

1,067,503.

C. C. BURDINE.  
TYPOGRAPHICAL MACHINE.  
APPLICATION FILED OCT. 25, 1911.

Patented July 15, 1913.

4 SHEETS—SHEET 1.

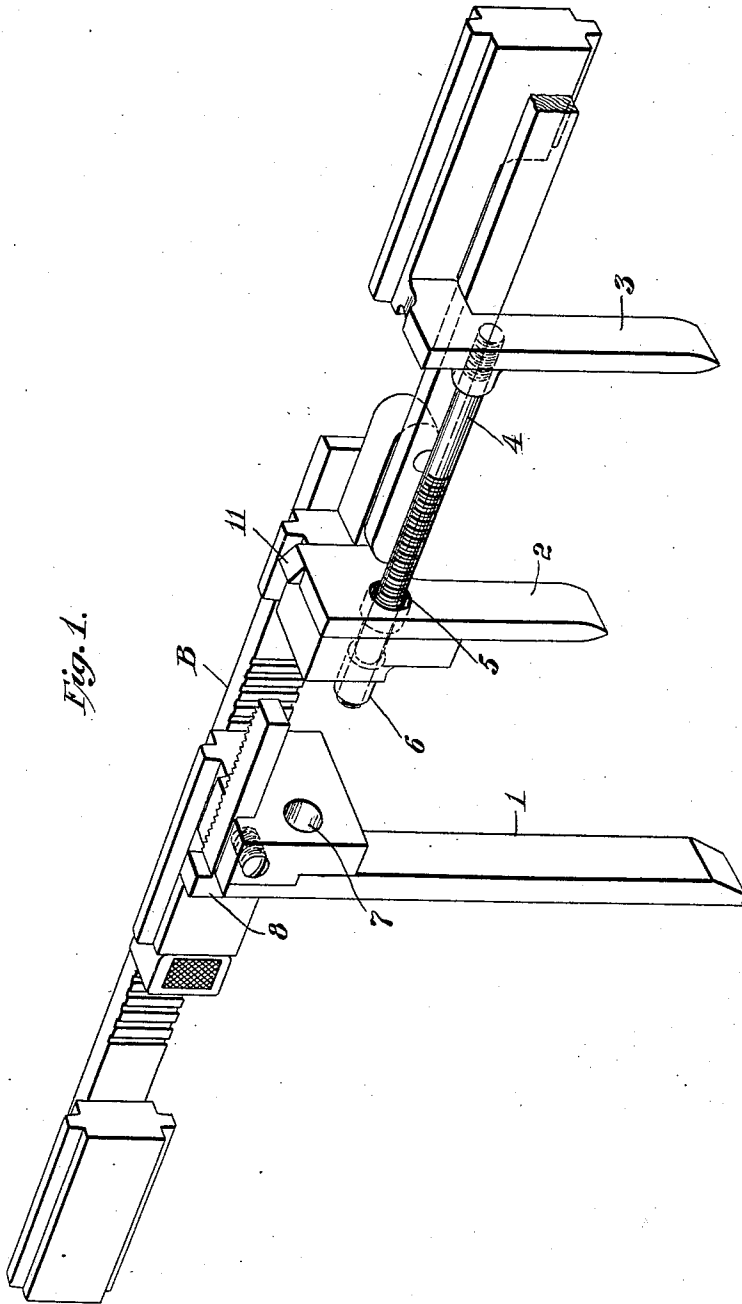


Fig. 1.

