

(No Model.)

A. S. CAPEHART.

SIDE BOX MATRIX BAR FOR LINE CASTING MACHINES.

No. 591,814.

Patented Oct. 19, 1897.

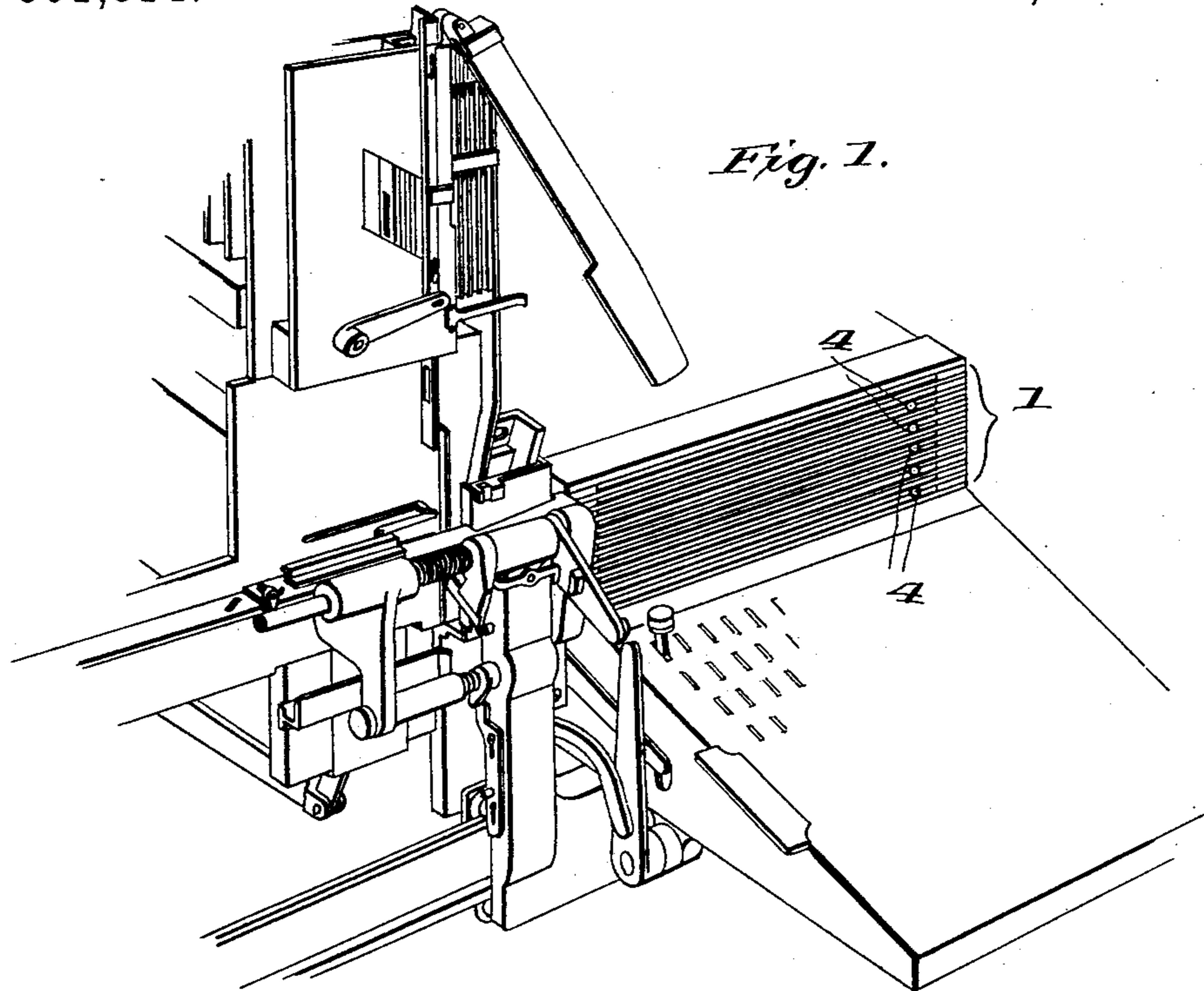


Fig. 1.

