(No Model.)

W. S. CRESS.

TYPE WRITING MACHINE.

No. 510,409. Patented Dec. 12, 1893.

Fig. 1

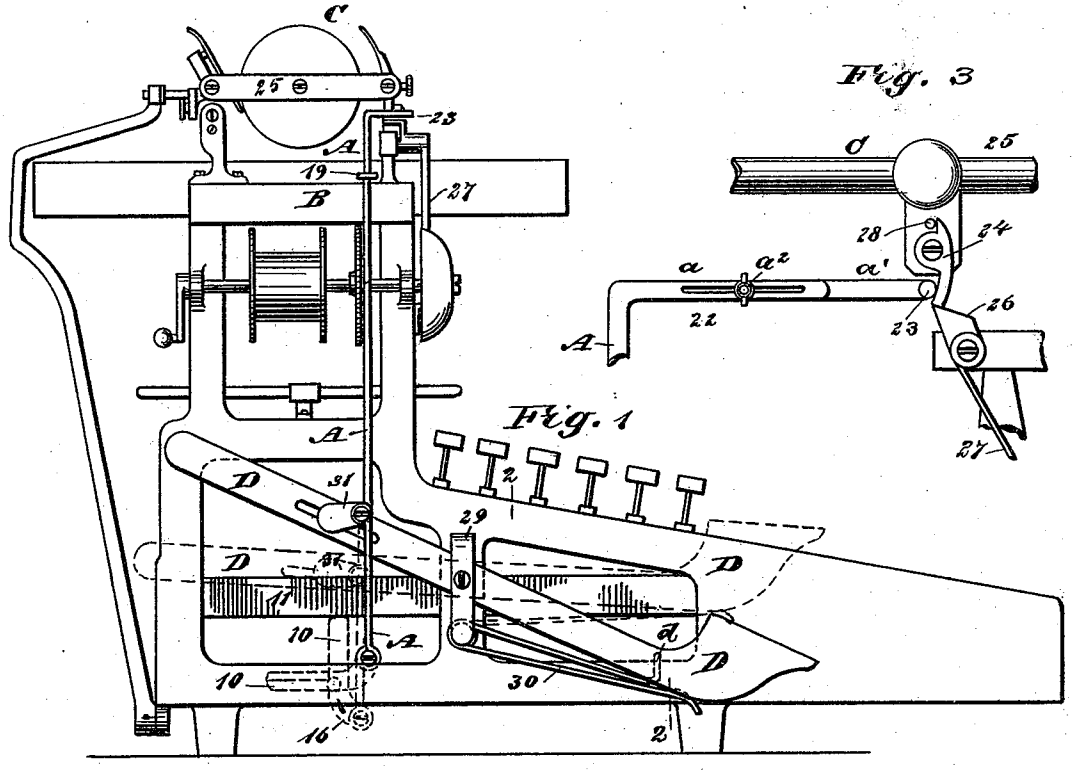


Fig. 3

Fig. 2.

