

(No Model.)

2 Sheets—Sheet 2.

L. FISHER & E. W. REYNOLDS.
LINO TYPE MACHINE.

No. 604,378.

Patented May 24, 1898.

Fig. 3.

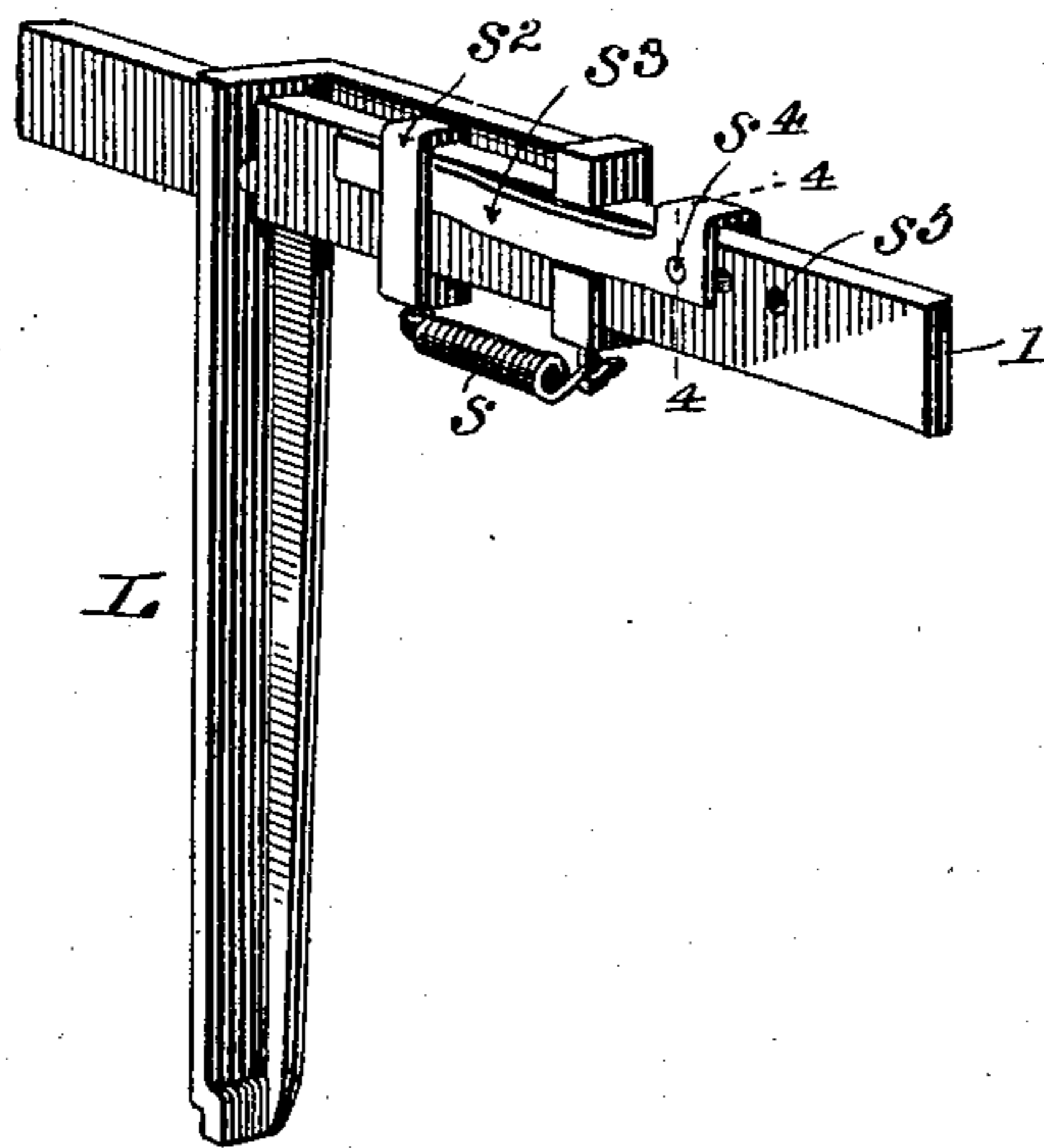


Fig. 4.
On line 44

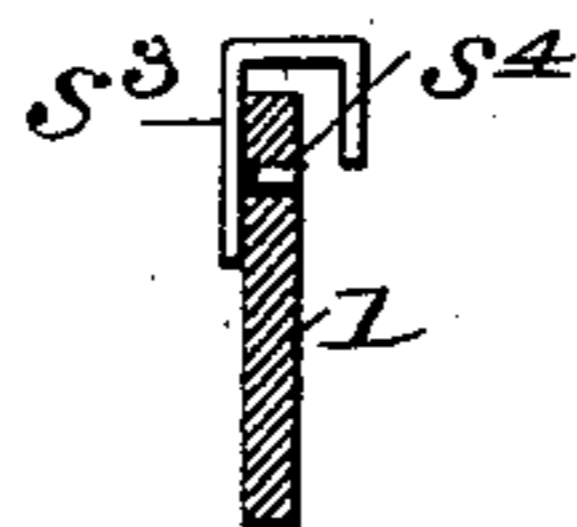
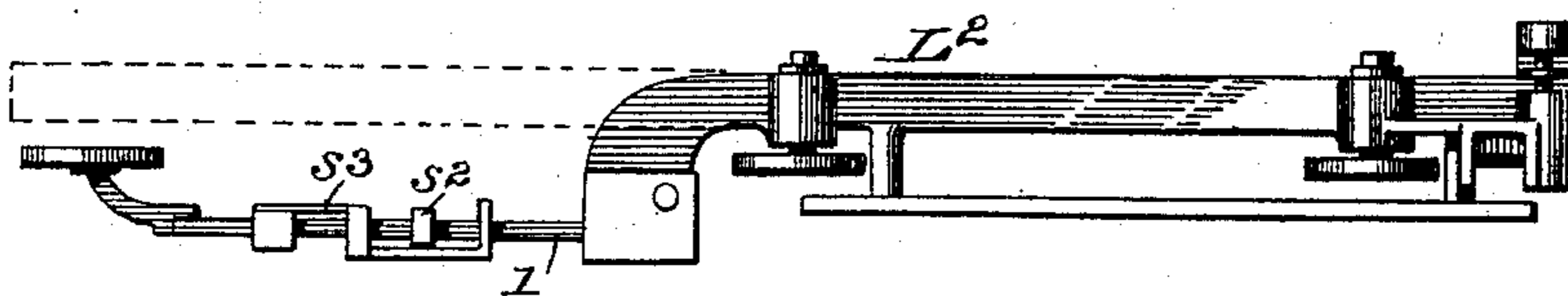


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LOUIS FISHER AND EDWARD W. REYNOLDS, OF BROOKLYN, NEW YORK,
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LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 604,378, dated May 24, 1898.

Application filed March 5, 1896. Serial No. 581,891. (No model.)

To all whom it may concern:

Be it known that we, LOUIS FISHER and EDWARD W. REYNOLDS, of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

In the Mergenthaler linotype-machine of the type represented in Letters Patent No. 436,532, dated September 16, 1890, the line of matrices is composed or assembled in an "assembling-elevator," so called, and is then lifted between two confining-fingers on horizontal sliding carriages, known as the "transfer" or "line-delivery" carriages, which serve to shift the line to the left in position to be lowered to the casting mechanism. Heretofore the two transfer-fingers in this class of machines have been attached to separate carriages or slides independently supported and connected by a spring, as plainly shown in Figures 18 to 20 in the patent above referred to. The object of our invention is to dispense with one of these carriages and at the same time to permit convenient horizontal adjustment of the fingers, which are without vertical motion, to suit the various measures or lengths of lines.

To this end it consists, broadly, in providing a horizontal shifting carriage with two fingers, one of which is movably mounted to yield horizontally in relation to the other when such fingers are arranged to have a horizontal motion only and combined with mechanism for lifting the matrix-line vertically between them.

It further consists in adjustable yielding connections, which admit of one finger being placed in different relations to the other, as different measures may demand.

In the accompanying drawings we have shown our improved carriage with such adjacent parts as are sufficient to illustrate the invention. With the exception of the carriage the machine may be constructed in any ordinary approved manner.

Referring to the drawings, Fig. 1 represents a front elevation of the assembling-elevator, the transfer-carriage, and the parts immediately associated therewith, the carriage being constructed in accordance with our invention

and the parts shown in the position they occupy during the composition of the line. Fig. 2 is a similar view showing the parts in the position after the line has been raised by the assembling-elevator and transferred to the left by the carriage. Fig. 3 is a perspective view from the rear side illustrating the manner in which the yielding finger is adjusted for different measures. Fig. 4 is a cross-section on the line 4 4. Fig. 5 is a plan view of the carriage.

