(No Model.) 2 Sheets—Sheet 1.

C. J. BOTZ.

TYPE SETTING AND LINE CASTING MACHINE.

No. 589,636. Patented Sept. 7, 1897.

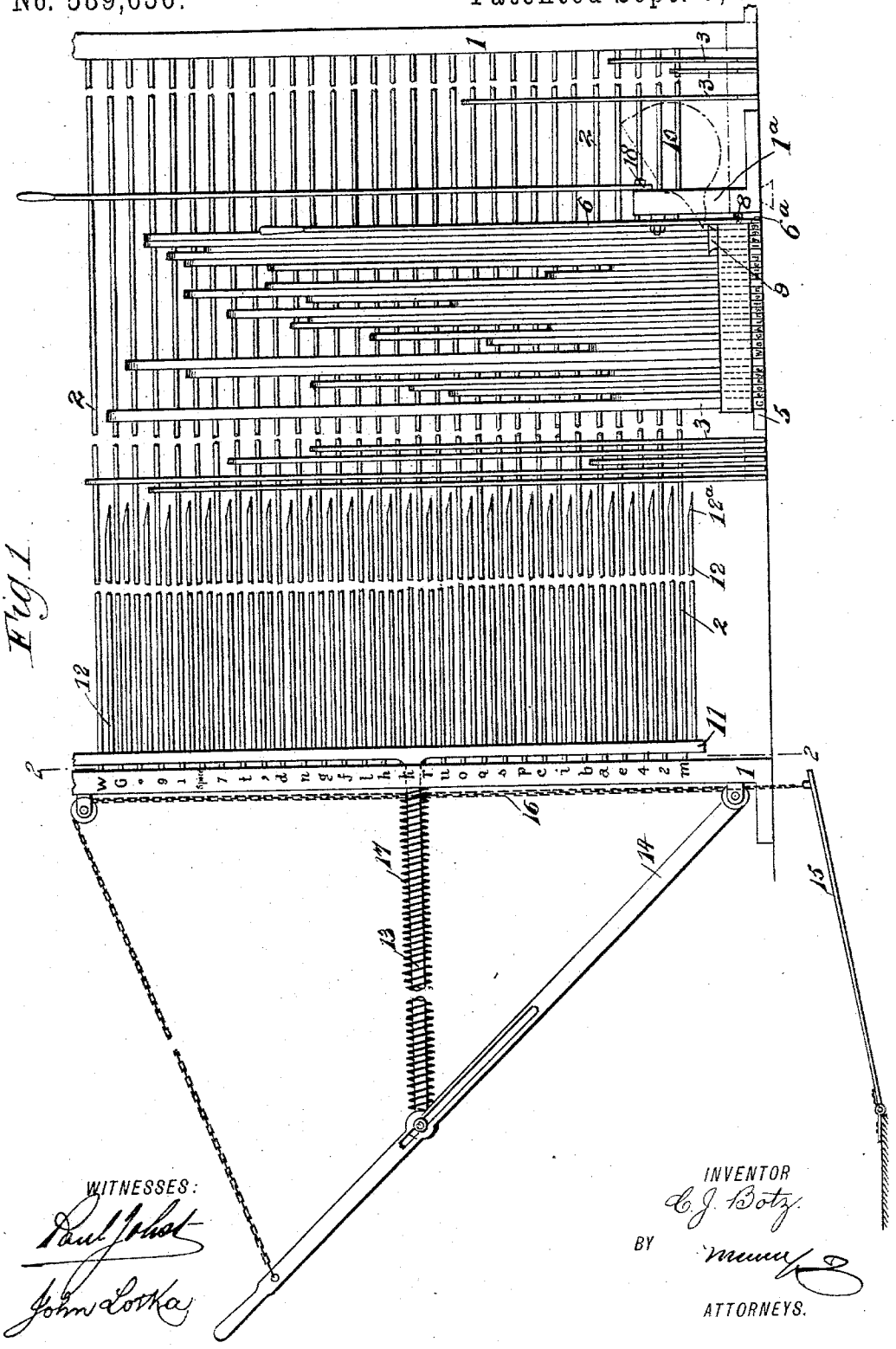


Fig. 1.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

C. J. BOTZ.

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Fig. 2.

