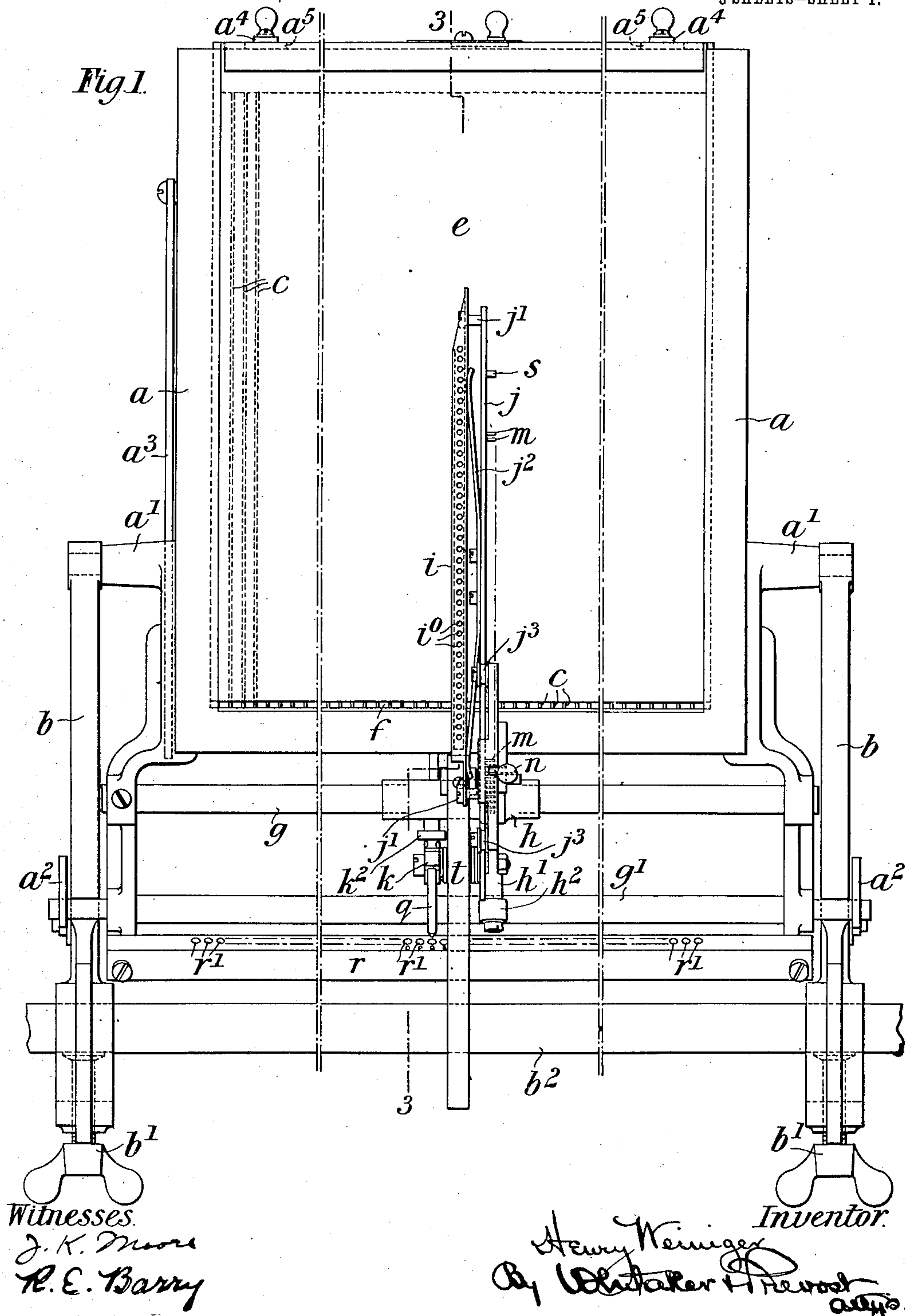


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MACHINE FOR COMPOSING OR SETTING UP TYPE.
APPLICATION FILED OCT. 8, 1908.

919,408.

Patented Apr. 27, 1909.

