

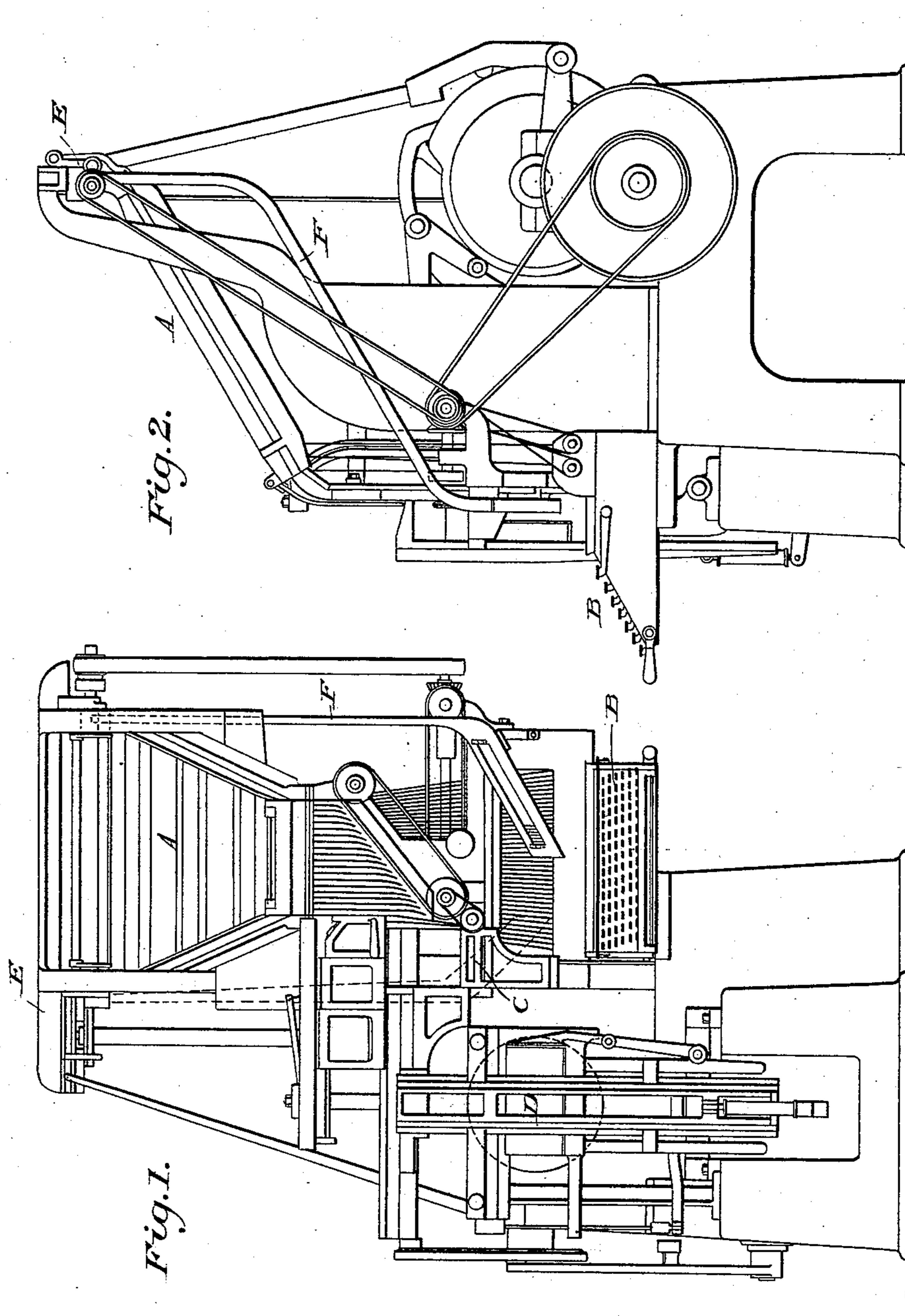
(No Model.)

2 Sheets—Sheet 1.

P. T. DODGE.
LINOTYPE MACHINE.

No. 539,985.

Patented May 28, 1895.



Witnesses
Raymond H. Barnes
Fabius S. Elmore

Inventor
P. T. Dodge

(No Model.)