Witnesses:  
*C. Mitchell*  
*L. J. Thomsen*

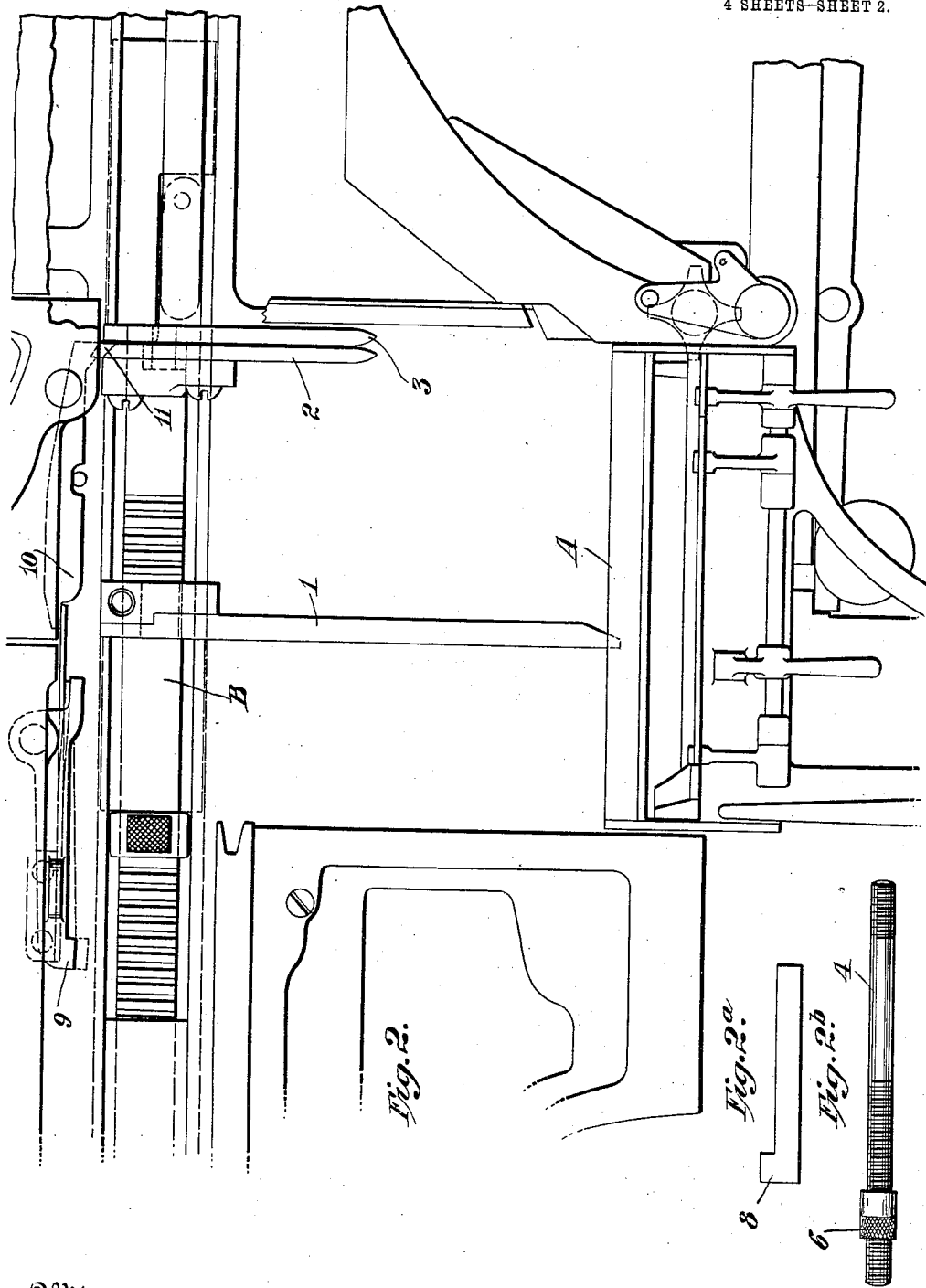
*C. C. Burdine* Inventor  
By his Attorney *P. P. Dodge*

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4 SHEETS—SHEET 2.



Witnesses:  
*E. Mitchell*  
*L. L. Morrison*

Inventor  
*Charles C. Burdine*  
By *P. A. Dodge* Attorney

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4 SHEETS—SHEET 3.