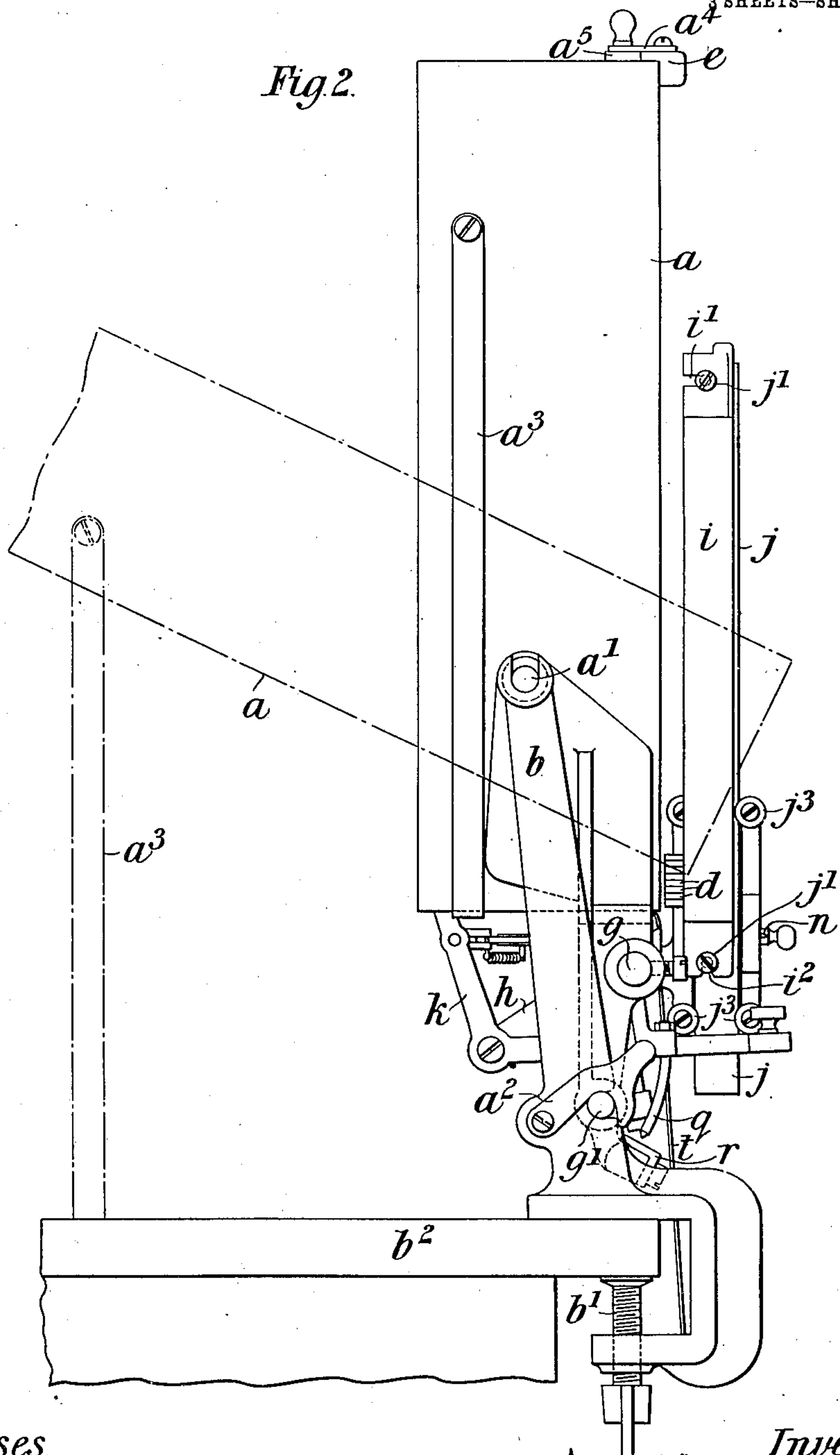
3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.



Inventor.

