

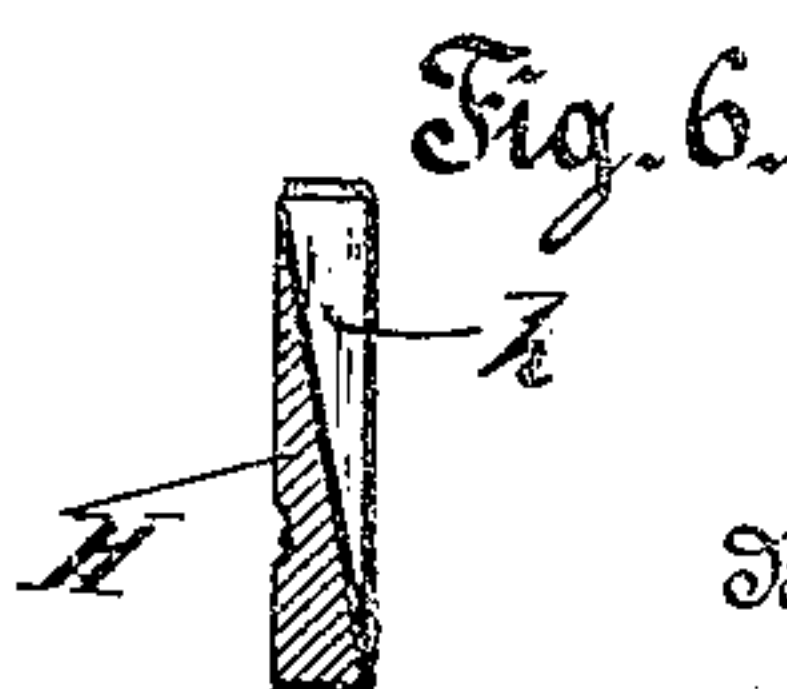
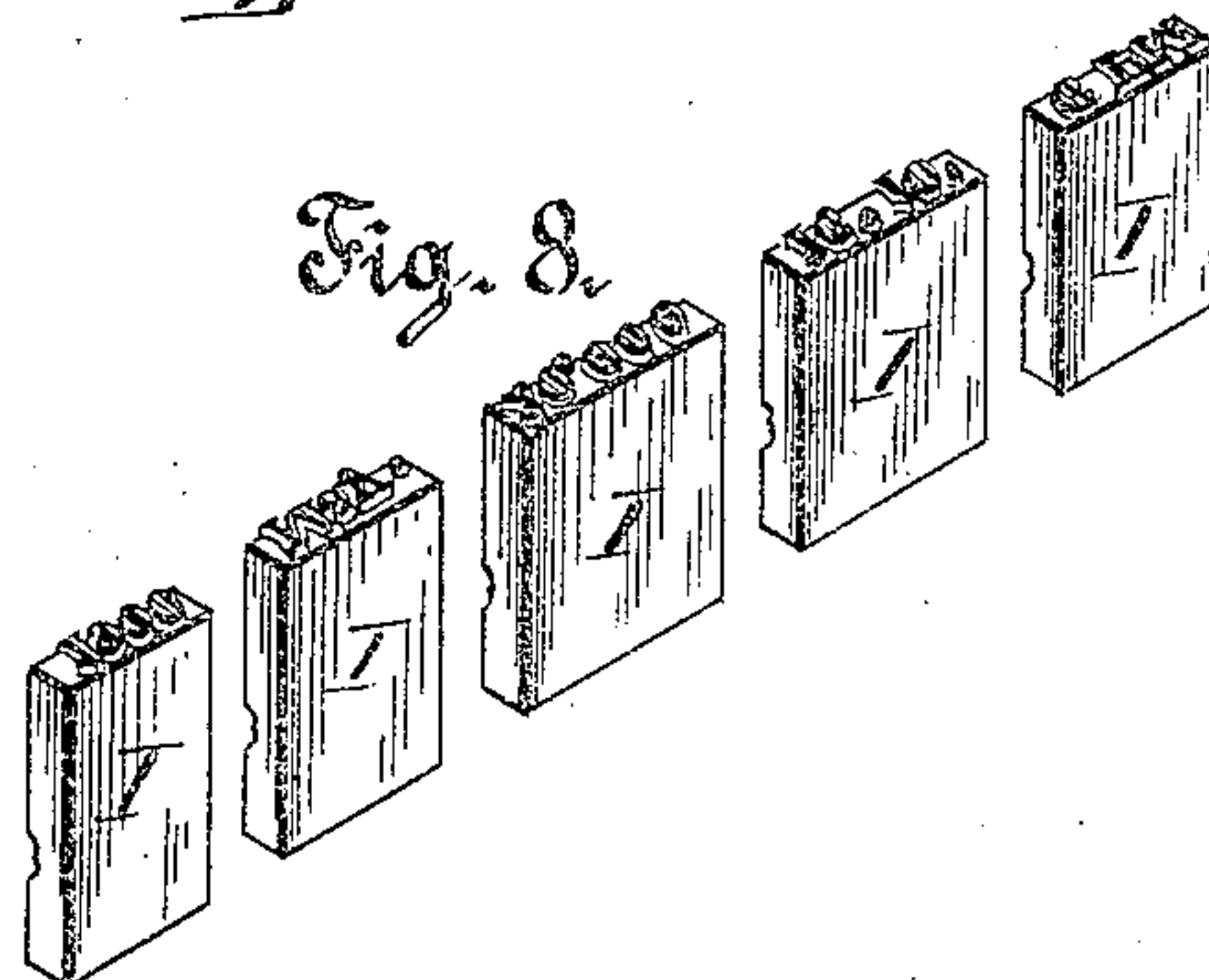
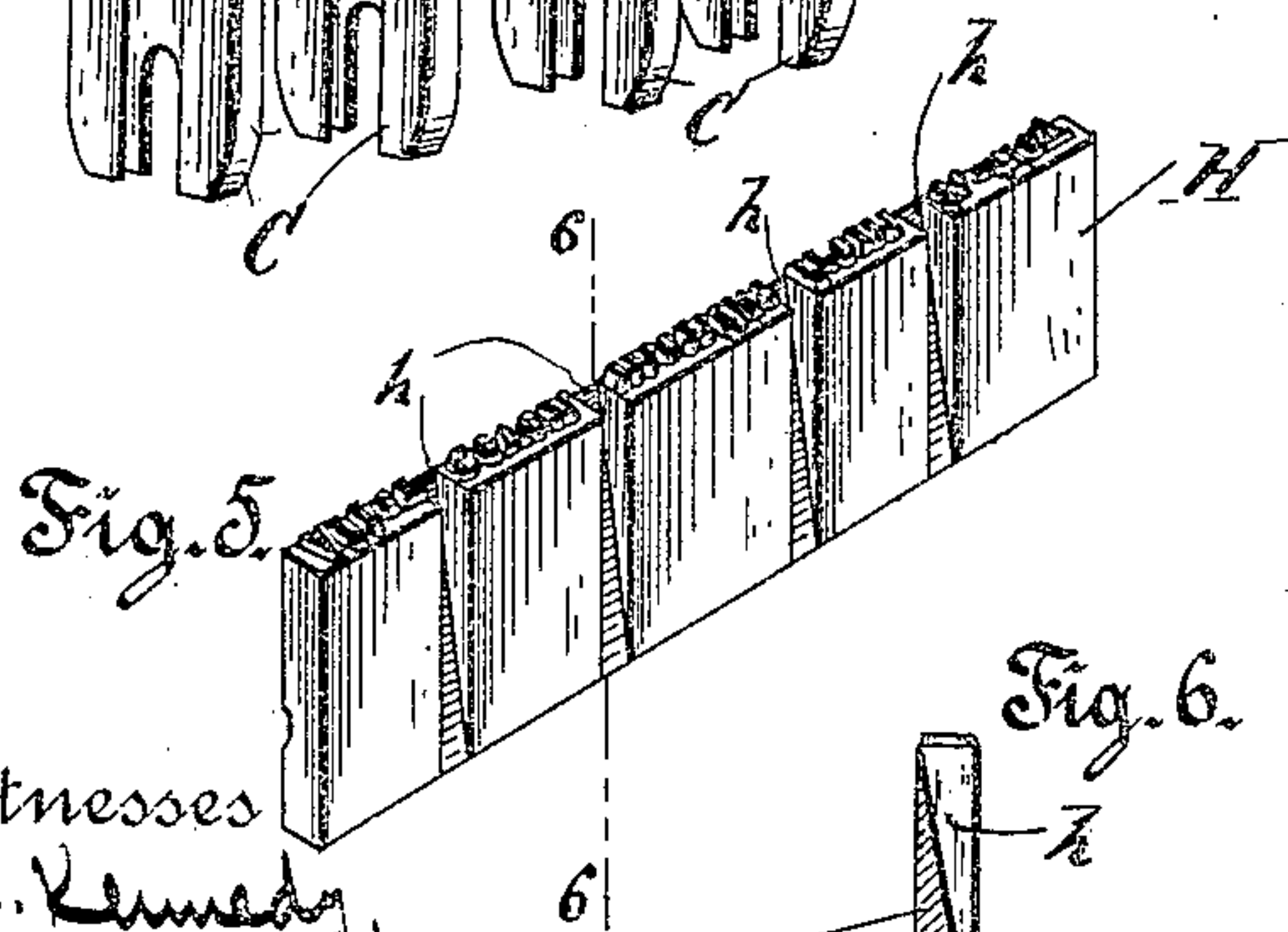