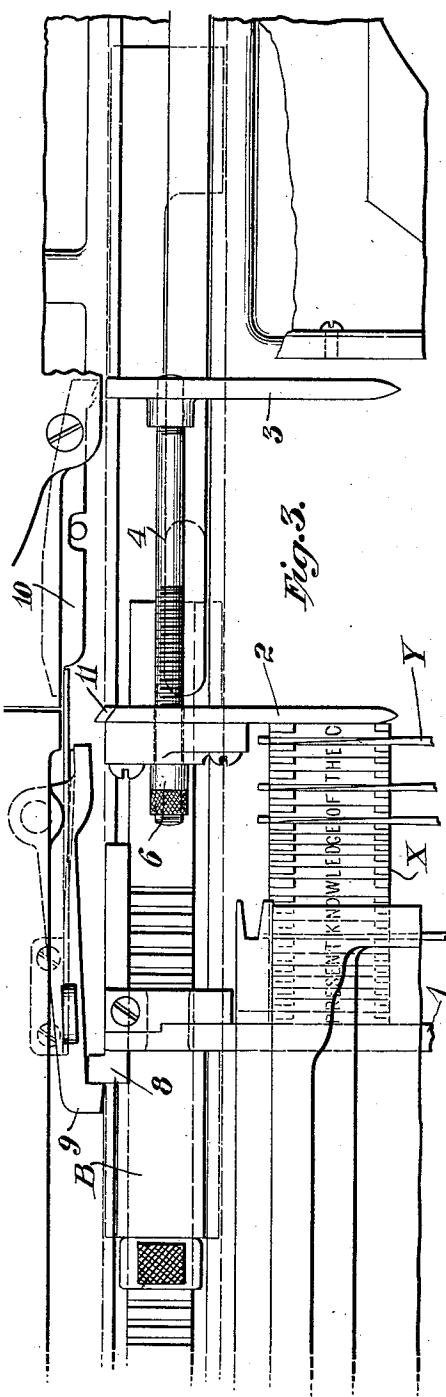


Fig. 3.

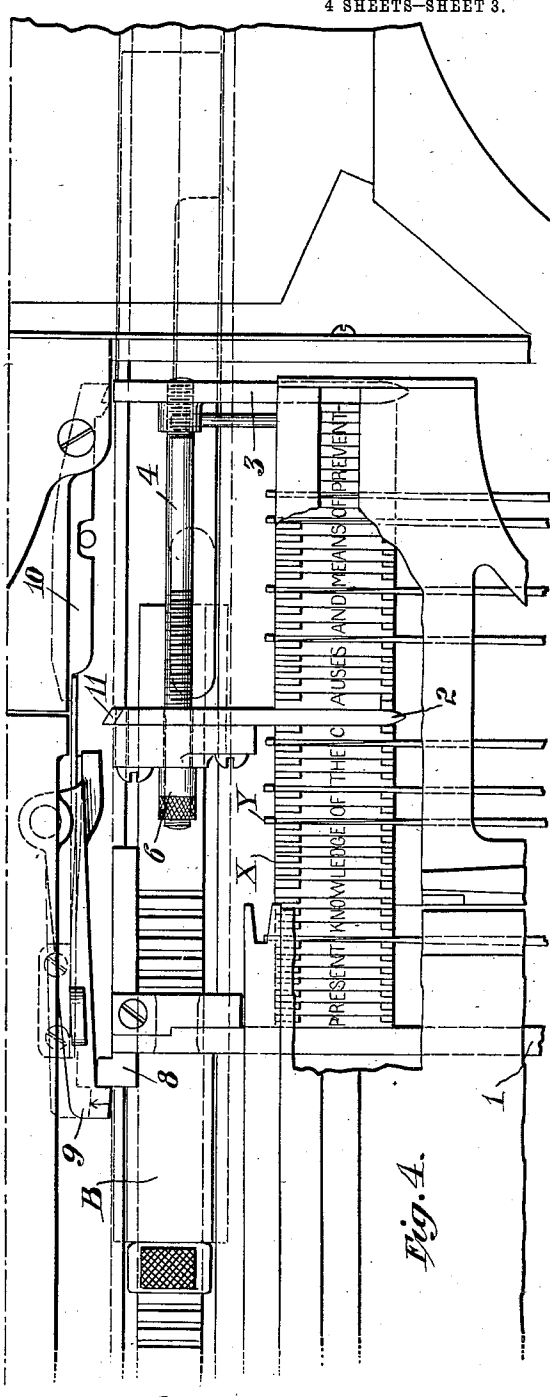


Fig. 4.

