

No. 672,200.

Patented Apr. 16, 1901.

M. H. WHITTAKER & C. H. WEST.
LINOTYPE.

(Application filed Jan. 18, 1901.)

(No Model.)

Fig. 1.

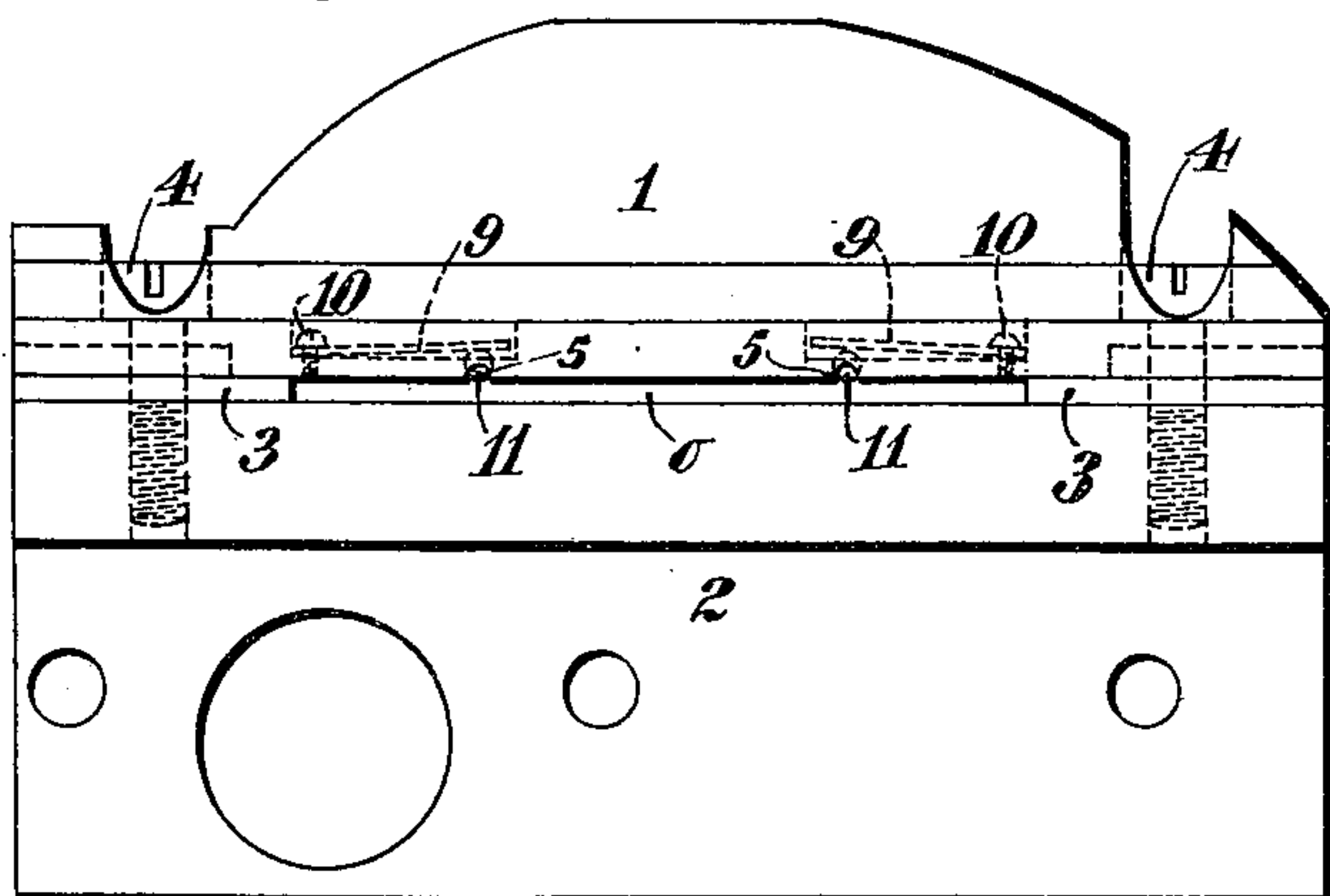


Fig. 2.

