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Patented Jan. 28, 1902.

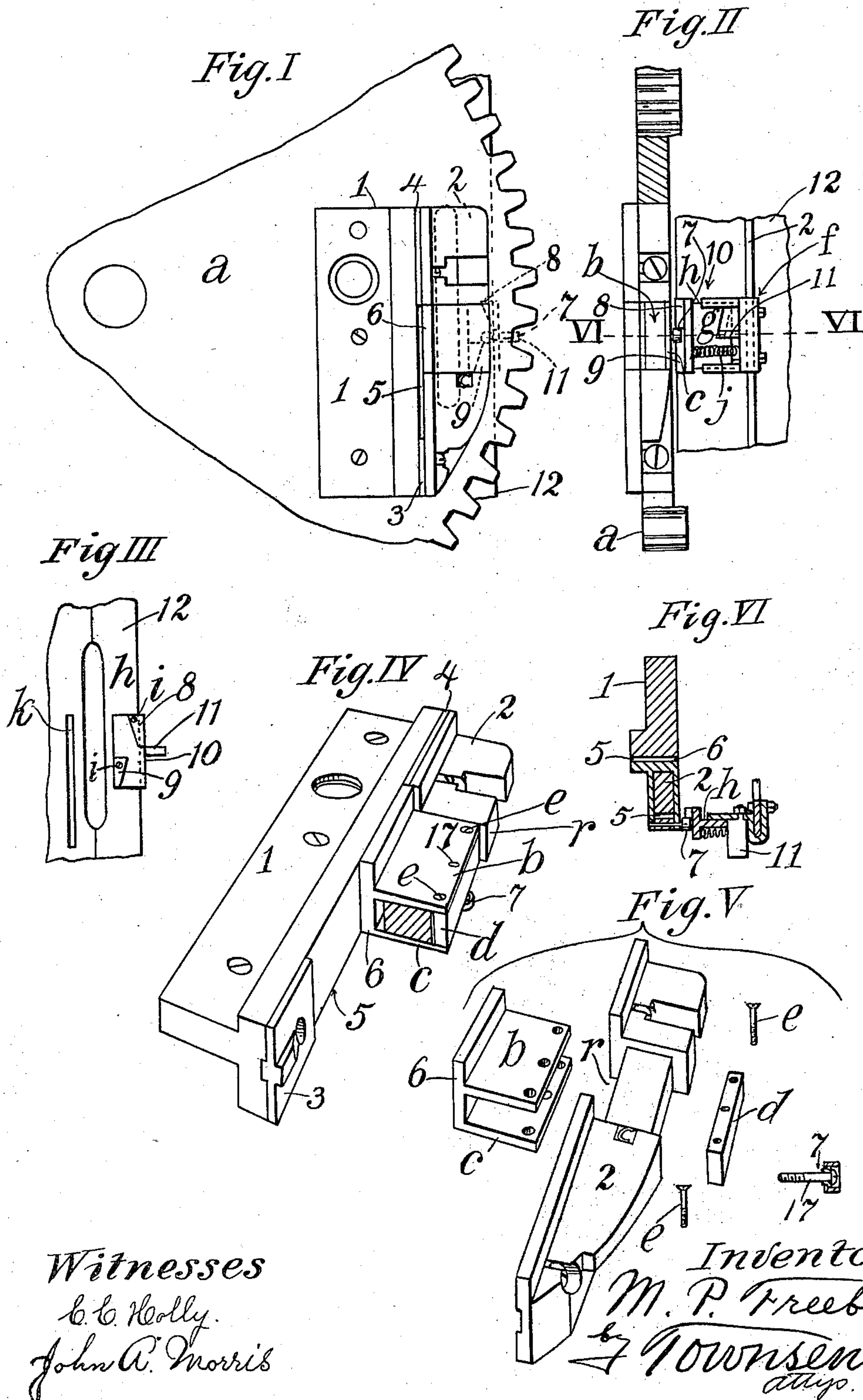
M. P. FREEBEY.

ADJUSTABLE MOLD FOR LINOTYPE OR OTHER METAL CASTING MACHINES.

(Application filed Mar. 25, 1901.)

(No Model.)