2 Sheets—Sheet 2.

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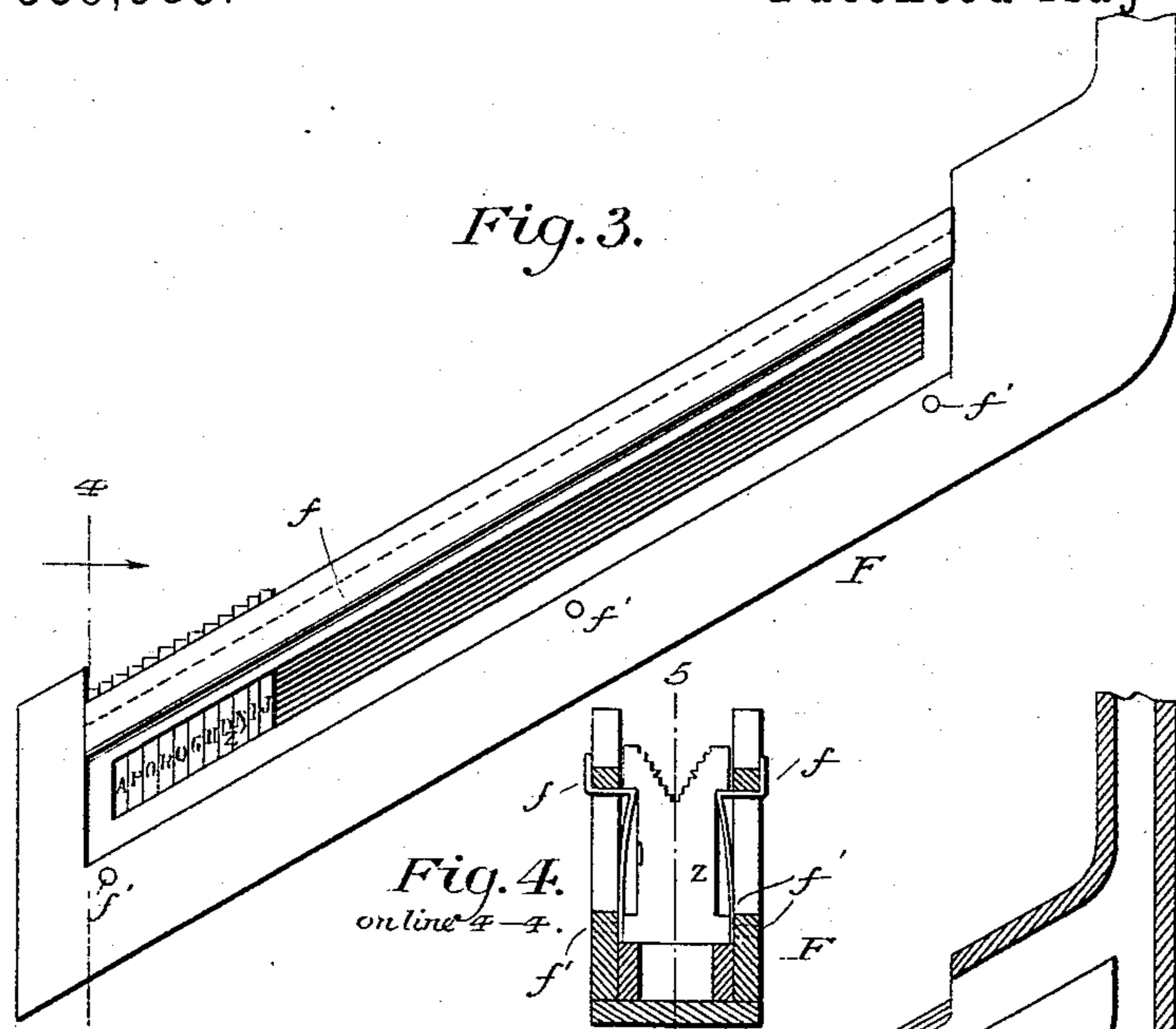


Fig. 4.
on line 4-4.