Fig. 3.

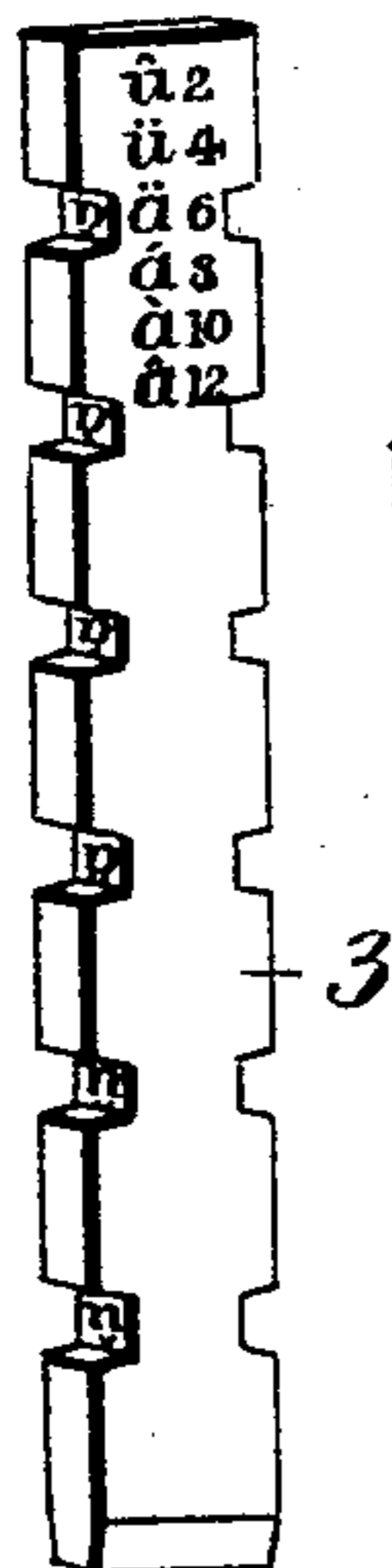


Fig. 2.

