

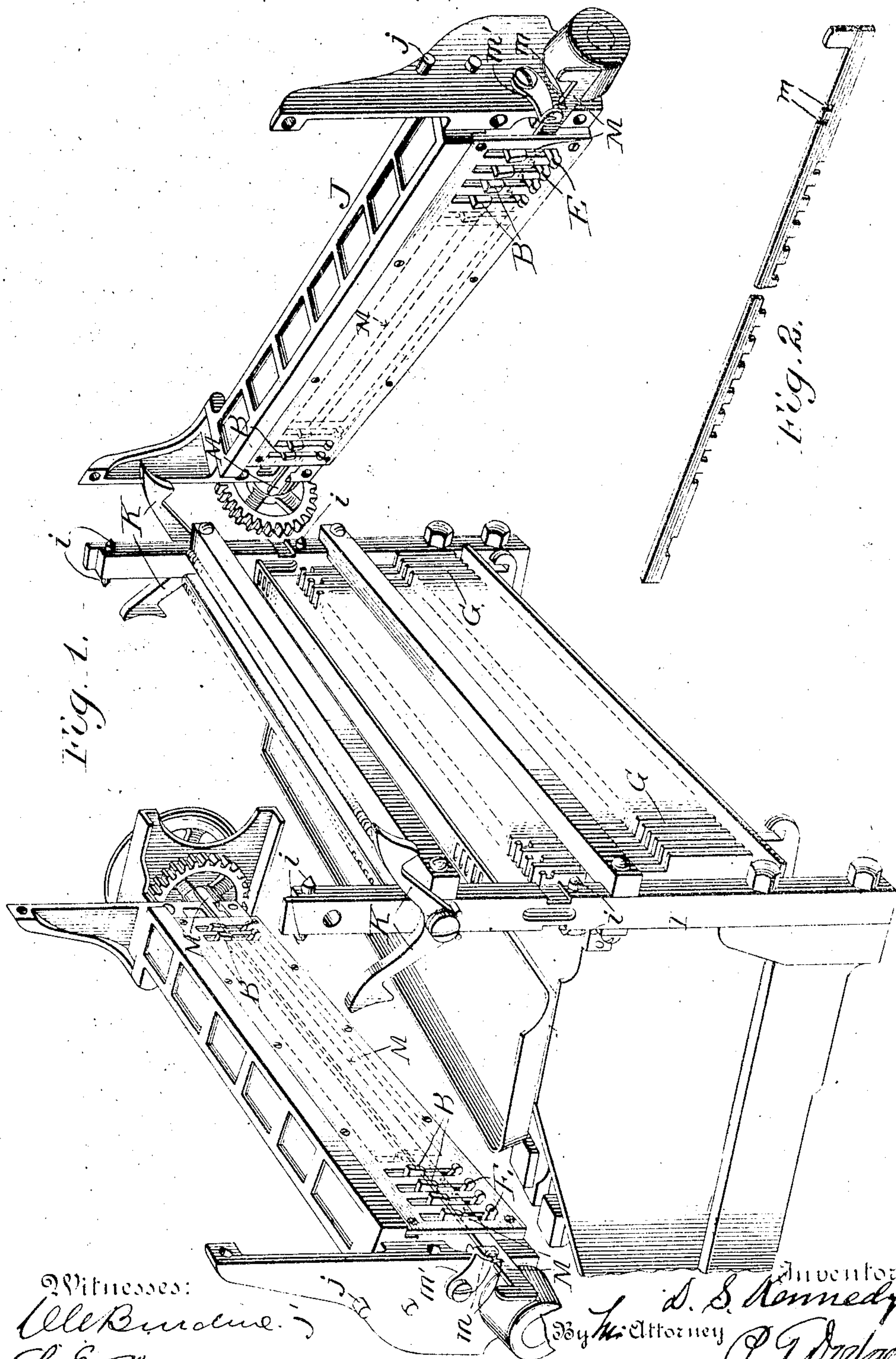
No. 888,177.

