

W. H. SCHARF.
 LINOTYPE MACHINE.
 APPLICATION FILED FEB. 26, 1907.

1,005,325.

Patented Oct. 10, 1911.

2 SHEETS—SHEET 2.

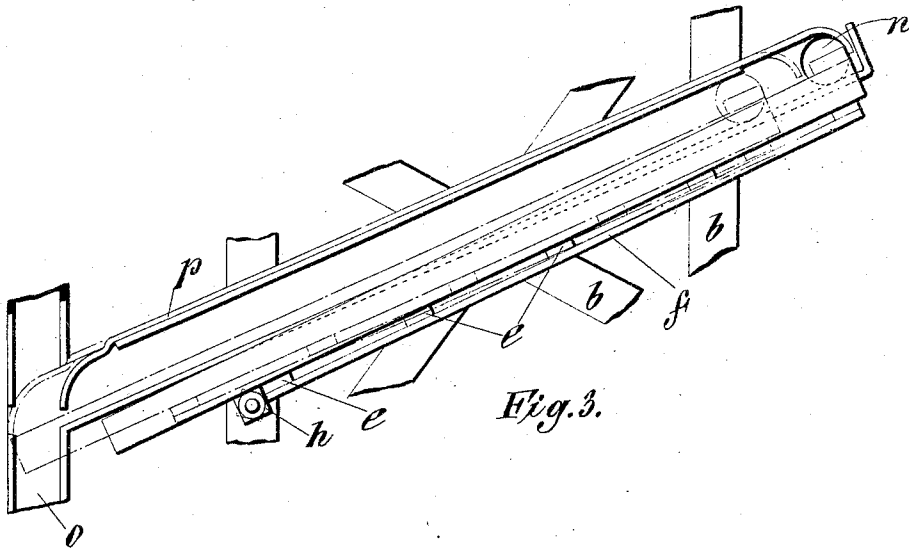


Fig. 3.

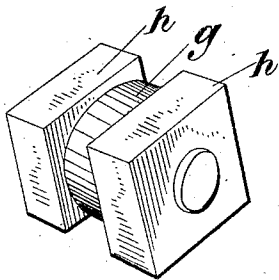


Fig. 5.

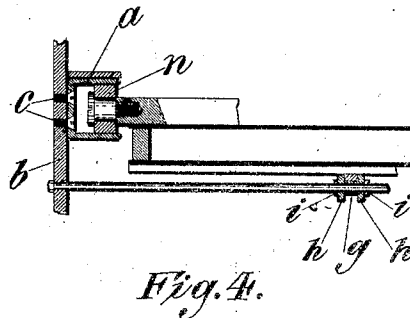


Fig. 4.

Witnesses:
Geoff Schwartz
James S. Vawter

Inventor
William Herman Scharf
 By his Attorneys
Redding, Haven & Greeley

UNITED STATES PATENT OFFICE.

WILLIAM HERMANN SCHARF, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO MERGENTHALER LINOTYPE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

LINOTYPE-MACHINE.

1,005,325.

Specification of Letters Patent. Patented Oct. 10, 1911.

Application filed February 26, 1907. Serial No. 359,504.

To all whom it may concern:

Be it known that I, WILLIAM HERMANN SCHARF, a subject of the King of Great Britain, and a resident of the city of Montreal, in the Dominion of Canada, have invented certain new and useful Improvements in Linotype-Machines, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

The object of this invention is to facilitate the changing of magazines in a linotype machine or the like, and to provide a suitable storage for the magazines while not in use.

It is no easy task to put a magazine upon a machine or to take one off, and this labor is increased when the magazines have to be carried back and forth between the machine and their place of storage. Besides this, the carrying of the magazines back and forth generally results in battering them due to rough handling; the magazines, on account of their great weight, being susceptible to considerable damage from this cause. Moreover, where they are allowed to lie around near the machine, they are also subject to injury, as will be obvious. For these reasons it is desirable to provide in connection with a linotype machine, a suitable magazine storage and one which is related to or associated with the magazine in such manner as to render the change from one magazine to another easy and convenient.

The present invention is designed to effect this desideratum. In accordance therewith a magazine storage is attached to the machine above the operative position of the magazine and means are provided in connection with the storage whereby the magazines may be delivered to and from the storage with facility and despatch.