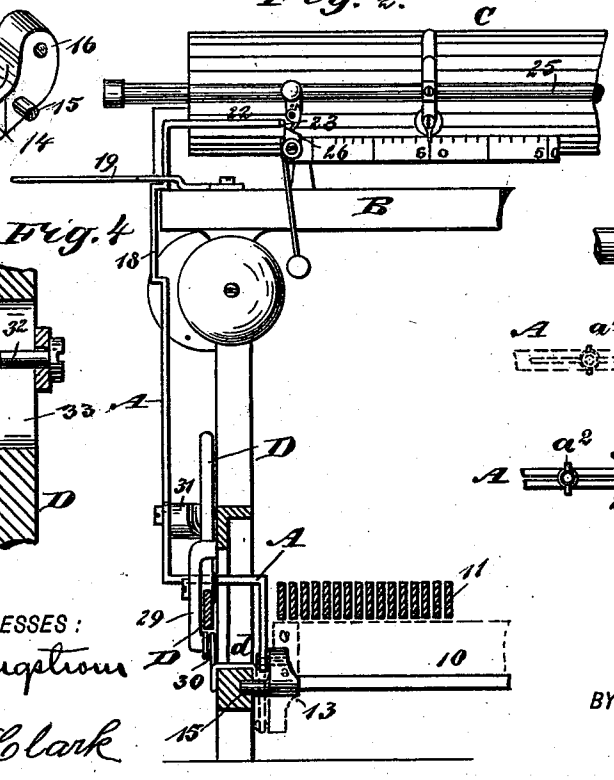


Fig. 5

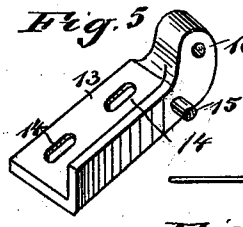


Fig. 4

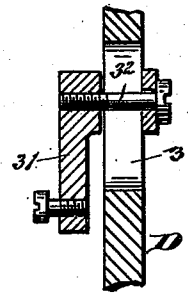


Fig. 6.

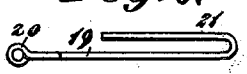
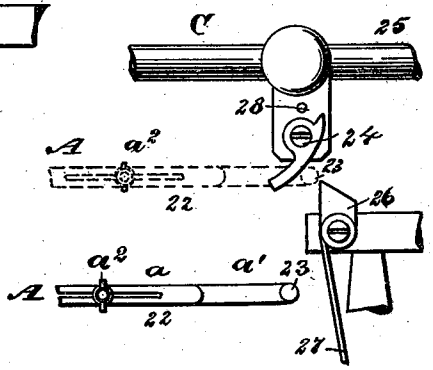


Fig. 7.



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TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 510,409, dated December 12, 1893.

Application filed June 8, 1892. Serial No. 435,922. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. CRESS, of Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Improvement in Type-Writing Machines, of which the following is a full, clear, and exact description.

My invention relates to an improvement in type-writers, or type-writing machines, and has for its object to provide an improved attachment whereby should the operator fail to hear the alarm bell which usually sounds when the end of a line is reached, the attachment will be automatically brought into action to form a complete barrier for the key levers, rendering it impossible to operate such levers, and by this means the operator is saved the trouble of erasing matter at the end of a line unduly crowded, or not properly placed.

Another object of the invention is to provide an improved attachment for type-writing machines which will stop the operation of the key levers when a proper number of words has been written upon a line, and further to so construct the attachment that the operator may ascertain whether one or more words may be conveniently added to the line, or a portion of a word, without destroying the appearance of the page, and whereby such observation may be quickly and conveniently made, and, again, whereby when a word, or a portion of a word is to be added at the end of a line, the attachment may be readily manipulated in a manner to admit of the insertion of such matter. The attachment is capable of application to any machine, the principal operative parts being adjustable.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

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

Figure 1 is a side elevation of a caligraph, illustrating the application thereto of the device. Fig. 2 is a vertical section taken practically on the line 2—2 of Fig. 1. Fig. 3 is a detail view illustrating the attachment as about to be operated upon by the trip mechanism of the carrier. Fig. 4 is a detail section through a portion of the setting lever. Fig. 5 is a detail perspective view of the head portion of the locking bar of the device. Fig. 6 is a plan view of a guide used in connection with the latch rod of the device; and Fig. 7 is a detail view of the carriage trip mechanism, a portion of the bell clapper and upper end of the latch rod, the latter being shown in dotted lines in an upper position, and in positive lines in its lower position.

A locking bar 10 is located beneath the key levers 11 of the machine, extending transversely beneath all of the levers, as shown in Figs. 1 and 2. This bar is preferably made essentially rectangular in cross section, but may be given any desired shape and may be of any approved material, wood being usually employed. At each end of the bar it is provided with a head 13, the head being of metal, and extends each across one face of the bar, the heads being adjustably attached to the bar by means of screws or similar devices; and to that end the heads have longitudinal slots 14, produced therein, as shown in Fig. 5. Each head near one end upon its outer face, is provided with a trunnion 15, and through the medium of these trunnions the locking bar is pivoted beneath the key levers, as the trunnions of the heads enter and turn in suitable openings in the frame of the machine. One of the heads adjacent to the trunnion is provided with a crank arm 16, shown best in Figs. 1 and 5, and when the locking bar is in operative position, said position being shown in dotted lines in Fig. 1, the crank arm extends downward and forward.