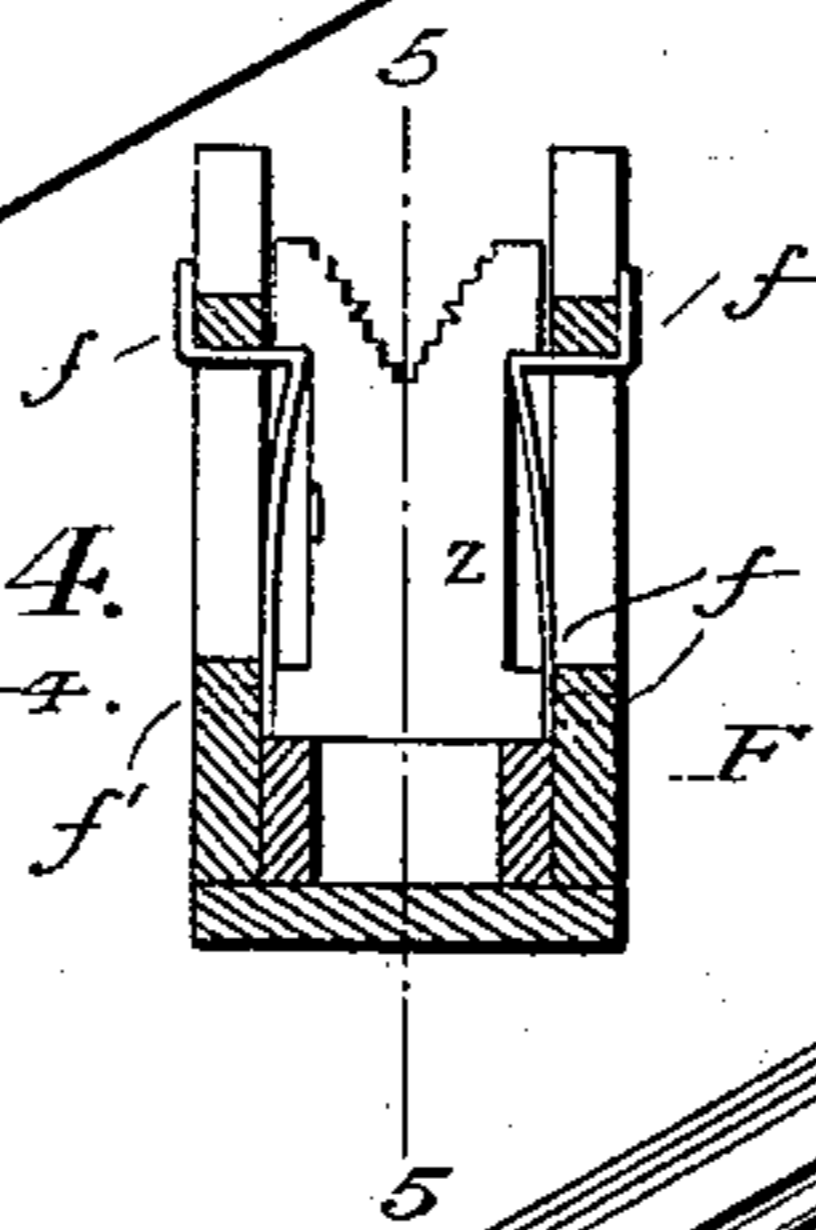


Fig. 5.
on line 5-5.