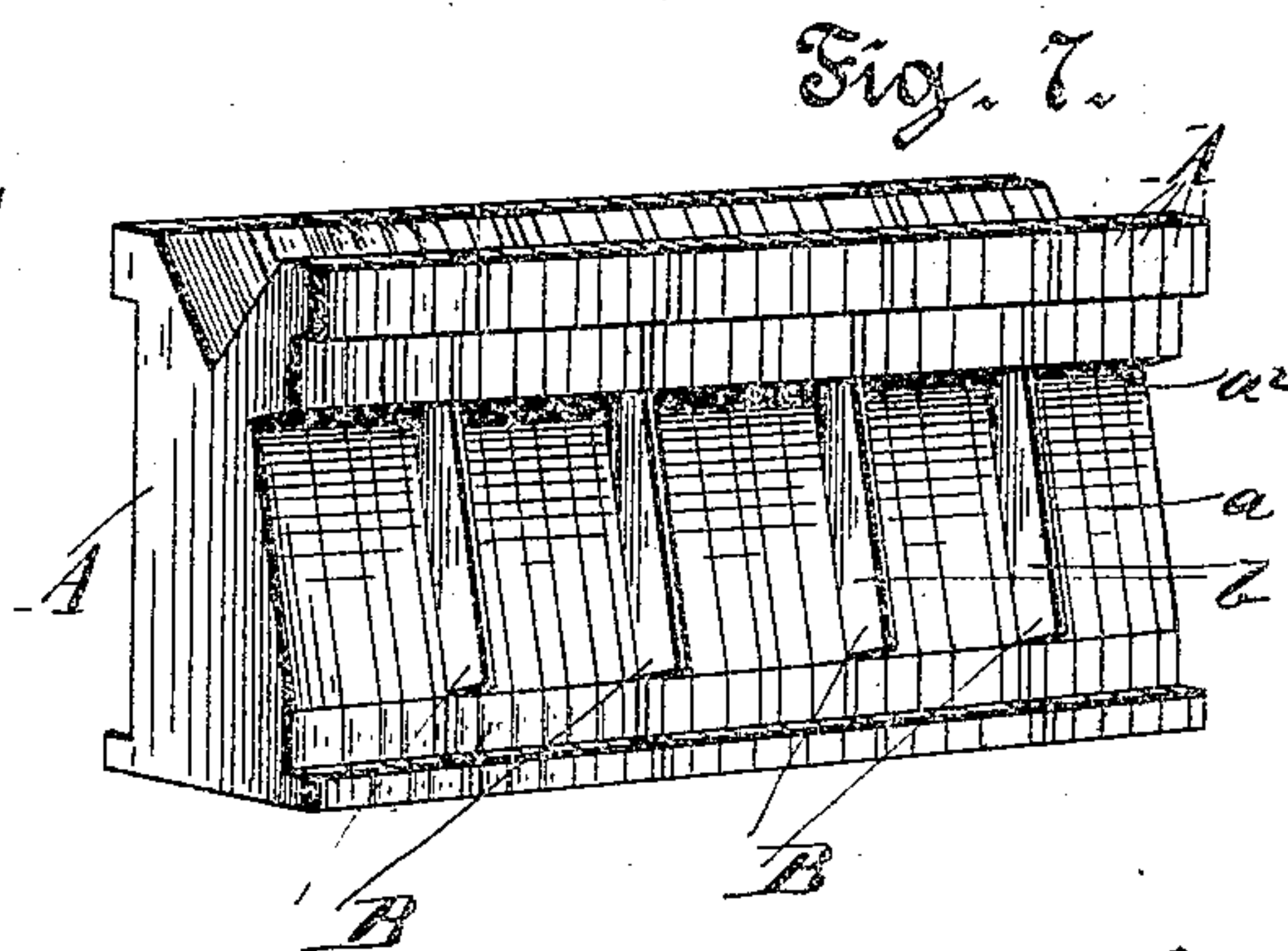
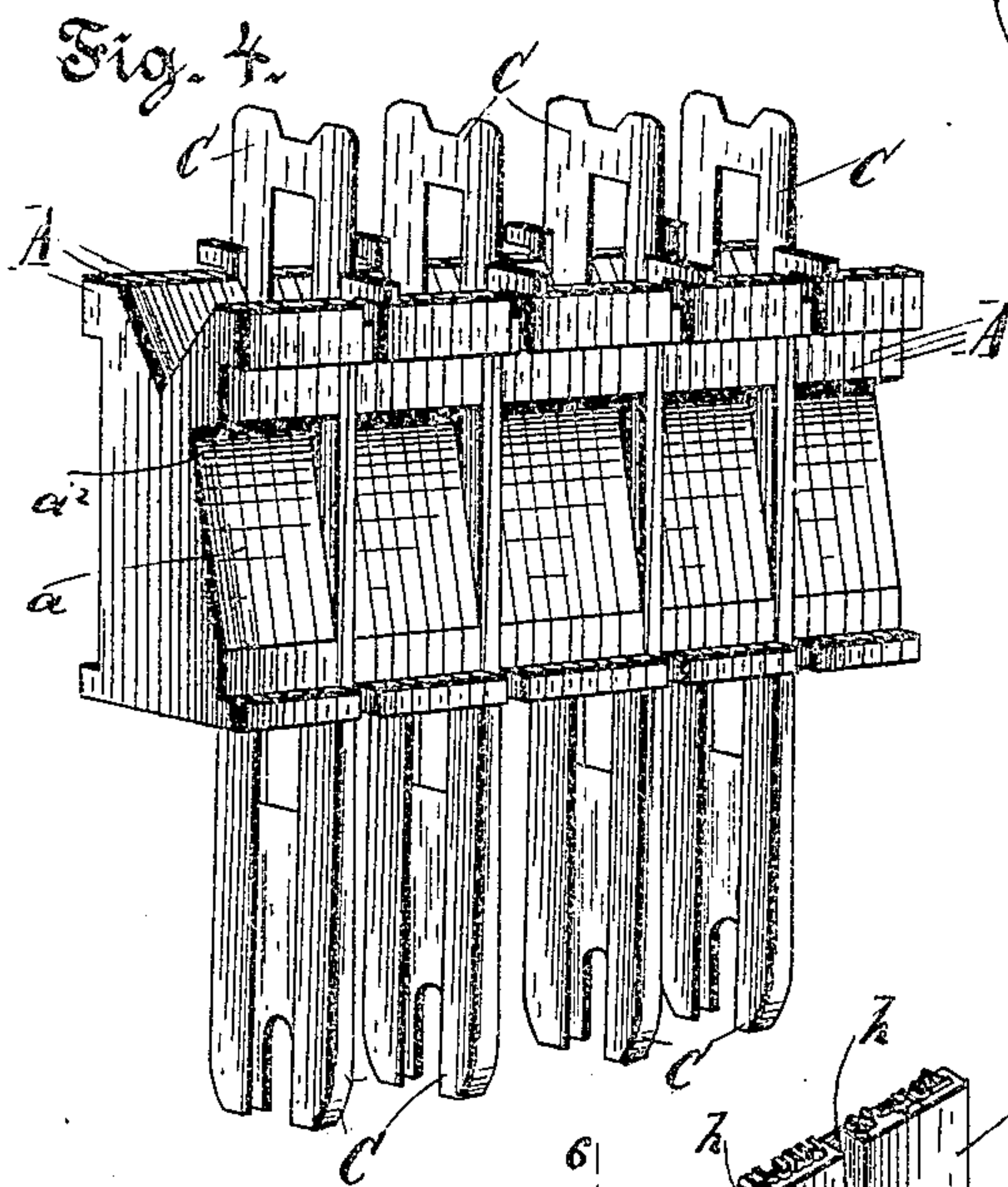
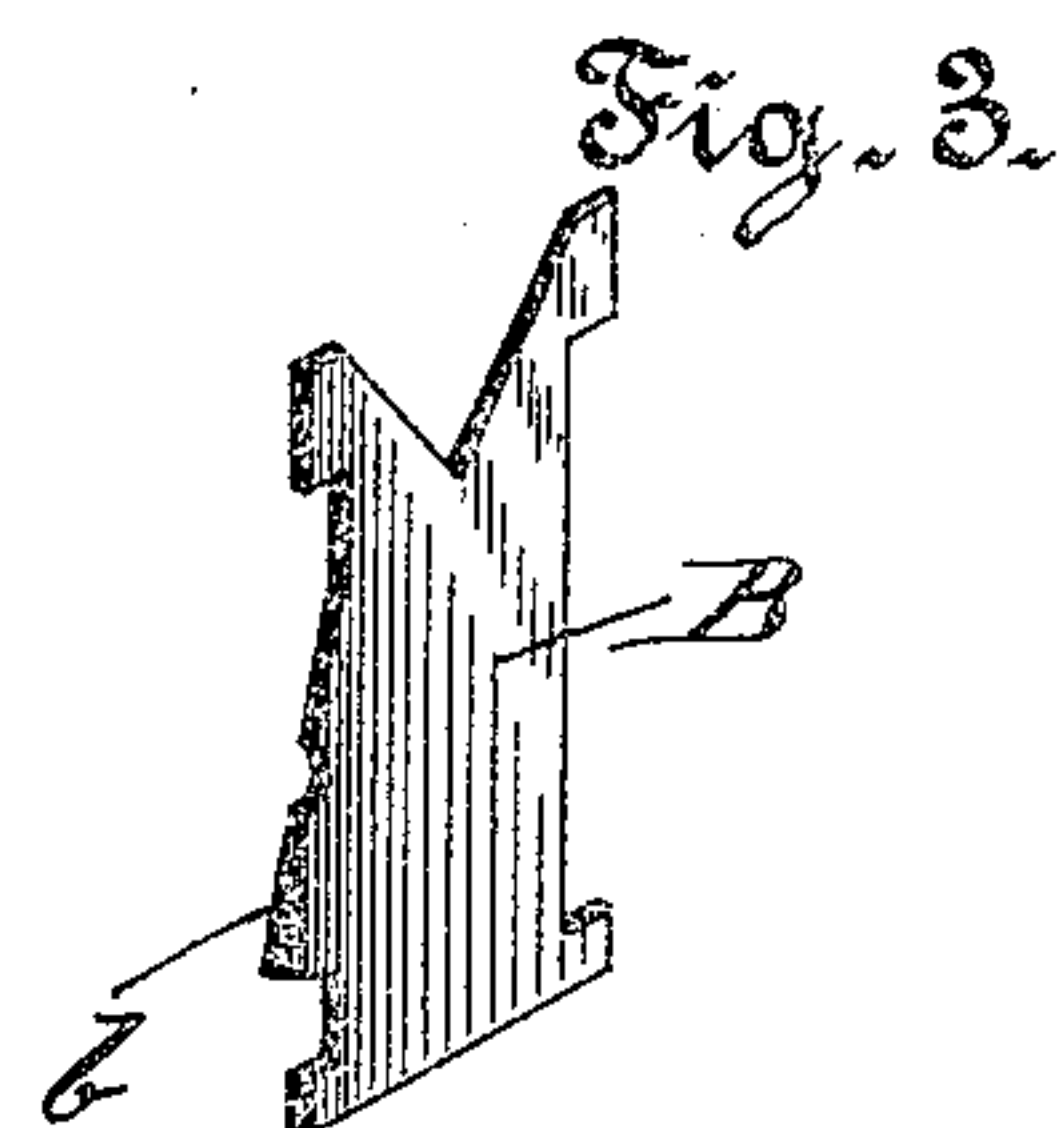
