(No Model.)

E. J. ANDREWS.

TYPE SETTING AND DISTRIBUTING MACHINE.

No. 467,631. Patented Jan. 26, 1892.

Fig. 1.

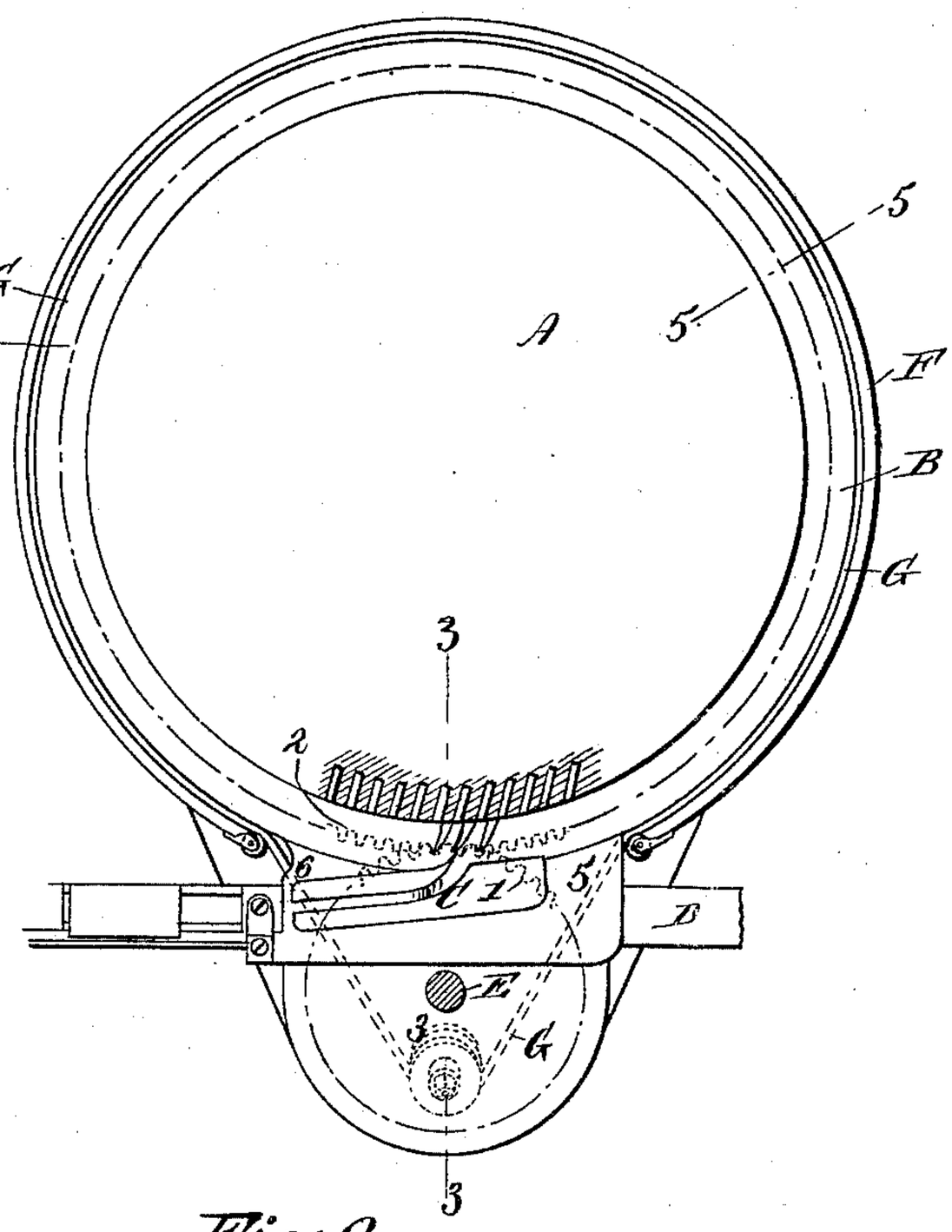


Fig. 5.

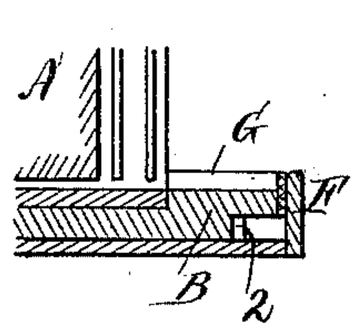


Fig. 2.