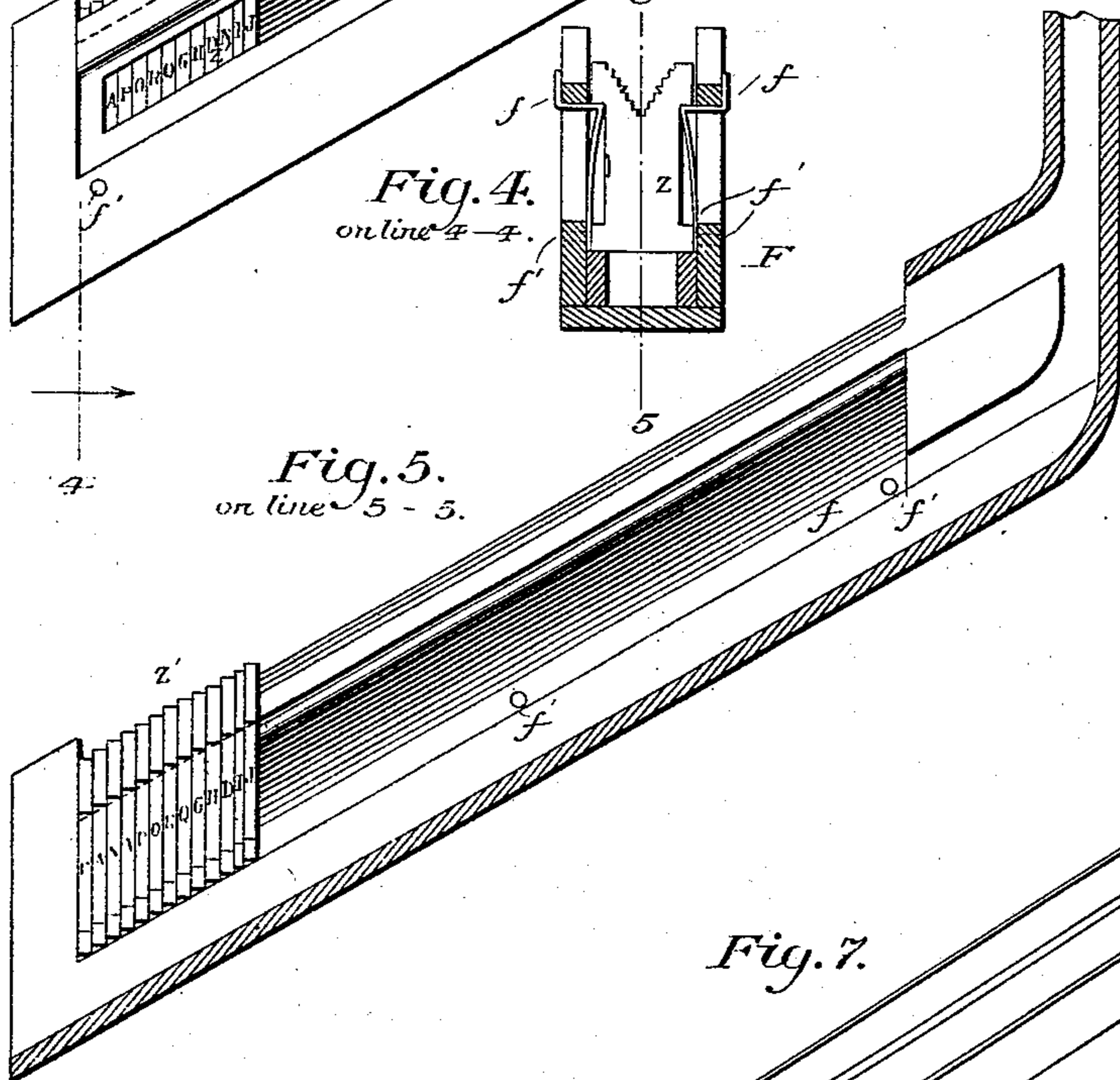


Fig. 7.