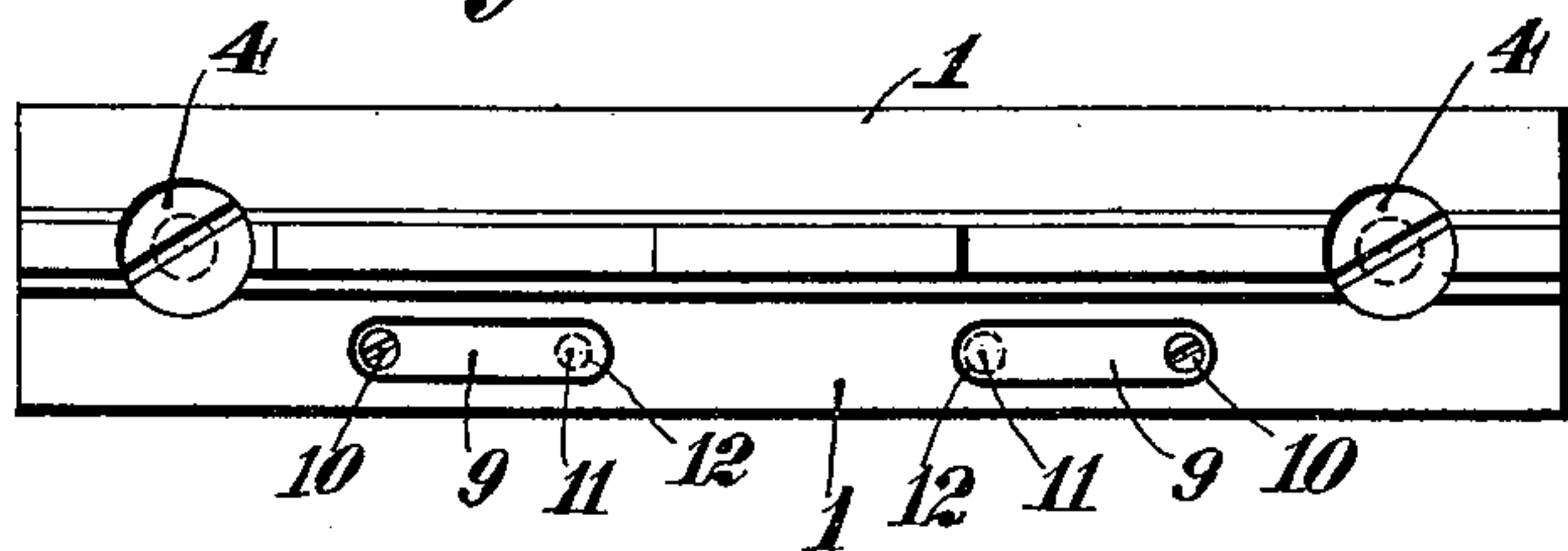


Fig. 3.

