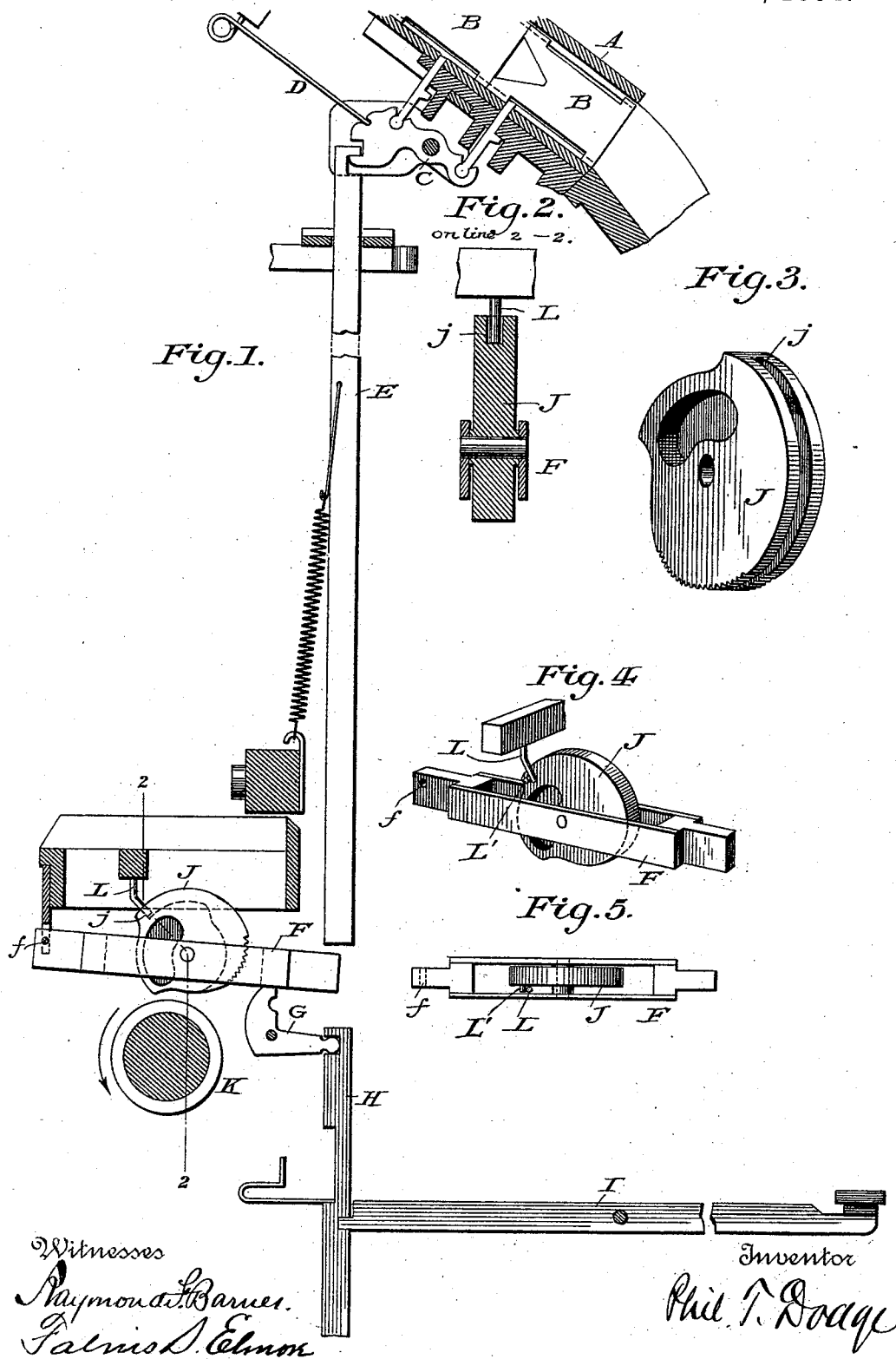


(No Model.)

P. T. DODGE.
LINOTYPE MACHINE.

No. 530,931.

Patented Dec. 18, 1894.



UNITED STATES PATENT OFFICE.

PHILIP T. DODGE, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO
THE MERGENTHALER LINOTYPE COMPANY.

LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 530,931, dated December 18, 1894.

Application filed April 20, 1893. Serial No. 471,103. (No model.)

To all whom it may concern:

Be it known that I, PHILIP T. DODGE, a citizen of the United States of America, and a resident of Washington, District of Columbia, have invented certain new and useful Improvements in Linotype-Machines, of which the following is a specification.

This invention relates to improvements in finger-key mechanisms such as are employed in the Mergenthaler linotype and in analogous machines, for effecting the discharge of matrices or types from magazine channels in which they are contained.