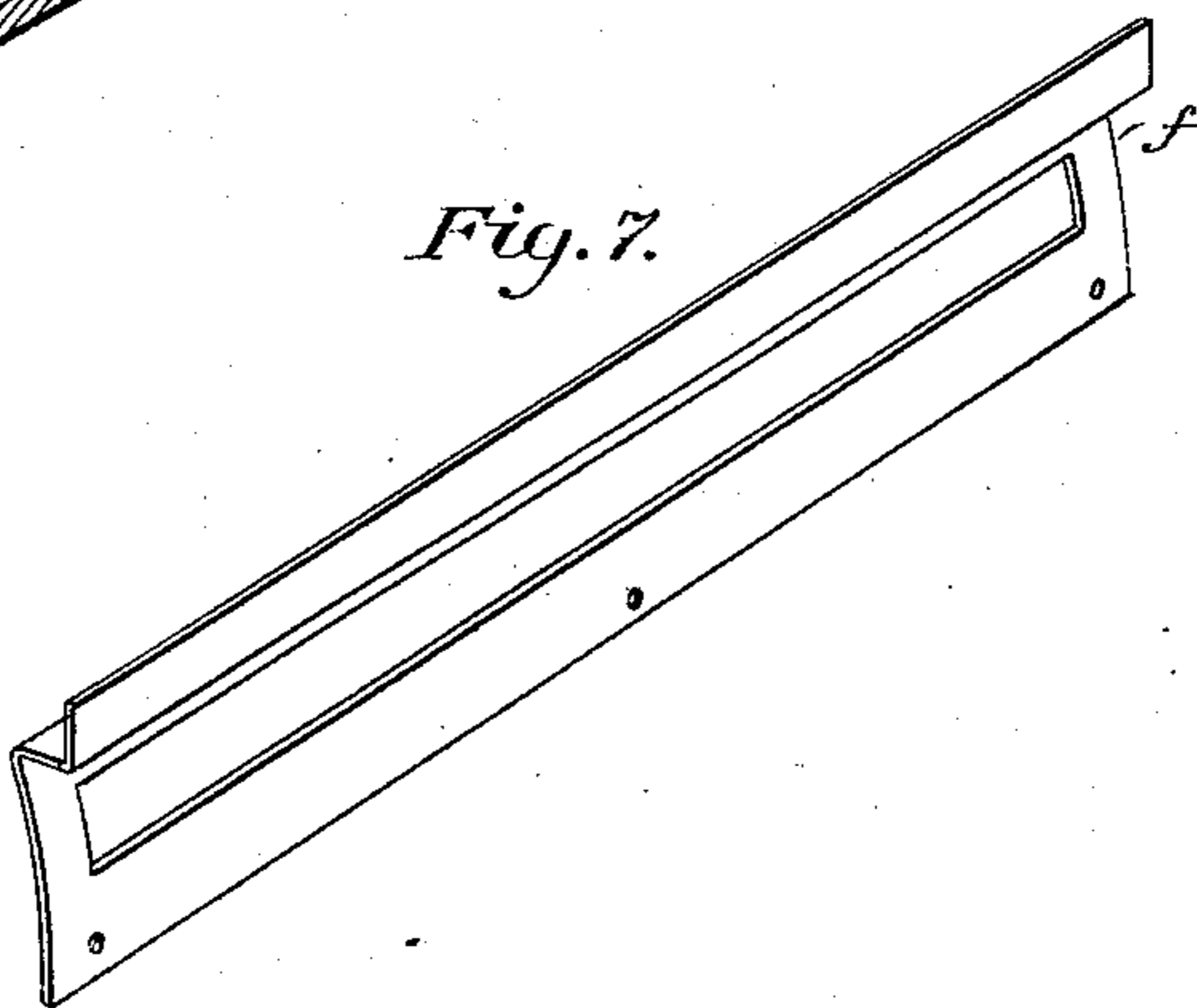
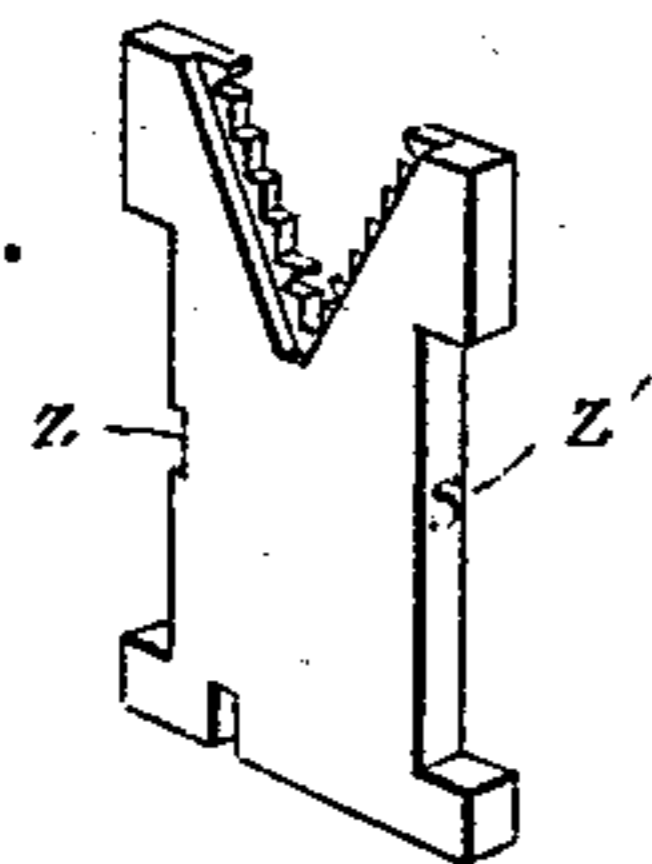