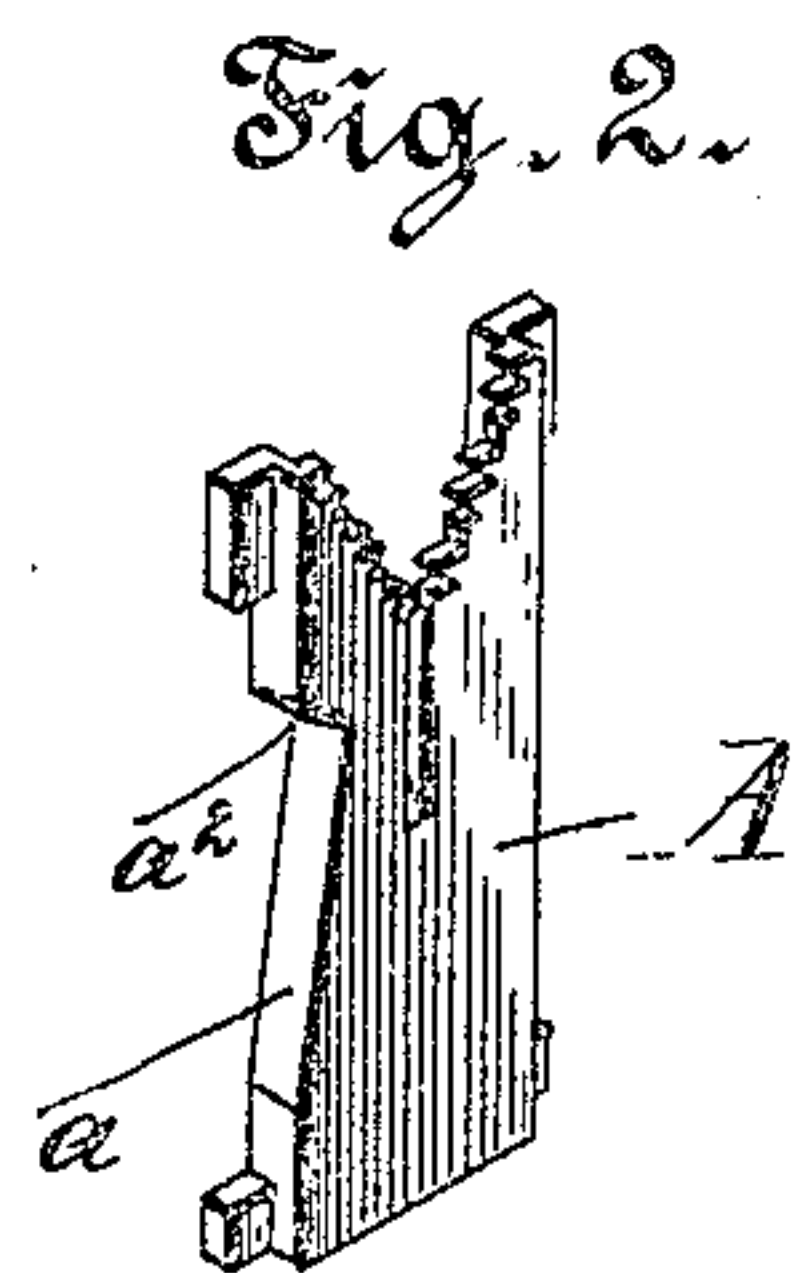
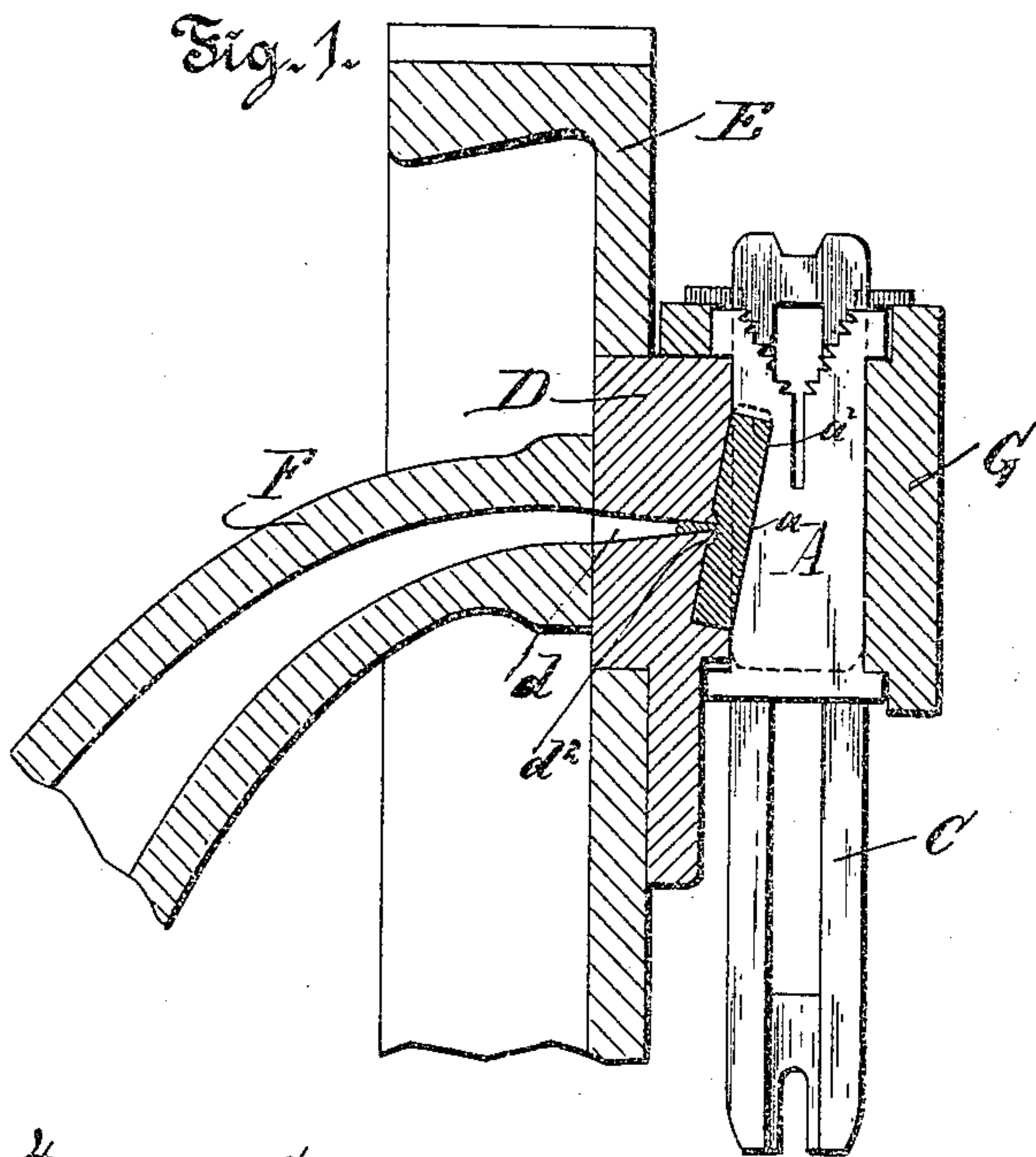
No. 792,551.

