

No. 871,899.

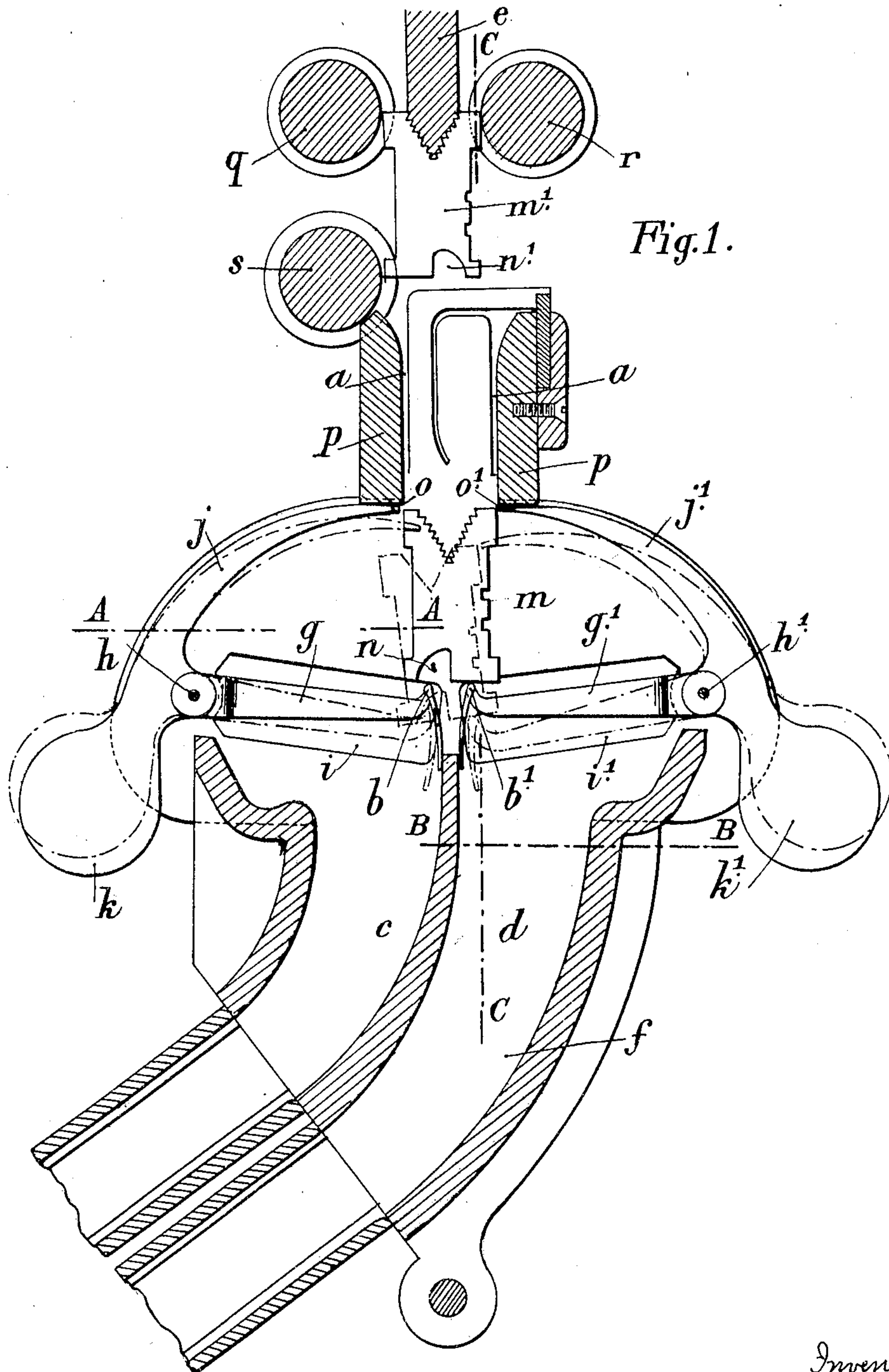
PATENTED NOV. 26, 1907.

J. P. TIHON.

DISTRIBUTER OF DOUBLE MAGAZINE LINOTYPE MACHINES.

APPLICATION FILED APR. 27, 1907.

4 SHEETS—SHEET 1.



Witnesses:-
E. Carica Franch
Susie Feldman.

Inventor
Jean Pierre Tihon
by *Osmond*
his Attorney

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4 SHEETS—SHEET 2.

Fig. 2.