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

PHILIP T. DODGE, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO
THE MERGENTHALER LINOTYPE COMPANY, OF NEW YORK, N. Y.

LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 539,985, dated May 28, 1895.

Application filed March 20, 1893. Serial No. 466,892. (No model.)

To all whom it may concern:

Be it known that I, PHILIP T. DODGE, of Washington, District of Columbia, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

There are now known in the art various machines in which a finger-key mechanism serves to select and assemble temporarily in line type matrices or type dies and intervening spaces, for the purpose of producing a line of type characters in relief, or a line matrix in suitable material from which to cast type bars or lines. In this class of machines as ordinarily constructed the number of characters represented by the key board is necessarily limited. It is frequently desirable to make use of additional characters or "sorts," which are commonly set into the machine by hand. In the use of the Mergenthaler linotype machine, the construction of which will be readily understood on reference to Letters Patent of the United States, dated September 16, 1890, No. 436,532, it has been the practice to set extra or sorts matrices into the composed line by hand, allowing them to be operated in the machine in connection with and in the same manner as the other matrices, after which they were automatically withdrawn, distributed, and all delivered into a common box or receptacle located near the top of the machine and out of reach of the operator. This practice necessitated the employment of a large number of extra matrices, or frequent recourse to the box into which they were discharged, and from which they were required to be removed and assorted by hand, preparatory to further use. Now my invention is intended to overcome this difficulty, by providing for the automatic return of the sorts matrices to a position in front of the operator and their alignment or assemblage in such manner that the operator may readily select those which are required for use and insert them into the line by hand. By thus providing for the automatic circulation of the sorts matrices and their automatic return to a point from which they can be instantly selected for use, without requiring the operator to leave his position, I am able to save much time and labor, and to greatly facilitate the production of

matter in which unusual characters are to appear.

To the end named I propose to provide the machine with a distributor or equivalent mechanism of any suitable form, by which the sorts matrices are separated from the others and delivered into a tube, conductor or conveyer, by which they are guided to a position in front of the operator, and automatically assembled in line.

I have represented my invention in its preferred form as adapted more particularly for the Mergenthaler linotype, but it is to be understood that it may be varied in detail at will and that the details of construction are not of the essence of the invention.

Figure 1 is a front elevation, in outline, of the Mergenthaler machine provided with my improvement. Fig. 2 is an end view of the same. Fig. 3 is an enlarged front elevation of the sorts receiver or holder. Fig. 4 is a cross-section of the same on the line 4 4. Fig. 5 is a vertical longitudinal section of the same on line 5 5 of Fig. 4. Fig. 6 is a perspective view of one of the sorts-matrices. Fig. 7 is a detail view of the spring.

Referring to the drawings, A represents the magazine in which the assorted matrices are contained, and from which they are discharged by means of finger keys (B) together with suitable spaces into the assembling block (C). From this block the lines are transferred to the mold or casting mechanism (D), from which they are elevated to the top of the machine and introduced to the distributing mechanism (E), which serves to restore the ordinary matrices representing characters in the key board to the respective channels of the magazine, while the extra or sorts matrices are carried entirely across the top of the machine, and all delivered at the extreme end.

All of the foregoing parts may be constructed and arranged to operate in the manner described in the Mergenthaler patent above referred to.