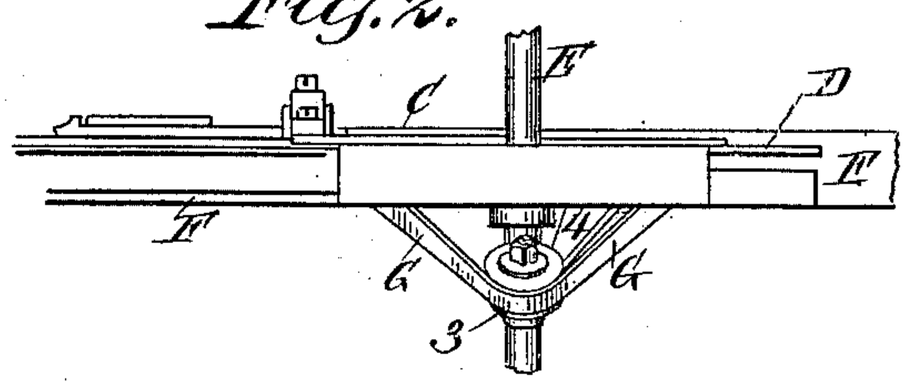


Fig. 3.

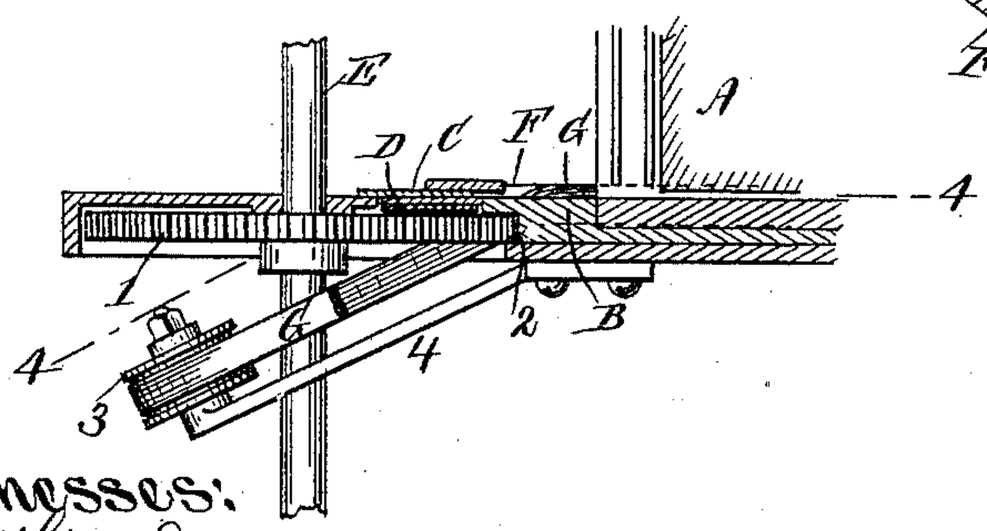
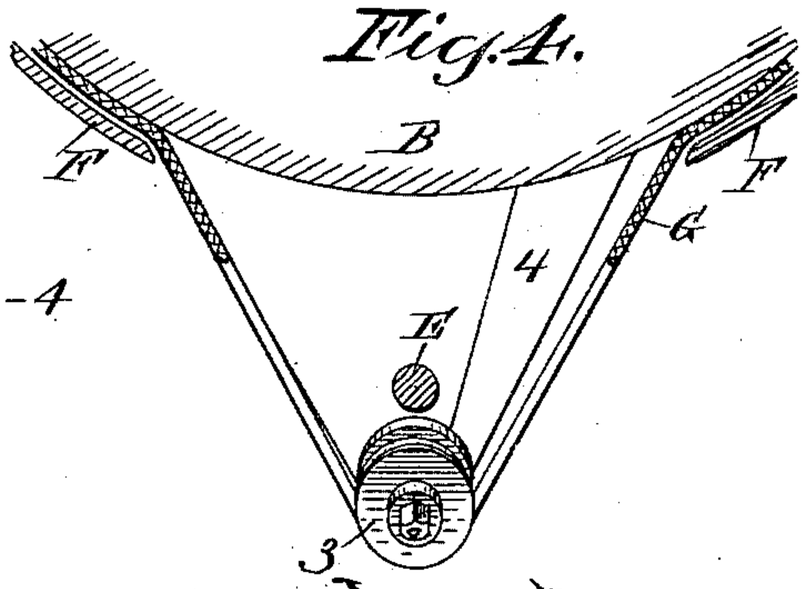


Fig. 4.



