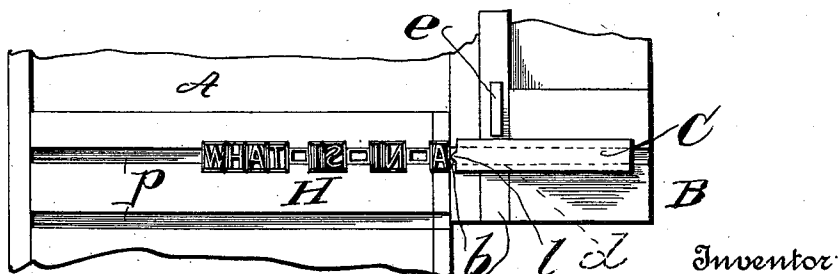
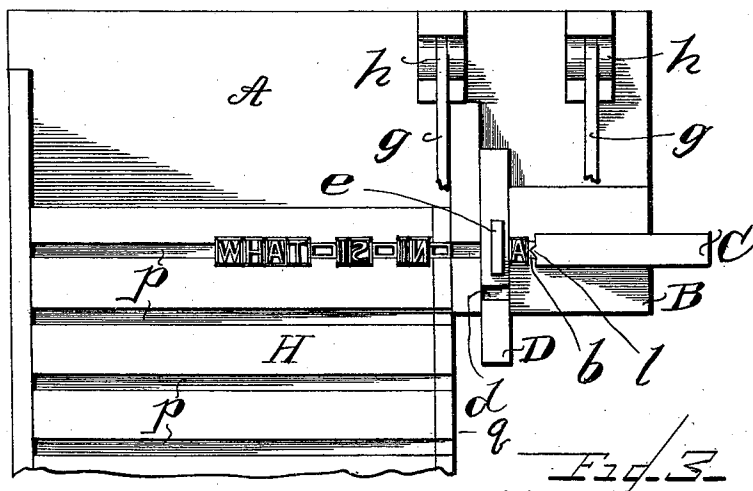
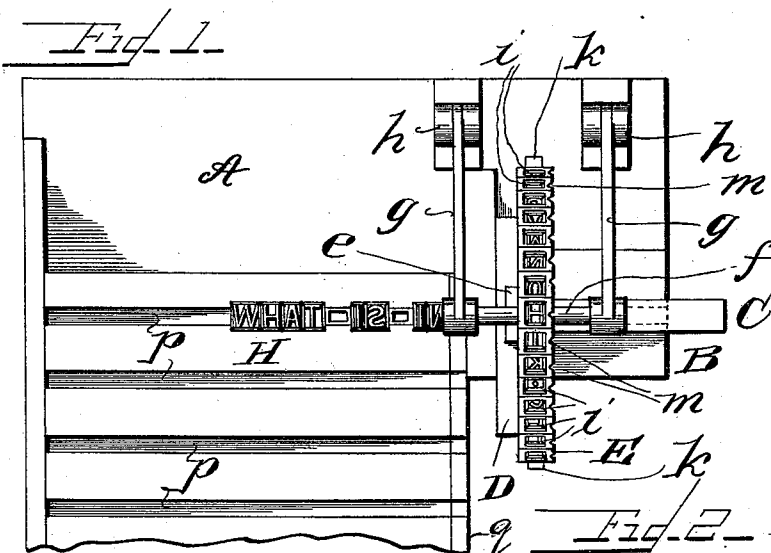


W. KEMP, Jr.

MACHINE FOR CASTING AND SETTING TYPE.

No. 540,743.

Patented June 11, 1895.