In applying my present improvement I provide a tube (F) or equivalent guide and fix the same in position on the frame of the machine, ranging its upper end in position to receive the sorts matrices as they are deliv-

ered one after another from the distributor, and extending its lower end downward, forward and to the left in an inclined position in front of the operator. The only requirement in this regard is that the lower end in which the sorts matrices are received and retained should be in suitable relation to the key-board of the machine to admit of the operator in his ordinary position readily inspecting the sorts matrices, so that he may select those bearing the required characters and insert them into the assembling block (C) or into the composing mechanism for delivering them to the said block. The lower end of the tube (F) is given such inclination and made of such form internally that the descending matrices will slide downward and range themselves side by side in a line as represented in Figs. 3 and 5. It may be varied in form and details of construction at will, provided only it is adapted to assemble the matrices in a line and permit of their ready inspection and removal by the operator. The matrices are made of the same form as those commonly used in the Mergenthaler machine, and represented in Fig. 6, with the matrix proper (z) in one edge and the corresponding character (z') in the opposite edge where they will be exposed to the view of the operator to guide him in selecting the required matrices. I commonly make the lower end of the tube of trough-like form in cross section and with longitudinal ribs or shoulders (f) along its side to receive the sustaining shoulders at the upper ends of the matrices, so that as the latter slide downward side by side they are prevented from tipping or falling over; in other words, are caused to stand up side by side. As the descending matrices encounter the lower inclined end of the receiver, their motion is slightly checked at the instant that they begin to travel sidewise. It is this fact that causes their upper ends or ears to override the sustaining shoulders f .

In order to admit of the required matrices being lifted out of the line at any point in its length the sustaining shoulders (f) should be adapted to yield in order that the lower shoulders of the matrices may pass them. This may be accomplished in any suitable manner. In Fig. 4 it will be seen that the shoulders are formed by the upper edges of a spring plate secured at their lower edges by a rivet (f'), or otherwise, thus allowing the matrices to be drawn out at the top. Any other yielding or sustaining device may be employed. As shown in Fig. 7, the spring plate is provided with a longitudinal slot or opening through which the characters on the matrices are exposed to view.

While it is preferred to have the magazine deliver the sorts matrices at the rear or right hand side, it is obvious that it may deliver them at the front or left hand side, in which case the tube (F) will be brought downward from the receiving point and turned to the right instead of the left, as indicated by dotted

lines in Fig. 1. The sorts matrices may if preferred be discharged at any other point after leaving the casting mechanism, the only requirement being that the sorts matrices, which are distinguished from the others by their special arrangement of distributor teeth at the top or otherwise, should be delivered to the guide or its equivalent assembling them in front of the operator.

While I have described my invention as applied to machines for setting up matrices or female type characters, it is to be understood that it is applicable in like manner to machines for setting up dies or male type for producing matrix impressions in papier maché or other material. The word "type" is used therefore in the claims in a generic sense to include both matrices and dies.

Having thus described my invention, what I claim is—

1. In a linotype machine the combination of type, a type composing mechanism having a key-board and adapted to permit the insertion of extra or sorts type in the line in course of composition, distributing mechanism for returning the ordinary type to the composing mechanism, and a mechanism to receive the extra type from the distributor and assemble them automatically in line, adjacent to the key-board and in reach of the operator.

2. In a linotype machine and in combination with the type composing and distributing mechanism, a conducting tube substantially as described adapted to receive the extra or sorts type from the distributor and conduct them to the front of the machine, and a receiver substantially as described, located adjacent to the key-board within reach of the operator and adapted to receive the sorts type from the conducting tube and assemble them in line in front of the operator.

3. In combination with a linotype machine, the tube arranged to receive the extra or sorts type and extended downward from the distributor to the front of the machine, its lower end being inclined and provided with shoulders, whereby it is adapted to maintain and assemble the descending type or matrices.

4. The sorts tube or stick provided with a yielding shoulder or support for the edges of the matrices, whereby the matrices are assembled side by side and the removal of individual matrices permitted at will.

5. In combination with a linotype machine adapted to receive extra or sorts matrices, a receiver for said extra or sorts type, arranged in front of the operator and adapted to sustain the matrices in line and expose the type characters to view, substantially as and in the manner described and shown.

In testimony whereof I hereunto set my hand, this 16th day of December, 1892, in the presence of two attesting witnesses.

PHILIP T. DODGE.

Witnesses:

ARTIS H. EHRMAN,
D. E. WEEKES.