PATENTED JUNE 13, 1905.

D. PETRI-PALMEDO.
LINOTYPE MACHINE.

APPLICATION FILED JAN. 14, 1905.

2 SHEETS—SHEET 1.



Witnesses
A. M. E. Kennedy
J. M. Copenhagen

Inventor
David Petri-Palmedo
By his Attorney P. T. Dodge

No. 792,551.

PATENTED JUNE 13, 1905.

D. PETRI-PALMEDO.
LINOTYPE MACHINE.

APPLICATION FILED JAN. 14, 1905.

2 SHEETS—SHEET 2.

Fig. 9.

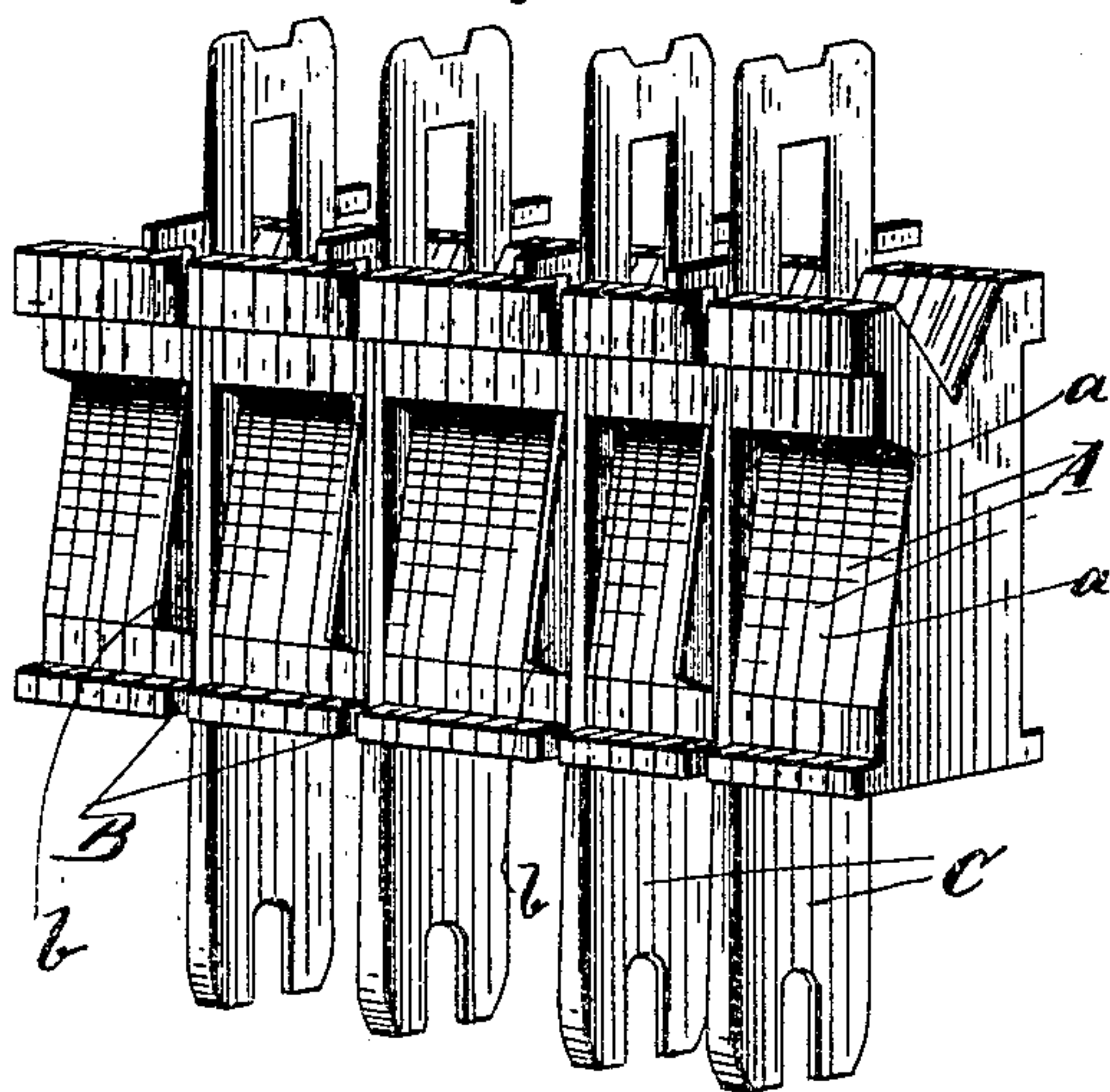


Fig. 11.