2 Sheets—Sheet I.



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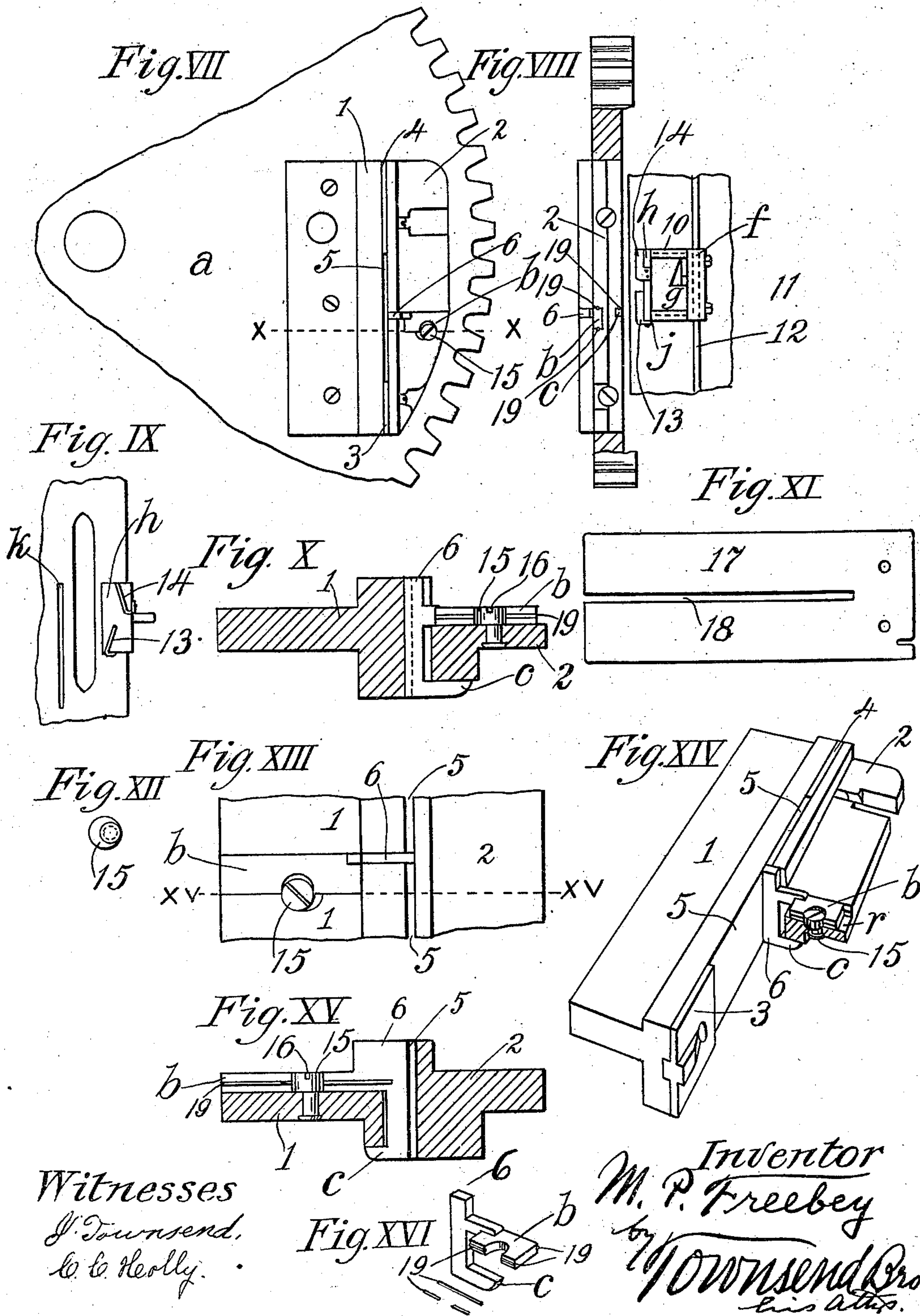
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(Application filed Mar. 25, 1901.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

MORDECAI P. FREEBEY, OF LOS ANGELES, CALIFORNIA.

ADJUSTABLE MOLD FOR LINOTYPE OR OTHER METAL-CASTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 692,183, dated January 28, 1902.

Application filed March 25, 1901. Serial No. 52,839. (No model.)

To all whom it may concern:

Be it known that I, MORDECAI PAUL FREEBEY, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Adjustable Mold for Linotypes or other Metal-Casting Machines, of which the following is a specification.