PATENTED MAY 19, 1908.

D. S. KENNEDY.  
LINOTYPE MACHINE.

APPLICATION FILED MAR. 24, 1908.

2 SHEETS—SHEET 1.



Witnesses:  
W. B. Burdette  
L. E. Thompson

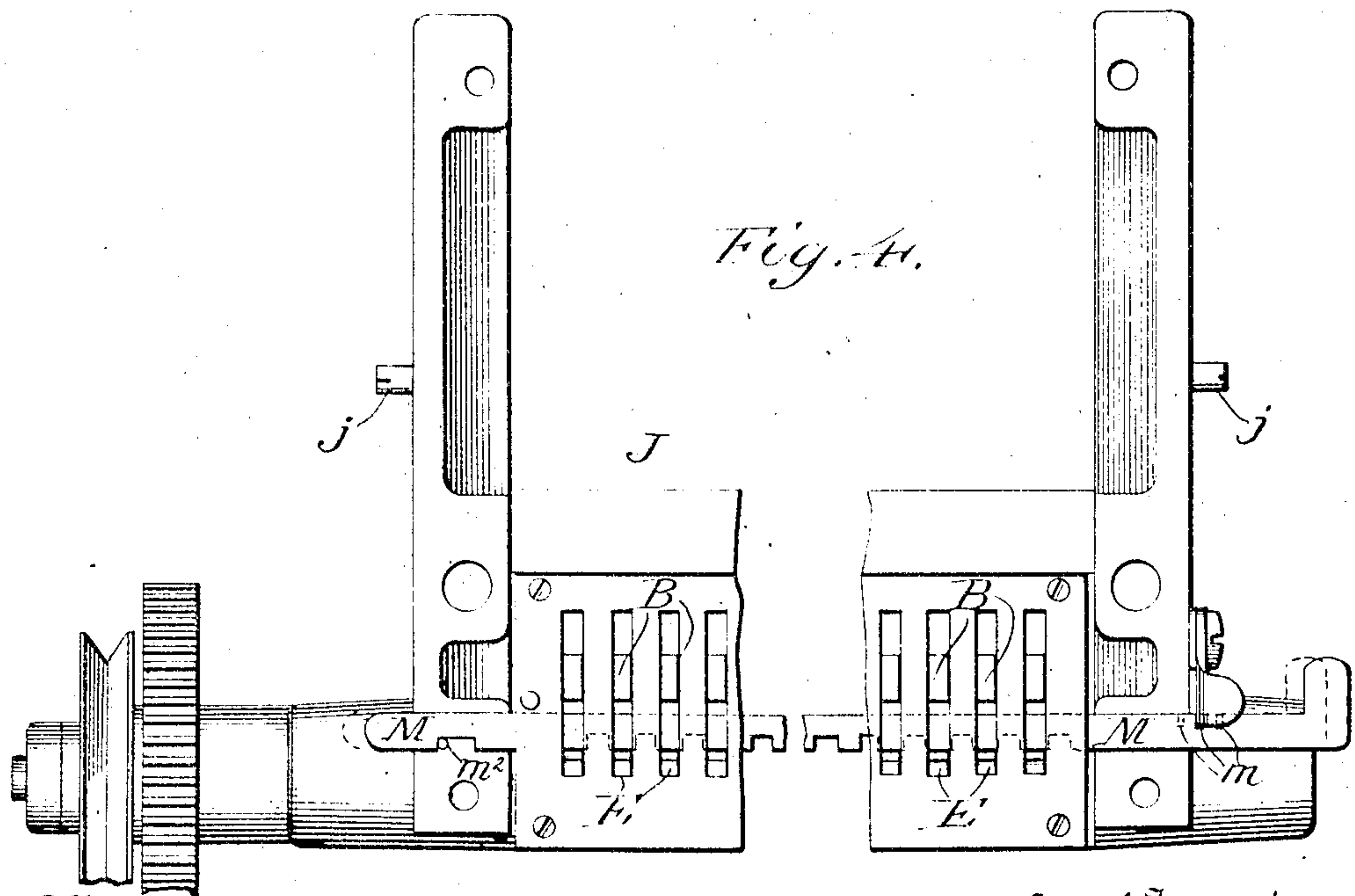
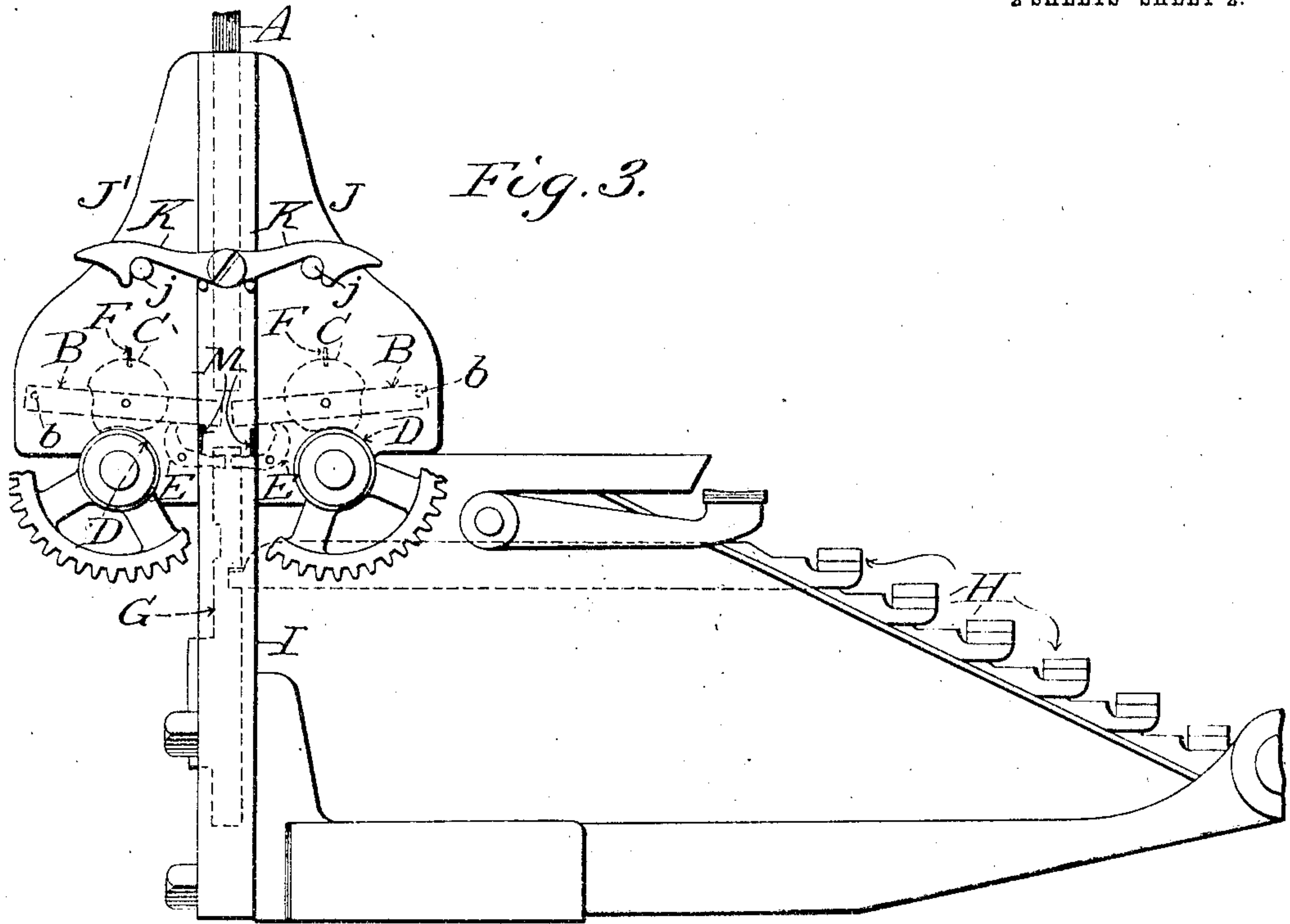
Inventor  
D. S. Kennedy  
By Attorney  
P. J. Dodge