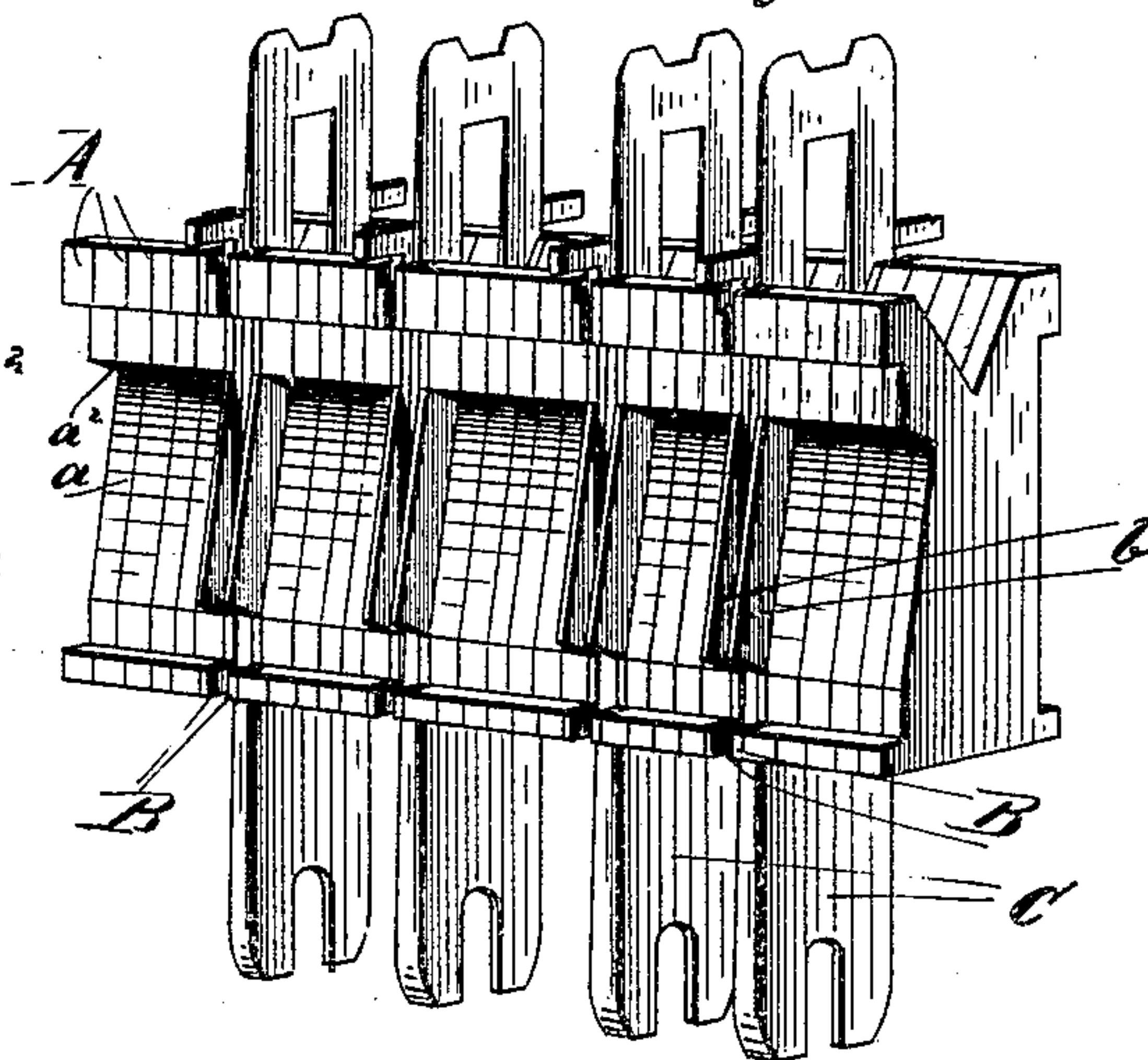


Fig. 10.

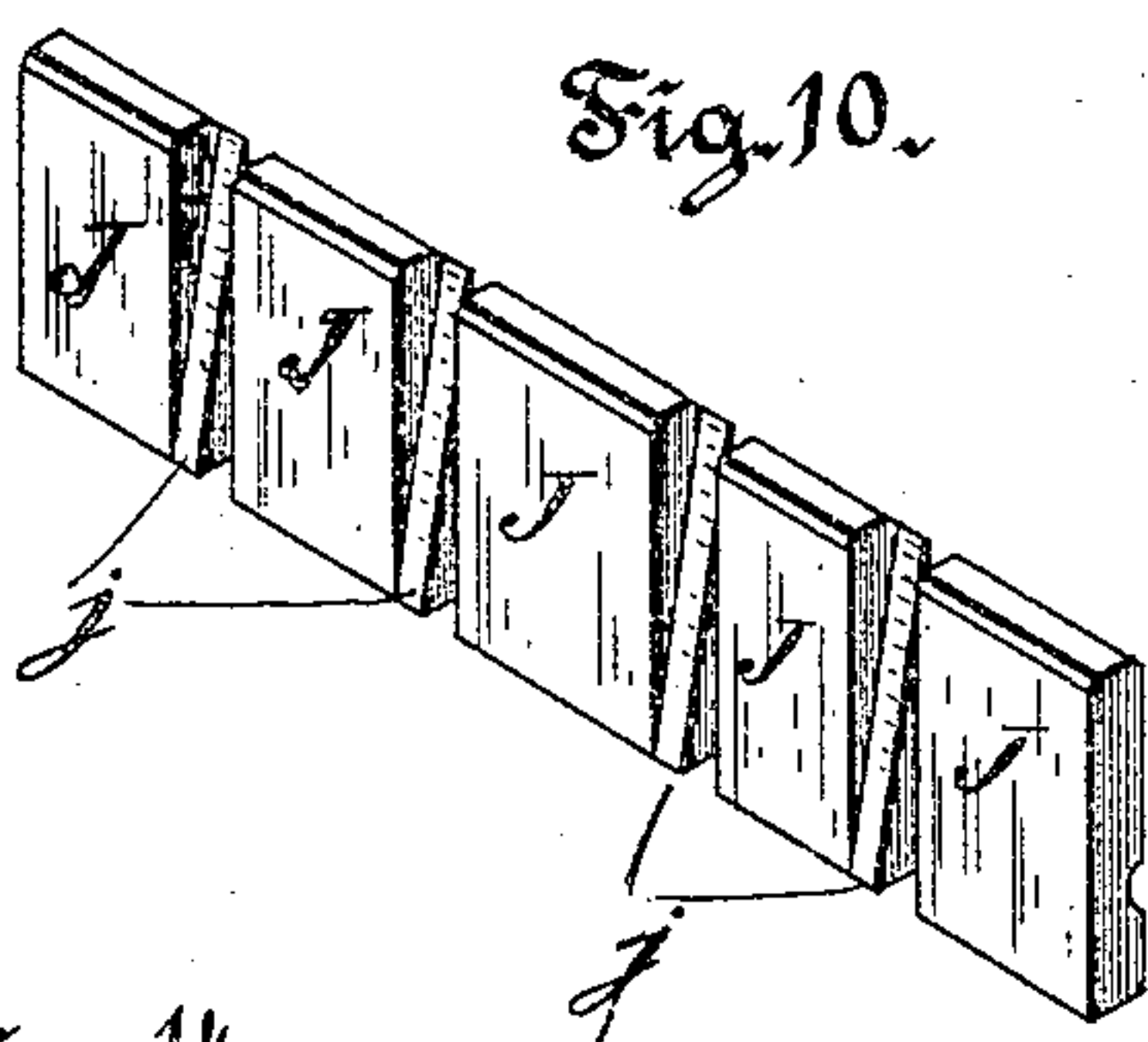


Fig. 12.