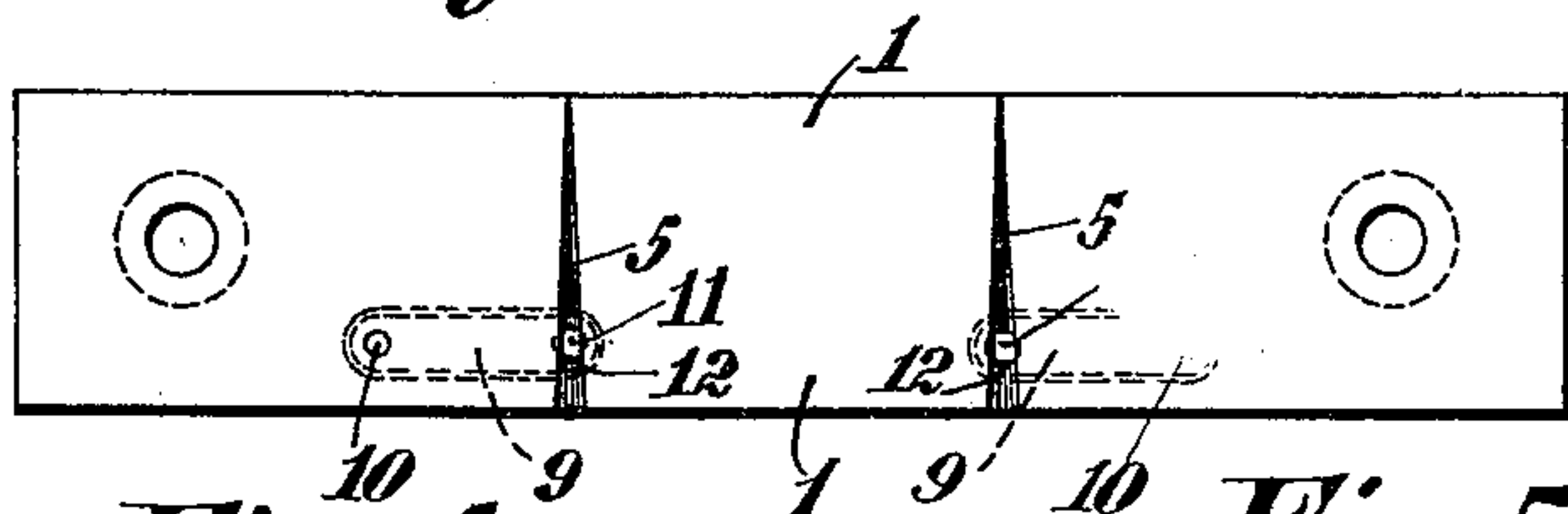


Fig. 4.

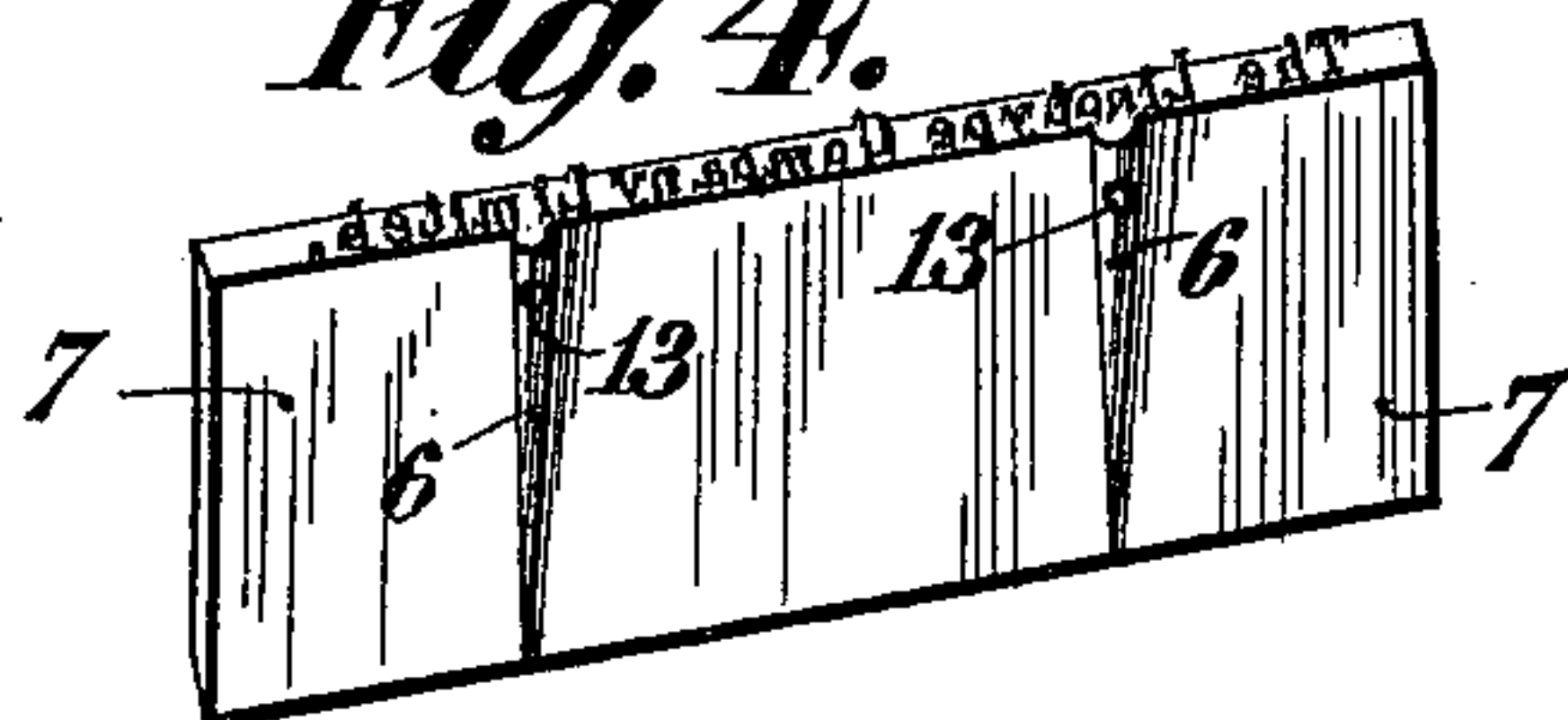
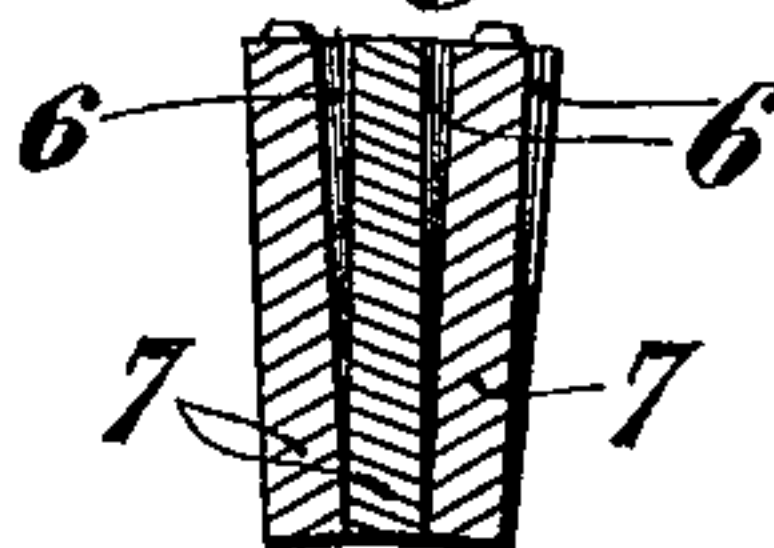


