963,077.

W. H. SCHARF.

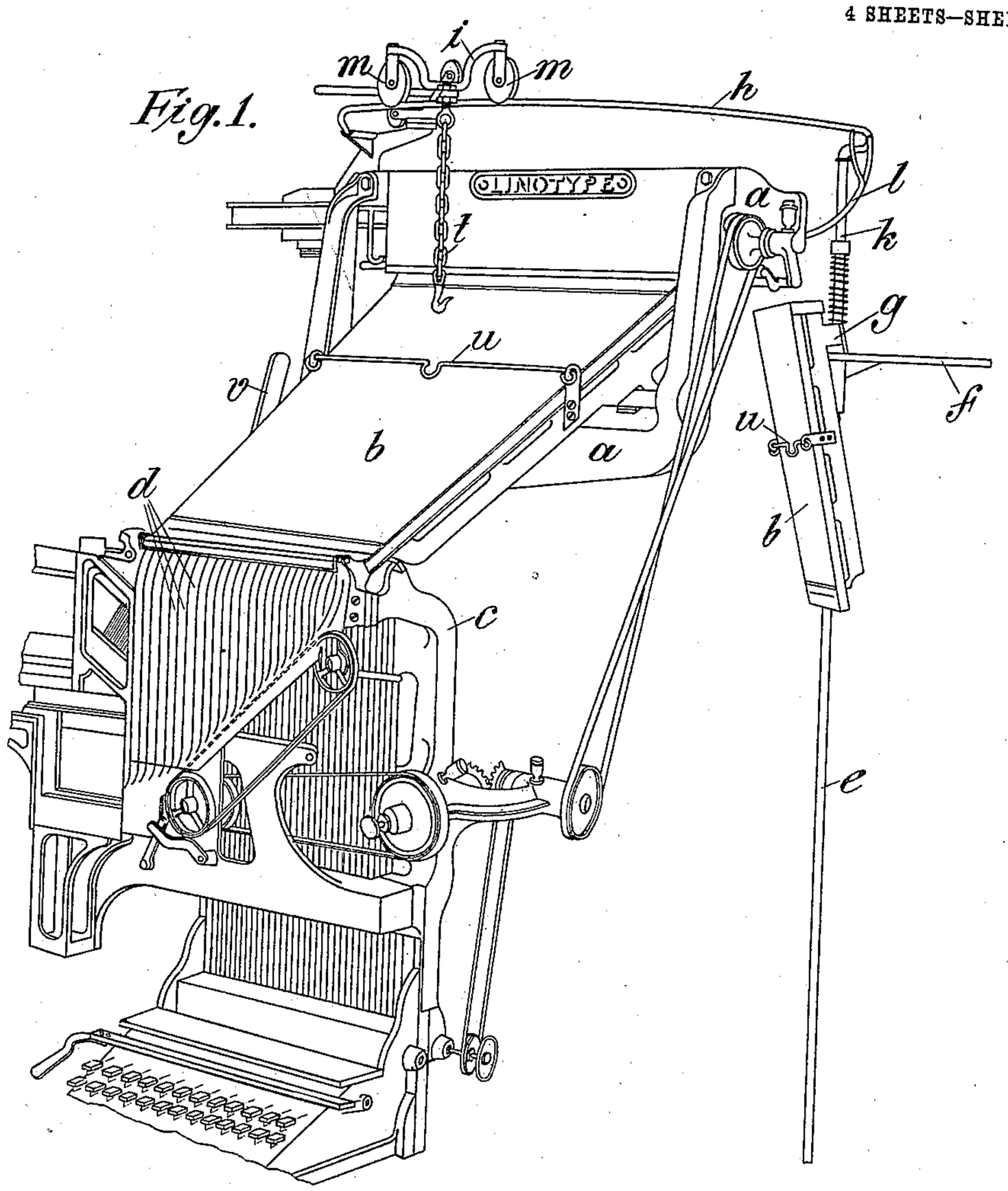
LINOTYPE MACHINE.

APPLICATION FILED JAN. 20, 1908.

Patented July 5, 1910.

4 SHEETS—SHEET 1.

Fig. 1.



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4 SHEETS—SHEET 2.

Fig. 3.

