

(No Model.)

G. F. LOAR.

ATTACHMENT FOR TYPE WRITING MACHINES.

No. 471,872.

Patented Mar. 29, 1892.

Fig. 1.

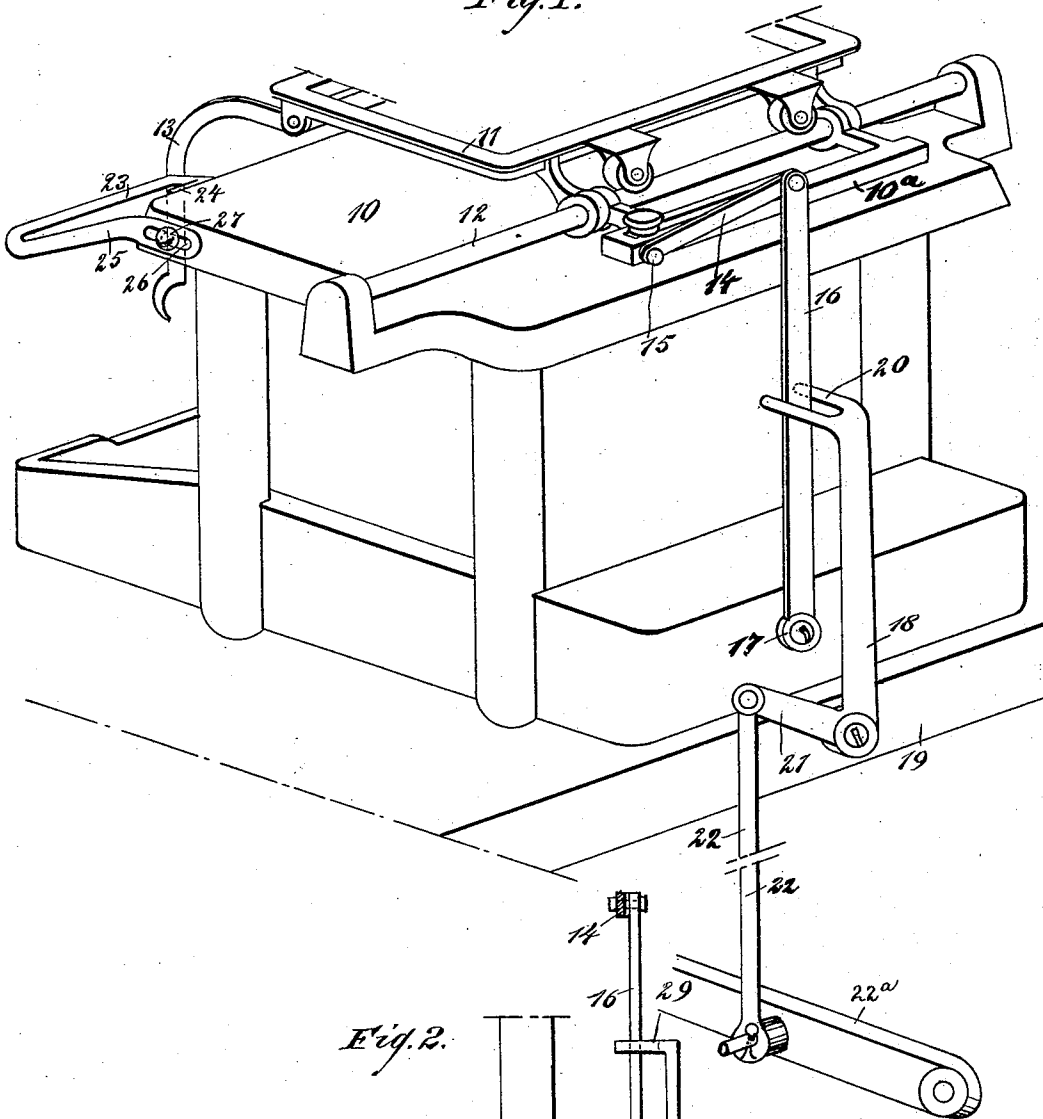
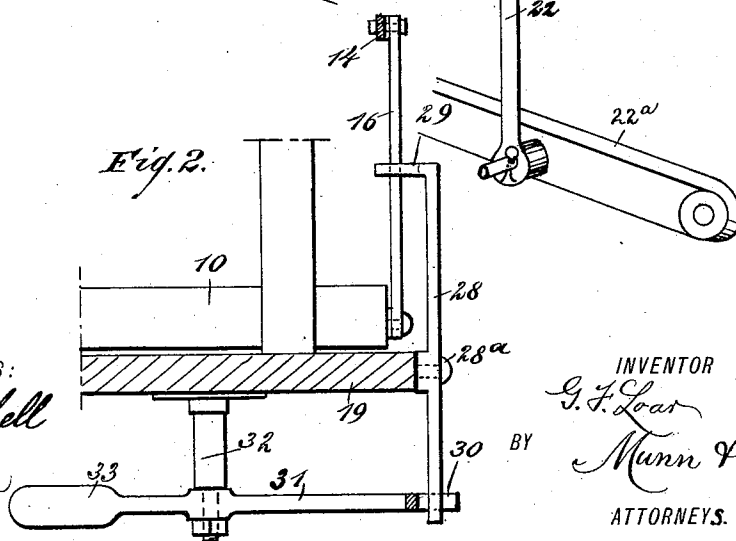


Fig. 2.



WITNESSES:

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ATTACHMENT FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 471,872, dated March 29, 1892.