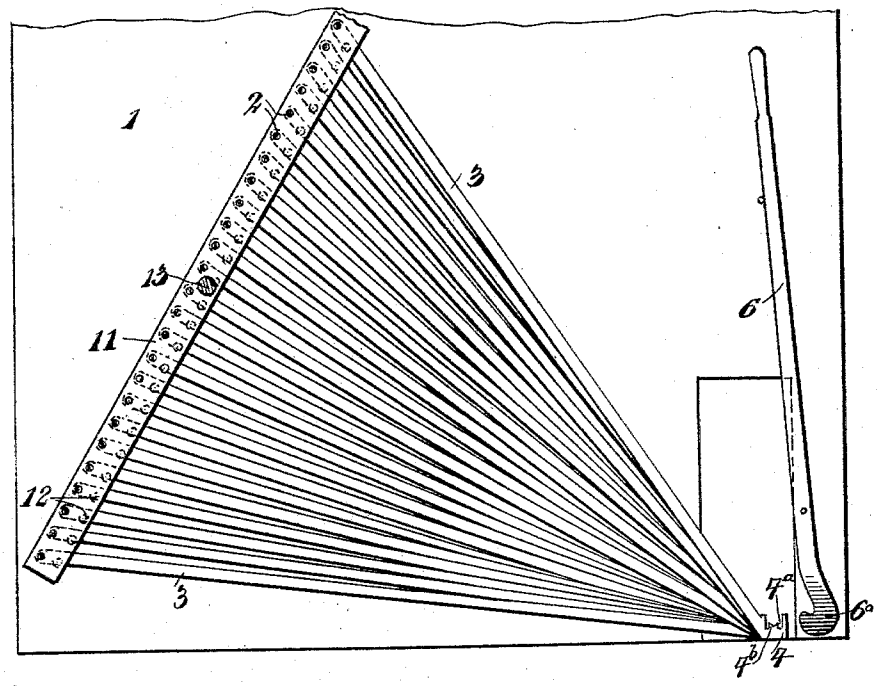


Fig. 3.

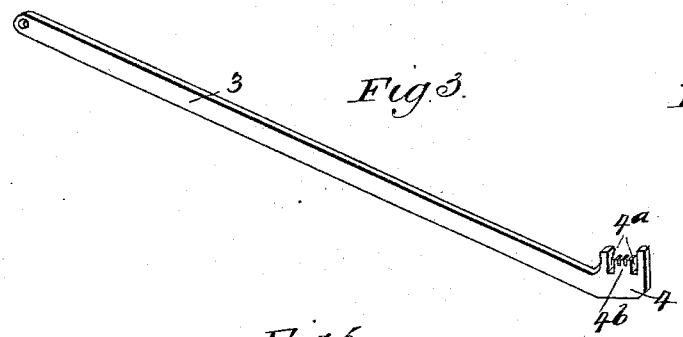


Fig. 4.

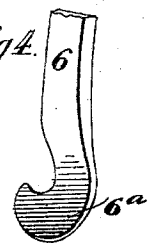


Fig. 5.

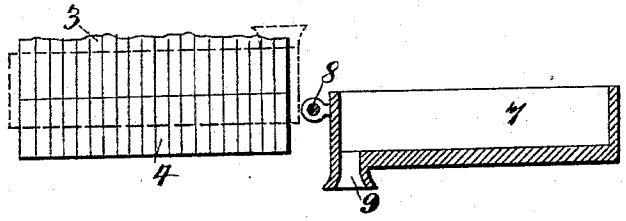
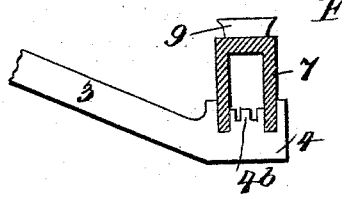


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES J. BOTZ, OF SEDALIA, MISSOURI.

TYPE-SETTING AND LINE-CASTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 589,636, dated September 7, 1897.

Application filed March 13, 1896. Serial No. 583,109. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. BOTZ, of Sedalia, in the county of Pettis and State of Missouri, have invented new and useful Improvements in Type-Setting and Line-Casting Machines, of which the following is a full, clear, and exact description.

My invention relates to an apparatus for setting type in such a manner that the lines may be readily cast therefrom, and has for its object to provide a simple apparatus of the above-indicated class.

The invention will be fully described hereinafter and the features of novelty pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the improved apparatus. Fig. 2 is a sectional side elevation thereof on the line 2 2 of Fig. 1. Fig. 3 is a perspective view of one of the bars carrying the types or matrices. Fig. 4 is a detail perspective view showing the lower end of a lever employed to lock the types in place. Fig. 5 is a detail front elevation, with parts in section, showing the line-casting apparatus; and Fig. 6 is a broken sectional view showing the casting apparatus in connection with the bars carrying the matrices.