Witnesses:  
*E. Mitchell*  
*L. T. Morrison*

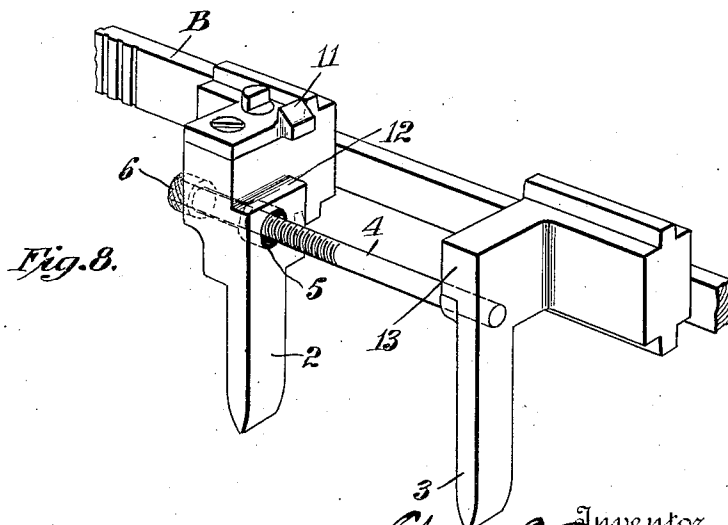
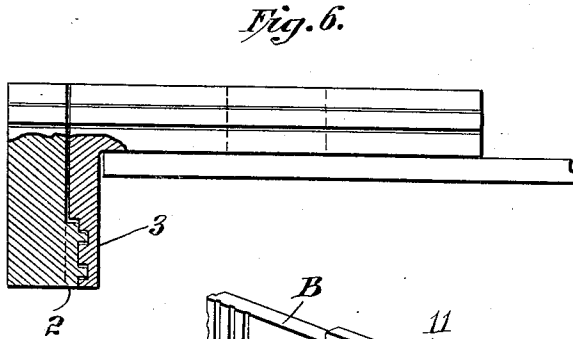
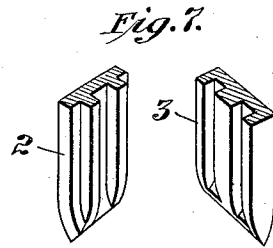
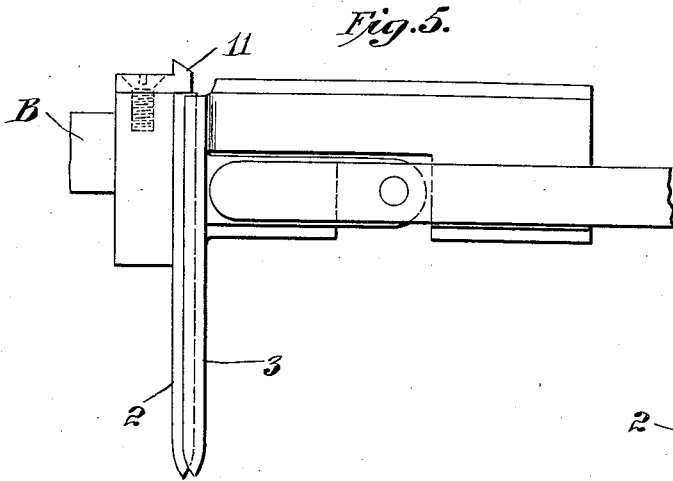
Inventor  
*Charles C. Burdine*  
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4 SHEETS—SHEET 4.



Witnesses:  
*J. P. Mitchell*  
*L. V. Morrison*

Inventor  
*Charles C. Burdine*  
 By his Attorney  
*R. P. Dodge*

# UNITED STATES PATENT OFFICE.

CHARLES C. BURDINE, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO  
MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

TYPOGRAPHICAL MACHINE.

1,067,503.

Specification of Letters Patent.

Patented July 15, 1913.

Application filed October 25, 1911. Serial No. 656,775.

*To all whom it may concern:*

Be it known that I, CHARLES C. BURDINE, a citizen of the United States, and a resident of the city of Washington, District of Columbia, have invented a new and useful Improvement in Typographical Machines, of which the following is a specification.