An object of this invention as applied in linotypes is to do away with the necessity of cutting slugs set for short-measure matter—that is to say, in newspaper and other printers' work it frequently occurs that it is necessary to set the matter in lines of less length than the standard length of the line as cast by the machine, and under the present construction of such machines this necessitates the casting of a portion of the slug-blank and then cutting off the blank portion, thus requiring an additional handling of the slugs and operation thereupon by a machine which I propose to do away with. This I do by combining with the mold-body an adjustable reducer for closing a portion of the slot of the mold. This adjustable reducer will form a portion of one side of the mold-slot when the full measure is to be cast, and when a less measure is to be cast the adjustable reducer will be adjusted to close the portion of the mold-slot which is to be affected by the reducer. The reducer may be in the form of a cut-off slide arranged at the appropriate place to form a portion of one side of the mold-slot between other portions of the wall of the mold-slot, thus allowing the slug to be cast in two sections—one on each side of the reducer. The reducer may be moved by hand, in which case the ejector-blade of the linotype-machine will be slotted to straddle the reducer and to eject the two slugs; but preferably the reducer will be of sufficient size to completely close all that portion of the mold-slot which is not to be used, and in this way the only metal cast will be that which is necessary for the slug for the desired line. In order to adapt the appliance for instant use without any change in the form of the ordinary ejector-blade, automatic means are employed for shifting the reducer as the mold moves to close and open that portion of the mold-slot affected by said reducer, the closing of the mold-slot being before the casting

of the slugs and the opening of the mold-slot being before the operation of ejecting the slug. The automatic appliance may be used with any of the forms of reducer.

This invention may be applied in various ways; but it is not necessary to include in the drawings all of the forms in which it may be employed.

The accompanying drawings illustrate my invention as applied with an automatic device for operating a reducer which closes one-half of the mold-slot.

Figure I is a fragmental view of the front of a linotype-mold furnished with an adjustable reducer for closing one-half of the slot of the mold. Fig. II is a fragmental elevation at right angles to Fig. I, showing the switch in position for shifting the reducer into and out of its slot-reducing position. Fig. III is an elevation of the switch viewed at right angles to Fig. II. Fig. IV is a perspective detail of the mold, a part of the mold-cap being cut away. Fig. V is a view of the mold-cap and the parts of the adjustable reducer detached from each other. Fig. VI is a section on line VI, Fig. II. Fig. VII shows this invention as applied with means for dividing the slug into two parts to be shifted into and out of position by hand by means of an eccentric stud. Fig. VIII is a fragmental side view of the same, the mold-wheel being broken away to expose parts that would otherwise be hidden. The spring-switch is shown in this view; but it is to be understood that such switch is not used with this form of reducer or divider. Fig. IX indicates a spring-switch for shifting the automatic retainer shown in Figs. II, IV, V, and VI. Fig. X is a cross-section of the mold, showing the divider inserted in the slot on the line X X, Fig. VII. Fig. XI shows a slotted ejector-blade to be used when the divider for dividing the slot into two parts is used. Fig. XII is a view of the eccentric stud which operates the reducer when the reducer is in the form of a divider, as shown in Figs. VII, X, XIII, XIV, XV, and XVI. Fig. XIII shows the divider applied to the main body of the mold instead of to the cap of the mold, as shown in the other views. Fig. XIV is a perspective view showing the divider inserted into the slot, dividing the slot into two parts. A

fragment of the cap is broken away. Fig. XV is a cross-section on line XV XV, Fig. XIII, leaving the eccentric stud intact. Fig. XVI is a perspective view of the divider shown in Figs. XIV and XV with guide-pins 19 detached.

1 indicates the mold-body, provided with the ordinary mold-cap 2 and the mold-slot ends 3 and 4, clamped between the cap and the mold-body, all being carried by the wheel *a*.

5 indicates the mold slot or chamber.

6 indicates the reducer for closing a portion of the slot or chamber of the mold.

7 indicates an antifriction lug or roller on the slot-reducer to be engaged by the opposite arms 8 9 of the switch 10, which is operated by a lever 11 to be thrown into and out of operative position. The switch and its operating device will be fastened to the frame 12 of the machine and will be manipulated by the operator of the machine to throw it into and out of operative position. When in operative position, it will automatically shift the reducer into the slot-closing position after the mold starts on its rotation to receive the molten metal for casting the slug and to shift the reducer out of the mold-slot before the mold stops for the ejection of the cast slug.