Witnesses

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

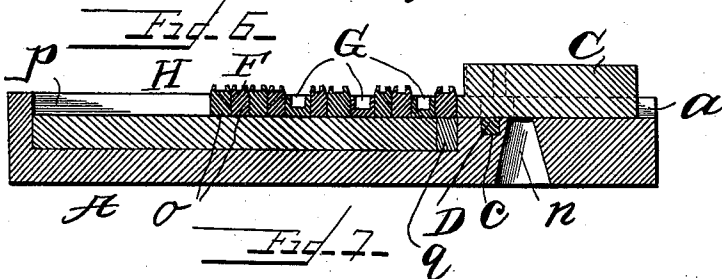
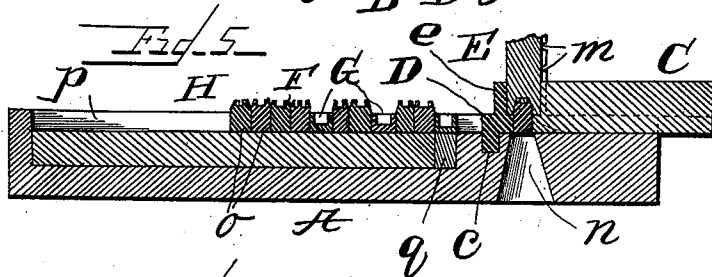
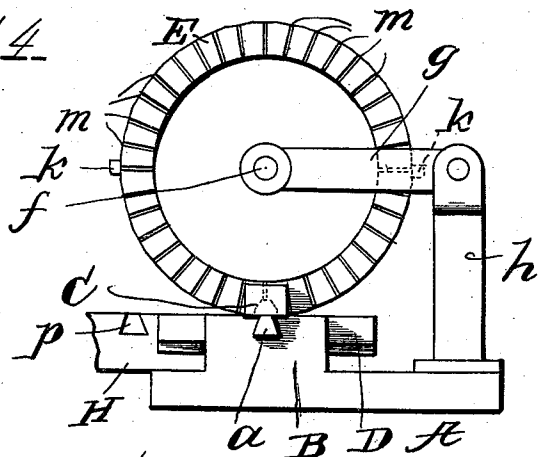


Fig. 8.

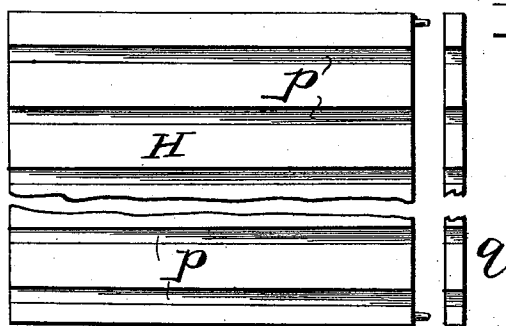
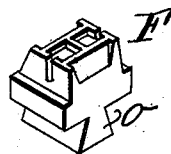


Fig. 9.



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UNITED STATES PATENT OFFICE.

WILLIAM KEMP, JR., OF WASHINGTON, DISTRICT OF COLUMBIA.

MACHINE FOR CASTING AND SETTING TYPE.

SPECIFICATION forming part of Letters Patent No. 540,743, dated June 11, 1895.

Application filed June 29, 1894. Serial No. 516,046. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM KEMP, JR., a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Type Casting and Setting 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.

My present invention relates to the art of printing and has for its object certain improvements which will be fully disclosed in the following specification and claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a top plan view with the matrix-carrier in position for casting; Fig. 2, a like view with the matrix-carrier removed and the type in the position in which it was cast; Fig. 3, a like view showing the type in line on a form; Fig. 4, a front end view showing the matrix-carrier in position for casting; Fig. 5, a vertical transverse section; Fig. 6, a like view with the matrix-carrier removed; Fig. 7, a top plan view of the type form; Fig. 8, a perspective of a space, and Fig. 9 a like view of a character on enlarged scales.

Reference being had to the drawings and letters thereon, A indicates a base upon which the structure is supported; B a mold-block in which is a longitudinal groove *a*, dove tailed in cross section to form the tenons on the type and on the spaces for the line of type and in said groove is a reciprocatory bar C having an extension *b* which forms one end of the mold in which said tenon and spaces are formed and also separates the type from the space and conducts the type into the grooves in the form, as will hereinafter more fully appear. In the rear end of the mold-block is a transverse groove *c* in which is a reciprocatory bar D which forms the opposite or rear end of the mold for the tenon and spaces, and in said bar is a transverse slot *d* for the passage of the type on their way to the form in which the type are set in lines. On the upper surface of said bar D is a projection *e* to form a support for the matrix-carrier E when it is in position over the mold in the mold-block B for casting.

The matrix-carrier E is revolvably supported on a shaft *f* and the shaft is supported in arms *g g* which are supported in posts or standards *h h*; and in the periphery of the matrix-carrier are molds *i* for forming the body of the type and in the bottom of the molds are matrices for forming characters F such as are used in the art of printing and on the periphery of the matrix-carrier are also one or more projections *k* which form a core to make the hollow spaces G. The matrix-carrier is locked in position for casting by the angular projection *l* on the bar C engaging grooves *m* in the face of the matrix-carrier and opposite the center of each mold in the periphery of the matrix-carrier.