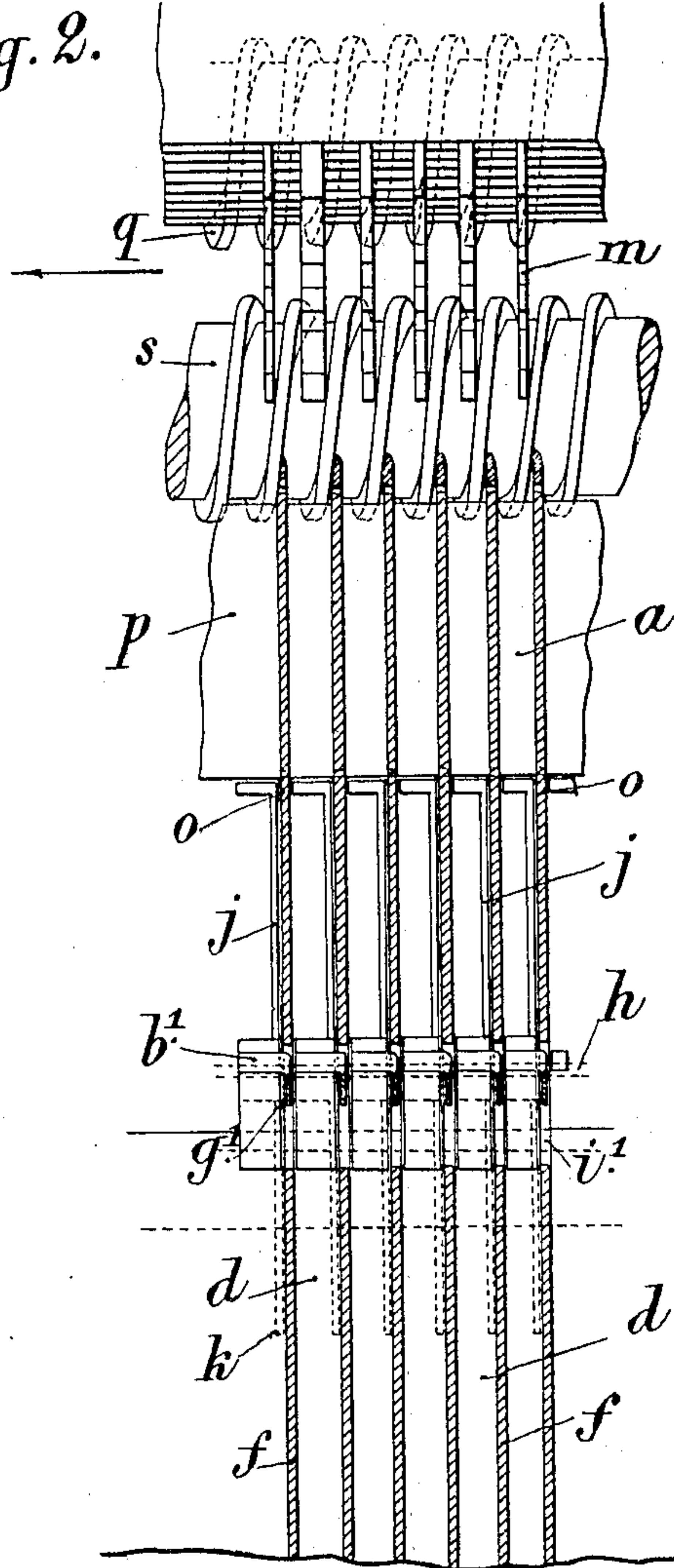
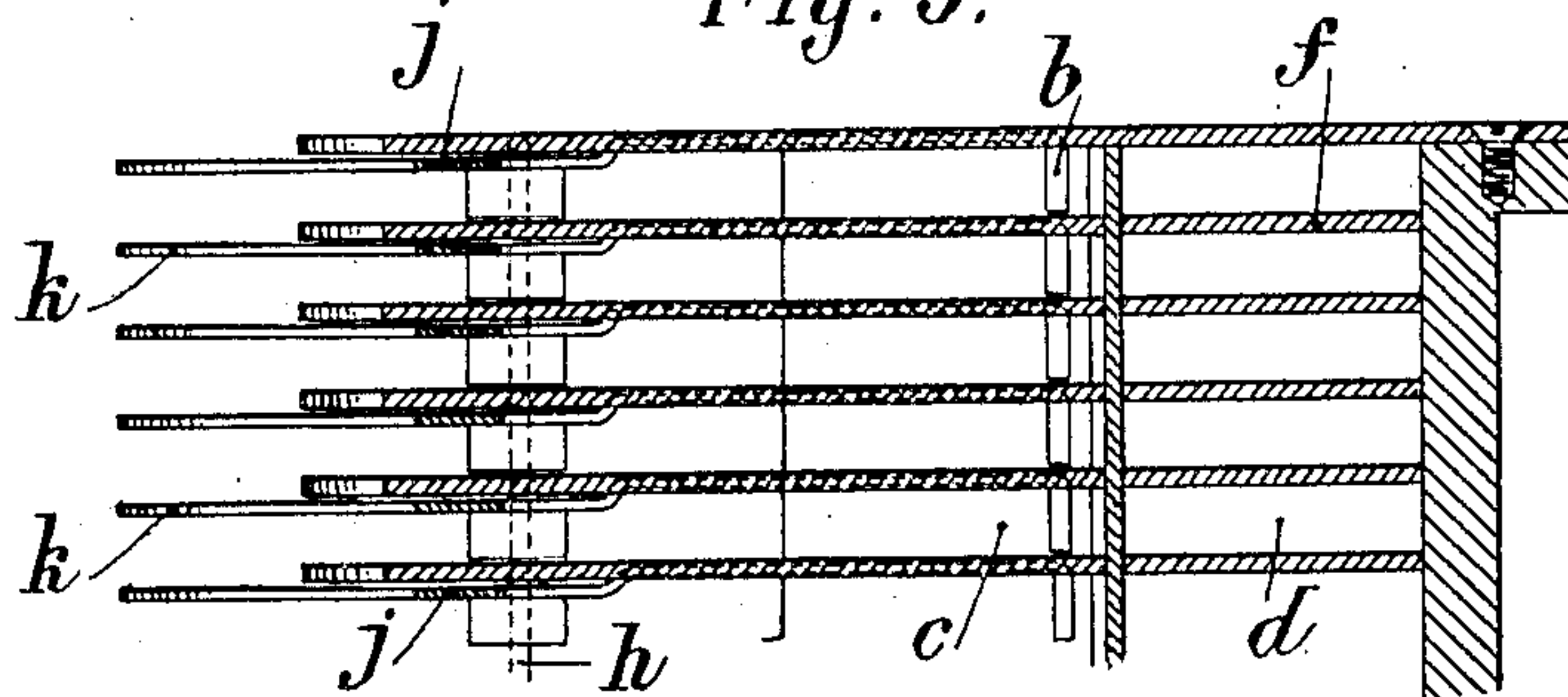


Fig. 3.



Witnesses:-
E. Louis Franck
Luci. Feldman.

Inventor
Jean Pierre Tihon
by O. A. Munn
his Attorney

No. 871,899.