My invention relates to typographical machines, and more particularly to that class thereof known to the public under the name of "linotype," and as disclosed for instance in Letters Patent of the United States to O. Mergenthaler, No. 436,532, wherein circulating matrices are released from a magazine in the order in which their characters are to appear in print and then assembled in line together with expanding spacers, the composed line transferred to the face of a mold, the mold filled with molten metal to form a slug or linotype against the matrices which produce the type characters thereon, and the matrices thereafter elevated and returned through a distributing mechanism to the magazine from which they started.

The present improvements relate more particularly to the means for transferring the line after assemblage, certain alterations having been made in the devices illustrated in the said patent.

It is sometimes the case in linotype machines that the mold is of such dimensions as to enable a longer line to be cast than can be assembled at one time, due to the more limited capacity of the assembler; and it also often happens that it is desired to form a line longer than the one for which the assembling devices are adjusted, without altering such adjustment.

The present invention therefore contemplates a modified transferring mechanism to which two or more line-sections may be successively delivered before it is permitted to operate. After the several line-sections are in proper relation to the transferring means, they are simultaneously shifted thereby to the first elevator, after which the casting mechanism forms a single slug having characters corresponding to those represented by the matrices in all of the several line-sections. This novel arrangement and construction is of utility in all cases where it is desired to form a slug of greater length than is provided for in the assembler, as for instance to produce matter of "double column width" in newspaper or other print. The

parts are so arranged that this capability may be availed of only when needed, as in normal operation they will act in the customary manner to form slugs of the usual length.

My invention is capable of application in numerous forms, and in the accompanying drawings I have illustrated a preferred embodiment thereof by way of example.

Generally speaking, I desire it to be understood that I do not limit myself to any specific form or embodiment except in so far as such limitations are specified in the claims.

Referring to the drawings: Figure 1 is a detached perspective view of the transfer slide having my invention applied thereto; Fig. 2 is a front view of the assembler elevator and the connected devices, certain of the said parts being omitted therefrom; Figs. 2<sup>a</sup> and 2<sup>b</sup> are detail views of these omitted parts; Fig. 3 is a front view of the assembler slide, etc., with the first line-section delivered thereto and in condition to receive a subsequent section; Fig. 4 is a similar view showing also the delivered second line-section; Figs. 5, 6 and 7 are respectively, side, plan, and detail views of a modification wherein the transfer fingers are permitted to overlap in order to economize space; and Fig. 8 is a perspective view of another modification wherein substantially similar results are secured.

The assembler A is or may be of any well known form or construction, and the matrices X and spacers Y may be delivered thereto in the customary manner. The transfer slide B is also constructed and arranged in the usual way to receive the assembled line in order to convey it to the first elevator, except that certain provisions are made therein to obtain the additional results before outlined. The slide is provided with the ordinary shiftable finger 1 and the rear finger 2, see more particularly Fig. 2, wherein the slide is shown in condition for regular operation, it being then locked by the engagement of the pawl 10 with the shoulder 11. When it is desired to operate the machine in the customary manner after assemblage, the assembler A is elevated to carry the line between the fingers 1 and 2 and also to trip the pawl 10, so that the line will be carried forward to the first elevator, in the manner familiar to those skilled

in the art. In order to permit the delivery of a second line-section to the delivery mechanism, I form the slide B with a third finger 3, which is normally in inoperative condition but may be availed of when desired. To this end the finger 3 is connected to the finger 2 in such manner that a limited amount of relative movement is permitted between them, the extent of which is governed by the length of the additional line-section which it is desired to produce. The finger 3 is connected to the finger 2 by a rod 4, which passes freely through an aperture 5 in the finger 2 and is provided at its farther end with an adjusting thumb-nut 6, whereby the distance between the fingers 2 and 3 may be made to correspond to the length of the additional line-section, see more particularly Figs. 1 and 2<sup>b</sup>. The finger 1 is formed with an aperture 7 to receive the thumb-nut 6 when in the operation of the machine the finger 1 is brought into close relation to the finger 2. The finger 1 is also provided with an abutment or stop 8, see Figs. 1 and 2<sup>a</sup>, adjustably connected thereto in such manner that its location may be varied to determine the stopping point of the first portion of the line; and to cooperate therewith, I provide a manually operable pawl 9 which is normally in its upper or inoperative position.