Harry Weiniger

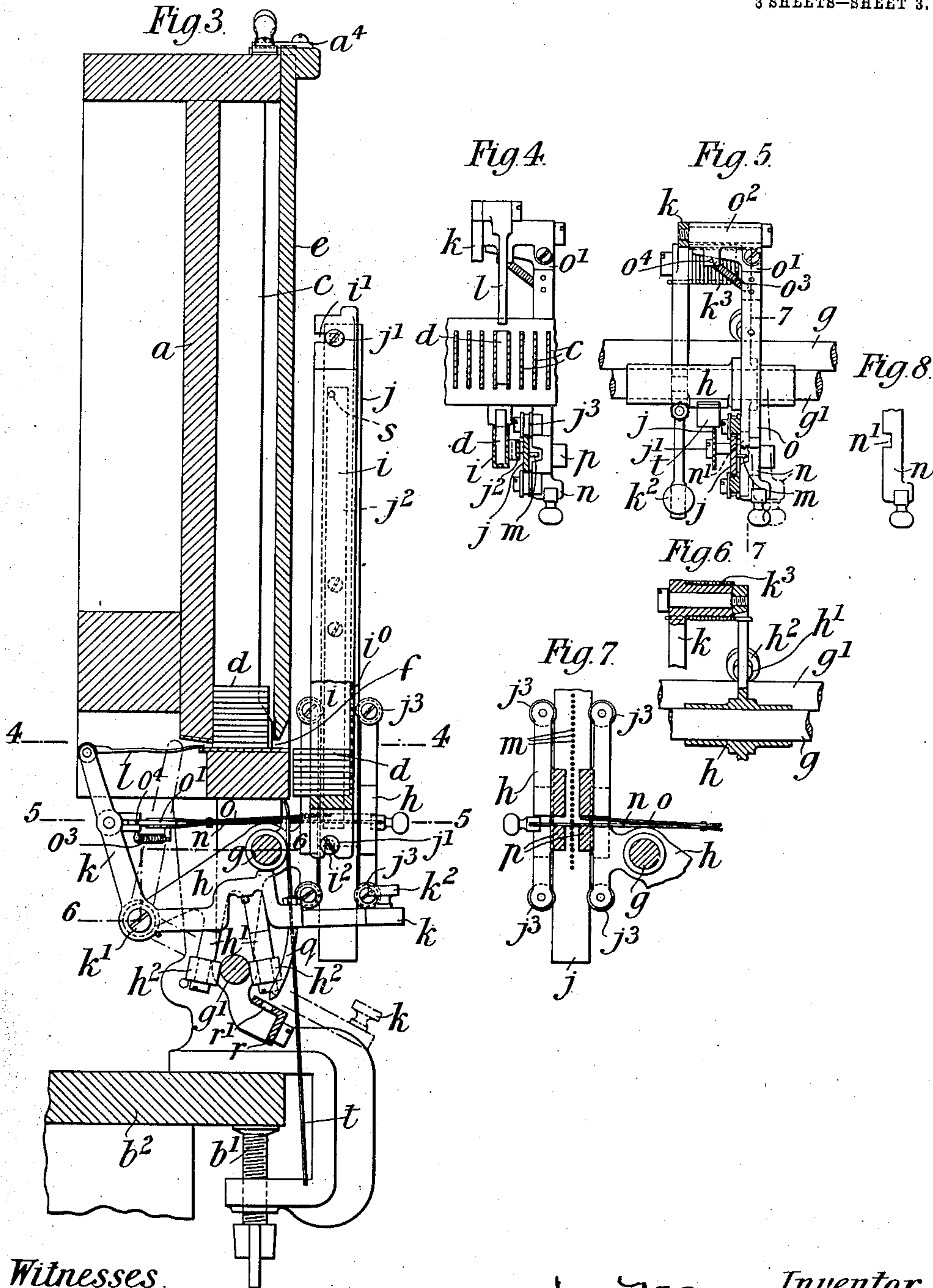
By Whitaker & Treadwell Attys.

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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

HENRY WEINIGER, OF LONDON, ENGLAND, ASSIGNOR TO PROGRESS TYPEWRITER SUPPLY CO., LTD., OF LONDON, ENGLAND.

MACHINE FOR COMPOSING OR SETTING UP TYPE.

No. 919,408.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed October 8, 1908. Serial No. 456,747.

To all whom it may concern:

Be it known that I, HENRY WEINIGER, a subject of the King of Great Britain, residing at 85 Golden Lane, Barbican, London, England, have invented a new and useful Machine for Composing or Setting up Type, of which the following is a specification.

This invention relates to a machine designed more particularly for use in offices for composing type for circulars and the like, but also adapted for use in all cases where type is composed, the object being to provide means whereby the type can be removed from the containing receptacle or case and placed in the composing stick mechanically instead of by hand in the well-known manner.