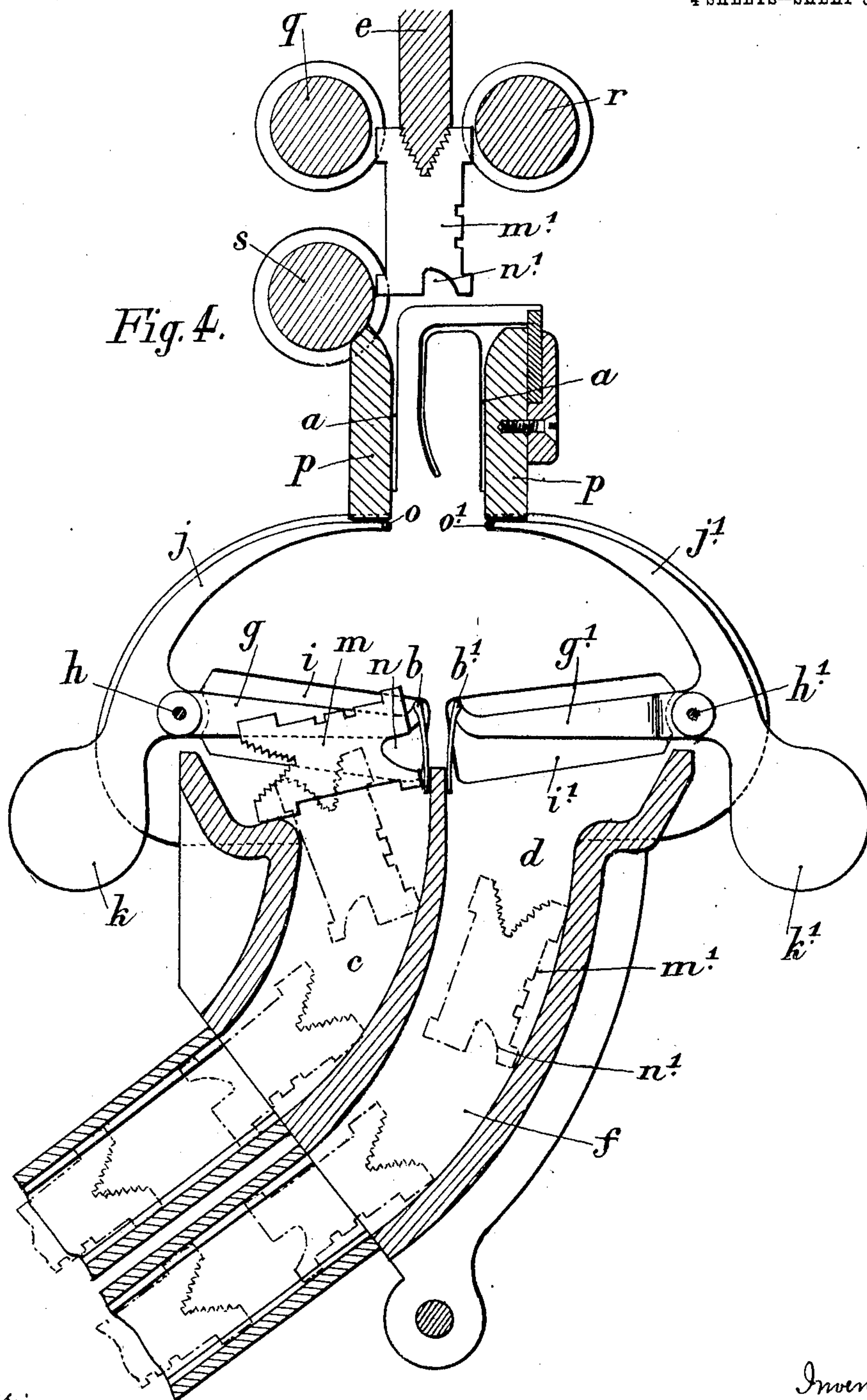
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Witnesses:
L. Carissu Franch
Issie Feldman

Inventor:
Jean Pierre Tihon
 by *Att. v. m. m. x*
 his Attorney

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4 SHEETS—SHEET 4.

Fig. 5.