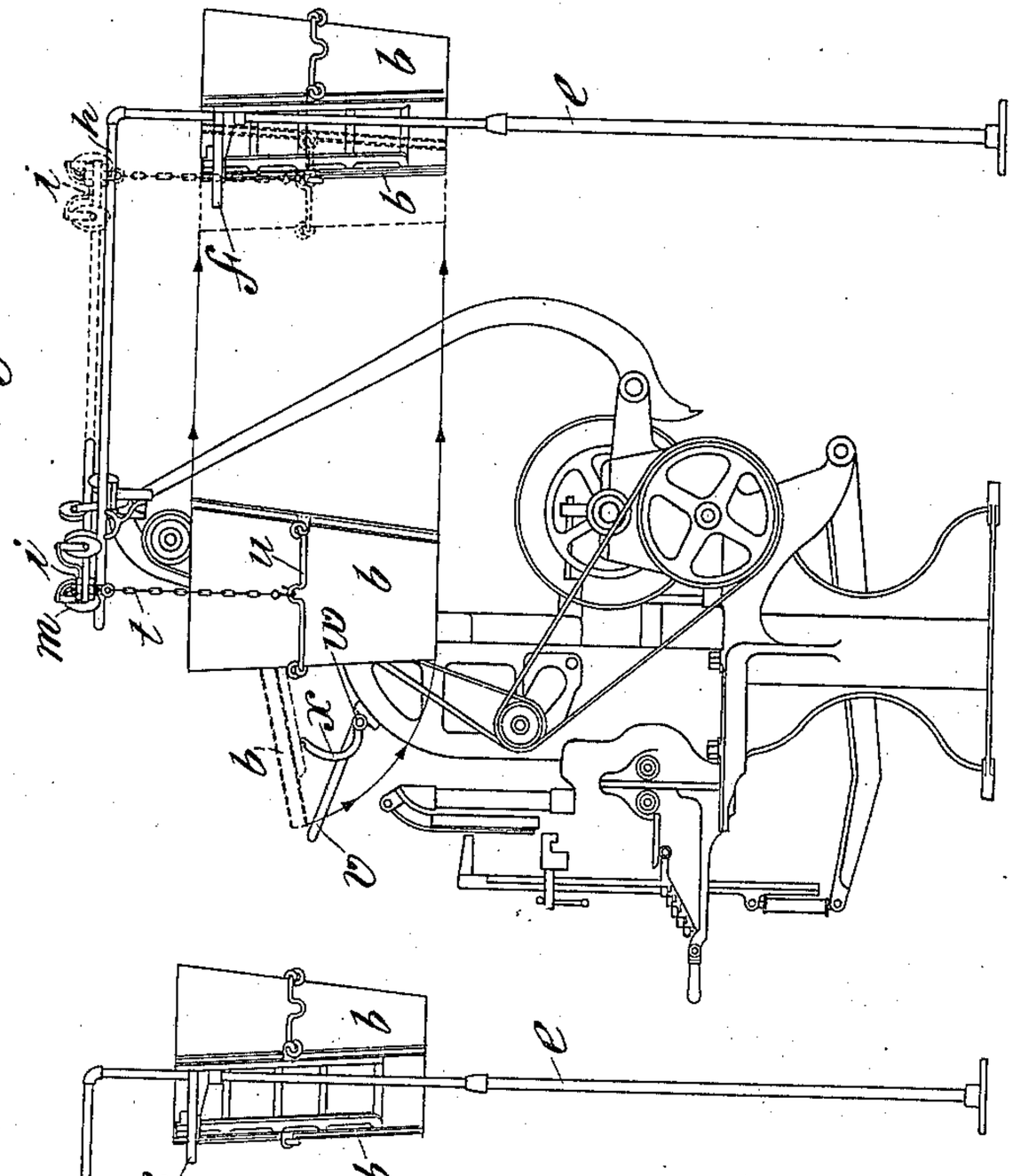