Metal is supplied through the hole *n* to the molds in the matrix-carrier and the mold in the mold-block B and as each type is formed in the mold *i* a tenon *o* is formed on and integral with the type in the mold formed by the sides of the grooves *a* and the movable ends in the form of bars C and D. To form a space G, one of the projections *k* on the matrix-carrier is placed in position in the center of the mold in the mold-block and the metal injected around the projection *k*.

In the rear of the mold-block B is a reciprocatory form H provided with transverse grooves *p* to receive the tenons on the type and the spaces to form a line of type. As the type are cast in the matrices the matrix-carrier is raised out of engagement with the type and the bar D drawn back until the transverse slot *d* registers with the groove *a* in the mold-block and one of the grooves *p* in the form H is made to register with the rear end of the groove *a*, when the bar C is projected forward, cuts off the tenon *o* from the sprue and pushes the type into the groove *p* in the form H.

The form is provided with a detachable section *q* to receive the excess of type required to form a line of matter and after the form has been filled with type the form is removed, the lines justified by compressing the entire line, which reduces the spaces G and brings the line to its proper length, when the section *q* is detached and the form H with the type in it is ready to be placed in a press for printing.

The type produced are between one eighth and three sixteenths of an inch in height and

are removably secured by their tenons *o* in the grooves *p* in the form H, so that the type can be readily removed for correction and proper type substituted and the form makes up the major portion of the length of standard type.

The means for raising and revolving the matrix E and the means for reciprocating the bars C and D and the form H will form subject matter of another application for a patent.

Having thus fully described my invention, what I claim is—

1. A movable carrier provided with molds and matrices for forming type, in combination with a mold-block fixed in its relation to the carrier and provided with a mold for forming a tenon on the type.

2. A circular and movable carrier provided with molds and matrices in its periphery for forming type, in combination with a mold-block fixed in its relation to the carrier and provided with a mold for forming a tenon on the type.

3. A movable carrier provided with molds and matrices for forming type and one or more projections for forming hollow spaces, in combination with a mold for forming a tenon on the type and the body of the spaces.

4. A revoluble carrier provided with molds and matrices in its periphery for forming type and one or more projections for forming hollow spaces, in combination with a mold for forming a tenon on the type and the body of the spaces.

5. A movable carrier provided with molds and matrices for forming type in combination a mold having movable ends for forming a tenon on the type.

6. A revoluble carrier provided with molds and matrices in its periphery for forming type, in combination with a mold having movable ends for forming a tenon on the type.

7. A movable carrier provided with molds and matrices for forming type and a mold-block fixed in its relation to the carrier and provided with a mold for forming a tenon on the type, in combination with a movable locking device for securing the carrier in position over the mold-block.

8. A revoluble carrier provided with molds and matrices in its periphery for forming type and a mold-block fixed in its relation to the carrier and provided with a mold for forming

a tenon on the type, in combination with a reciprocating locking device for securing the carrier in position over the mold-block.

9. A revoluble carrier provided with molds and matrices in its periphery for forming type, one or more projections for forming hollow spaces, and notches in its face, and a mold for forming a tenon on the type and the body of the spaces; in combination with a reciprocatory bar having a projection to engage the notches in the carrier.

10. A revoluble carrier provided with molds and matrices in its periphery for forming type and a mold for forming a tenon on the type, the latter having members to form the ends of the mold and movable at a right angle to each other.

11. A revoluble carrier provided with molds and matrices in its periphery for forming type and a mold for forming a tenon on the type, the latter having members to form the ends the mold movable at a right angle to each other and one of said members supporting the matrix against lateral movement and the other locking the matrix in position for casting.

12. A revoluble carrier provided with molds and matrices in its periphery for forming type and a mold for forming tenons on the type, the ends for the latter mold movable at a right angle to each other and the rear one provided with a transverse passage for the type.

13. The combination of a mold, a grooved form which supports the type and makes up part of the length of standard type for printing and means for transferring the type direct from the mold into the grooves of the form.

14. The combination of a movable mold, a movable form which supports the type and makes up part the length of standard type for printing grooved transversely and a reciprocatory bar for transferring the type direct from the mold into the grooves of the form.

15. A form provided with transverse grooves and having a detachable section for holding the excess of type for a line of a predetermined length.

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

WILLIAM KEMP, JR.

Witnesses:

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W. P. REINOHL.