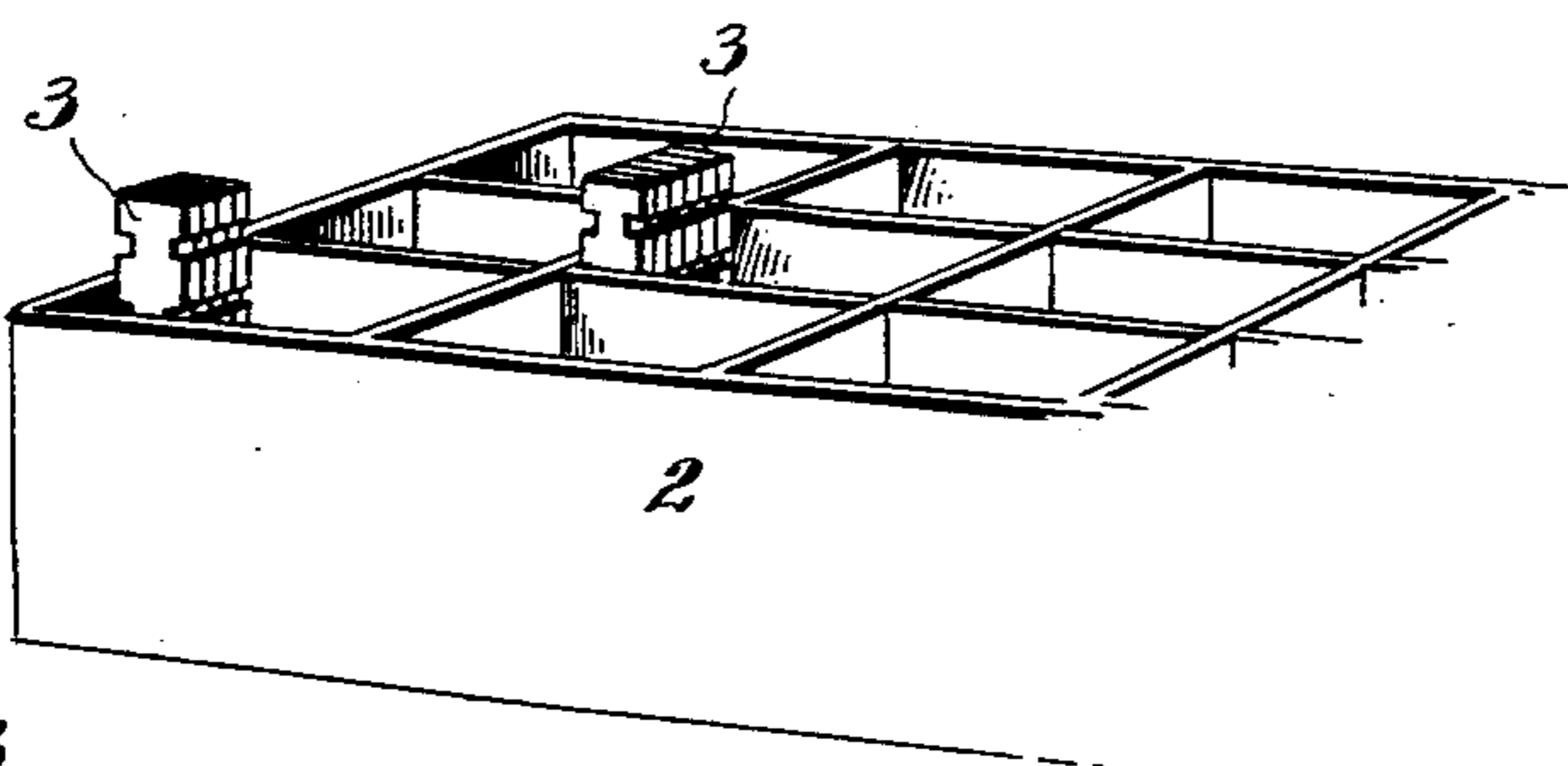
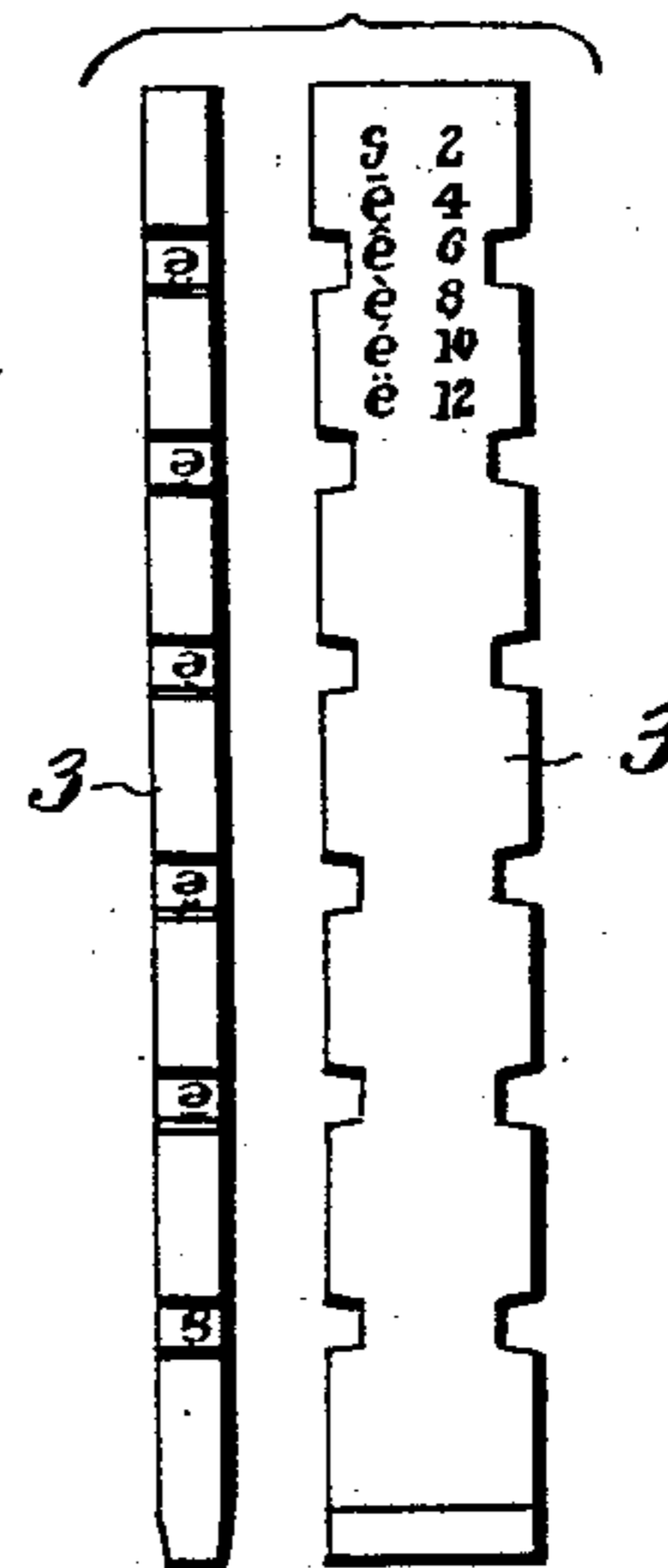