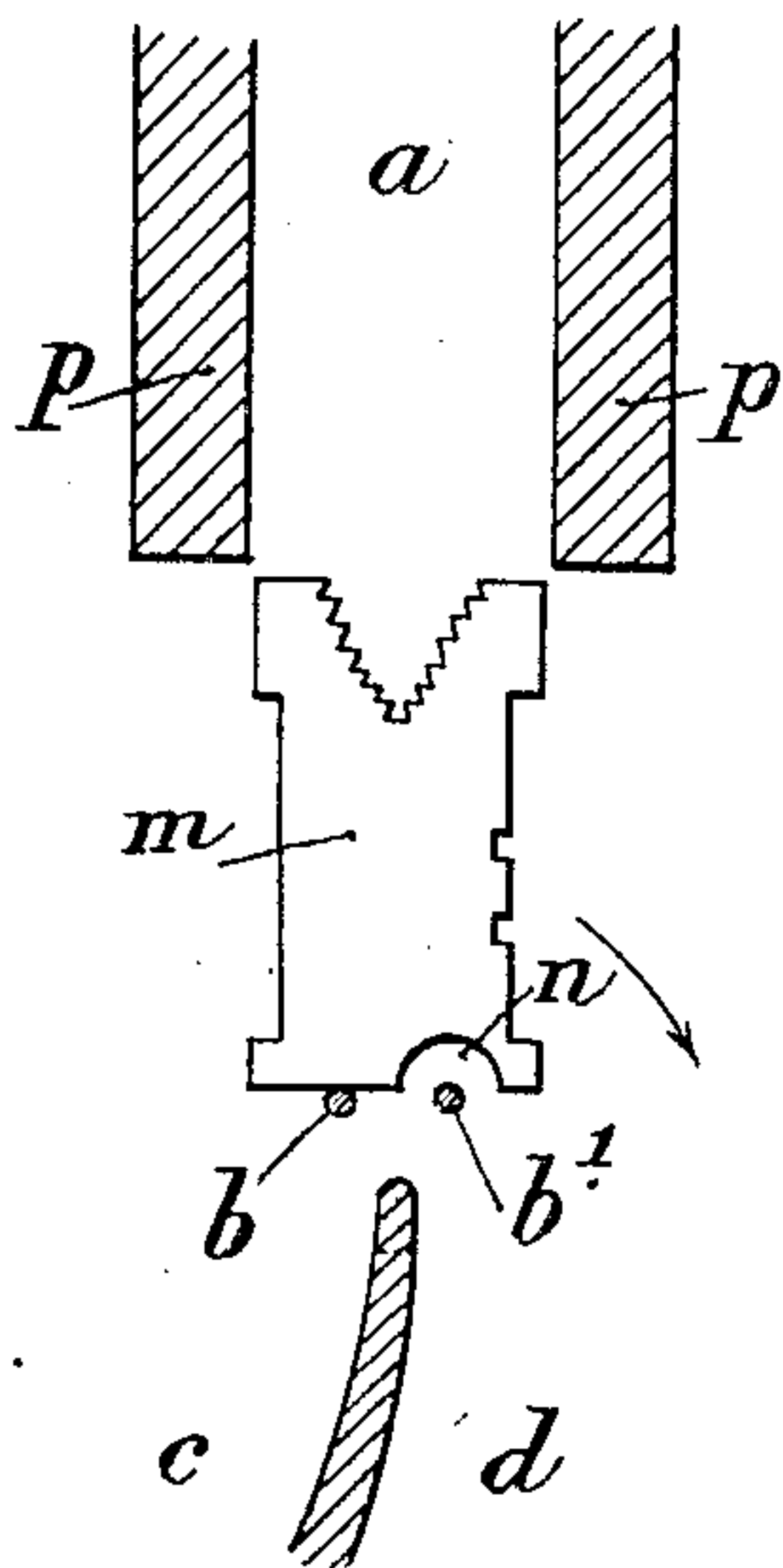


Fig. 6.

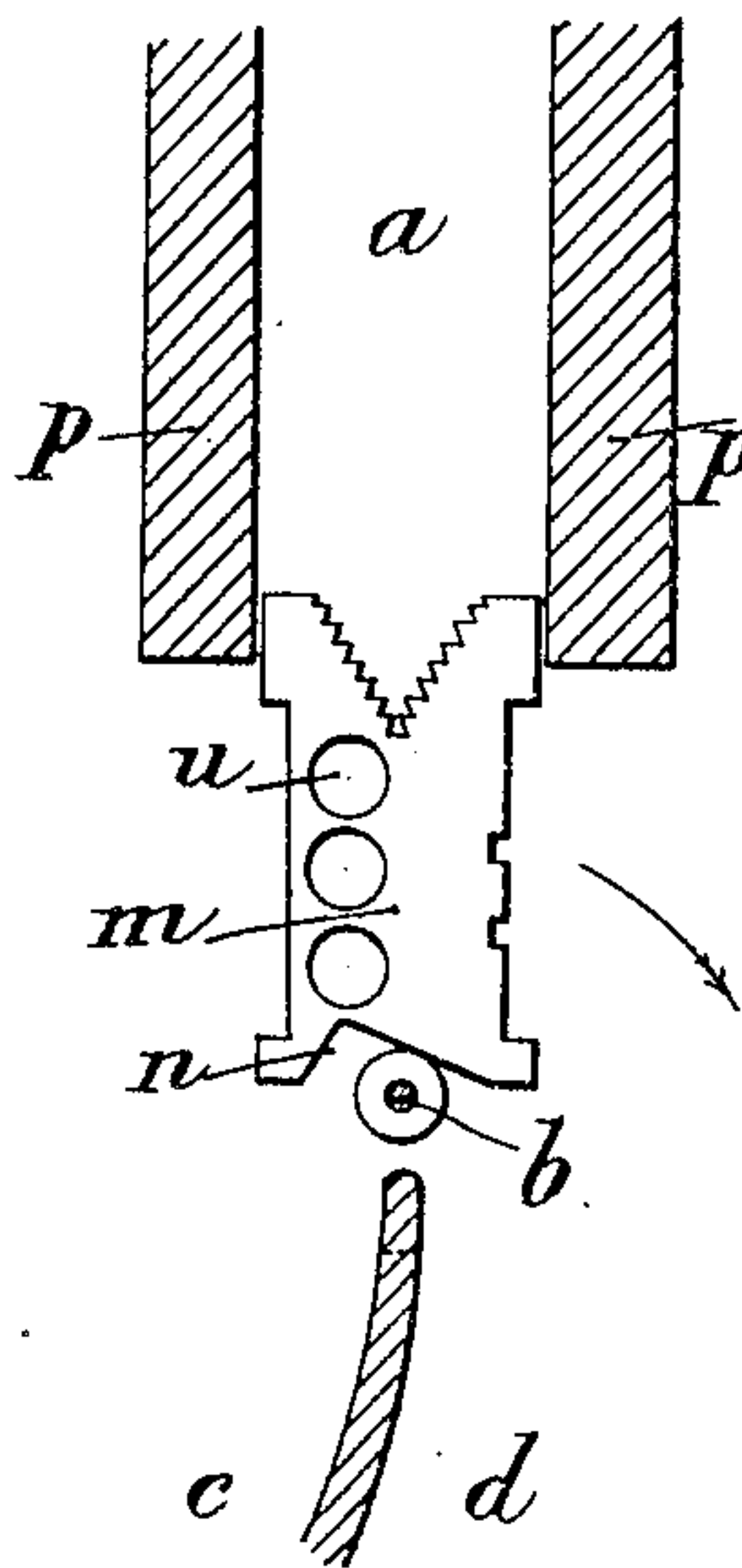


Fig. 7.