According to the invention the type is arranged in columns or rows and the composing stick is adapted to be presented to the different columns or rows according to the character required, means being employed to push or remove a single type from a column into the composing stick which is then fed longitudinally the distance of the breadth or thickness of a single type.

To enable the invention to be fully understood I will describe it by reference to the accompanying drawings, in which:—

Figure 1 is a front elevation of a type composing machine constructed according to the invention. Fig. 2 is a side elevation thereof. Fig. 3 is a section on the line 3—3, Fig. 1. Fig. 4 is a section on the line 4—4, Fig. 3. Fig. 5 is a section on the line 5—5, Fig. 3. Fig. 6 is a section on the line 6—6, Fig. 3. Fig. 7 is a section on the line 7—7, Fig. 5, and Fig. 8 is a view of a detail hereinafter described.

a represents the type-case which is mounted on the trunnions *a'*, *a'* pivotally held in the brackets *b*, *b* designed to be secured, say by means of the clamps *b'*, *b'* to a table *b²* or other convenient support. The case *a* is normally held in the upright position shown by means of catches *a²*, *a²* but when it is desired to refill the same with type it is tilted into the position shown in broken lines in Fig. 2 in which position it is supported by the struts *a³*. The type case *a* is formed with a series of partitions *c*, *c* which provide adjacent spaces (or cells) designed to receive columns or rows of type, such as shown at *d*, Fig. 3. The front of the type-case *a* is furnished with a sliding door or cover *e* the

object of which is to confine the type *d* within the case *a*. This cover *e*, when the machine is to be used, is raised for a space *f* which is equal to the thickness of a type, so that the latter can be pushed out of the case into the composing stick in the manner hereinafter described. The said front is retained in the raised position by means of the pivoted catches *a⁴*, *a⁴* which are turned so as to bear upon the projections *a⁵* upon the top of the case *a*.

At the lower part of the case *a* there is arranged a rod *g* upon which runs a carriage *h*, the said carriage having depending from its lower part two arms *h'*, *h'* each provided at its lower end with a roller *h²*; these two rollers *h²* bear against the two sides of a lower rod *g'* which serves as a guide to retain the carriage in the upright position.

i is the composing-stick which is detachably mounted upon the slide *j* by means of the slots *i'*, *i²* at the top and bottom thereof which engage with pins *j'*, *j'* upon the slide, the blade spring *j²* normally pressing the stick *i* against the heads of the pins when the former is in place. The slide *j* works vertically in the guides *j³*, *j³* on the carriage *h*, and is adapted to be moved or fed through distances equal to the thickness of a type after or before each type is placed in the said composing-stick *i* in the manner hereinafter described.

k is a bell-crank lever which is pivoted at *k'* to the carriage *h*, the said lever having at one end the key *k²* and being pivoted at its other end to the pusher or plunger *l* designed, when the said key is depressed to eject the lowermost type *d* out of the lower end of the case *a* and into the composing stick as shown in Fig. 3. The lever key *k* is retained in the position shown in the drawings by means of the spring *k³* at the pivot *k'*.

For imparting the vertical feed-movement to the slide *j* carrying the composing-stick *i*, the said slide *j* is provided with a series or row of equidistant pins *m* with which an escapement operated by the spring key *k* is designed to coöperate. This escapement comprises two blade springs *n* and *o* of which the spring *o* lies upon the spring *n* which normally rests upon the table or support *p* and passes between two adjacent pins *m*, *m* on the slide *j* the upper one of which

pins *m* rests upon the blade *n*. The two blades *n* and *o* are attached to one arm of a bell-crank lever *o'* pivoted on the sleeve *o²* carried by the lever *k* a spring *o³* between the bell-crank lever *o'* and the sleeve *o²* normally tending to hold the blades *n* and *o* in the position to engage with the pins *m* on the slide *j*.

When it is desired to detach the slide *j* the spring blades *n* and *o* can be pulled out of engagement with the pins *m* as shown in broken lines in Fig. 5, the other arm of the bell-crank *o'* making contact with a stop pin *o⁴* to limit the said outward movement of the blades *n* and *o*. The upper blade spring *o* which is shorter than the lower springs *n*, is caused, when the spring key *k* is depressed to pass over the upper rim *m*, that is to say, that which rests upon the lower spring *n* while the said lower spring *n* is caused to present a notch *n'* which it possesses (see Fig. 8) to the pin *m* which drops through the said notch *n'*, the next adjacent upper pin *m* then resting upon the blade spring *o*. When the key *k* is moved in the opposite direction, that is to say resumes its normal position the blade springs *n* and *o* move back to their former position leaving the last mentioned pin on the slide *j* resting on the lower blade spring *n*.

