

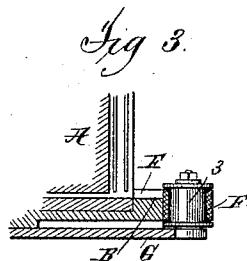
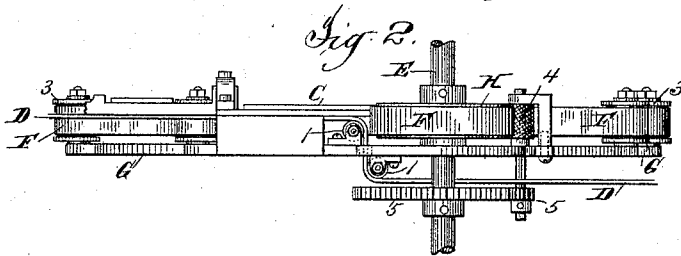
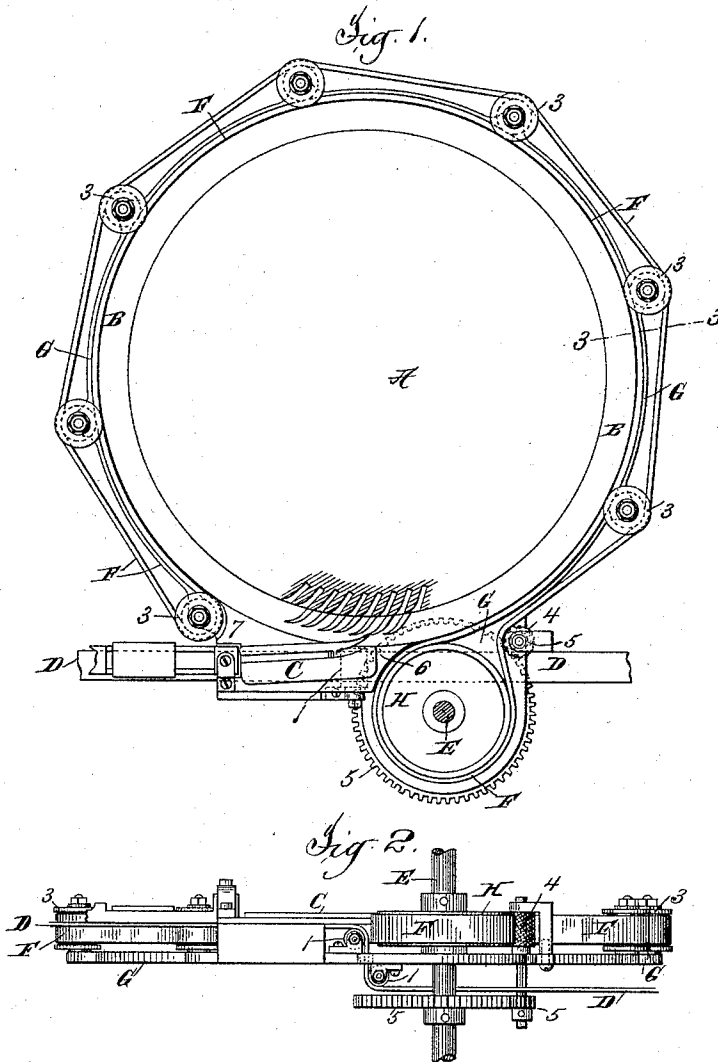
(No Model.)

2 Sheets—Sheet 1.

T. J. LUMIS.
TYPE SETTING AND DISTRIBUTING MACHINE.

No. 467,640.

Patented Jan. 26, 1892.



Attest:
Geo. H. Botto
C. J. Sawyer

Inventor
Thomas J. Lumis
Philip J. Munson & Phelps
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(No Model.)