The operation will now be clearly understood. Fig. 2 indicates the position of the parts before the assembler is elevated and the first line-section is delivered between the fingers 1 and 2, the delivery slide B being held by the engagement of the pawl 10 with the shoulder 11. Before the elevation of the assembler, the pawl 9 is manually moved from the full line to the dotted line position, and the elevation of the assembler then trips the pawl 10 and the slide B moves until it is arrested by the engagement of the pawl 9 with the abutment 8, which position of the parts is shown in Fig. 3. Due to the free passage of the rod 4 through the aperture 5 in the finger 2, the finger 3 is not moved until the finger 2 abuts against the thumb-nut 6, the slight further movement of the slide B at this time then acting to bring the finger 3 into the position formerly occupied by the finger 2. The parts are now in condition to receive the second line-section, which is composed in the assembler in the ordinary manner. After this the assembler is again elevated and the second line-section is delivered between the fingers 2 and 3, which condition of the parts is illustrated in Fig. 4. As previously pointed out, the first elevation of the assembler has freed the pawl 10 from engagement with the shoulder 11, and the slide B is now restrained only by the engagement of the abutment 8 with the pawl 9, which may be manually moved to

permit the slide to convey both line-sections to the first elevator, not here shown. It will be understood that although the line is delivered to the first elevator in two sections separated by the finger 2, the descent of the elevator, which removes the sections from between the several fingers to the casting position, allows their consolidation, so that they will be presented between the mold jaws as one continuous line, notwithstanding the fact that the sections were separately assembled.

In Figs. 5, 6 and 7, the fingers 2 and 3 are so formed as to permit their overlapping and without materially reducing their effective strength. This economy of space is desirable when the fingers are brought into conjunction, as illustrated for instance in Fig. 2. Fig. 8 shows a similar modification wherein a heavy and strong construction of the fingers as well as economy of space are secured, this being accomplished by the formation of the finger 3 with a projecting portion 13 adapted to pass into and engage the recessed portion 12 of the finger 2, when the two fingers are brought together.

As before stated, I have above described my invention in preferred form and obviously many variations and modifications may be made therein without departing from its spirit.

Having thus described my invention, its construction and mode of operation, what I claim and desire to secure by Letters Patent of the United States is as follows:

1. In a typographical machine, the combination of transfer means constructed to receive successively a plurality of separate lines or line-sections and to forward them simultaneously, with means to deliver them in assembled form successively to the transfer means.

2. In a typographical machine, the combination of means for separately assembling and successively delivering a plurality of lines or line-sections, with independent transfer means to receive them from the delivering means and to forward them simultaneously.

3. In a typographical machine, the combination of transfer means constructed to occupy a plurality of positions to receive successively separate lines or line-sections before forwarding them, with means to deliver them in assembled form successively to the transfer means.

4. In a typographical machine, the combination of transfer means constructed to receive successively a plurality of separate lines or line-sections, and means to deliver them in assembled form successively to the transfer means, with a device to arrest the said transfer means on their way after one line or line-section has been delivered thereto.

5. In a typographical machine, the combination of transfer means constructed to receive successively a plurality of separate lines or line-sections, and means for delivering them successively to the transfer means, with devices whereby, after one line or line-section is delivered thereto, the transfer means are automatically located in position to receive another line or line-section, and are then released.

6. In a typographical machine, the combination of transfer means provided with a plurality of devices to receive successively a plurality of separate lines or line-sections, the said devices being so constructed and arranged as to adapt them to the reception of one or more lines or line-sections, at will, with means to assemble and thereafter deliver them successively to the transfer means.

7. In a typographical machine, the com-

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 bination of transfer means comprising a plurality of engaging devices adapted to receive a single assembled line or line-section, or to receive successively a plurality of assembled lines or line-sections, as desired, with means to deliver them after assemblage successively to the transfer means.

8. In a typographical machine, the combination of a transfer slide provided with three relatively movable fingers to receive successively a plurality of lines or line-sections, with means to deliver them successively thereto.

35  
 In testimony whereof I hereunto set my hand this 20th day of October, 1911, in the presence of two attesting witnesses.

CHARLES C. BURDINE.

Witnesses:

A. M. PARKINS,  
 CHARLOTTE BERGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."