To enable the carriage *h* to be moved readily and bring the composing stick *i* into approximate alinement with the required column of type, the said carriage is provided with a pointer *q* which works over a bar *r* marked with type impressions corresponding with the columns of type. This is clearly shown in Fig. 1. In order to insure perfect alinement of the composing stick with the required column of type, the pointer *q* is adapted to enter holes *r'* in the bar *r* each of the said holes being in alinement with one of the columns of type. The pointer *q* is in the form of a plunger adapted to fit the holes *r'* and is provided with a conical point so that if the stick *i* and required column of type are not in perfect alinement the said point of the pointer will, as it enters the hole *r'*, move the said stick into such alinement.

t is a strip of metal on the carriage *h* in alinement with the composing stick and serving as the said stick is fed downward to prevent the type from being displaced therefrom.

The machine is employed as follows, that is to say, assuming that the type-case *a* is locked in the upright position shown in Figs. 1 and 2, and that the door or cover *e* is raised so as to provide the space *f* at the lower part of the case for the ejection of the type, the carriage *h* is moved until the pointer *q* upon it is opposite to the character upon the scale of which it is desired to introduce the type into the composing stick

i. The key *k* is then depressed so as to cause the plunger *l* to eject the lowermost type from the column in the type-case of the particular character required, the said type on its ejection being pushed into the composing stick *i*. This operation will be understood by reference to Figs. 2, 3 and 4. The depression and return of the key *k* has at the same time caused the composing stick *i* to drop for a distance equal to that between two of the pins *m* upon the slide *j* and the said composing stick is therefore ready to receive the next type upon the top of that just introduced. The carriage is then moved opposite to the row or column containing the type next required to be set up and the above described operation is repeated, the repetition taking place until the composing stick is completely filled with type in which position it is supported by the laterally projecting pins *s* upon the slide which abuts against the top of the carriage *h*. The composing stick is then removed from the slide *j* and is emptied, or it may be replaced by an empty stick and so on.

The composing stick *i* is provided with a series of holes *i^o*, Figs. 1 and 3, through which at the end of the row of type and particularly a short row, a piece of wire can be inserted and caused to press the type together and hold them in the stick while the latter is being inverted to deposit the said type in the chase or printing frame.

It will be obvious that the carriage instead of being arranged to move relatively with the type-case may be made stationary and the type case adapted to be moved, this arrangement being preferably where a cylindrical or partly cylindrical type-case is made use of.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. In a type setting machine, the combination with a type case provided with means for holding type with like faces thereof in the same general plane, of a type stick movable in two directions at right angles to each other and parallel to the said plane, and means for transferring a selected type directly from said case to said stick, substantially as described.

2. In a type setting machine, the combination with a type case provided with a plurality of type cells arranged in rows, in the same general plane, a type stick movable in two directions at right angles to each other and parallel to said plane, means for moving the type stick laterally with respect to said rows of type cells, to bring the type stick into alinement with a selected type cell, means for intermittently feeding the type stick longitudinally of said rows of type cells, and a transferring mechanism for de-

livering the selected type directly into the type stick, substantially as described.

3. In a type setting machine, the combination with a type case provided with a plurality of type cells, disposed substantially vertically and arranged side by side, of a movable type stick, disposed substantially vertically, means for moving the type stick horizontally and vertically in directions parallel to the adjacent face of said type case to bring the selected type opposite the place in said stick which it is designed to occupy and means for pushing the selected type out of the type case and directly in the type stick, substantially as described.

4. In a type setting machine, the combination with a type case provided with means for holding type with like faces thereof in the same general plane, of a type stick movable in two directions at right angles to each other and parallel to the said plane to bring a selected type opposite the position in the stick which it is designed to occupy, a transferring device movable with respect to the type case, and operatively connected with the type stick and means for operating said transferring device to transfer the selected type directly into the type stick, substantially as described.