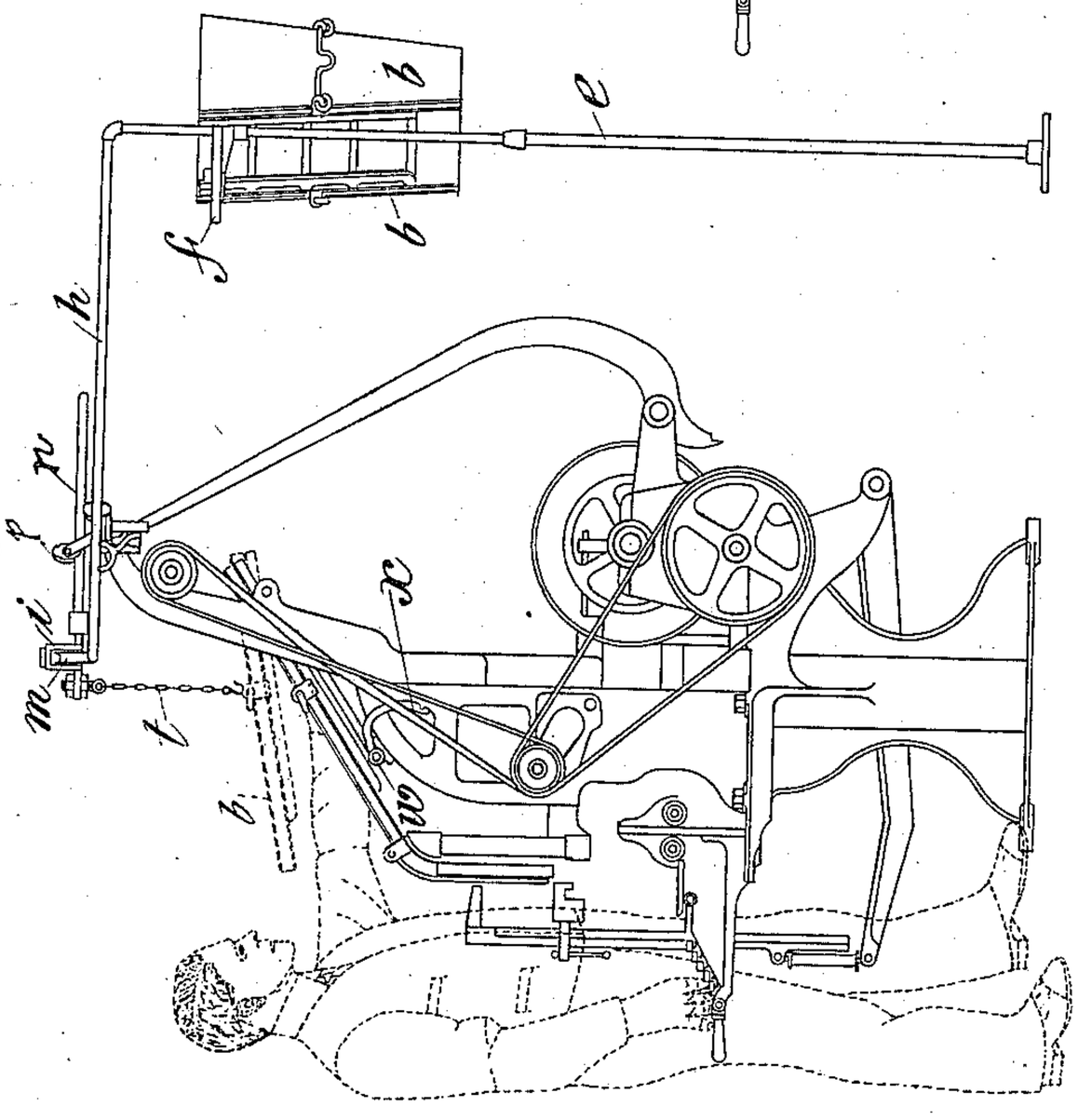