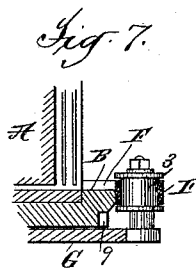
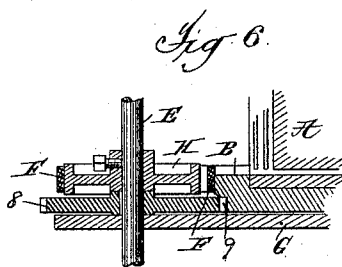
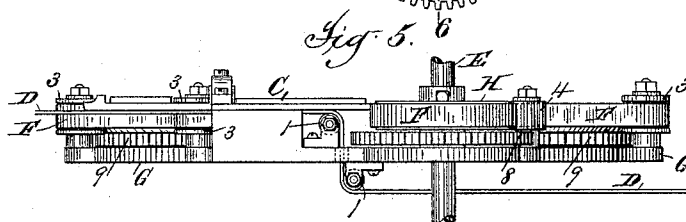
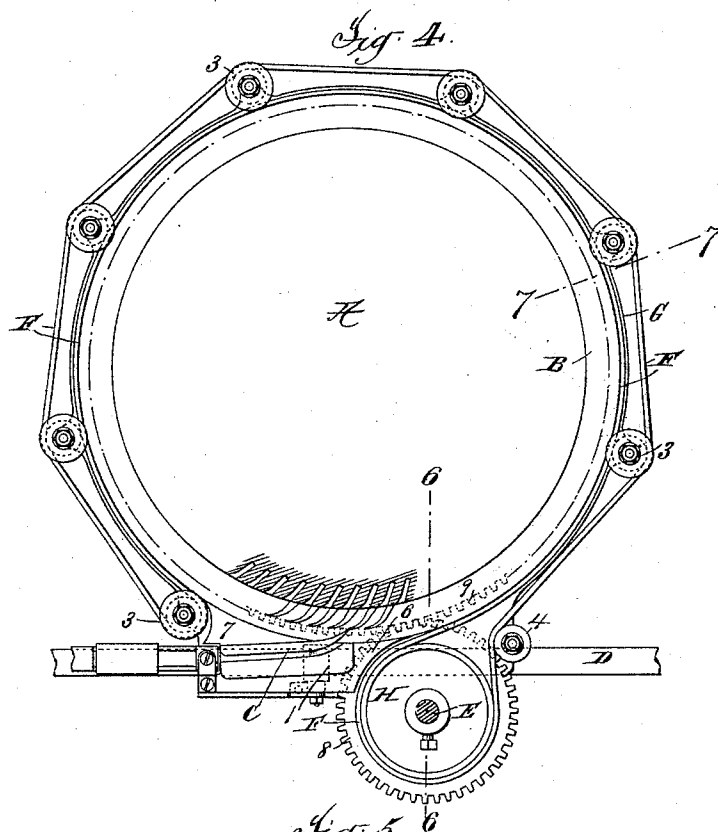
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

THOMAS J. LUMIS, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE THORNE
TYPE SETTING MACHINE COMPANY, OF JERSEY CITY, NEW JERSEY.

TYPE SETTING AND DISTRIBUTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 467,640, dated January 26, 1892.

Application filed August 24, 1891. Serial No. 403,537. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. LUMIS, a citizen of the United States, residing at Hartford, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Type Setting and Distributing Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of the present invention is to improve the construction of type setting and distributing machines, employing a rapidly-revolving type-carrying table, by which the type are advanced to the delivery devices for the line-forming or other mechanism.

While the improvements forming the invention are of general application in type setting and distributing machines employing such a revolving type-carrying table, they have been designed for use in a type-setting machine of the class shown and described in United States Letters Patent No. 232,157, 283,934, 372,186, 372,187, and 402,537, and will be described in connection therewith, the invention consisting in part of improvements on this machine.

In the machine shown in said Letters Patent the type are ejected from the channels of a cylindrical composing-case onto a rapidly-revolving table, from which as they arrive at the proper point they pass to the delivery devices, which consist of guides for directing the type from the table and a type-conveying belt, by which the type are advanced to the line-forming mechanism.

In the machine as heretofore constructed the type-carrying table is surrounded by a stationary guard, which consists of a rim of metal extending above the plane of the table sufficiently to hold the type thereon and cut away opposite the delivery devices to allow the type to pass from the table. It is desirable that the table should be run and the type advanced from the channels of the composing-case to the delivery devices at a very high rate of speed; but it is found that the highest speed is not attainable with the construction described because the centrifugal force resulting from the rapid rotary movement of the table throws the type outward against the stationary guard, and the drag of the type upon the guard checks their speed, so that

the full speed of the table is not attained by the type. The drag increases with the centrifugal force, and, consequently, with the speed of the table and in a higher ratio, so that it is impossible to secure a high rate of speed by increasing the speed of the table, the best results being attained with a comparatively low rate of speed. Moreover, the type are worn by their impact with the guard as they are thrown against it by the centrifugal force and by the drag upon the guard as they are advanced in contact therewith by the table.

In the application of Elbert J. Andrews, filed April 24, 1891, Serial No. 403,558, is shown and described means for avoiding these objections, which consists of a guard-belt moving with the table, this belt being carried outward from the table at the delivery devices and around an angular pulley above or below the latter, so as to permit the type to pass from the table to the delivery devices.