In connection with the locking bar a latch rod A, is employed, made of any material but preferably of spring metal, and the lower end of the rod is attached in any approved manner to the crank arm 16 of the locking bar. The latch rod is of such length that when the locking bar is in its inoperative or horizontal position, said rod will extend upward some distance beyond the upper face of the upper frame section B, or that section of the frame of the machine over which the carriage C, has movement.

The locking bar or latch rod may be given

any shape that the character of the machine to which it is to be applied may demand. When applied to a caligraph the latch rod or bar is provided near its upper end with a depression forming a keeper section 18, best shown in Fig. 2, and normally the upper edge of the keeper is adapted to rest upon the upper portion B of the frame, as is likewise shown in the said Fig. 2. The upper portion of the latch rod slides vertically in a guide, 19, which is secured upon the frame piece, B, and projects beyond the end of the same as shown in Fig. 2. This guide is preferably constructed (as shown in plan view, Fig. 6) of a wire bent upon itself at one end, to form the link-like portion 21, and having at the other end a circular eye 20. A screw is inserted through the latter to secure the device to the frame piece B, and the catch rod A works in the link-like portion 21, which prevents lateral motion but allows free movement in the other direction. In other words, the function of the guide 19 is to keep the upper end of the latch-rod in the path of a trip-dog 24 without otherwise restricting its movement for a purpose hereinafter stated.

Slightly above the upper portion B of the frame, the latch rod is carried horizontally inward over the frame, parallel with its front bar, forming a crank member 22; and at the extremity of this crank member the rod is bent at a right angle to the member outward transversely over the front upper bar of the frame section B, producing a second crank member 23. This crank member is adapted to be engaged by a trip dog 24, located upon the carriage 25, said trip dog being that employed for acting upon or tripping the head 26 of the bell clapper 27, the latter being such as is ordinarily employed in sounding an alarm to notify a person that the end of the line is being approached.

In order that the latch rod may be adjusted to any form of machine, and that the number of spaces between the bell-alarm and the time of locking may be regulated to suit the convenience, or taste, of the operator, the upper intermediate crank section 22, is made in two parts a and a', as shown in Figs. 3 and 7, the two members being held to slide one upon the other, and connected by a set screw a^2. The dog 24, normally hangs some distance away from its stop pin 28, as shown in Figs. 2 and 7; and when the dog is in this position its lower end inclines decidedly downward and in direction of the end of the machine to which the attachment is applied. By the action of the dog upon the upper portion of the latch rod, the latter is to be freed at proper time from its seat upon the upper frame section B, and is to be forced downward to bring the locking bar to a vertical position and prevent the movement of key levers. The latch rod is assisted in its downward movement, and is carried upward to its normal position through the medium of a setting lever D. This setting lever is fulcrumed upon a bracket 29, preferably attached at one side of the frame of the machine, as shown in Fig. 1. The forward end of the lever is constructed somewhat as are the keys, that is, it terminates at its forward end in a knob, or the equivalent thereof. A spring 30, controls to some extent the movement of the setting lever. This spring is secured to the frame at one end, as shown at d in Figs. 1 and 2, is carried from its attachment to the frame and is coiled around a portion of the bracket, and from thence the spring is carried forward, its other end having a bearing against the under portion of the setting lever near its forward end. The tendency of this spring is to force the setting lever to a horizontal position, as shown in dotted lines in Fig. 1. Instead of the spring illustrated, however, any approved form of spring may be used. At this point it may be well to remark that the latch bar A, that is that portion of it between the guide 19 and the point of attachment of the bar to the lever D, must be more or less elastic and so constructed that it will bear hard against the frame in order to maintain its keeper section at rest upon the frame B when the latch is raised; and at the same time the elasticity of the latch rod or bar should be sufficient to allow the dog 24, to push it off of its rest as the carriage moves to the left. A crank 31, is attached to the vertical portion of the latch rod, and the said crank is adjustably secured to the setting lever back of the fulcrum of the latter. The adjustable connection between the setting lever and the latch rod is used in order that the attachment may be conveniently applied to any form of machine, and ordinarily a set screw 32, is passed through the crank 31 and through a slot 33, formed in the setting lever.