Witnesses:
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Attys

UNITED STATES PATENT OFFICE.

ELBERT J. ANDREWS, 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. 467,631, dated January 26, 1892.

Application filed August 24, 1891. Serial No. 403,550. (No model.)

To all whom it may concern:

Be it known that I, ELBERT J. ANDREWS, 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, dated September 14, 1880, No. 283,934, dated August 28, 1883, No. 372,186 and No. 372,187, dated October 25, 1887, to Thorne, and No. 402,537, to Nelson, dated April 30, 1889, 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 type-carrying table, from which, as they arrive at the proper point, they pass to the delivery devices, which consist of guides by which the type are directed from the table and a type-conveying belt, by which they are advanced to the line-forming mechanism. 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. I avoid these objections and attain a rate of speed of the type which depends solely upon the speed of the moving parts by employing a guard moving with the table and preferably at the same rate of speed, and I preferably form this movable guard by a belt of leather or similar yielding material, so that the type are not worn by impact as they are thrown against the belt by the centrifugal force of the revolving table.

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 above referred to, Figure 1 is a horizontal section taken above the revolving type-carrying table and delivery devices, showing a portion of the composing-case in section. Fig. 2 is a side elevation of the same. Fig. 3 is a section on the line 3 of Fig. 1. Fig. 4 is a section on the line 4 of Fig. 3. Fig. 5 is a section on the line 5 of Fig. 1.

Referring to said drawings, it will be understood that A is the composing-case; B, the revolving type-carrying table driven from the shaft E by gears 1 2; C, the guides by which the type are directed from the table, and D, the type-conveying belt to which the type are directed by the guides and by which they are advanced to the line-forming mechanism.

The construction thus far described is that of the patents above referred to, and the type-carrying table B is shown as surrounded by the rim F, as in those patents. This rim, however, does not form the guard in the present case; but a belt G surrounds the edge of the type-carrying table and projects above it to about the top of the rim, so as to form the guard by which the type are held upon the

table. This guard-belt G may be supported and guided in any suitable manner, so as to avoid the delivery devices and permit the type to pass from the table. I have shown the belt as led downward at the delivery devices, so as to pass below them, and guided by an angle-pulley 3, carried by a bracket 4. It will be understood, however, that the belt may be led above the delivery devices, if preferred, or arranged in any other suitable manner, so as to permit the type to pass freely from the table. The short space between the guard-belt and the guides C is filled by guides 5 6, forming continuations of the guard.

In the construction shown the guard-belt is driven by the type-carrying table; but it will be understood that this construction may be varied and that the belt may be driven independently of the table or the table may be driven by the belt. The belt and table, however, will preferably move at the same or approximately the same rate of speed, although this is not absolutely essential. It will be understood that the rim F is not essential, but that it may be omitted and the belt led about the table without any exterior guide.

While I have shown only the preferred construction employing a guard-belt, this forming a very simple and convenient construction and one in which the wear upon the type is largely avoided, it will be understood that my invention is not to be thus limited, but that I may substitute therefor a guard of any other construction separate from and moving in the same direction as the table.

What I claim is—

1. The combination, with a revolving type-carrying table, of a guard separate from the table and moving in the same direction as the table, substantially as described.

2. The combination, with a revolving type-carrying table, of a guard-belt moving in the same direction as the table, substantially as described.

3. The combination, with a revolving type-carrying table, of a guard-belt driven by the table, substantially as described.

4. The combination, with a composing-case, of a revolving type-carrying table receiving the type from the composing-case, a guard separate from the table and moving in the same direction as the table, and guides for directing the type from the table, substantially as described.

5. The combination, with a composing-case, of a revolving type-carrying table receiving the type from the composing-case, a guard-belt moving in the same direction as the table, and guides for directing the type from the table, substantially as described.

6. The combination, with a composing-case, of a revolving type-carrying table receiving the type from the composing-case, a guard-belt driven by the table, and guides for directing the type from the table, substantially as described.

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

ELBERT J. ANDREWS.

Witnesses:
ROBERT W. NELSON,
THOMAS J. LEWIS.