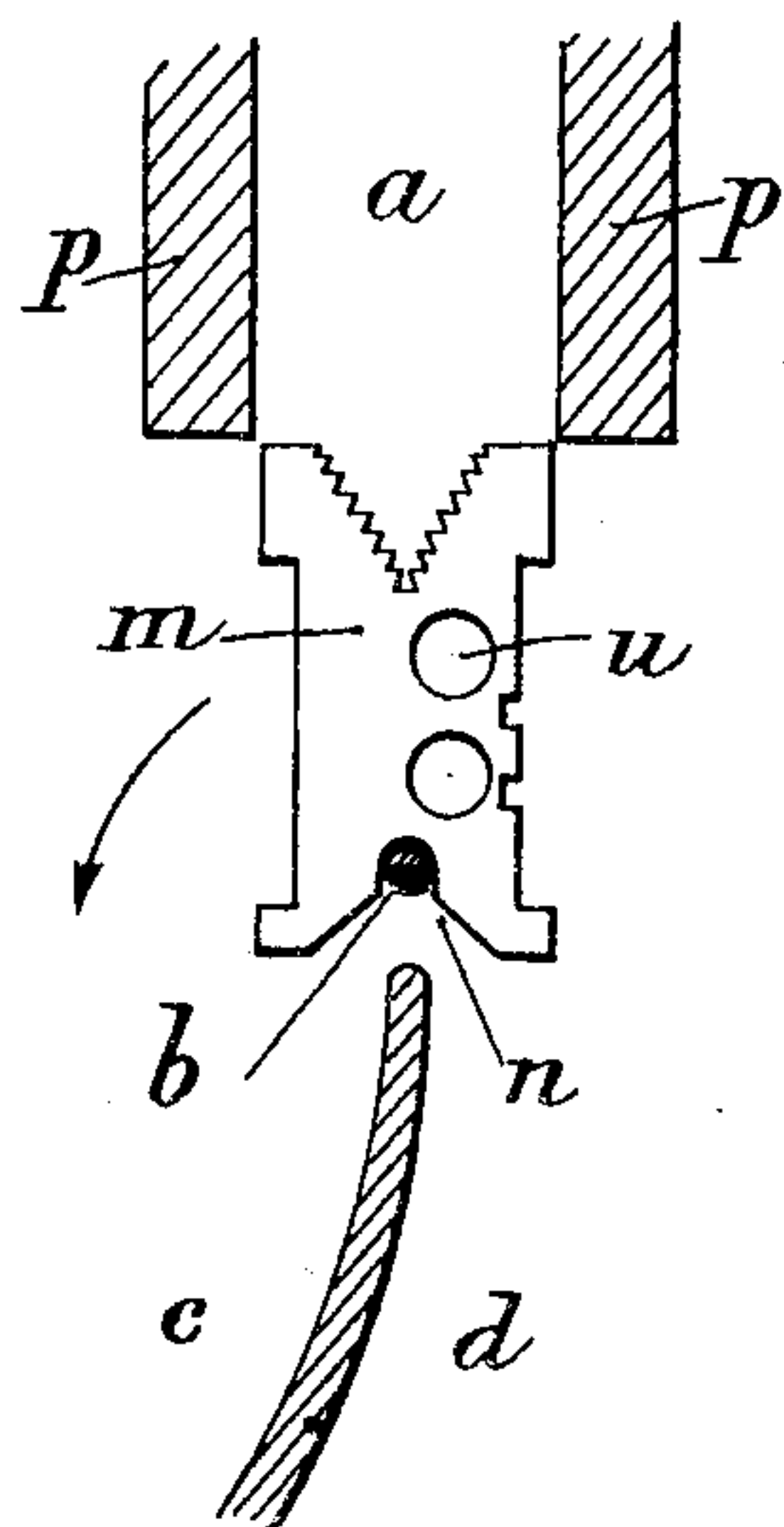
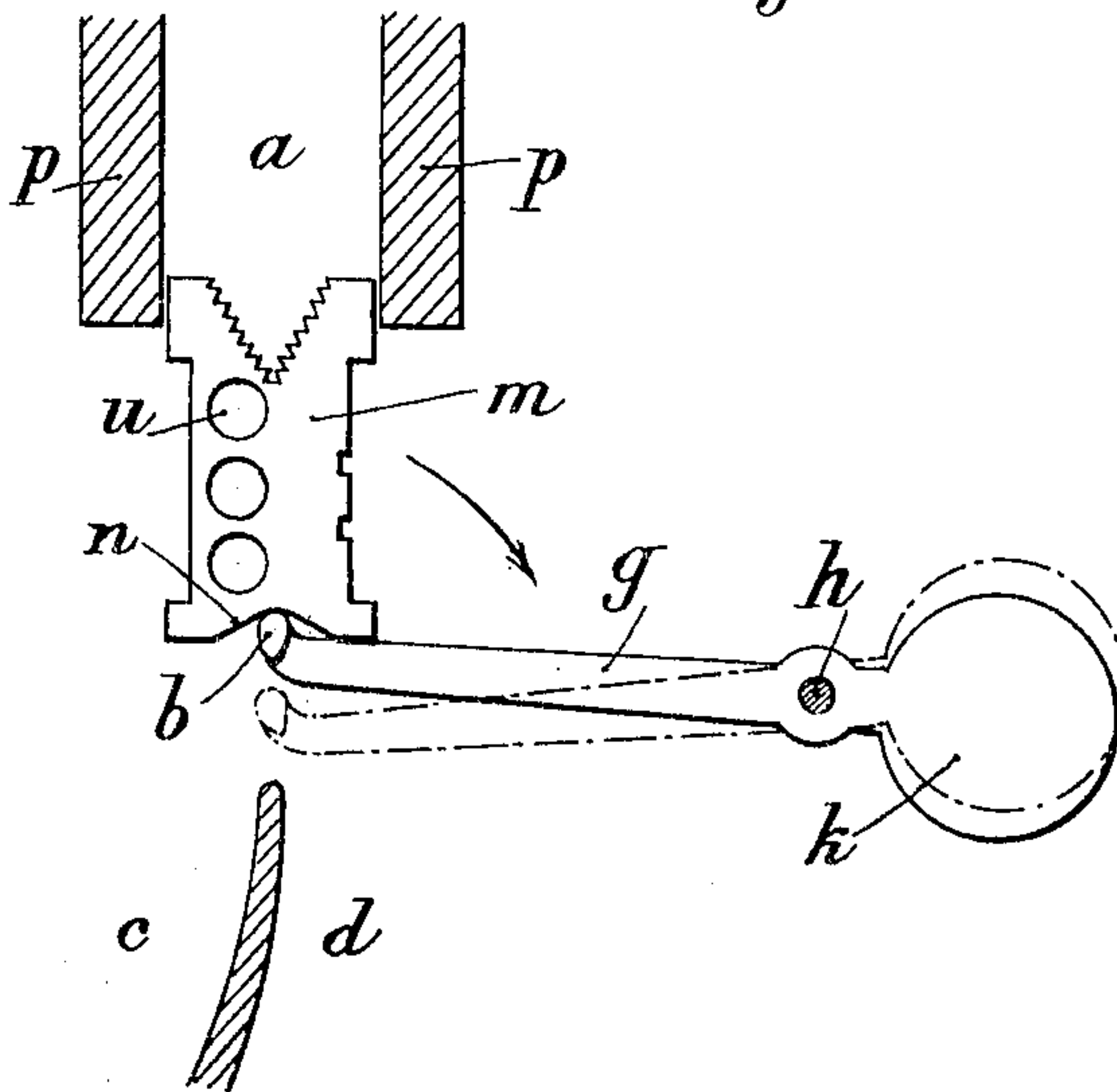