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

MATTHEW HENRY WHITTAKER, OF SALFORD, AND CHARLES HENRY WEST, OF LEEDS, ENGLAND, ASSIGNORS TO THE MERGENTHALER LINOTYPE COMPANY, OF NEW YORK, N. Y.

LINOTYPE.

SPECIFICATION forming part of Letters Patent No. 672,200, dated April 16, 1901.

Application filed January 18, 1901. Serial No. 43,800. (No model.)

To all whom it may concern:

Be it known that we, MATTHEW HENRY WHITTAKER, residing at Salford, in the county of Lancaster, and CHARLES HENRY WEST, residing at Leeds, in the county of York, England, have invented certain new and useful Improvements in Linotypes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to improvements in linotypes and leads to be used therewith.

15 A linotype is a bar of type-metal as long as a column or a page of printed matter is wide and having along one of its edges the type-faces duly composed, spaced, and justified into words for printing a line. The mold for the type-faces is constituted by a line of formative cavities or matrices proper in a line of matrix plates or bars and that for the body of the linotype by a slot of the proper size in a suitable mold-block. When the two molds 20 just described are made to register with each other in the proper respective positions and the back of the body-mold is closed, melted type-metal is injected into the compound mold, a linotype being thereby cast. The sides and ends of the slot above mentioned are parallel with each other respectively, and all its angles are right angles, the linotype-body having necessarily a corresponding form. Consequently the linotypes are not 35 adapted when they are set on their feet on an impression-cylinder with the said feet parallel with the cylinder-axis to fit close up to each other over their sides, because the latter are parallel with each other and only linotypes having tapered sides can fit up to each other in such a position. This incapacity of parallel linotypes for fitting close up to each other over their sides does not matter in printing-offices where curved stereo-plates are used on the impression-cylinders, but it makes 45 itself felt whenever it is desired to print from linotypes held on the impression-cylinder or in a fudge-box parallel with the axis of the said cylinder. A lead differs from a linotype

only in not having the type-faces described above.