Fig. 2.



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4 SHEETS—SHEET 3.

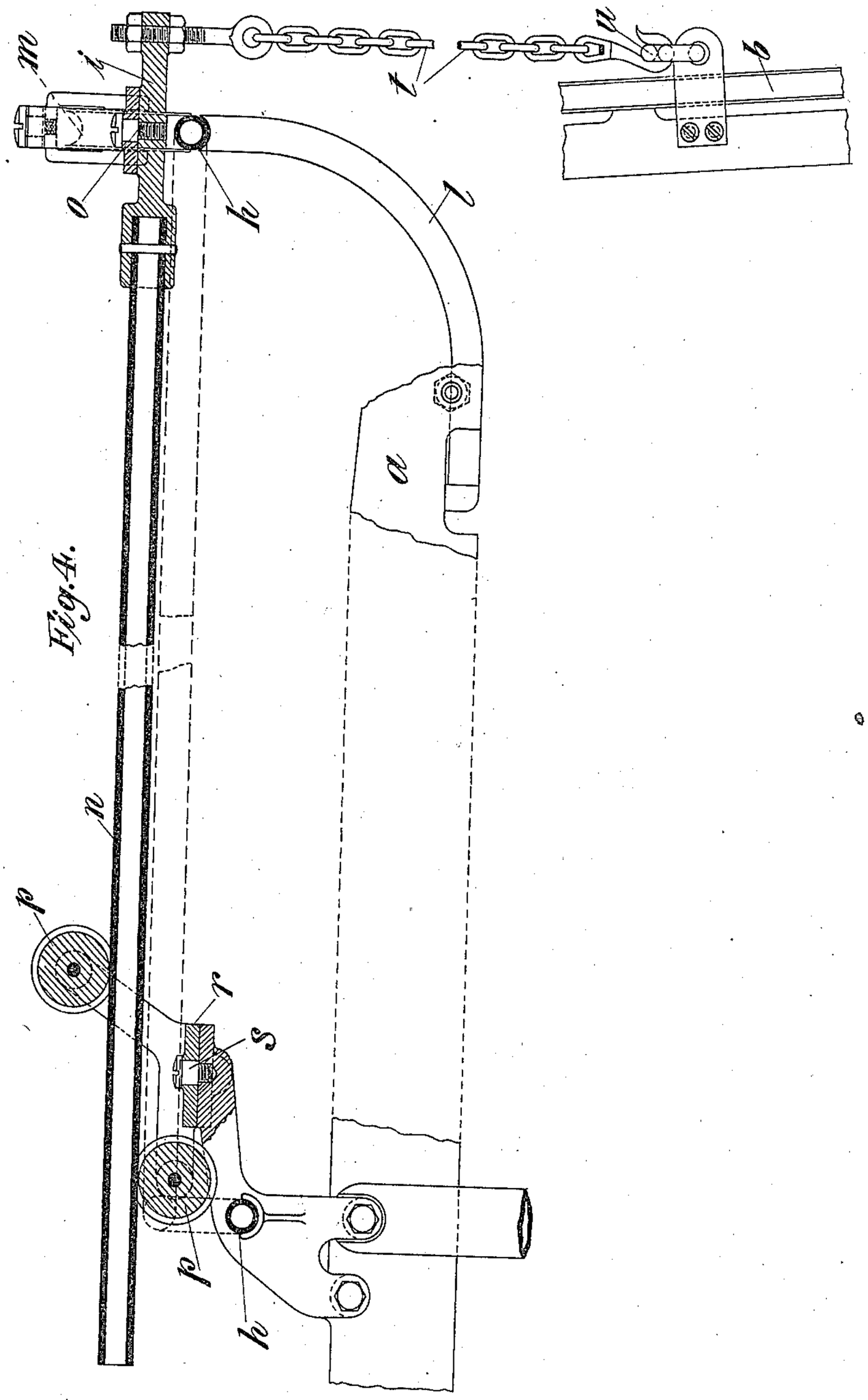

Fig. 4.

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4 SHEETS—SHEET 4.

Fig. 5.

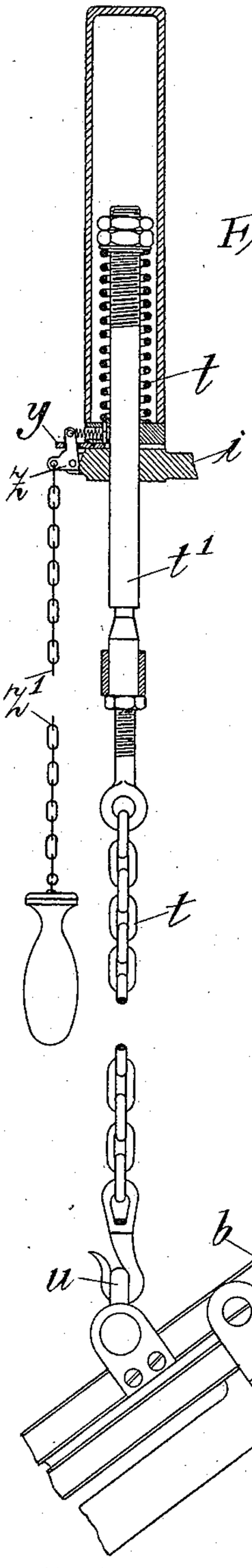
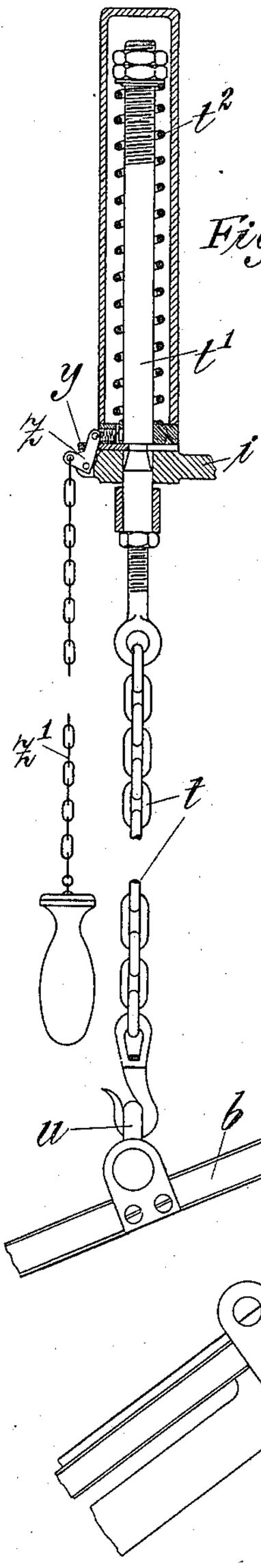