Fig. 8.



Witnesses:
Clara Franch
Lucie Feldman

Inventor:-
Jean Pierre Tihon
 by *Admunt*
 his Attorney

UNITED STATES PATENT OFFICE.

JEAN PIERRE TIHON, OF PARIS, FRANCE.

DISTRIBUTER OF DOUBLE-MAGAZINE LINOTYPE-MACHINES.

No. 871,899.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed April 27, 1907, Serial No. 370,606.

To all whom it may concern:

Be it known that I, JEAN PIERRE TIHON, a citizen of the Republic of France, residing at Paris, France, have invented Improvements in the Distributers of Double-Magazine Linotype-Machines, of which the following is a specification.

This invention relates to the matrix distributors of double magazine linotype machines.

In double magazine linotype machines as hitherto usually constructed the matrices which have been used for setting up a line are sorted as they issue from a preliminary distributor box in order to return them to their respective magazine fonts. A number of the matrices pass immediately onto the bar of a distributor which feeds one of the magazines, while the remainder of the matrices are conducted into a second distributing box which conveys them onto the distributor bar of another distributor that feeds the second magazine.

The present invention has for its object to provide a sorting device whereby matrices the faces of which are of different sizes may be conveyed back into their respective magazines with the aid of only one distributing box and one distributor, thus enabling as will be readily understood a whole series of complicated, cumbrous and expensive parts to be dispensed with and limiting the possibility of defective working.

The invention comprises a sorting device placed under a single distributor and into which the matrices, whether belonging to one magazine or the other, fall on leaving the distributor bar. This device simply consists of a series of vertical guide conduits arranged perpendicularly to the distributor bar, each matrix entering into one of such conduits at the moment it escapes from the said bar. In the plane of each guide conduit are two other conduits for conveying the matrices to the respective magazines, these two conduits being separated from the corresponding vertical guide conduit by a fixed or movable abutment member or members which is or are struck by the matrices as they leave the guide conduit and which is or are adapted to throw the matrices into one or the other of the conveying conduits located underneath.

Various constructional modifications of

the invention are shown by way of example in the accompanying drawings.

Figure 1 illustrates in transverse sectional elevation one construction. Fig. 2 is a part longitudinal sectional elevation corresponding to the line C C of Fig. 1. Fig. 3 is a part sectional plan showing a certain number of compartments of the sorting device, half in section on the line A, A of Fig. 1 and half in section on the line B B thereof. Fig. 4 is a similar view to Fig. 1 showing in full lines a matrix at a different point of its path, to that shown in Fig. 1, other positions being indicated in dotted lines. Figs. 5 to 8 are part transverse sectional elevations showing sundry other modifications to which reference will hereinafter be made.

Referring to Figs. 1 to 4 inclusive it will be seen that the sorting device comprises a series of vertical guide conduits *a* located under the bar *e* of the single distributor in planes perpendicular to such bar. The partitions that form the lateral walls of the conduits *a* are prolonged so that they also form the lateral walls of conduits *c* and *d* located underneath and serving to convey the matrices from the corresponding conduits *a* into one or the other magazine.

Between the guide conduits *a* and the corresponding conveying conduits *c* and *d* there is arranged an abutment member or members which may be variously constructed. In the examples shown in Figs. 1 to 4 two similar members *b*, *b*¹ are arranged symmetrically, one on each side of the axis of the conduit *a* and at the entrance of the conveying conduits *c* and *d* respectively the walls of said conveying conduits being provided with shoulders X and X' respectively.

The lower end of each matrix is notched at *n* in order that in its fall it shall strike with its lower edge against one or the other only of the members *b*, *b*¹ according as it is intended for the conduit *d* or conduit *c*. Those of the matrices in which the notch *n* is to the left of the axis will strike against the right hand member *b*¹, while those in which the notch is to the right of the axis will strike against the left hand member *b*.