The apparatus consists of a frame 1, in which are set a plurality of parallel horizontal rods 2, which may be superposed directly or arranged in an inclined plane, as shown in Fig. 2, said rods serving as guides for the bars 3, which are held to run thereon, the bars being also capable of pivotal movement, so that their lower ends can be raised and lowered and the several bars being of such a length that their lower ends, which carry matrices 4, may be alined in a horizontal row at the bottom of the frame 1. The bars which run on the same guides 2 carry identical matrices, and there are as many guides as it is necessary to provide different characters for setting up in type the particular matter for which the apparatus is intended.

Before bringing the matrices into position for casting a line therefrom the bars 3 are held at the right of the bracket 1^a. (See Fig. 1.) Then the first bar required—for instance, a "G" bar in the sentence illustrated in Fig. 1—is carried to the left of said bracket until it is adjacent to a stationary block 5 and is then dropped so as to engage the side of said block. The other bars are then successively brought into the requisite position, it being understood that any bar can be passed over another bar running on a different guide 2 by properly raising or lowering the bar which it is desired to pass to the left of another bar. When the line has thus been completed, as shown in Fig. 1, the matrices 4 are pressed together, so as to practically form one rigid body, by means of a lever 6, pivoted at the right end of the frame 1 and having a wedge-shaped lower end 6^a to engage the matrices.

When the line of type is a short one, as at the end of a paragraph, the space at the end of the line is filled with "spacing-bars," so that the lever 6 may be used to properly tighten up the line.

When the line is thus formed, a casting apparatus is employed to produce a casting of the line. Said casting apparatus comprises a box or casing 7, pivoted at 8 to the side of the frame 1 and having an inlet 9 for the entrance of molten metal. The box 7 is adapted to fit into grooves 4^a, provided in each of the bars 3 at each side of the matrix proper 4^b, (see Fig. 6,) and the pivot 8 is so arranged that by swinging the box 7 from the inverted position shown in full lines in Fig. 5 to the upright position shown in full lines in Fig. 1 the box is brought into the grooves 4^a and the inlet 9 is brought into position to receive the molten metal from the pot 10.

In order that the type-bars 3 may be readily returned to the original positions after the line has been cast and the lever 6 has been swung back into the position shown in Fig. 2, I provide a distributer 11, which is held to run on the guides 2 and is provided with teeth 12, having inclines 12^a at their free ends to engage the lower surfaces of the corresponding type-bars 3. Said distributer 11 has an arm 13, connected to a lever 14, which may be operated either by hand or by means of a pedal 15, which is connected to the lever 14 through the medium of a chain 16 or its equivalent. By forcing the distributer to the right the teeth 13 take under the type-bars 3 and raise them to an approximately horizon-

tal position, and the distributer will then push the type-bars back to the right of the bracket 1^a. A spring 17, coiled on the arm 13, serves to retract the distributer 11, while a lever 18 may be swung into the path of the type-bars to prevent them from being carried back by the distributer.

It will be seen that the type-bars are readily arranged in any desired succession and can be quickly brought back to their original position. The casting operation also can be performed quickly, and the casting apparatus is out of the way while the types are being arranged for casting.

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

1. The combination of the type-bars adapted to form a line of type, and a casting-box adapted to fit over said types and having an inlet for the molten metal, said casting-box being pivoted adjacent to the end of the line about an approximately horizontal axis and capable of a motion of about one hundred and eighty degrees on said axis so that said box can be swung from an upright to an inverted position, substantially as described.

2. The combination of the matrices having at each side of the characters longitudinal grooves adapted to register with each other, said grooves being depressed below the type-surface, and the casting-box provided with an inlet, for the molten metal and with side walls adapted to fit into the depressed grooves at each side of the matrices, said casting-box being pivoted adjacent to the end of the line about an approximately horizontal axis and capable of a motion of about one hundred and eighty degrees on said axis so that said box can be swung from an upright to an inverted position, substantially as described.

3. The combination of the type-bars, the guides on which they are adapted to run, and the distributer held to move in the same direction as the type-bars, and having wedge-shaped projections adapted to engage the lower surfaces of the type-bars to lift the same and then carry them forward on their guides, substantially as specified.

4. The combination of the type-bars, the guides on which they are adapted to run, and the distributer likewise held to run on said guides, and provided with projections adapted to lift and carry forward the said type-bars, substantially as specified.

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Witnesses:
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