The object of the present invention is to adapt the mold for linotype-bodies or for leads to cast tapering ribs on one side thereof, thereby producing what is practically a taper 55 linotype or a taper lead, as the case may be, wider across the top than across its foot by as much as the radius of the impression-cylinder may render necessary to provide for the taper linotypes or leads fitting close up to 60 each other over their sides when they stand in the above-mentioned position on the impression-cylinder in the fudge-box. Hitherto a parallel linotype or a parallel lead has been ejected or pushed out of the mold of a Mergenthaler linotype-machine between a pair of 65 parallel knives which have trimmed both its sides, and now if tapered linotypes or leads are wanted the knife on the ribbed side of the linotype or the lead is moved out of working position. If, on the other hand, parallel 70 linotypes or leads are wanted, the said knife is left in working position. This capacity on the part of the knife on the ribbed side of being moved out of working position and back again is no part of the present invention, being already well known. 75

When "leads"—that is, linotype-bodies—only are to be cast in a linotype-machine, the mold for printing-faces is replaced by a plate 80 which closes the respective side of the slot. It is obvious that if the linotypes themselves must be tapered from printing edge to foot the leads must be tapered likewise. That being the case, the present invention is as applicable 85 to the casting of one as it is of the other.

The term "linotype" wherever it is hereinafter used is to be read as including the term "lead."

Referring to the accompanying drawings, 90 which are to be taken as part of this specification and read therewith, Figure 1 is a front elevation of a mold-block of the well-known Mergenthaler linotype-machine; Fig. 2, a plan of Fig. 1; Fig. 3, an inverted plan of the cap-plate of the said mold-block; Fig. 4, a perspective view of an improved or tapered 95 linotype made according to the present in-

vention; and Fig. 5, a transverse section of three such linotypes, showing how they can fit close up to each other over their sides.

1 is the cap-plate; 2, the bottom plate; 3 3, the end liners, and 4 4 the screws holding the four parts together in the respective positions, thereby constituting the mold-block and establishing the slot *o*. The opposite faces of the plates 1 and 2 constitute the above sides of the slot and the opposite faces of the liners 3 3 the above-mentioned ends thereof.

5 5 are transverse grooves in the face of either the cap-plate 1 or in that of the bottom plate 2. For convenience sake they are in the face of the cap-plate 1. Two only are shown; but that number may be increased. No matter how many there are they are arranged symmetrically along the said face. These grooves are shown as semicircular in cross-section. They may be of any shape that will give the resulting ribs 6 6 a good bearing-surface against the adjacent linotypes 7; but they are all equally tapered from one end to the other, the depth at the deepest end being proportioned to the radius of the impression-cylinder on which the linotypes 7 cast in the slot *o* are to stand. The taper is gradual from the deepest end to practically nothing or nearly to that at the opposite end of the said grooves, as shown in Fig. 3, and is so positioned across the face of the plate that the deepest end is next to that side—front or rear, as the case may be—of the slot *o* which corresponds with the tops of the linotypes.

We are aware that linotype-slugs of uniform thickness have been provided on the side face with ribs also of uniform thickness,

as in Letters Patent No. 436,532, and this we do not claim, the essence of our invention lying in the use of tapered ribs whereby a form composed of linotypes is adapted to be locked up solidly around a cylinder or other curved supporting-surface of a press.

9 is a spring-plate held by a screw 10, pressing through one end of it down into the plate having the grooves 5.

11 is a small hemisphere having a portion of it less than one-half projected by the spring-plate 9 through a suitable hole 12 into the respective groove 5, near the deepest end of it. There is one plate 9 and sphere 11 combined with each groove 5, the object of such combinations being to prevent the taper of the grooves 5 contributing to the linotypes beginning to leave the slot *o* before the proper ejecting mechanism acts on them by engaging in notches 13 in the ribs 6.

We claim—

1. The herein-described linotype, having the body of uniform or substantially uniform thickness, with a plurality of tapered ribs on its side.

2. A linotype having a body of substantially uniform thickness, having on one side a series of raised ribs of decreasing thickness from the printing edge toward the base.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

MATTHEW HENRY WHITTAKER.
CHARLES HENRY WEST.

Witnesses:

JOSH HY WHITAKER,
JOHN HY WILLIAMSON.