Fig. 4.



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UNITED STATES PATENT OFFICE.

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SIDE-BOX MATRIX-BAR FOR LINE-CASTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 591,814, dated October 19, 1897.

Application filed January 16, 1897. Serial No. 619,440. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER S. CAPEHART, a citizen of the United States, and a resident of Bismarck, North Dakota, have invented certain new and useful Improvements in Side-Box Matrix-Bars for Line-Casting Machines, of which the following is a full, clear, and exact specification.

In the actual or practicable use of the monoline type setting and casting machine, such substantially as disclosed in Letters Patent No. 506,198, issued October 3, 1893, to W. S. Scudder, assignor to the Monoline Composing Company, a side box or receptacle is employed for holding within convenient reach of the compositor or operator a greater or less number of extra or supplemental matrix bars or plates provided with those intaglio or type characters which are not represented by keys of the keyboard mechanism, nor provided for in the magazine. These extra or side-box matrix bars or plates are each provided with a single intaglio or type character, and are designed to be selected and then inserted manually or by hand into the assembly-box of the machine whenever a matrix-character not provided for in the magazine is required to be inserted into the line of matrices being composed. The extra or side-box matrix bar or plate inserted into the assembly-box is arrested at the proper level, by one of the "stop-bars" of the machine, which is shifted manually by the operator for this purpose. The single-character matrix-bars render it necessary to supply the side box with a large number of these bars, which is in some respects objectionable.

The chief objects of my present invention are to diminish the dimensions or size of the side box or receptacle; to reduce the number of side-box matrix-bars without reducing the number of intaglio or type characters available when extra or supplemental matrices, not provided for by the keyboard and magazine of the machine, are required in the composition of lines of matrices from or by which to cast printing or type bars; and to provide novel, simple and efficient means for conveniently and speedily placing the required intaglio or type character, of a bar having several characters, in the line of matrices or char-

acters being composed preparatory to the casting operation.

To accomplish these objects, my invention consists, essentially, in an extra or side-box matrix-bar provided at one edge with a plurality of intaglio or type characters for use in casting, and supplemental, counterpart or similar intaglio or type characters each accompanied by a diacritical mark or symbol which indicates or shows by a glance of the eye the particular stop-bar requiring to be shifted to arrest the bar at the height or level necessary to place a particular intaglio or type character at the edge of the bar in the line being composed.