Each of the abutment members *b*, *b*¹ is carried by an arm (*g*, *g*¹) adapted to move in a slot (*i*, *i*¹) in the partition *f* and pivoted to the latter at (*h*, *h*¹). The arms *g*, *g*¹ are each made in one piece with a lever balanced by a

weight (k, k^1) and the upper end of the lever is provided with a finger piece (o, o^1) which is normally located under the lower edge of the corresponding longitudinal portion of the
5 corresponding conduit a .

When, by the traversing screws q, r, s , a matrix m is brought in the well known way to the proper point of the distributor bar e for escaping therefrom it falls into the con-
10 duit a located underneath, in which it is very accurately guided, and, as it emerges from such conduit the plain or unnotched part of its lower end strikes the abutment b or b^1 according as the notch n is to the right or
15 left of the matrix axis.

In full lines in Fig. 1 there is shown a left hand notched matrix in the position that it occupies at the moment of striking against the abutment b^1 , another position of such
20 matrix being indicated in dotted lines. When the matrix is in the position shown in full lines the weight thereof tilts the arm g^1 downwardly and the matrix descends. When the arm g^1 tilts, the finger o^1 connected
25 thereto pushes the matrix to the left by pressing against the upper part of its right hand side. The matrix is thus caused to turn to the left and, as it has moved downwards, it can pass under the finger o . In the
30 course of this descending and tilting movement the notch n in the lower end of the matrix fits over the abutment b , which enables the matrix to fall into the conduit c without hindrance. At this moment the
35 matrix and abutment occupy the positions shown in dotted lines in Fig. 1.

Fig. 4 shows the matrix after it is completely cleared of the movable abutment member b which has returned to its initial
40 position under the action of its counterweight k ; this figure also shows, various positions of a right hand notched matrix m^1 in the conduit d .

It will be readily understood that a matrix
45 formed with a notch to the right of its vertical axis will in its fall, on leaving the conduit a , first strike against the pivoted abutment member b and will descend together with
50 same and be caused to tilt by the forward movement of the corresponding finger o , passing under the finger o^1 which has not at this time moved and which cannot move until the bottom of the matrix notch bears
55 against the abutment b^1 . In short the matrix notched on the right-hand side will be thrown into the conveying conduit d just as the matrix notched on the left-hand side was thrown into the conduit c .

In the example shown in Fig. 5 the two
60 abutment members b and b^1 are fixed and consist of simple pins. The matrices are notched on their lower ends, some to the right of the axis, some to the left thereof, so that a matrix having a notch to the right,
65 like the one shown in the figure, first strikes

with its plain or unnotched part against the abutment pin b , then tilts under the action of its own weight and falls into the conveying conduit d , the notch n allowing it to pass over the abutment b^1 . Conversely, a left
70 hand notched matrix strikes against b^1 , tilts over and falls into the conduit c .

The examples shown in Figs. 6, 7 and 8 illustrate an arrangement in which there is employed a single fixed abutment b consist-
75 ing of a pin, or a movable roller on a fixed pin.

In the example shown in Fig. 6 the lower ends of the matrices are each formed with a special profile having a projection t to the
80 left or to the right of the axis according as the matrix is intended to enter the conduit d or conduit c . The right hand side of each of those matrices having a projection on the left hand side is lightened by one or more
85 holes u made in the body of the matrix. Conversely, the matrices that are formed with a projection on the right hand side have their left hand half lightened in like manner.

Fig. 7 illustrates a simple modification of
90 the matrices used in the arrangement shown in Fig. 6, according to which the projections t are replaced by notches n which in this case are formed on the lightened side of the
95 matrix.

In both the foregoing examples the lower end of the matrix forms an inclined plane facilitating the descent of the matrix on the side towards which its weight tends.

In the example shown in Fig. 8 a single
100 abutment b consisting of a simple pin is arranged in the prolongation of the axis of the conduit a and the matrices, lightened on one side by holes u , have each cut in its lower
105 end a notch the two sides of which are perfectly symmetrical relatively to the axis. This notch is formed at the bottom with a narrower portion into which the pin b does not enter until the moment that the matrix
110 has left the conduit a ; in this way the matrix is centered and enabled to tilt over towards the side on which it is not lightened.

What I claim is:—

1. In matrix sorting apparatus for double
115 magazine linotype machines, a matrix distributor bar, a series of straight walled guide conduits adapted to receive matrices from said bar, a pair of delivery conduits for each
120 of said guide conduits, and means between each said guide conduit and said pair of delivery conduits adapted to direct a matrix from the said guide conduit towards one or other of the said pair of delivery conduits.

2. In matrix sorting apparatus for double
125 magazine linotype machines, a matrix distributor bar, a series of straight walled guide conduits adapted to receive matrices from said bar, a pair of delivery conduits for each
130 of said guide conduits, and an abutment between each said guide conduit and said pair

of delivery conduits in the path of matrices passing through said guide conduits adapted to direct a matrix from the said guide conduit towards one or other of the said pair of delivery conduits.

3. In matrix sorting apparatus for double magazine linotype machines the matrices of which are each formed with a shaped lower end, a matrix distributor bar, a series of straight walled guide conduits adapted to receive matrices from said bar, a pair of delivery conduits for each of said guide conduits and an abutment between each said guide conduit and said pair of delivery conduits adapted to cooperate with the shaped lower end of matrices passing through said guide conduits, substantially as set forth.

4. In matrix sorting apparatus for double magazine linotype machines, a matrix distributor bar, a series of straight walled guide conduits adapted to receive matrices from said bar, a pair of delivery conduits for each of said guide conduits, and a movable abutment between each said guide conduit and said pair of delivery conduits in the path of matrices passing through said guide conduits adapted to direct a matrix from the said guide conduit towards one or other of the said pair of delivery conduits.