The invention is not limited in its application but may be applied to any machines wherein the matrices are carried in an inclined magazine mounted on the top of the machine. It is illustrated and described in the present case in connection with a machine in which the magazine is removed and replaced from the front of the machine and in which the magazine is supported in a vertical plane preparatory to its being placed in operative position as well as subsequent

to its removal from operative position; that is in connection with a machine of the general organization shown in U. S. Letters Patent No. 814,542.

In the drawings where this type of machine is illustrated, Figure 1 is a view in perspective of a portion of the machine with improvements embodied therein, looking toward the front. Fig. 2 is a view partly in vertical section and partly in elevation. Fig. 3 is a detail view showing a portion of the magazine storage. Fig. 4 is a detail sectional view, showing a portion of the side of one of the magazines together with the adjacent parts of the storage, and, Fig. 5 is a perspective view of a guide roller employed in the storage.

The general organization of the linotype machine shown in the drawings need not be referred to herein, as it forms no part of the present invention.

In its present embodiment the magazine storage comprises a frame made up of channel irons *a* upon each side secured to brackets *b* by screws *c* (Fig. 4) or the like and bound together by suitable tie rods *d* extending from the bracket on one side to the bracket on the other, (Fig. 1). The channel irons are parallel to each other and are separated by a distance slightly greater than the greatest width of the magazine. The two channel irons on opposite sides lying in substantially the same plane constitute one magazine containing or sustaining means; and there may be obviously as many channel irons or in other words as many magazine containing means in the storage as desired, limitations of space permitting.

Each of the magazines, as illustrated in the present case, is provided with transverse strips *e* upon the bottom thereof, and with a single longitudinal strip *f* secured to the transverse strips. This longitudinal strip *f* may be located near the central line of the magazine and coöperates with a roller *g* flanked on either side by squared portions *h* and freely rotatable upon a tie rod *i* where it is held by means of a couple of collars *j* (Figs. 4 and 5). When the magazine is being slid into the storage or drawn out of the storage, the strip *f* rides upon the roller *g* which turns freely upon its rod *i* until the strip has passed the roller. As the magazine is being slid into the storage and the

lower end of the strip *f* passes the roller *g*, the magazine drops into place and the lower end of the strip *f* abuts against the roller while one of the transverse strips rests against the squared portions *h* on either side of the roller. The storage is preferably arranged to hold the magazines at an inclination so that when they have been pushed therein, they are securely held in position by means of the rollers and strips, as just described.

The storage is preferably supported by being secured on the left hand side directly to the machine by an upright bracket which, in the present case, is integral with the bracket *b* upon that side (Fig. 2). On the right hand side, the storage is secured by some such means as a pipe stand *k* which rises directly from the floor. In this way the storage is made to retain its proper relation to the machine while at the same time the machine is relieved somewhat of the weight of the storage which is borne partly at least by the stand-pipe *k*.

Referring now to the means and manner of transferring the magazine from its operative position on the machine to its position in the storage, it will be seen (Fig. 2) that in its operative position the magazine is inclined upon the top of the machine directly underneath the storage. In the present type of machine, hooks *m* are provided near the front and on either side to hold the magazine directly after it has been removed from operative position and also preparatory to its being placed in operative position. When held by these hooks, the magazine is in a vertical position as illustrated in the broken lines of Fig. 2. Furthermore the magazine is provided with rollers *n* upon either side and near its upper end, which rollers are adapted to engage in guides *o* depending from the front of the storage on either side. These guides *o* are also preferably formed of channel irons and the guide on each side is directly in front of the ends of the corresponding channel iron supports *a* so that its channel may communicate with the channels of these supports. Moreover these guides extend down far enough so that when the magazine is in the position indicated by the broken lines of Fig. 2, the rollers *n* rest in the guides *o*. It will be seen therefore that with the magazine in this position, it may easily be pushed upwardly and into the storage, the rollers *n* and channel irons *o* constituting guiding means for delivering the magazine into and from the storage.

In connection with the storage, means are provided to cause the magazine to enter the first empty partition or magazine containing means in the storage, and these means may comprise slidable strips or plates *p* with

curved ends, two of these strips or plates being provided, one on each side, for each partition in the storage. Each strip is supported upon the corresponding channel iron *a* and is freely slidable thereon in a longitudinal direction. From each partition in which there is no contained magazine, the corresponding strips *p*, being freely slidable, will project into the guides *o*. Thus when the attendant lifts the magazine up into the storage, the rollers *n* will be checked from further movement in the guides *o* by coming in contact with the projecting strips *p* from the first empty partition. From Fig. 3, it will be seen that when the magazine is in position in the storage, it has drawn the corresponding strips *p* back from the guides *o* on account of the rollers *n* engaging the curved upper ends of these strips and that when a magazine is removed from the storage, these same rollers, as the magazine is leaving the storage, will engage the curved lower ends of the strips *p* and slide the latter down again so that they will project into the guides *o*. While in the storage the magazines are supported at the upper end through their rollers by the channel irons *a* and at the lower end by the tie rods *d* (Fig. 4).