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Witnesses:  
W. C. Burdette  
L. E. Harrison.

Inventor  
D. S. Kennedy  
By Attorney P. T. Dodge



# UNITED STATES PATENT OFFICE.

DAVID S. KENNEDY, OF BROOKLYN, NEW YORK, ASSIGNOR TO MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

## LINOTYPE-MACHINE.

No. 888,177.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed March 24, 1908. Serial No. 422,871.

*To all whom it may concern:*

Be it known that I, DAVID S. KENNEDY, of borough of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

This invention relates to finger-key mechanism, commercially known as a keyboard mechanism, of the character shown in Letters Patent of the United States to P. T. Dodge, #530,931, used for operating the escapements which release the matrices in Mergenthaler line-casting machines. In this mechanism, the escapement-actuating reeds are lifted by underlying pivoted yokes which carry lifting cams arranged to ride upon underlying continuously driven rubber rolls, the fall of the yokes and the contact of the cams with the rolls being controlled by finger-keys. The various parts of this mechanism are of such character that they require to be inspected, cleaned and lubricated at reasonable intervals. Heretofore, the framework supporting the operating parts has been built up in such manner that access to the interior was not easily obtained.

My invention consists in a construction which permits the instantaneous removal of the yokes and cams in series so that they may be conveniently dealt with away from the machine, and so that the reeds and their connections, although accessible, remain in their operative positions in the machine.

My invention also consists in improved means for locking the finger-keys to prevent their accidental movement.

In the drawings,—Figure 1 is a perspective view of the keyboard constructed in accordance with my invention, the two members which sustain the reeds, yokes, etc., being removed from the central frame in which the reeds are sustained. Fig. 2 is a perspective view of one of the locking bars. Fig. 3 is an end elevation of the mechanism with the parts in operative position. Fig. 4 is a view on a larger scale, of the inside of the keyboard cam frame, looking in the direction of the arrow, Fig. 1, and showing the locking strip in position to hold the triggers.

Referring to the drawings, A represents a row of vertically guided reeds by which the escapements of the magazine are actuated.

B, B, represent a series of cam yokes arranged in two series, their outer ends being

pivoted at *b, b*, and their inner ends arranged beneath the successive reeds A for the purpose of lifting the same.

C, C, are vertical cams, pivoted one in each of the yokes.

D, D, are horizontally continuously rotating rubber rolls arranged one beneath each row of cams C.

E, E, are angular levers or triggers arranged to sustain the inner ends of the yokes B above their lowermost positions for the purpose of holding the cams C normally out of contact with the underlying rolls, the cams at such time being prevented from rotating by stationary stop-pins F in the frame.

G are vertically guided bars connected one to each of the triggers, and also connected one to each of the finger-key levers H. When a finger key is depressed, it will cause the bar G and the trigger E to release the end of the yoke B, which falls until its cam C encounters the underlying roll. The frictional engagement between the roll and cam causes the latter to turn. By reason of its irregular or eccentric form, the cam in turning, lifts the yoke to or above its normal position, causing it in turn to lift the reed A. As the yoke falls, it is arrested in its original position by the trigger E at or about the same time the cam C is held from rotation by the stop pin, and thus kept out of contact with the roll. The foregoing parts are all of essentially the same construction as in the patent referred to.