In order that there may be a positive action of the parts, that a slight depression of the keys may insure the delivery of the matrices and that the matrices may be delivered with certainty in the order in which the keys are touched and at intervals corresponding to the times occurring between the action of the successive keys, it is customary to employ the finger keys simply for the purpose of unlocking the power driven mechanism through which the escapements or delivery devices are actuated. It is to this class of devices, first represented in Letters Patent of the United States, issued to me on the 6th of January, 1891, No. 444,294, and embodied in another form in the present Mergenthaler linotype machine, that the present invention relates.

I have represented my improvement as applied to a special form of key-board mechanism, shown in the application of Letters Patent of Ottmar Mergenthaler, filed April 17, 1893, Serial No. 470,790. In that mechanism each of the escapement-actuating rods is in turn actuated by a rising and falling lever carrying a cam overlying a continuously-running roll, but held normally out of contact with the roll by means of a spring-actuated pin sliding through the cam, so that when the lever, which is held normally in an elevated position, is released by a finger key it will fall and allow its cam to ride upon the roller by which it is rotated and to lift the lever above its normal position so as to positively actuate the escapement.

The object of the present invention is to do away with the pins and their actuating springs, and to this end it consists in constructing each cam with a stationary shoulder

arranged to encounter a fixed stop when the cam and lever are in their elevated or inactive positions.

I do not claim as my invention the key-board cams provided with stop pins sliding therethrough, as shown in said Mergenthaler application, the same being, to the best of my knowledge, the invention of said Mergenthaler.

Figure 1, is an outline elevation showing my key mechanism complete. Fig. 2, is a cross section of the same on the line 2—2. Fig. 3, is a perspective view of the cam. Fig. 4, is a perspective view showing the stop device in another form, and Fig. 5 is a top view of the cam and lever shown in Fig. 4.

Referring to the drawings:—A, represents an inclined magazine in which the matrices B, are stored, and through which they descend by gravity to be delivered at the lower end.

C, represents the escapement consisting of a centrally-pivoted lever provided with two upright pawls which are thrust upward into the magazine alternately by the vibration of the lever, so as to discharge the matrices one after another.

D, is a spring bearing on the rear end of the escapement and serving to hold forward the pin normally in an elevated position.

E, is a vertically-guided rod having its upper end engaged with the escapement lever for the purpose of lifting the same and reversing its position to effect the discharge of the matrices.

F, is a lever mounted at one end on a horizontal pivot *f*, and lying at the opposite end beneath the rod E. It is sustained normally in the position shown in Fig. 1 by means of an angular pivoted dog G, the opposite end of which is engaged with a vertically-sliding bar H, which is in turn engaged by one end of the finger key lever I. The lever F, is slotted longitudinally to receive a cam J, mounted on a horizontal pivot, so that it may revolve freely within the lever.

K, is a horizontal rubber-covered roller lying beneath the cam and revolving constantly in the direction indicated by the arrow. The cam is provided in its periphery with a notch or shoulder *j*, and the frame is provided with

a stationary pin or stop L, standing in such position that when the lever and cam are elevated as in Fig. 1, the shoulder of the cam will rest against this stop pin, whereby the cam is prevented from falling or turning down so as to contact with the roller. The shoulder or notch is formed in the outmost portion of the cam and on its lighter side.

When the finger key is actuated the dog G, releases the lever F, which falls, allowing the cam to drop out of engagement with the stop L, and into engagement with the underlying roller. The friction of the roller upon the cam causes the latter to revolve so that it acts to lift the lever F, above its normal position and actuate the rod E and escapement. As the cam continues its rotation the lever falls to its original position and is there arrested by the dog G. The momentum of the cam causes it to rotate or throw over to its original position so that having been raised in the meantime it engages with the stop L, as in the first instance.

Instead of forming the stop shoulder in the middle of the cam face as above described, the cam may be provided with a stud or projection L' on one side to encounter the stationary stop as represented in Figs. 4 and 5.

The essence of my invention lies in combining with cams operating substantially as described, a stationary stop or shoulder to prevent their rotation until the finger key is actuated, and it will be obvious to a skilled mechanic that these parts may be varied in form and arrangement to a very great extent

without departing from the scope of the invention.

Having thus described my invention, what I claim is—

1. In a type discharging mechanism, the combination of a constantly driven roller, a lever, a cam carried by said lever, and provided with a stationary shoulder and adapted to engage with the roller, a detenting mechanism to prevent the advance of the lever and cam toward the roller, and a stationary stop to arrest the rotation of the cam.

2. In combination with the escapement and its actuating rod, the lever F, its cam having a stationary stop or shoulder, a constantly driven roller to actuate the cam, a stationary stop to arrest the rotation of the cam, and a finger-key mechanism controlling the movement of the cam carrying lever.

3. In a type discharging mechanism, and in combination with a constantly driven roller, a lever, a cam mounted on the lever and provided with a stationary shoulder within the line of its periphery, a detenting mechanism to prevent the advance of the lever and cam toward the roller, and a stop to engage the shoulder of the cam and arrest its rotation.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 14th day of April, 1893.

PHILIP T. DODGE.

Witnesses:

RAYMOND F. BARNES,
THOS. KILVERT.