The invention is illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of a part of a monoline type setting and casting machine, showing portions of the stop-bars by which its circulating matrix-bars and the side-box matrix-bars are arrested at the required points. Fig. 2 is a perspective view of a portion of a side box containing some extra or side-box matrix-bars made according to my invention; and Figs. 3 and 4 are detail views, slightly magnified, showing two of my improved extra or side-box matrix-bars bearing differently-accented intaglio or type characters.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring first to Fig. 1, wherein—

The numeral 1 indicates the twelve stop-bars of the monoline type setting and casting machine, which are constructed and arranged, and operated by the finger-keys of the keyboard, the same as described in the patent referred to, for which reason I deem it unnecessary to more fully disclose the same.

The numeral 2 indicates the so-called "side box" or receptacle, which may be of any construction, and arranged in any convenient position, suitable for the purpose in hand, but which, as here shown, is subdivided into a number of cells or compartments for containing the extra or side-box matrix-bars. This box or receptacle is in practice provided with a number of cells or compartments corresponding to the number of extra intaglio or

type characters which are available in use, but are not represented by the finger-keys of the machine, or provided for in the magazine from which the usual circulating matrix-bars are released in the order required.

The numerals 3 indicate the extra or side-box matrix-bars, which, unlike the circulating matrix-bars of the machine, are not provided with hooked upper ends for their mechanical manipulation by the distributing mechanism.

The side-box bars are each formed with parallel sides and parallel edges, and one edge is provided, for example, with six recesses, the bottoms of which contain intaglios or type-characters, while the other edge is provided with a corresponding number of notches arranged, respectively, opposite said recesses, and serving, in practice, to engage the alining-bar of the line-casting machine in substantially the same manner as the alining-notches of the circulating matrix-bars of the monoline-machine.

The intaglios or matrices of the side-box bars will be of any character that may be necessary in practice for the purpose of enlarging the capacity or usefulness of the machine, but for the purpose of explanation, I have shown some of the accented letters or vowels of the alphabet, which are largely used, particularly in foreign languages. In the edge of one bar is shown accented letters "a" and "u," and in the edge of another bar the accented letters "e." As shown, one letter on each bar is provided with the acute accent, another with the grave accent, a third with one form of circumflex accent, and a fourth with the dieresis-mark; but I wish it understood that the intaglio or type characters represented are only typical of many that may be employed, and that any desired number of matrix-bars bearing the same characters may be provided for each cell or compartment of the side box to meet the demands or conditions required.

The side-box matrix-bars are each provided on one side with intaglio or type characters corresponding to those at the edge of the bar, and in juxtaposition to these supplemental intaglio or type characters on the side of the bar are arranged diacritical marks or symbols, which, in the example shown in the drawings, are numerals. These diacritical marks or symbols are arranged, respectively, in proximity to the supplemental intaglio or type characters on the side of the bar, in such manner that they serve to indicate the stop-bars of the machine which require to be shifted by the operator to arrest the side-box matrix-bar at the required level to place the desired intaglio or type character in the edge of the bar in the line of matrices being composed in the machine.

In the monoline-machine twelve stop-bars are provided, as before stated, and all are movable except the lowest or twelfth one. The movable stop-bars are susceptible of be-

ing accurately and quickly shifted by the finger of the operator, so that any particular stop-bar can be made to perform its natural forward and lateral movement to place this stop-bar in proper position to arrest or stop a descending matrix-bar at the point necessary to place the required intaglio in the line being composed.

In the drawings I have illustrated the side-box matrix-bars with but six intaglios or type-characters and six alining-notches. I have omitted, for example, the first, third, fifth, seventh, ninth and eleventh alining-notches, which make up the whole number of alining-notches in one of the circulating matrix-bars of the machine. The drawings therefore show the supplemental intaglio or type characters on the side of the matrix-bar accompanied by the numerals "2," "4," "6," "8," "10," and "12," which indicate that the stop-bars corresponding to these numbers require to be operated by the finger of the operator, except the twelfth one if it be stationary, which obviously enables any one of the intaglio or type characters in the edge of the side-box matrix-bar to be arrested at the desired level to place the extra character in the line being composed.