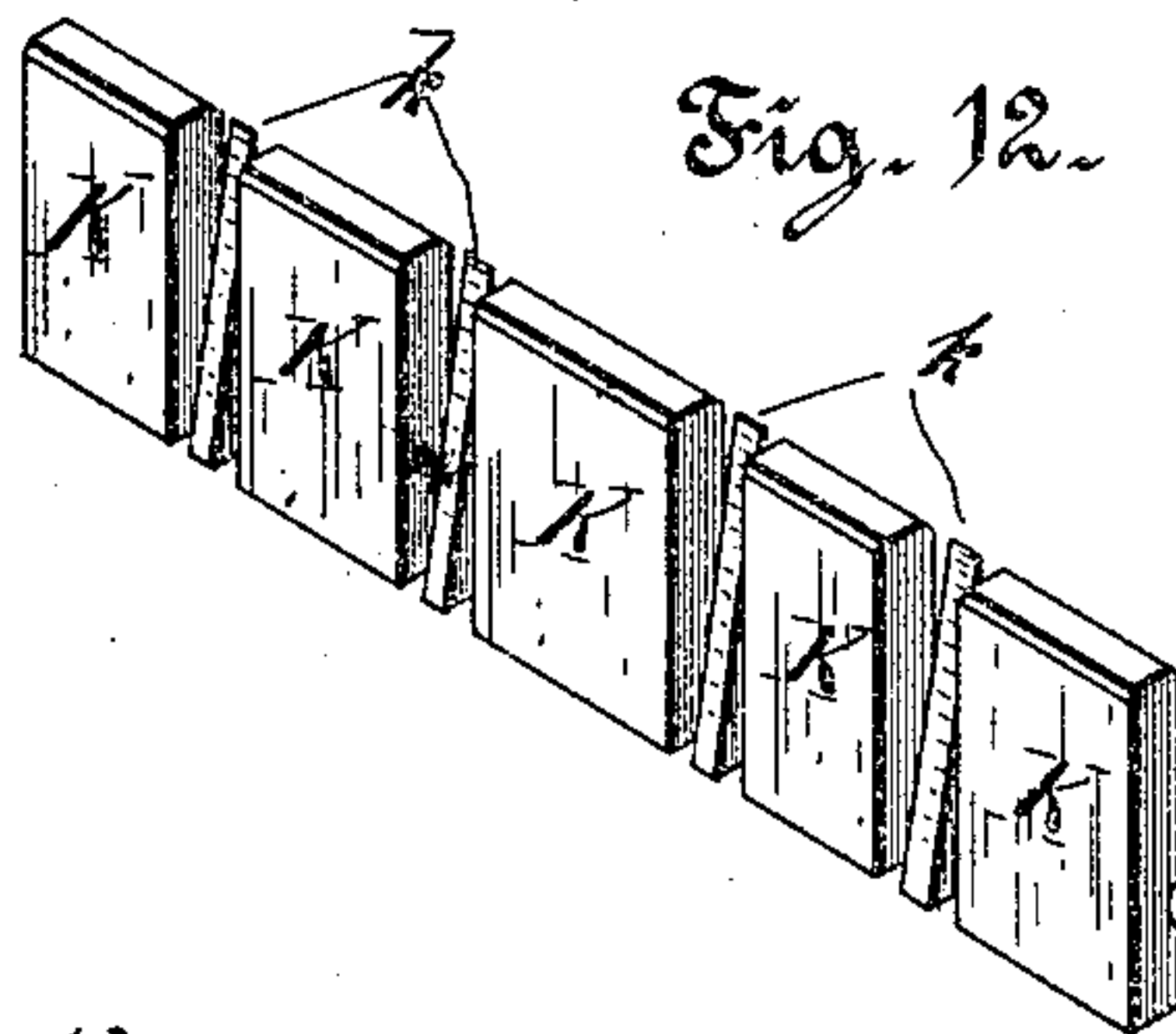


Fig. 14.

