No. 837,879. PATENTED DEC. 4, 1906.

F. PIERCE.

PROCESS OF FORMING AN INTEGRAL TYPE COLUMN.

APPLICATION FILED JULY 1, 1905.

Fig. 1.

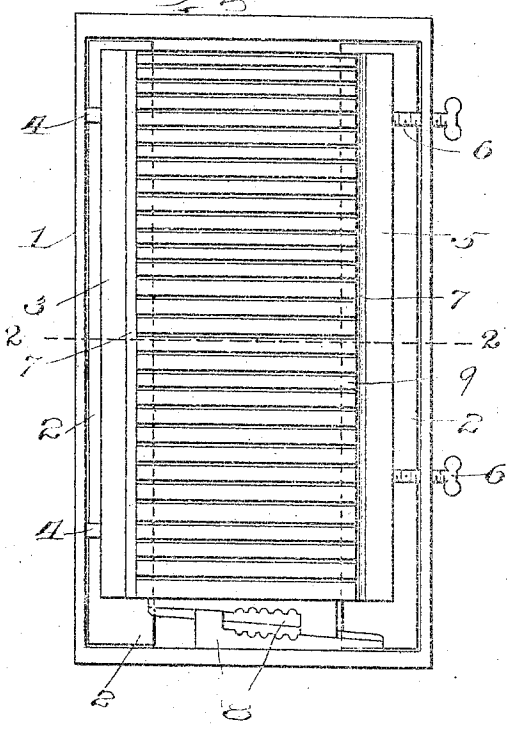


Fig. 2.

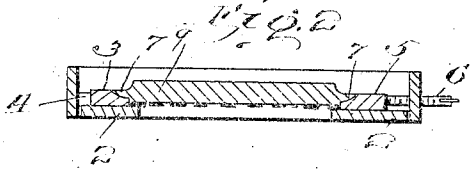
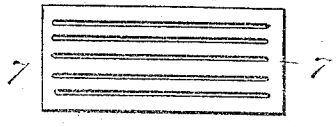


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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PROCESS OF FORMING AN INTEGRAL TYPE-COLUMN.

No. 837,879. Specification of Letters Patent. Patented Dec. 4, 1906.

Application filed July 1, 1905. Serial No. 267,893.

To all whom it may concern:

Be it known that I, FRANK PIERCE, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Processes of Forming an Integral Type-Column; 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.

This invention relates to a novel method for producing type-matter from original linotype and to the product produced by said method; and the object in view is the saving of type-metal and the obviating of the necessity for employing the common stereotyping process.

With this and further objects in view the invention comprises certain novel steps of a process employed for producing a certain new and useful product, as will hereinafter fully appear.

In the accompanying drawings, Figure 1 represents a top plan view of a frame, clamps, and type-matter as employed in the present invention, the type-matter being shown in the position assumed during the first step of the process or method. Fig. 2 represents a transverse vertical section taken on the plane of line 2 2 of Fig. 1, the type-matter being illustrated as assuming the position taken after the second step of the process. Fig. 3 represents an inverted plan view of a section of type-matter detached, said figure showing the product of the present improved process or method.

The present improved process generically comprises assembling linotype-slugs in the form of type-matter upon a smooth surface and locking said slugs together by the use of binding-strips of metal molded along the edges of the type-matter, and this process may be carried out in any preferred manner.

A simple and efficient means of carrying out this process is illustrated in the accompanying drawings, in which 1 indicates a suitable framing carrying a base 2, preferably of glass or porcelain or some other substance having a smooth even flat surface. While this base may be an imperforate plate extending from side to side in the frame 1, it is preferably formed of two bars which extend inwardly from the sides of the frame sufficiently to support the ends of the linotype-slugs. Within the framing 1 is arranged a binding-bar 3, extending longitudinally of the frame and retained in position by any suitable removable blocks 4, interposed between said bar and the side of the framing 1. Near the opposite side of the framing 1 is arranged a bar 5, similar in construction to bar 3 and adjustably held in position by suitable set-screws 6 6. Each of the bars 3 and 5 is formed at its inner edge with a longitudinal bevel or rabbet 7, adapted to receive the binding-strip, as will hereinafter appear. At one end of the framing 1 is arranged an ordinary type-wedging device or quoin, which consists simply of oppositely-beveled cam-blocks designed to be moved longitudinally with respect to each other by means of a spur-key engaging rack-teeth carried by said blocks, the key being designed to be manually operated and carried independently of the wedging device. As this wedging device or quoin is well known in the art, it is considered unnecessary to describe the same in detail. The function of the same is solely the compression of the end of the column of type-slugs for clamping the type-slugs together laterally. It is of course well known in the art that in carrying out the ordinary stereotyping process the linotype-slugs are temporarily bound and pressed into papier-mâché. A matrix is thus formed which is then filled with molten type-metal, and as soon as the type-metal has cooled sufficiently the same is removed, trimmed on edges and back, planed, and is ready for the press. This process, due to the variation in resistance of the parts of the papier-mâché, is liable to produce type with uneven surfaces, besides necessitating the employment of a process expensive in labor and machinery, all of which is obviated by the present invention, the process of which may be carried out by the use of the elements above described or other suitable devices by the employment of the following specific steps:

The linotype-slugs 9 are arranged in a column with the type-face in contact with the base 2, so that all of the type have their faces on a level, and the wedging device or quoin 8 is operated for clamping the slugs in position, as indicated in Fig. 1, the set-screws 6 being adjusted for clamping the slugs between the bars 3 and 5. Quoins may of course be used in the place of the screws 6, if preferred. As soon as the linotype-slugs have been clamped in position a soldering-iron may be passed along the longitudinal ends of the slugs with-

in the beveled portion 7 of the bars 3 and 5, or an independent strip of metal or separate particles of metal may be placed within said beveled portions and melted by the use of an iron or connected so as to bind the ends of all of the slugs into a complete and integral type column or form. As soon as the molten metal within the beveled portion 7 has hardened the entire column of slugs will be bound together in an integral body and is removed and the base of the slugs sawed off, leaving a thin sheet of metal with the type-face, and the planing operation may then be carried out in the usual manner. The flanges produced by the molten metal within the beveled portion 7, if any, may also be planed off in the usual manner. It will be understood that I also contemplate using the ordinary printer's galley and quoins for holding the type-slugs together for fusing them, so as to join their ends.

Thus it will be seen that by the present improved process a type-column resembling a stereotype-plate is produced directly with the joined faces of the linotype-slugs, avoiding the expense and the employment of the time and labor required for the production of the usual stereotyping work and producing a more even and perfect type-surface than the papier-mâché matrix process can give. Among the advantages following the process of this invention may be mentioned that of the use of the product in a subsequent revised edition of a printed volume, as the pages formed by this process can be readily cut into sections by severing the soldered ends, and the pieces may be employed for purposes of making up pages into proper lengths and for making room for new matter that it may be found necessary to insert.

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

1. The herein-described process of forming a type-column consisting in clamping a plurality of linotype-bars with their type-faces resting upon a plain surface and fusing the adjacent ends of the bars and into an integral body.

2. The herein-described process of forming a type-column consisting in locking a plurality of linotype-bars in a galley, with their type-faces resting upon the plain bottom of the galley and fusing the adjacent ends of the bars and into an integral body.

3. The herein-described process of forming a type-column consisting in clamping a plurality of linotype-bars with their type-faces resting upon a plain surface, fusing the adjacent ends of the bars into an integral body and removing the type-face from the back of metal.

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

FRANK PIERCE.

Witnesses:
G. WARD KEMP,
A. H. SCHUTT.