Fig. 6.



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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.

963,077. Specification of Letters Patent. Patented July 5, 1910.

Application filed January 20, 1908. Serial No. 411,609.

To all whom it may concern:

Be it known that I, WILLIAM HERMANN SCHARF, of the city of Montreal, in the Province of Quebec and Dominion of Canada, have invented certain new and useful Improvements in or Relating to 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 provide a device for use in connection with linotype machines and the like by means of which a magazine may be placed upon a linotype machine or removed therefrom with ease and despatch and without any substantial lifting on the part of the operator or attendant, and by means of which the change from one magazine to another may be facilitated and a storage afforded for magazines containing fonts which are constantly in use and which therefore should be within easy reach.

In accordance with the improvements, a carrier for conveying a magazine into or from its operative position is arranged to travel upon suitable means to and from the storage and a point directly over the operative position of the magazine whereby the latter may be transferred to and from its operative position with a minimum of lifting. Moreover, means are provided to raise the magazine slightly from its operative position whereby it may be conveniently engaged by the carrier in such a position as to be removable from the machine without interference therewith. A storage frame is arranged preferably at the rear of the machine so that the transferring of the magazine from its operative position to the storage necessitates the carrying of the magazine slightly toward one side of the machine to clear the machine and then directly back to the storage. For this purpose a track is provided extending from one side of the machine to the other directly over the operative position of the magazine and then curving so as to extend back to the storage frame, and a form of carrier has been devised to travel smoothly upon such a track and at the same time to offer a stable support for a magazine.

The invention will be more fully described hereinafter with reference to the accompanying drawings in which,

Figure 1 is a view in front elevation of enough of a linotype machine and the improved attachment thereto, Figs. 2 and 3 are views in side elevation. Fig. 4 is a detail view partly in section illustrating more particularly the construction of the carrier, and, Figs. 5 and 6 are views partly in section and partly in elevation, showing an extensible device for securing a magazine to a carrier, which is designed to be employed particularly where more than one magazine is to be removed.

In the drawings, the linotype machine is intended to be shown merely in a conventional manner and with the exception of a few of its parts need not be specifically referred to. The distributer support *a* is shown as sustaining most of the weight of the magazine *b* which, when in operative position, as shown in Fig. 1, rests with its forward end sustained upon the frame of the machine *c* above the matrix channels *d*.

The magazine storage, which in the present case is at the rear of the machine, may comprise an upright support *e* which has a storage frame or bracket *f* supported and preferably rotatable thereon, such frame or bracket being adapted to sustain one or more magazines through the medium of the hooks *g* which are generally provided upon magazines of certain types for engaging the distributer support frame when in operative position upon a machine.

Between the distributer support and the machine is a track *h* and a carrier *i* through the medium of which the magazines are transferred from the storage to the machine and vice versa. This track is arranged so as to bring the carrier directly above the operative position of the magazine for the purpose already specified, and Fig. 1 illustrates the particular position of the carrier referred to. It will be seen that as the magazines is to move to the rear of the machine in order to reach the storage, it will first have to be swung clear of the machine by a sidewise movement before its rearward movement can take place. The track *h* therefore extends from one side of the machine to the other above the operative position of the magazine and then is curved and extends directly backward to the storage frame. This track is supported at one end upon a bracket *k* which is secured to the dis-

tributer frame *a* and at the other end upon the top of the upright support *e*, being also supported at or near its curved portion by a bracket *l* which is also secured to the distributer support *a*.