When the machine to which the attachment is applied is in position for working, the latch rod is elevated so that its keeper 18, is supported by the frame B. The rod at this time will be carried up a sufficient distance to bring the locking bar to a horizontal position, in which position it will not interfere with the action of the key levers, and the upper end of the latch rod will be in the path of the trip dog 24 of the carriage, while the setting lever will be held in a downwardly and forwardly inclined position, shown in Fig. 1, compressing its spring 30. The very moment after the alarm is sounded by the trip dog engaging with the alarm mechanism, the dog is brought into engagement with the upper end of the latch rod and this rod is thereby forced outward or to the left, freeing the keeper section of the rod from engagement with the frame section B of the machine; and the moment that this disengagement takes place, the spring of the setting lever acts to force that lever upward, carrying the rear end of the lever downward, and as this portion of the lever is connected with the latch rod, the latch rod, also, is simultaneously forced downward and the locking bar is brought to a ver-

tical position beneath all of the key levers, and the keys of the machine are rendered inoperative.

It is not necessary that the operator should look at the copy as he will ordinarily remember the last letter written, and can proceed without observing the copy since he may be assured that the carriage will be in its proper place. If the operator should desire to view the copy and ascertain what words or part of a word, or what more matter can be or should be placed upon a line, he can readily do so. If more words are to be added, or a part of a word, the setting lever is pressed downward and the latch rod is elevated, carrying the locking bar out of engagement with the key levers. The lower end of the dog, when released from the crank arm, simply swings to the left enough to assume its normal position, in which position the arm of the latch rod—when the latter is raised—will come up behind the dog; and it is owing to this fact, that the carriage may be continued in its movement and more matter printed. That is to say, when the arm comes up behind the dog the keeper section of the latch will fall back on the rest, B, and the writing can be continued to the end of the line.

I desire it to be distinctly understood that in the process of locking and unlocking the carriage does not move. In other words, as the carriage moves to the left the dog engages the arm of the latch rod, which when carried far enough to the left to disengage it from its rest on the frame B, is instantly drawn down. The machine is then locked and everything stops. To proceed with the writing it is only necessary to press down the lever D, at which time the lock is removed, the carriage is still in proper position and the machine may be operated to continue its work without further delay. The entire process does not require more than a second of time.

With reference to the movements of the dog,—if in practice it is found desirable it may be controlled by a spring instead of being made to depend simply upon its own weight to swing it over the arm of the latch rod when released from it.

It will be observed that by the use of an attachment of the above character it is utterly impossible for an operator to crowd a line, as if the bell sounds and no attention is paid thereto, or in the event that the bell should not sound when a line is about to be completed, the attachment will automatically act to prevent further movement of the keys. This attachment is exceedingly simple, it is durable, and as heretofore stated it is applicable to type-writing machines of all kinds.

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

1. In a type-writing machine, the combination, with the key levers and a locking bar pivoted beneath the same, of a carriage, a trip mechanism located upon the carriage, a latch connected with the locking bar and located in the path of the trip mechanism, and a setting lever connected with the locking bar and the latch, and fulcrumed and arranged as specified whereby it is adapted to be operated manually like the ordinary spacing bar as and for the purpose set forth.

2. In a type-writing machine, the combination, with the key levers and a locking bar pivoted beneath said levers, capable of engagement therewith and of disengagement therefrom, of a carriage, the alarm trip mechanism of the carriage, and a latch rod connected with the locking bar, one end of which is in the path of the alarm trip mechanism, as and for the purpose set forth.

3. In a type-writing machine, the combination, with the key levers, a locking bar pivoted beneath the said levers, a carriage, a trip mechanism attached to the carriage, and a latch rod connected with the locking bar and extending upward within the path of the trip mechanism of the carriage, the latch rod having a keeper located between its ends, of a spring-pressed setting lever, fulcrumed on the side of the machine and an adjustable crank connection, substantially as shown and described between the setting lever and the latch rod, as and for the purpose set forth.

WILLIAM S. CRESS.

Witnesses:
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GEO. W. FILLOON.