributing the matrix bars, is tipped backward about the spindle 1. The weights 9 and 10, owing to their greater weight, and to the fact that they travel on rollers, slide backward and carry with them the cord 12 and therefore also the tappets 15. The tappets 15 press the matrix bars behind the stop pawls.

When strain or pull is made upon the release wire 20 rotatable movement is imparted to the three armed lever 20^a to the position indicated by dotted lines in Fig. 2. This lever 20^a is revolvably mounted on the bolt or shaft 20^b secured to the fixed arm 20^b. This movement raises the stop pawl 19 to permit the first or adjacent matrix bar to slide down the guide wire 3 while the stop pawl 22 is lowered so as to hold or retain the remaining matrix bars.

The frame 23 carrying the stop 18 has pivoted thereto at 24 a double lever, one arm 25 of which is normally in contact with the frame 2 of the basket. The second forked arm 26 is provided with a slot 27 which accommodates a pin 28 on a yoke 29. This latter yoke is revolvably held by the pin or spindle 30 which is eccentric to the spindle 1 which is carried by a fixed support. The movement of the basket A carries the point of connection 24 of the frame 23 in a line 31 concentric to the spindle 1 while the pin 28 travels in a line 32 concentric to the spindle 30. It is to be observed that these paths of travel 31 and 32 intersect one another and in consequence of which the arm 26 of the double lever is gradually raised through the movement of the basket and this causes the frame 23 to

gradually separate from the frame 2 of the basket into which its lower end is freely fitted by means of the plug 33 through which arrangement this becomes possible.

5 The frame 23 is capable of movement sufficiently to carry the stop pawls 19 and 22 away from the guide wires 3 and thus permit the matrix bars being forced behind the escapements 19 and 22 when the basket is
10 tipped. Reverse movement of the basket returns the stop pawls 19 and 22 to their operative position.

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

1. In a matrix setting and line casting machine including matrix bars and stop pawls therefor the combination of a tipping
20 basket and means put in operation when the basket is tipped to force the matrix bars to slide behind the stop pawls.

2. In a matrix setting and line casting machine including matrix bars and stop
25 pawls therefor, the combination of a tipping basket, guide bars carried by the basket for the matrix bars and means sliding on the bars put in operation when the basket is tipped to force the matrix bars to slide
30 behind the stop pawls.

3. In a matrix setting and line casting machine including matrix bars and stop
35 pawls therefor, the combination of a tipping basket, bars carried by the basket, weights slidable on the bars, and means connecting the weights to press against the matrix bars when the basket is tipped.

4. In a matrix setting and line casting
40 machine, the combination of a tipping basket, guide bars carried by the basket, a weight, said weight having a slot through which one of the guide-bars pass, and arms on the weight engaging a second guide-bar.

45 5. In a matrix setting and line casting machine including matrix bars and stop pawls therefor, the combination of a tipping basket, guide-wires carried by the basket, a weight slidably mounted on certain of the
50 wires, a connecting means between the weights, and tappets carried by the connecting means of the weights loosely engaging the remainder of the guide-wires.

6. In a matrix setting and line casting
55 machine including matrix bars and stop pawls therefor, the combination of a tipping basket and means capable of acting by gravity when the basket is tipped to force the matrix bars to slide behind the stop
60 pawls.

7. In a matrix setting and line casting machine including matrix bars and stop
65 pawls therefor, the combination of a tipping basket, guide wires carried by the basket for the matrix bars, and means capa-

ble of acting by gravity when the basket is tipped to force the matrix bars to slide behind the stop pawls.

8. In a matrix setting and line casting
70 machine, the combination of a tipping basket including matrix bars and stops therefor and means capable of movement when the basket is tipped to impart movement to the matrix bars beyond the stops.

9. In a matrix setting and line casting
75 machine, the combination of a tipping basket, guide wires carried by the basket for the matrix bars and means capable of imparting movement to the matrix bars on the guide wires.
80

10. In a matrix setting and line casting machine, the combination of a tipping
85 basket, guide wires carried by the basket for the matrix bars and means movable on the guide wires capable of operation to impart movement to the matrix bars when the basket is tipped.

11. A device of the character described comprising a basket mounted for movement
90 and including matrix bars and stops therefor and means put in operation when the basket is moved to impart movement to the matrix bars to force the bars beyond the stops.

12. A device of the character described
95 comprising a basket, capable of movement and including matrix bars and stops therefor and slidable means put in operation when the basket is moved to impart movement to the matrix bars to force the bars
100 beyond the stops.

13. A matrix setting machine including a
105 movable basket and matrices, means for guiding the matrices into assembled position, and means engageable with the matrices capable of operation to compel retracting movement thereof into distributed position.

14. A matrix setting machine including a
110 movable basket and matrices, means for guiding the matrices into assembled position, and means engageable simultaneously with a plurality of matrices capable of operation to compel retracting movement thereof into distributed position.
115

15. A matrix setting machine including
120 a movable basket a series of matrices movable along paths side by side into and out of assembled and distributed positions, means for guiding the matrices into as-
125 sembled position, and a device extended transversely across the paths of said matrices and engageable with each of said matrices and capable of operation to compel retraction of said matrices into distributed position.

16. A matrix setting machine having a
130 basket mounted for movement, a series of matrices supported upon the basket, means for guiding the matrices into assembled po-

sition, and means controlled from movement of the basket capable of operation to compel retracting movement of the matrices into distributed position.

5 17. A matrix setting machine having a basket mounted for movement, matrix guiding means thereon, a series of matrices movable along said guiding means into assembled position when the basket is moved
10 to one position, and means controlled from the movement of the basket to another position capable of operation to compel retracting movement of the matrices into distributed position.

15 18. A matrix setting machine having a basket mounted for movement, matrix guiding means side by side on the basket, matrices movable along the guiding means into and out of assembled position, and means
20 controlled from movement of the basket extended across the matrix guiding means and engageable with the matrices and capable

of operation to compel retracting movement of the matrices into distributed position.

19. A matrix setting machine having a
25 basket mounted for movement, matrix guiding means side by side on the basket, matrices movable along said guiding means into assembled position when the basket is
30 moved to one position and means controlled from the movement of the basket and extended across the matrix guiding means, and engageable with the matrices and capable
35 of operation to compel retracting movement of the matrices into distributed position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JULIUS DORNETH.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."