The carriage comprises a frame (indicated by the letter *i*) to which the bearings of two wheels *m* are pivotally secured, and a rod *n* pivoted to the frame *i* at *o* and extending over the top of the machine and between two rollers *p* journaled in a bracket *r* which is mounted to turn freely about a vertical pivot *s*. As will be seen particularly from Fig. 4, the means for sustaining a magazine as it is transferred from the storage to the machine or vice versa may comprise a chain *t* which is supported from the forward end of the frame *i* of the carrier and from this figure it will be easily seen that the carrier will at all times have three points of support (the two wheels *m*, and either one of the rollers *p*) and will therefore serve at all times as a stable carriage for the magazines.

In removing a magazine from the machine by means of the improved device, the operator first hooks the chain *t* into the magazine *b*, or into a link *u* for instance, provided thereupon. For this purpose it is preferable to make the chain *t* too short to be hooked into the magazine when the latter is down in operative position so that when the magazine is suspended from the carrier it will be above its operative position and free of the machine. In connection with such short chain, means such as a lever *v* is preferably provided to raise the magazine for engagement with the chain, and in the present case this lever turns a shaft *w* having secured thereto an arm *x* through which the magazine is raised at its forward end to such a point as to permit the chain *t* to be hooked onto the same. Obviously only a comparatively slight movement of the magazine is required for this purpose. In this position (Fig. 2) the operator is able to push the magazine back so as to disengage the hooks *g* from the frame *a*. Then he pulls the magazine out from the frame *a* by a slight forward movement and at the same time pushes it toward the side of the machine causing the wheels of the carrier *i* to travel upon the track *h*. When the magazine reaches the side of the machine it may be caused to assume a practically vertical position (Fig. 3) by depressing the forward end thereof so that when it reaches the storage it is in position to be hung upon the bracket *f*. In returning the magazine to its position upon the frame, the exact reverse of the movements just described are followed.

Referring to Figs. 5 and 6, it will be seen that the chain *t* instead of being rigidly secured to the frame *i*, as is shown particularly in Fig. 4, is secured to the frame *i* in such a way that it may be extended to hook into the magazine and then drawn up again before the magazine is removed. The purpose of this arrangement is to permit a magazine, where there is more than one magazine upon the machine, to be drawn up to such a position as to be free and clear of the lower magazine and magazine frame upon its removal. In the present case the chain *t* is made extensible by being secured to a rod *t'* which is slidable in a suitable frame and which is provided with a stout spring t^2 coiled around the same and tending to maintain the rod in its raised position. When it is desired to hook the chain into a magazine, the chain is pulled down against the action of the spring t^2 and the end thereof is hooked into the magazine whereupon the magazine may be raised with very little effort, the spring t^2 counterbalancing considerable of the weight of the magazine and the rod *t'* and the chain *t* guiding the magazine as it is raised. When the magazine has been raised to its proper height, a latch, as indicated at *y* is preferably provided in order to engage a shoulder or the like in the rod to hold the rod and chain from extension during the removal of the magazine. A bell crank *z* with a handle and chain *z'* may be provided as a convenient means for withdrawing the latch *y* when it is desired to release the rod and extend the chain *t*.

In the drawings, only a portion of the magazines have been illustrated, the lower magazine being shown with a supporting frame underneath and the upper magazine being of very light construction and frameless.

Fig. 5 illustrates the relative positions of the magazines upon the machines and Fig. 6 shows the upper magazine elevated and in position to be removed.

Many changes may be made in the construction illustrated and described without avoiding the spirit of the invention.

I claim as my invention:—

The combination with a linotype machine, of a track and a carrier moving thereon for conveying a magazine into or from its operative position on the machine, said carrier comprising a frame, two wheels having their bearings in said frame and adapted to run upon said track, a pivoted bracket, a rod pivoted to said frame and movable in said bracket and means to support a magazine from the frame.

This specification signed and witnessed this ninth day of January, 1908.

WILLIAM HERMANN SCHARF.

Signed in the presence of—
R. H. TEARE,
LOU M. COX.