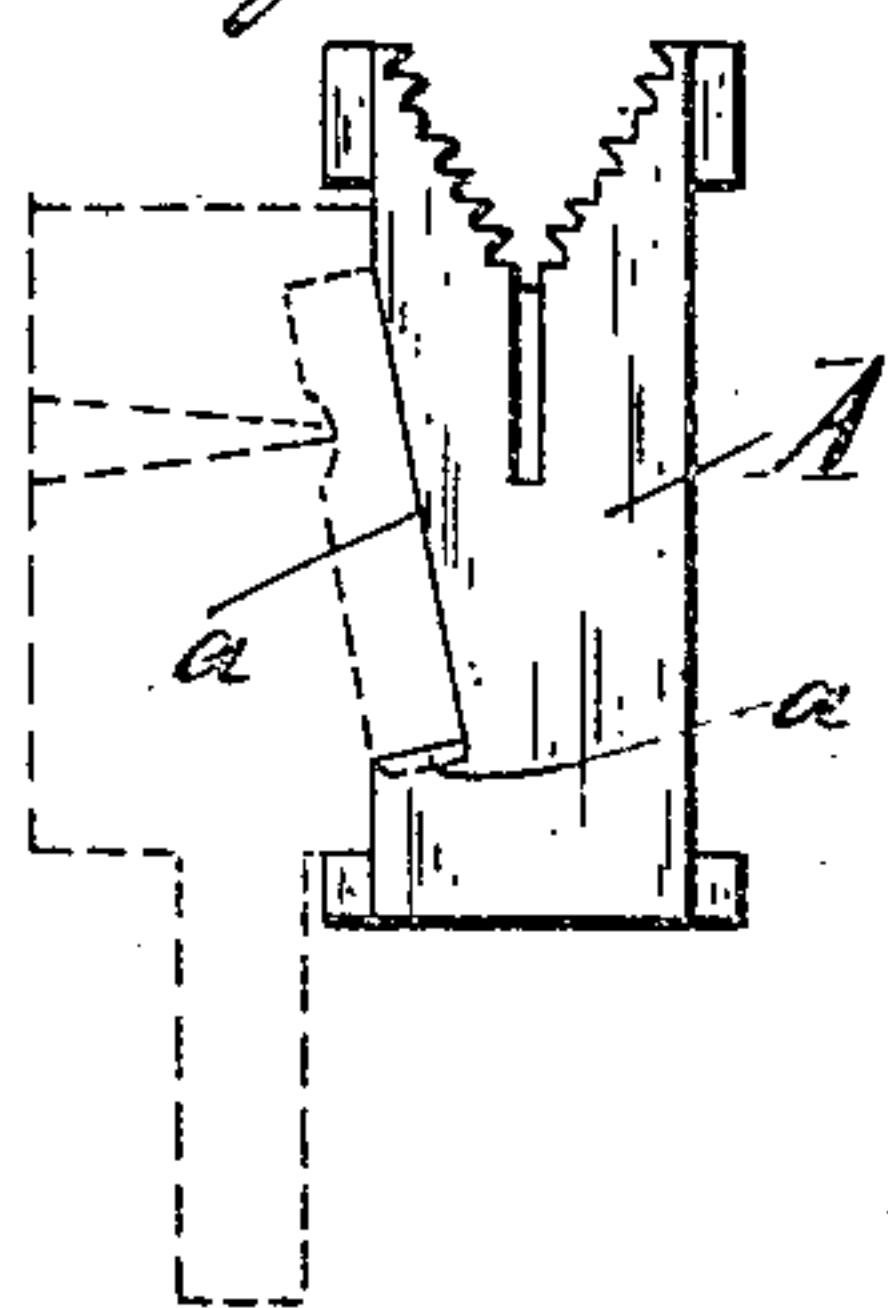
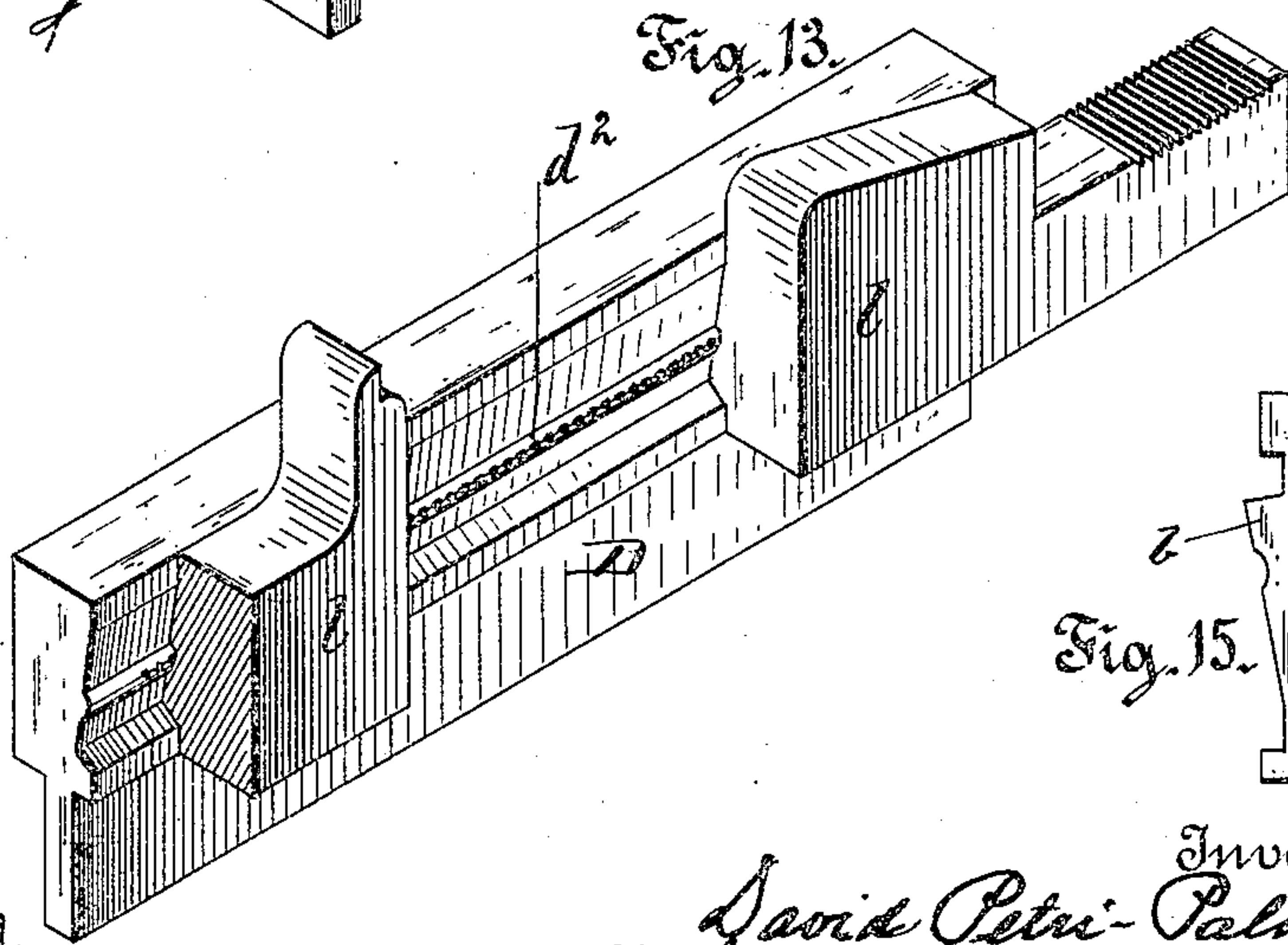


Fig. 13.



Witnesses
A. M. E. Kennedy
J. M. Cooper

Inventor
David Petri-Palmedo
By his Attorney
P. T. Dodge

UNITED STATES PATENT OFFICE.

DAVID PETRI-PALMEDO, OF HOBOKEN, NEW JERSEY, ASSIGNOR TO
MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW
YORK.

LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 792,551, dated June 13, 1905.

Application filed January 14, 1905. Serial No. 241,055.

To all whom it may concern:

Be it known that I, DAVID PETRI-PALMEDO, of Hoboken, county of Hudson, and State of New Jersey, have invented a new and useful
5 Improvement in Linotype-Machines, of which the following is a specification.

My invention has in view primarily the production of justified lines of logotypes either with the justifying-spaces integral with or
10 distinct from the logotypes.

Although my improvements may be embodied in machines of various forms, I have designed them more particularly with reference to use in the well-known Mergenthaler
15 linotype-machine, such as represented in Letters Patent of the United States Nos. 436,532 and 557,000, in which my devices are also adapted to produce linotypes or line-printing slugs.

My invention is based on the use of a casting chamber or mold which is divided diagonally, one portion being formed in the face of a solid mold, while the other portion is formed by cavities on the operative edges of metal
25 matrices assembled in line side by side. In conjunction with these matrices I propose to employ in the line between the matrices expansible wedge-spacers of the well-known Schucker's type, such as are used in the linotype-machine to effect justification. I also
30 propose to employ in the matrix line-spaces or division-plates which extend at one edge across the mold-chamber, thereby dividing the same into separate molds or cells each adapted for the production of a word, letter,
35 or space. When these division-plates are used singly, the logotypes will have suitable spaces formed on their ends, and when division-plates are used in pairs the spaces of suitable width for justification will be cast between or distinct from the logotypes.

As my improved parts may be used in any ordinary linotype-machine, with the modifications hereinafter pointed out, I confine the
45 drawings to my improved devices and the parts immediately associated therewith.

Figure 1 is a vertical transverse section through a mold and line of matrices and the

coöperating parts in accordance with my invention; Fig. 2, a perspective view of one of the matrices; Fig. 3, a view of one of the division-plates; Fig. 4, a line of matrices, spacers, and division-plates as assembled for the production of a continuous slug or linotype; Fig. 5, a perspective view of a slug such
50 as is produced by the aid of the parts shown in Fig. 4. Fig. 6 is a cross-section on the line 6 6 of Fig. 5. Fig. 7 is a perspective view showing a composed line of matrices and division-plates adapted for the production of a
55 series of logotypes without justifying-spaces thereon. Fig. 8 is a perspective view of a line of logotypes such as will be produced by the aid of the parts shown in Fig. 7. Fig. 9 is a perspective view showing a composed line of matrices, spacers, and division-plates employed to produce a series of logotypes with
60 justifying-spaces attached. Fig. 10 is a line of such logotypes. Fig. 11 is a perspective view showing a composed line of matrices, spacers, and division-plates in pairs to produce a line of logotypes and separate justifying-spaces. Fig. 12 is a perspective view of the logotypes and spacers produced by the aid
65 of the parts shown in Fig. 11. Fig. 13 is a perspective view of my mold proper with the line-confining jaws constituting in the form shown a part of the mold. Fig. 14 is a view showing a matrix of modified form. Fig. 15 is a view of a division-plate adapted for use
70 therewith.

Referring to the drawings, A represents my improved matrices; B, the division-plates for use between the matrices; C, the expansible wedge-spacers of ordinary construction; D, the mold proper; E, the supporting-wheel in which it is secured, and F the mouth of the melting-pot, arranged to close tightly against the back of the mold and to deliver molten
75 metal thereto.