Referring to the drawings, H represents an inclined belt on which the matrices descend from the magazine one after another into the path of a rotary wheel h^2 , by which they are carried forward one after another and assembled in line against the uprising end of the horizontal slide J, which serves to hold the line in compact order as it increases in length.

I represents the "assembling-elevator," so called, having its top slotted to admit the assembling-slide J and the matrices which are guided and held in line thereby. After the composition of the line is completed the assembling-elevator I is lifted from the position shown in Fig. 1 to that shown in Fig. 2, carrying the line of matrices upward until it is in position to be shifted horizontally to the left through the fixed or intermediate guide or channel M, as shown in Fig. 2, preparatory to its being lowered to the mold.

All of the foregoing parts are of ordinary construction and arrangement and correspond to the parts indicated by like letters in the patent above referred to.

L and L' are the two transfer-fingers, depending from the supporting-carriage. The long finger L contacts with and is carried back by the assembling-slide J, as shown in Fig. 1, the space between the two fingers L and L' being thus increased to correspond with the length of the composed line, so that when the assembling-elevator is raised the line of matrices will be presented between the two fingers in order that it may be carried to the left thereby, as represented in Fig. 2. In the original machine these two fingers were carried by independent carriages or slides.

In accordance with our invention we dis-

pense with the carriage for supporting the finger L. The shorter finger L' is attached, as heretofore, rigidly to the carriage L², mounted in horizontal guides in the main frame, that it may move right and left. This carriage may be constructed with or without the antifriction support-rolls and will be connected with the usual mechanism for shifting it to the left and for restoring it to its original position, these connections forming no part of the present invention. The finger L, heretofore attached to a second carriage, is now mounted to slide on an arm or bar l, forming a part of the carriage L² and extending to the left, as shown, a suitable distance to support the arm L and admit of its being separated from the arm L' a distance sufficient to admit the next line of matrices between them. A spring may be applied in any suitable manner to urge the arm L toward the arm L' in order that they may pinch the line of matrices between them during the transfer action.

I prefer, as shown in the drawings, to use a coiled spring s, extending from the upper part of the arm L to an adjustable collar s², mounted on the arm l, this collar being provided with a spring-latch s³, carrying at one end a pin s⁴, which may be engaged in one or another of the series of holes s⁵ in the arm l. The collar s² serves as a support for one end of the spring and constitutes a stop to limit the outward sliding movement of the arm L. By changing the position of the collar the arm L may be adjusted inward or outward to suit lines of different length or measure. The manner of applying the spring and the manner of mounting and adjusting the collar are not essential, but may be varied at will within the range of mechanical skill.

By making use of the adjustable collar and spring we are enabled to set the arm L in ap-

proximately the same position it will occupy at the completion of composition, so that the pressure of the spring and arm is not against the matrix-line and the assembling star-wheel until the line is nearly completed.

When the machine is adjusted for setting very long lines, it may be desirable to give the carriage support beyond or behind the finger L, and for this purpose it may be extended as shown in the dotted lines in Fig. 5 and, if desired, provided with a supporting-wheel at its left end, as shown. Of course it is understood that when the rollers are not employed the carriage will slide directly in the ways or guides as is now practiced with other carriages in the Mergenthaler machine.

Having thus described my invention, what I claim is—

1. In a linotype-machine and in combination with the assembling-elevator I, the sliding transfer-carriage provided with a rigid arm L', and the longer yielding arm L.

2. In a linotype-machine in combination with the assembling-elevator and the assembling-slide J, the transfer-carriage L² provided with a depending arm L', the sliding arm L, the spring acting on the arm L and an adjustable collar or support for said spring.

3. As an improvement in linotype-machines, a transfer-carriage L², provided with an arm or bar l and depending arm L', the sliding arm L, the spring s, collar s², and latch s³.

In testimony whereof we hereunto set our hands, this 19th day of February, 1896, in the presence of two attesting witnesses.

LOUIS FISHER.

EDWARD W. REYNOLDS.

Witnesses:

MARGARET DUNN,

THOMAS J. MERCER.