I provide an improved construction in which the result desired is attained by a guard-belt which does not pass the delivery devices, but is returned about the type-carrying table from opposite sides of the delivery devices, so as to avoid the latter, and is preferably employed to drive the type-carrying table, although the latter may be driven by other means, if preferred.

In the accompanying drawings, in which I have illustrated my invention in its preferred form in connection with a machine of the construction of the patents referred to, Figure 1 is a plan view looking down upon the type-carrying table and delivery devices, showing a portion of the composing-case in section, the construction shown being that in which the type-carrying table is driven by the guard-belt. Fig. 2 is a side elevation of the same. Fig. 3 is a section on the line 3 3 of Fig. 1. Fig. 4 is a similar view to Fig. 1, showing a construction in which the type-carrying table and guard-belt are driven independently. Fig. 5 is a side elevation of the construction shown in Fig. 4. Fig. 6 is a section on the line 6 of Fig. 4. Fig. 7 is a section on the line 7 of Fig. 4.

Referring to said drawings, it will be understood that A is the composing-case; B, the

revolving type-carrying table; C, the guides between which the type pass from the table; D, the type-conveying belt to which the type are delivered and by which they are advanced to the line-forming mechanism, and E the driving-shaft for the type-carrying table, the construction being substantially that of the patents above referred to except that the type-conveying belt D is carried below its normal position to avoid the guard-belt and is guided upward by pulleys 1 to its position for receiving the type.

Referring now to the parts embodying my invention, F is a guard-belt extending about and in contact with the periphery of type-carrying table B and extending above it sufficiently to hold the type thereon, this belt being guided by pulleys 3, mounted on projections of the base-plate G, and returned outside them from a point slightly in advance of the delivery devices.

In the construction shown in Figs. 1 to 3 the shaft E is not geared to the type-carrying table B, as in the construction of the patents above referred to, but is provided with a pulley H, by which the belt F is driven, the belt in turn driving the table.

I preferably employ a roll 4, engaging the outside of the belt just after it has passed over the pulley H and serving as a guide-roll, this roll being geared to shaft E by gears 5, thus being driven in the same direction as pulley H and at a higher rate of speed, and being roughened, as shown, so as to take up the slack and keep the belt taut about the table; or the same result may be attained with greater certainty by mounting the roll upon an eccentric-shaft, which is preferably spring-pressed to allow the roll to yield to differences of thickness in the belt. As shown in Fig. 1, the belt is so led as to leave but a short space between it and the guides C, between which the types pass from the type-carrying table, and this space is filled by a guide 6, a similar guide 7 filling the space on the opposite side of the guides C between them and the first pulley 3.

In Figs. 4 to 7 I have shown a similar construction, except that shaft E is geared to the type-carrying table by gears 8 9, as in the construction of the patents referred to, the guard-belt F being driven by pulley H, as before, but the roll 4 being in this case only a guide roll and not driven positively. It will be understood, also, that the table may drive the belt, although the latter will preferably be positively driven.

The operation of the construction will be understood without further description.

What I claim is—

1. The combination, with a revolving type-carrying table, of a guard-belt moving in the same direction as the table and returned about the table to leave a space for the passage of type from the table, substantially as described.

2. The combination, with a revolving type-carrying table, of a guard-belt returned about the table to leave a space for the passage of type from the table and by which the table is driven, substantially as described.

3. The combination, with a revolving type-carrying table, of guides by which the type are directed from said table, and a guard-belt moving in the same direction as the table and returned about the table from points on opposite sides of the guides, substantially as described.

4. The combination, with a composing-case, of a revolving type-carrying table receiving the type from the case, guides directing the type from the table, and a guard-belt moving in the same direction as the table and returned about the table from points on opposite sides of said guides, substantially as described.

5. The combination, with revolving type-carrying table B, of guard-belt F, shaft E and pulley H, by which said belt is driven, and guide-pulleys 3, about which the belt is returned, substantially as described.

6. The combination, with revolving type-carrying table B, of guides C, by which the type are directed from the table, guard-belt F, shaft E and pulley H on one side of said guides, by which the belt is driven, and guide-pulleys 3, by which the belt is returned from the opposite side of said guides, substantially as described.

7. The combination, with a revolving type-carrying table, of a guard-belt extending partially about said table, guide-pulleys about which said belt is returned, means for driving said belt, and a tightening-roll engaging said belt and driven in the same direction and at a higher speed than the belt, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

THOMAS J. LUMIS.

Witnesses:

ROBERT W. NELSON,
ELBERT J. ANDREWS.