The matrices A consist each of a thin plate or sheet of brass or like material provided with guiding-ears and distributing-teeth like the matrices used in the ordinary linotype machine. Instead of having the character or matrix proper in its vertical edge my improved
80
85
90
95

matrix is recessed or indented diagonally in the working edge, so as to present a long inclined surface a and a second surface a^2 at right angles thereto. The surface a is of a length corresponding to the height of the required slug and the surface a^2 of a length corresponding to the thickness of a slug, or, in other words, the recess in the edge of the slug is of triangular form.

The matrix proper is formed in the under side of the surface a^2 , so that when a series of these matrices representing the characters to appear in a line of print are assembled side by side they will present a long channel, with the matrix characters in its upper wall.

The mold D, with which the matrices cooperate and to which they are presented edge-wise, is formed with a longitudinal cavity the reverse of that in the matrices, but of equal size, so that when the matrices and the mold are brought together there will exist between them a cavity or mold-cell of rectangular section of the exact size of the required slug or linotype, half of this cavity being in the matrices and the other half in the mold proper, as shown in Fig. 1.

The spacers C for justifying the matrix-line are of the same construction as those used in the linotype-machine, consisting each of two oppositely-tapered wedges connected by a longitudinal joint, so that while one remains fast in the line the other may be advanced endwise through the line, thus increasing the thickness of the spacer in the line and elongating and justifying the latter.

In operation the spacers and matrices are sustained in a support G similar to the "first elevator," so called, of the linotype-machine. The spacers being of uniform width will when seated against the mold between the matrices extend diagonally through the mold chamber or cavity, extending but half-way across the same, as indicated by dotted lines in Fig. 1, so that when the slug or linotype H is cast in the chamber it will present, as shown in Fig. 5, the diagonal grooves h . The existence of these grooves is immaterial, since they do not destroy the continuity of the slug. By means of the parts shown in Figs. 1, 2, and 4 I am enabled to produce continuous justified slugs or linotypes, such as shown in Fig. 5, answering all the purposes of the ordinary linotype produced in a solid slotted mold.

When it is desired to produce instead of the linotype a series of logotypes, I make use of the division-plates, such as shown in Fig. 3. These are of the same marginal form and size as the matrices, except that instead of being recessed in the operative edge they are each formed with a triangular projecting portion b , adapted to extend across and divide the mold-chamber. These division-plates inserted in the line between the word groups of matrices

will when the line is presented to the mold D divide the mold-chamber transversely into a series of short chambers or cells, in each of which there will be formed a separate or independent logotype I. A series of logotypes cast in this manner at one operation will present the appearance shown in Fig. 8.

When it is desired to produce a series of logotypes, with justifying-spaces attached thereto, I employ in the line of matrices between each group and the next one of the expanding-spacers C and also at its side one of the division-plates B in the manner shown in Fig. 9. The line thus composed is presented tightly against the mold D in the same manner as the line shown in Fig. 1.

The spacers C effect the justification of the line, while the division-plates divide the mold into separate chambers or cells and cause the production of a series of logotypes J, such as shown in Fig. 10, each, except the last, with an integral justifying-space j formed on its end. When the logotypes thus formed are assembled in line end to end, they will form a justified line of the predetermined length.

In order to facilitate correction and justification of the forms composed of logotypes, it is sometimes desirable to have the justifying-spaces distinct from the logotypes, so that they may be removed and replaced by others to secure justification when changed by substituting words or characters in the line. When these distinct spacers are required, I compose the line as shown in Fig. 11, using between the word groups of matrices the division-plates B in pairs and inserting between the two plates of each pair one of the justifiers C. When this line is used in connection with the mold, the mold chamber or cavity is divided into cells representing the logotypes, with intermediate cells of suitable width to form the justifying-spaces.

As the result of the casting operation a line of logotypes K, such as shown in Fig. 12, will be produced, with intermediate and separate justifying-spacers k . These spaces like the integral spaces in Fig. 10 will be of triangular form in vertical section. This is material, as they will answer in practice every purpose of the usual rectangular spaces.

The mold D may be constructed in any suitable manner provided it contains a suitable metal-receiving cavity to correspond with that in the matrix-line. I prefer to construct it, as shown in Fig. 1, in the form of a solid block, with openings or gates d through the rear to admit the molten metal from the pot F. These openings are preferably of flaring form toward the rear and so located as to deliver the metal midway of the height of the casting-chamber or thereabout. The mold is preferably formed with a longitudinal rib d^2 , projecting into the chamber for the purpose of forming grooves or indentations in the logo-

type. In consequence of this construction the sprues engaging the slug below its general surface will when broken away leave the slugs or logotypes without projections and in condition to be locked up in the form.

The ends of the mold may be formed solidly thereon; but in order to permit the casting of lines or slugs of varying lengths I may, as shown in Fig. 13, form the ends of the mold by jaws *l l*, adapted to bear against the ends of the composed line in order to limit its length and confine the matrices tightly together, these jaws being formed on their outer sides to closely fit the cavity in the face of the mold, as shown. The jaws *l l*, constructed to fit into the mold, as described, serve the double purpose of confining the matrix-line endwise and of closing the mold to prevent the escape of metal. They constitute, in connection with the body portion D, a mold of variable length. They may be sustained and operated in the same manner as the matrix-confining jaws in the ordinary linotype-machine.

Instead of forming the mold-cavity in the matrices with its tapered end at the top it may be reversed, as shown in Fig. 14, so that its tapered portion and the shoulder containing the matrix proper will be at the lower instead of the upper end. In such case the mold will be made of corresponding form, as indicated in dotted lines, and the division-plates made with their projections at the upper end instead of the lower, as shown in Fig. 15.

The essence of my invention lies in the employment of the diagonally-divided mold-chamber, with one portion formed in the mold proper and the other in the matrices, and in the combination with such mold of corresponding division-plates adapted to be seated in the matrix-line or spacers adapted to extend diagonally through the mold-chamber, or both.

Having described my invention, what I claim is—

1. The series of matrices diagonally recessed in one edge, with the matrix proper in one of the diagonal walls, in combination with the cooperating mold diagonally recessed in the reverse direction.

2. A diagonally-divided mold and matrix, consisting of matrices recessed diagonally, and a cooperating mold also diagonally recessed in a reverse direction.

3. The combination of the diagonally-recessed mold-block, the reversely-recessed matrices, and division-plates adapted for use

between the matrices and formed to extend across and divide the mold-chamber.

4. In combination with the recessed mold, the recessed matrices, a division-plate adapted to divide the chamber between the mold and matrices, and an expansible spacer seated between the division-plate and matrices.

5. In combination with a recessed mold, a line of recessed matrices, two division-plates seated in the line crossing the mold-chamber, and a spacer seated between the plates without entirely crossing the mold-chamber.

6. The matrix for a typographic machine, having a diagonal depression in its edge, with the matrix proper therein.

7. The matrix consisting of the metal plate, having the ears, the distributing-teeth and the diagonal depression in one edge, with the matrix character therein.

8. The division-plate having the diagonal projection on one edge, whereby it is adapted to cooperate with a recessed mold and matrices as described.

9. In combination with the mold and the matrices, both recessed diagonally to leave a chamber between them, the jaws *l*, adapted to confine the ends of the matrix-line and projecting beyond the matrices into the mold as described, whereby the jaws are adapted to serve the double purpose of closing the ends of the mold-chamber and confining the matrices.

10. In combination with the recessed matrices, the complementary recessed mold, having the metal-inlets at an intermediate point in the height of the mold-chamber.

11. In a mold for logotypes, linotypes, &c., a projection to form a cavity in the vertical side of the casting, and a metal-inlet in said projection, whereby the sprue is caused to break away below the surface and the base of the casting left unchanged.

12. In combination with the diagonally-recessed mold and the correspondingly-recessed matrices, with a chamber between them, the spacers seated between the matrices and extending part way only across the chamber.

In testimony whereof I hereunto set my hand, this 13th day of January, 1905, in the presence of two attesting witnesses.

DAVID PETRI-PALMEDO.

Witnesses:

JOHN F. GEORGE,
M. A. DRIFFILL.