The operation of transferring the magazines from the storage to the machine will be clear without further detailed description. It will be seen that the attendant is enabled by means of the present improvements to transfer a magazine from its operative position into the storage and vice versa without leaving the front of the machine.

It will be understood that many changes may be made in the construction of the storage and in its relation to a machine without departing from the spirit of the invention.

I claim as my invention:

1. In a linotype machine having means to secure a magazine in operative position thereon, the combination of a separate magazine storage, and substantially vertical guides at the front of the machine to guide a magazine into and from the storage.

2. In a linotype machine having means to secure a magazine in operative position thereon, the combination of a separate magazine storage above the operative position of the magazine, and means at the forward end of the storage to guide a magazine into and from the storage.

3. In a linotype machine having means to secure a magazine in an inclined position thereon, the combination of a separate magazine storage above the operative position of the magazine having means to contain one or more magazines at an inclination, and means at the lower end of the storage to guide a magazine into and from the storage.

4. In a linotype machine, the combination of a separate magazine storage above the operative position of the magazine, and

means at the front of the machine to sustain a magazine in a substantially vertical position with its upper end near the lower forward end of the storage, whereby an attendant may remove a magazine from its operative position on the machine to said sustaining means and then transfer it directly upward into the storage and vice versa, without leaving the front of the machine.

5. In a linotype machine, the combination of a separate magazine storage above the operative position of the magazine, means at the front of the machine to sustain a magazine in a substantially vertical position with its upper end near the lower forward end of the storage, and means at the forward end of the storage to guide a magazine into and from the storage.

6. In a linotype machine, the combination of means to support a magazine in operative position, a separate storage for magazines above the operative position of the magazine, means to secure the storage to the machine so that it shall be supported in part by the machine, and means independent of the machine to act as an additional support for the storage.

7. In a linotype machine, the combination of means to store a magazine above its operative position upon the machine, means to sustain a magazine in a substantially vertical position beneath one end of the storage, and cooperating means upon said end of the storage and upon the upper end of the magazine as it is sustained in a vertical position to guide the magazine to and from the storage.

8. In a linotype machine having means to secure a magazine in operative position, the combination of a magazine, a separate magazine storage, rollers upon the magazine, and tracks for the rollers in the storage.

9. In a linotype machine, the combination of a magazine, a magazine storage having means to contain magazines one above the other, and a sliding strip above each magazine containing means, the ends of said strips being adapted to engage the magazines as they are delivered into the storage for the purpose specified.

10. In a linotype machine, the combination of a magazine and a magazine storage

having means to contain magazines one above the other and at an inclination, and a sliding plate with curved ends above each magazine containing means in the storage to determine the position of the magazine as it is delivered into the storage.

11. In a linotype machine having means to sustain a magazine in operative position, the combination of a magazine, and a separate magazine storage, the magazine being provided with a guide strip, and the storage being provided with a roller flanked by a square portion to cooperate with the strip in guiding the magazine into and out of the storage and in holding the magazine therein.

12. A magazine storage having means to contain a plurality of magazines and to support them at an inclination above their operative position upon the machine and means to deliver them downwardly in front of the machine, in combination with means upon a linotype machine to receive and support the magazines vertically in front of the machine preparatory to placing them upon the machine.

13. A magazine storage comprising a frame of channel irons upon each side in combination with a linotype machine having means to secure a magazine in operative position thereon and magazines having rollers to cooperate with the channel irons.

14. A magazine storage comprising a frame of channel iron supporting tracks upon each side, and channel iron guides at one end in combination with a linotype machine having means to secure a magazine in operative position thereon, magazines having rollers to cooperate with the channel iron tracks and channel iron guides.

15. A magazine storage comprising a frame of parallel inclined channel irons at the sides, rods extending from side to side, and rollers flanked by squared portions upon the rods in combination with magazines having rollers to cooperate with the channel irons and longitudinal strips to cooperate with the rollers.

This specification signed and witnessed this 23rd day of February 1907.

WILLIAM HERMANN SCHARF.

Signed in the presence of—

BAIN L. CAMPBELL,

AUGUSTUS E. INGRAM.