The stop-bars in the machine may be provided in regular order with visible numbers or other marks or signs corresponding with the diacritical marks or signs on the side-box matrix-bars for the purpose of enabling the operator to more quickly select the stop-bar which requires to be shifted when the extra intaglio is to be inserted into the line. The right-hand end portions of the stop-bars used to stop the side-box matrix-bars may be provided with suitable knobs or handles, or any equivalent means, whereby any one may be readily shifted by a touch of the finger to place it in position for arresting a matrix-bar. If the operator desires to introduce an extra intaglio or character into the line—for instance, the grave-accented letter "a," or letters of that body—he reaches with his hand to the receptacle in the side box which contains bars having the letter or letters "a" only, and a glance of the eye shows that the letter requires the tenth stop-bar to be shifted. The same remarks apply to all the intaglio or type characters of the side-box matrix-bars—that is to say, the numerals or diacritical marks or symbols each indicate instantly the stop-bar which should be shifted. If the twelfth stop-bar be stationary, as in the monoline-machine, this bar will not be operated, as it normally stands in position to arrest the matrix-bar with the uppermost intaglio in proper position to be inserted into the line.

If desired, the bottom walls of the alining notches in the side-box matrix-bars may be provided with intaglio or type characters, and both sides of each bar be supplied with correctly-placed intaglios and diacritical marks or signs, as before explained, so that each

matrix-bar is reversible and the marks or symbols can be read from either side. This will enable intaglio or type characters to be used in the opposite edges of the matrix-bars in such manner as to cast relief-types with different faces.

My present invention secures speed and accuracy as regards the introduction into the line being composed of extra intaglios, or those intaglio or type characters not represented by the finger-keys of the keyboard, nor provided for in the magazine which contains the circulating matrix-bars of the machine. The plurality of intaglio or type characters on each bar largely reduces the number of individual bars, and consequently renders it possible to materially diminish the dimensions or size of the side box. The counterpart intaglio or type characters, accompanied by suitable diacritical marks or symbols, enable the operator to quickly determine which stop-bar must be shifted to place a particular matrix in the line being composed.

I have described my invention with special reference to the monoline-machine, but I do not confine myself to the use of my improved side-box matrix-bars in such machine, as they may be employed in any type-setting and line-casting machine having a plurality of stop devices for arresting matrix-bars at different heights or levels.

Having thus described my invention, what I claim is—

1. A side-box matrix-bar provided with a plurality of intaglio or type characters for use in casting, and counterpart or similar intaglio or type characters arranged in juxtaposition to diacritical or distinguishing marks

or symbols, each of which symbols indicates the stop-bar required to be moved to arrest the extra, or side-box matrix-bar at the required point to place a particular intaglio in a line being composed in a line-casting machine, substantially as and for the purposes described.

2. In a type-setting and line-casting machine having stop-bars for arresting its matrix-bars at proper points, an extra or side-box matrix-bar having at one edge a group of intaglio or type characters, and at one side a group of corresponding or counterpart intaglio or type characters in juxtaposition to distinguishing marks or symbols, each of which indicates the stop-bar requiring to be shifted by the operator to arrest the extra or side-box matrix-bar at the required point to place a particular intaglio or type character in a line being composed in the machine, substantially as described.

3. In a type-setting and line-casting machine having stops for arresting its matrix-bars at proper points, extra or side-box matrix-bars, each having a plurality of intaglios in one edge for use in casting and in addition thereto a group of characters at one side to indicate the edge intaglios and the stop requiring to be operated to arrest the bar at the required point to place a particular intaglio in a line being composed in the machine.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALEXANDER S. CAPEHART.

Witnesses:

GREGORY PHELAN,
GEO. W. ROOSEVELT.