In practical operation in the form shown in Figs. I to VI, inclusive, when the switch is in its operative position the reducer will be moved thereby into the mold-slot to close the portion thereof affected by the reducer before the mold stops to receive the molten metal. After the slug is cast the reducer will be withdrawn by the switch from the mold-slot, thus to allow free passage for the ejector-blade to operate in ejecting the slug. When the switch is thrown out of operative position, the reducer being withdrawn from the mold-slot, the machine will operate in the ordinary way to cast the full measure. The operator can readily shift the machine from full to partial measure by simply turning the lever 11.

The reducer can be applied to either the cap or the main body of the mold or to both within the judgment of the constructor; but I prefer to apply it to the cap of the mold in a U form, the outermost ends of the arms *b c* of the U being preferably tied together by a bar *d*, which is fastened to the arms *b c* by screws *e*, which pass from front to back through the arm *b* and bar *d* and screw into the rear arm *c*. The roller-lug 7 will be carried by a screw 17, passed from back to front through the arm *c* and bar *d*, and screwed into the arm *b*. The reducer will seat in a recess *r*, cut in the member of the mold to which the reducer is to be applied, thus allowing the reducer to be withdrawn from the slot of the mold.

The switch which I have shown in the drawings and which I prefer comprises a body *f*, which is suitably fastened to the frame 12 of the linotype-machine and is provided with a slideway *g*, in which a slide *h* operates. The opposite arms 8 9 of the switch are preferably

adjustably fastened to the slide *h*, so that they can be adjusted into different positions for operation upon reducers for different-sized molds—that is to say, the movement of a pica-reducer must be greater than that of a nonpareil-reducer, and the switches must be arranged so as to throw the pica-reducer farther than the nonpareil-reducer is thrown, and so on throughout all the sizes of type used. Therefore when a machine is changed from one size of type to another the switch arrangement must also be changed. This may be avoided by the use of spring-switches.

i indicates screws for adjustably fastening the switch-arms in place.

j indicates a spring, the tension of which will return the slide *h* to withdraw the switches out of the way of the lug 7 when the lever or key 11 is turned for this purpose.

k indicates the ejector.

In practice when the operator wishes to use the short measure he will throw the switch to operate the reducer. When he wishes to cast full measure, he will throw the switch out of operative position.

Referring to Figs. VIII and IX, a spring-switch, consisting of two spring-arms 13 and 14, is shown to operate the lug 7. (Shown in Fig. VI.)

In Figs. VII, X, XI, XII, XIII, XIV, and XV, 15 indicates an eccentric stud journaled in a portion of the body of the mold and arranged to shift the runner *b* to move the divider 6 into and out of the chamber or slot 5 of the mold. The stud is shown provided with a slot 16 in its head, so that it can be shifted readily by means of a screw-driver. 17 indicates a slotted ejector-plate working through the slot *k* and through the mold 5 in the ordinary way, the slot 18 of said ejector being wider than the thickness of the divider 6, so that it straddles the divider and ejects the slugs without interfering with the divider. 19 indicates pins which serve as guides for the runners *b* and *c*. They are inserted in holes drilled at the sides of the runners, said holes respectively being half in the runner and half in the body of the mold.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of a mold-body furnished with a recess transverse a side wall of the mold-chamber; and an adjustable reducer in said recess for closing a portion of the mold-chamber.

2. The combination of a movable mold-body; an adjustable reducer for closing a part of the slot of the mold; and means for shifting the reducer as the mold moves to close and open the portion of the mold-slot affected by said reducer.

3. A linotype-mold having one of its members furnished with a recess to receive a mold-slot reducer; and a mold-slot reducer seated in said recess and furnished with arms to embrace said member and to slide thereon.

4. A linotype-mold having one of its mem-

bers furnished with a recess to receive a mold-slot reducer; and a mold-slot reducer seated in said recess and furnished with arms to embrace said member and to slide thereon; and
5 a bar fastened to the ends of said arms.

5. The combination of a movable mold-body; an adjustable reducer for closing a part of the slot of the mold and furnished with a lug; two switch-arms for shifting the lug to
10 operate the reducer and close the part of the mold-slot affected by the reducer; and means for moving said switch-arms into and out of operative position.

6. The combination of a mold-body fur-

nished with a recess transverse a side wall of 15 the mold-chamber; an adjustable reducer in said recess for closing a portion of the mold-chamber; and means for moving the reducer into and out of the mold-chamber.

In testimony whereof I have signed my 20 name to this specification, in the presence of two subscribing witnesses, at Los Angeles, California, this 19th day of March, 1901.

M. P. FREEBEY.

Witnesses:

JAMES R. TOWNSEND,

JULIA TOWNSEND.