5. In a type setting machine, the combination with a type case provided with a plurality of type cells, arranged side by side in the same general plane, a carriage movable laterally with respect to the type cells and parallel to said plane, a type stick mounted on said carriage and movable with respect thereto in a direction perpendicular to the line of movement of said carriage, and means for transferring a selected type from the type case to said type stick, substantially as described.

6. In a type setting machine, the combination with a type case provided with a plurality of type cells, arranged side by side in the same general plane, a carriage movable laterally with respect to the type cells and parallel to said plane, a type stick mounted on said carriage and movable with respect thereto in a direction perpendicular to the line of movement of said carriage, a transferring device carried by said carriage for transferring a selected type from the type case to the type stick, and operative means for said transferring device, substantially as described.

7. In a type setting machine, the combination with a type case provided with a plurality of type cells, arranged side by side in the same general plane, a carriage movable laterally with respect to the type cells and parallel to said plane, a type stick mounted on said carriage and movable with respect thereto in a direction perpendicular to the line of movement of said carriage, a transferring device for transferring the selected

type from the type case to the type stick, and feed mechanism for advancing the type stick in a direction perpendicular to the line of travel of the carriage, substantially as described.

8. In a type setting machine, the combination with a type case provided with a plurality of type cells, arranged side by side in the same general plane, a carriage movable laterally with respect to the type cells and parallel to said plane, a type stick mounted on said carriage and movable with respect thereto in a direction perpendicular to the line of movement of said carriage, a transferring device carried by said carriage, for transferring a selected type from the type case to the type stick, feed mechanism for advancing the type stick in a direction perpendicular to the line of travel of the carriage, an operating device and connections from said operating device to the said transferring and stick feeding mechanisms, substantially as described.

9. In a type setting machine, the combination with a vertically disposed type case provided with a plurality of vertically disposed type cells, a carriage movable laterally of and parallel to the face of said case, a vertically movable slide supported in said carriage, means for feeding said slide vertically, a vertically disposed type stick detachably connected with said slide and means for transferring a selected type from the case directly to said stick, substantially as described.

10. In a machine for setting type, the combination with a type case provided with a series of vertical type cells arranged side by side, and means for supporting the lowermost type in each cell, of a carriage movable laterally with respect to said type cells, a vertically movable slide mounted on said carriage, a vertically movable type stick carried by said slide, means for moving said carriage laterally to aline the stick with a selected type cell, a plunger mounted on the carriage, in rear of the type cells for transferring the lowermost type from a selected cell to the said stick, mechanism imparting an intermittent vertical feed to said slide and type stick, and an operating lever operatively connected to said plunger and to said feed mechanism, substantially as described.

11. In a type setting machine, the combination with a type case provided with vertically disposed type cells, arranged side by side, a carriage movable laterally of said cells, a vertically movable stick carrying slide mounted on said carriage, and an intermittent feeding mechanism for said slide comprising a series of pins on said slide, and a reciprocating device provided with a blade having a notch for the passage of said pins, and a spring blade adjacent thereto and having a pin engaging portion separated

from the first blade, substantially as described.

12. In a type setting machine, the combination with a type case, provided with rows of type cells, pivotal supports for said case, and means for securing said case in substantially vertical and horizontal positions, a laterally and vertically movable type stick and transferring mechanism for transferring a selected type from said case to said stick, substantially as described.

13. In a type setting machine, the combination with a type case, provided with a plurality of vertically disposed type cells, a cover for completely closing said cells, on one side of said cover, means for supporting said cover so as to expose the bottom types in said cells, said case having an aperture in each cell on the opposite side from said cover in line with the bottom type, a type stick movable horizontally and vertically with respect to said type case, a plunger movable horizontally with said type stick, and means for operating said plunger to

transfer a selected type directly from said case to said stick, substantially as described.

14. In a machine for composing or setting up type the combination with an upright type-case containing rows or columns of type, of an upright composing stick, a slide to which the composing stick is detachably connected, a carriage on which the slide is mounted, a plunger for transferring the type from the type-case to the composing stick, an escapement device for intermittently feeding the slide and composing stick the said escapement device comprising a pair of blades one of which is shorter than the other and is elastic, the said blades engaging with pins upon the slide, and a bell-crank lever operated by a key for actuating the afore-said pusher or plunger and the escapement device, substantially as hereinbefore described.

HENRY WEINIGER.

Witnesses:

C. G. REDFERN,
WM. CORNHILL.