In carrying my improvement into effect, I mount the reeds A and slides G in a fixed vertical central framework I, having horizontal guides to receive them, so that they may be maintained in their operative positions in the machine and in proper relation to each other after the other parts of the mechanism are removed.

For the purpose of supporting the rolls, the cam yokes, and the triggers, I provide two subsidiary frames J and J', which are removably secured to opposite sides of the frame I. These two subsidiary frames, which are preferably alike in form, are constructed as shown, with the necessary bearings for the rolls, and vertical guides and supports for the yokes and triggers. Each of the subsidiary frames with the contained parts constitutes a unitary structure which may be applied to and removed from the



machine at will without disturbing the relation of the contained members. The subsidiary frames are preferably made as shown, with vertical faces to fit against the central frame, which is provided with dowel-pins *i*, to enter corresponding holes in the removable frames, so that when these frames are applied to the central frame, the yokes and the triggers will be brought in proper relations to the reeds A and slides G. The subsidiary frames may be secured in position by any means which will admit of their instantaneous disconnection. I prefer to employ for the purpose gravitating hooks K pivoted at their inner ends to the central frame and arranged to engage at their outer ends over pins or studs *j* on the removable frames.

The foregoing construction will admit of either set of yokes and the cooperating parts being instantly removed from the machine and instantly re-applied without disorganizing or disarranging the other parts.

When the subsidiary frames are removed, it is desirable to prevent the triggers E from being actuated so as to permit the fall of the yokes, as this would, to an extent, interfere with the speedy restoration of the parts to the machine. I therefore mount in each of the subsidiary frames, over the lower ends of the triggers, a transverse sliding bar M, notched in the under side so that when in one position, with the notches overlying the triggers, the latter are permitted to operate, and when in another position, with the notches out of line with the triggers, the latter are locked from movement. These bars are set in the last-named position before the removal of the frames. When the parts are in position on the machine, these locking bars serve also, through the triggers, as a means of locking the finger-keys so that there is no danger of the matrices being accidentally released.

For the purpose of locking the bars M in their operative and inoperative positions, I propose to provide them each in the upper side with notches *m* to receive pivoted latches *m'* on the ends of the frames J, as shown in Figs. 1 and 4. The movement of the bars M may be limited and their accidental removal prevented by means of fixed studs *m<sup>2</sup>* seated in the frame and entering

notches on the bars, as shown in Figs. 1 and 4.

It will of course be understood by the skilled mechanic that the subsidiary frames may be modified in form, and that they may be secured by fastening devices other than those shown, provided the mode of action and the results herein described are retained.

Having thus described my invention, I claim and desire to secure by Letters Patent,—

1. In a keyboard mechanism of the class described, a central frame provided with guides for the vertical reeds and slides, in combination with the instantly removable subsidiary frames applied thereto, and means for securing said frames in position, each subsidiary frame containing a roll, a series of cam yokes, and a series of triggers.

2. In combination with the fixed central frame I and vertically guided reeds therein, the subsidiary frames J each containing a roll, cam yokes and triggers, means for locating said frames in relation to the main-frame, and manual devices for securing the subsidiary frames in position and permitting their instantaneous release.

3. In a machine of the class described, the fixed central frame with vertical slides therein, in combination with the instantly detachable subsidiary frames each containing a roll, a series of yokes, a series of triggers, and means for locking the triggers in series.

4. In a machine of the class described and in combination with a stationary frame containing vertical slides, an instantly removable subsidiary frame, said subsidiary frame containing a roll, a series of cam yokes, a series of triggers, and a sliding notched bar to lock the triggers.

5. In a keyboard mechanism of the class described, an independently removable frame containing a series of cam yokes and triggers, and means for locking the same in position for restoration to the machine.

In testimony whereof I hereunto set my hand this twelfth day of March, 1908, in the presence of two attesting witnesses.

DAVID S. KENNEDY.

Witnesses:

JOHN R. ROGERS,  
JESSIE J. SMITH.