5. In matrix sorting apparatus for double magazine linotype machines, a matrix distributor bar, a series of straight walled guide conduits adapted to receive matrices from said bar, a pair of delivery conduits for each of said guide conduits and an abutment member for each conduit of said pairs of delivery conduits in the path of matrices passing through said guide conduits adapted to direct a matrix from the said guide conduit towards one or other of the said pair of delivery conduits.

6. In matrix sorting apparatus for double magazine linotype machines, a matrix distributor bar, a series of straight walled guide conduits adapted to receive matrices from said bar, a pair of delivery conduits for each of said guide conduits, an abutment member for each conduit of said pairs of delivery conduits in the path of matrices passing through said guide conduits, pivoted levers carrying said abutment members, and means for returning each of said levers to its normal position after it has been moved by a matrix striking the said abutment carried thereby.

7. In matrix sorting apparatus for double magazine linotype machines, a matrix distributor bar, a series of straight walled guide conduits adapted to receive matrices from said bar, a pair of delivery conduits for each of said guide conduits, an abutment member for each conduit of said pairs of delivery conduits in the path of matrices passing through said guide conduits, pivoted levers one arm of each of which carries one of said

abutment members another arm of each said lever being arranged to press against a matrix resting on the corresponding said abutment member and weights adapted to return said levers to their normal position after being moved by matrices striking said abutments.

8. In matrix sorting apparatus for double magazine linotype machines the matrices of which are each formed with a recess at its lower end arranged to one side of its vertical axis, a matrix distributor bar, a series of straight walled guide conduits adapted to receive matrices from said bar, a pair of delivery conduits for each of said guide conduits, an abutment member for each conduit of said pair of delivery conduits in the path of matrices passing through said guide conduits adapted to direct a matrix from the said guide conduit towards one or other of the said pair of delivery conduits.

9. In matrix sorting apparatus for double magazine linotype machines the matrices of which are each formed with a recess at its lower end arranged to one side of its vertical axis, a matrix distributor bar, a series of guide conduits adapted to receive matrices from said bar, a pair of delivery conduits for each of said guide conduits, an abutment member for each conduit of said pair of delivery conduits in the path of matrices passing through said guide conduits, pivoted levers one arm of each of which carries one of said abutment members another arm of each said lever being arranged to press against a matrix resting on the corresponding said abutment member and weights adapted to return said levers to their normal position after being moved by matrices striking said abutments.

10. In matrix sorting apparatus for double magazine linotype machines the matrices of which are each formed heavier at one side of its vertical axis than at the other, a matrix distributor bar, a series of straight walled guide conduits adapted to receive matrices from said bar, a pair of delivery conduits for each of said guide conduits, and an abutment between each said guide conduit and said pair of delivery conduits in the path of matrices passing through said guide conduits.

11. In matrix sorting apparatus for double magazine linotype machines the matrices of which are each formed with a recess at its lower end arranged to one side of its vertical axis, a matrix distributor bar, a series of vertical guide conduits arranged below and perpendicular to the said distributor bar, for each said guide conduits two delivery conduits adapted to convey matrices to the respective magazines, an abutment between each of said delivery conduits and said guide conduits, and counterweighted levers on one arm of each of which one of said abutments

is pivoted and another arm of each of which is arranged to bear on a matrix supported by the corresponding abutment when the lever is tilted thereby, substantially as set forth.

- 5 12. In matrix sorting apparatus for double magazine linotype machines, the combination with a matrix distributor bar, of delivery conduits through which matrices are adapted to pass, a straight walled guide conduit for each pair of delivery conduits, said guide conduits extending from the delivery conduits into proximity to the distributor bar and being designed to receive matrices immediately upon their release from the said distributor bar, and means arranged between 15 each said guide conduit and said pair of delivery conduits for directing matrices from said guide conduits into a predetermined delivery conduit.
- 20 13. In matrix sorting apparatus for double magazine linotype machines, the combination with a matrix distributor bar of delivery conduits through which matrices are adapted to pass, a straight walled guide conduit for 25 each pair of delivery conduits, said guide conduits extending from the delivery conduits into close proximity to the distributor bar and being adapted to immediately receive matrices released by said distributor bar, and abutments arranged between each 30 said guide conduit and pair of delivery conduits for directing matrices into a predetermined delivery conduit.
- 35 14. In matrix sorting apparatus for double magazine linotype machines, the combination with a distributor bar, of delivery conduits having shouldered walls against which matrices are adapted to contact, straight walled guide conduits extending from the delivery conduits into proximity to the distributor bar and being designed to receive matrices immediately upon their release from said distributor bar, and means arranged between each said guide conduit and 45 pair of delivery conduits for directing mat-

rices from the guide conduits into a predetermined delivery conduit.

15. In matrix sorting apparatus for double magazine linotype machines, the combination with a distributor bar, of delivery conduits having shouldered walls against which matrices are adapted to contact, a straight walled guide conduit for each pair of delivery conduits, said guide conduits extending from the delivery conduits into close proximity to the distributor bar and being designed to receive matrices immediately upon their release from said distributor bar, and counterweighted abutments arranged between each guide conduit and pair of delivery conduits for directing matrices from the guide conduits into a predetermined delivery conduit. 60

16. In matrix sorting apparatus for double magazine linotype machines, the combination with a matrix distributor bar, of delivery conduits through which matrices are adapted to pass, and a guide conduit for each pair of delivery conduits, each said guide conduit being formed by walls perpendicular to the distributor bar and being designed to guide a matrix in a straight line from the distributor bar to the delivery conduits. 70

17. In matrix sorting apparatus for double magazine linotype machines, the combination with a matrix distributor bar, of delivery conduits through which matrices are adapted to pass, a guide conduit, perpendicular to the distributor bar, for each pair of delivery conduits, and means between each guide conduit and pair of delivery conduits for directing a matrix into an appropriate delivery conduit. 80

Signed at Paris, France, this 16th day of April 1907.

JEAN PIERRE THION.

Witnesses:

LOUIS GARDET,
DEAN B. MASON.