Application filed June 29, 1891. Serial No. 397,882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. LOAR, of Gibson City, in the county of Ford and State of Illinois, have invented new and Improved
5 Attachments for Type-Writing Machines, of which the following is a full, clear, and exact description.

My invention relates to improvements in type-writer attachments; and the object of
10 my invention is to produce a simple mechanism for operating the machine to make the necessary line-spaces, which mechanism may be easily applied to any variety of type-writer and may be worked by the foot or knee of the
15 operator, so as to enable him to keep his fingers upon the keys and his eyes upon the copy, and thus do his work rapidly and well.

To this end my invention consists in certain features of construction and combinations of
20 parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate
25 corresponding parts in both views.

Figure 1 is a broken perspective view of a type-writer provided with my improved attachments, the view being taken from the rear; and Fig. 2 is a broken detail sectional
30 view, partly in elevation, showing the mechanism for operating the attachments by the knee.

The type-writer 10 is of common form and is provided with the usual carriage 11, which
35 moves upon the track 12, and which has on the front side and at one corner the usual depending line-space lever 13, which is raised to turn the feed-cylinder and advance the paper which is being printed upon the necessary
40 line-space. The carriage has an extension 10^a, which projects behind the track 12, and is pivoted to the back portion of this extension near one end, as shown at 15, is a short rod 14, which at its opposite end is pivoted to the
45 upper end of a swinging arm 16, which is arranged vertically on the back side of the machine and is pivoted at its lower end to the machine-frame, as shown at 17.

A bell-crank lever 18 is pivoted on the table
50 19, upon which the type-writer rests, the lever being pivoted so that it will align with the

swinging arm 16, and the upper or long arm of the bell-crank lever is bent inward at its upper end and formed into a fork 20, which embraces the arm 16. The lower arm 21 of
55 the bell-crank lever is pivoted at its free end to a rod 22, which extends downward behind and beneath the table 19 and is adapted to connect with an ordinary treadle 22^a, so that
60 when the treadle is moved downward the bell-crank lever will be tilted and will operate the arm 16 and move the carriage, with which the arm is connected.

On the front of the machine 10 and at the upper right-hand corner is a cam-like frame
65 23, one end of which is formed into a flange and secured to the front of the top portion of the frame 10, as shown at 24, and the opposite end of the cam-like frame is bent inward, as at 25, and is slotted near the end, as
70 shown at 26, and this slotted portion rests against one side of the machine-top and receives the screw 27, by means of which the slotted end is held in position. The slot in
75 the cam-like frame 23 permits it to be adjusted out and in, so as to make any desired space between the lines on the paper.

The operation of the attachments is as follows: The paper is arranged upon the feed-roll and the carriage is fed to one side in the
80 usual way, and when a line has been printed the operator steps upon the treadle 22^a, thus pulling down the rod 22 and swinging the upper arm of the bell-crank lever 18 to the right, and this movement of the bell-crank pushes
85 upon the arm 16 and carriage 11, thus moving the carriage to the right-hand end of the machine and bringing the line-space lever 13 against the cam-like frame 23. When the lever 13 strikes the frame 23, it is forced out-
90 ward, thus giving it a swinging movement and causing it to rotate the feed-cylinder in the usual way, and it will be readily understood that the lever and cylinder may be given a greater or less movement, according
95 as the frame 23 is held farther out or in upon the machine-frame 10, and consequently the distance between the lines may be nicely adjusted.

In Fig. 2 I have shown means for moving
100 the carriage and operating the line-space lever by a movement of the knee. In this case a

lever 28 is pivoted at 28^a on the back of the table 19, so as to align with the swinging arm 16, and, if necessary or desirable, the lever may be pivoted on the machine-frame. The
5 upper end of the lever 28 is bent inward, as shown at 29, and formed into a fork, which embraces the swinging arm 16, and the lower end of the lever projects below the table 19 and enters the forked end 30 of a horizontal
10 lever 31, which extends forward beneath the table 19, is centrally pivoted on a depending hanger 32, and terminates in a knee-piece 33, against which the knee of the operator is pushed, and by pressing upon this piece with
15 the knee the lever 31 may be swung, thus tilting the lever 28 and moving the arm 16 and carriage 11 so as to bring the line-space lever 13 in contact with the cam-like frame 23, as already described.
20 If desired, the bell-crank lever 18 may be pivoted directly upon the machine-frame, and the attachments above described may be secured to a type-writer of any kind without departing from the spirit of my invention; the
25 necessary changes in the parts being merely in form and not in principle.

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

1. The combination, with the type-frame 30 and the carriage provided at its right-hand front corner with the depending pivoted line-space lever 13, adapted to rotate the paper-cylinder, of the cam-like frame 23 in the path
35 of the lever 13, having a flange 24 at its inner end secured to the front edge of the frame 10, and an inward-bent arm 25, slotted at 26 and bolted to the end edge of the frame, as at 27, substantially as set forth.

2. The combination of the type-frame, the 40 sliding carriage 11, provided with the depending line-space lever at its outer right-hand corner; the vertically-swinging lever 16, pivotally connected at its upper end with the rear end of the carriage, a horizontally-swinging knee-
45 lever 33 31, pivoted between its ends, and the vertically-swinging lever 28, having a fork at its upper end embracing the lever 16 and pivotally connected at its lower end with the rear
50 end of the knee-lever, with the cam-like frame secured to the front right-hand corner of the frame in the path of the depending line-space lever to throw said arm and turn the paper-cylinder, substantially as set forth.

GEORGE F. BOAR.

Witnesses:

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