April 7, 1953 D. K. JOHNSTON 2,633,965

AUTOMATIC CASE SHIFTING ATTACHMENT FOR TYPEWRITERS

Filed June 19, 1950

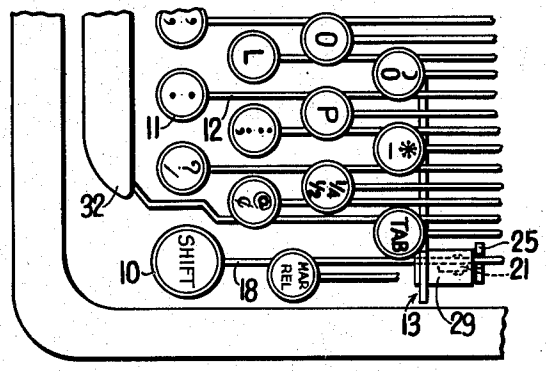


Fig. 1

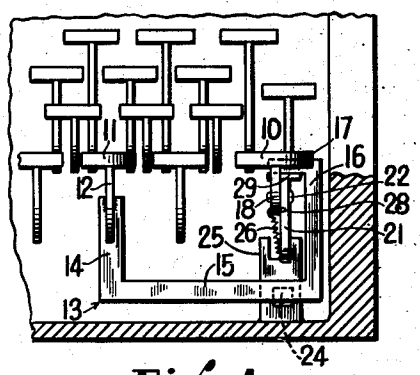


Fig. 4

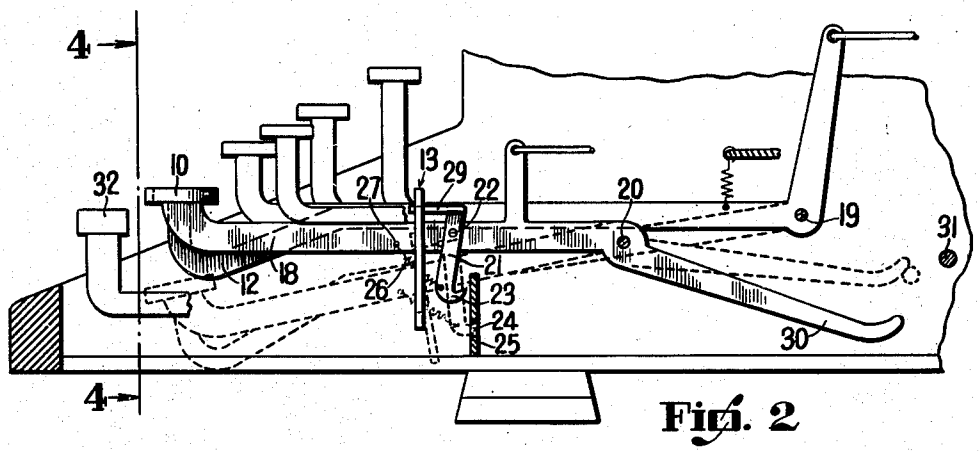


Fig. 2

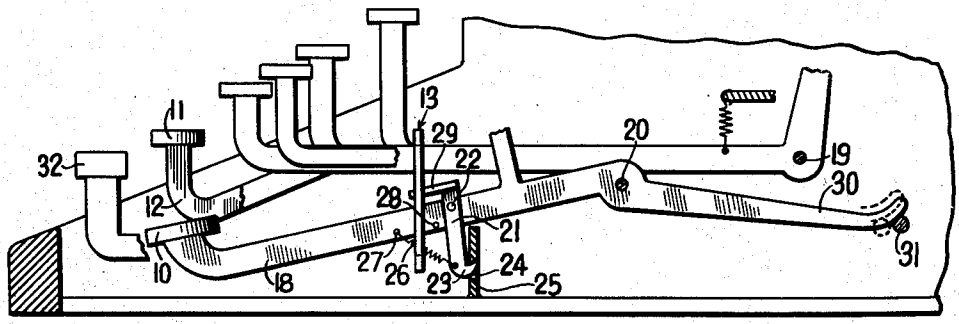


Fig. 3

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Patented Apr. 7, 1953 2,633,965

UNITED STATES PATENT OFFICE

2,633,965

AUTOMATIC CASE SHIFTING ATTACHMENT FOR TYPEWRITERS

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Application June 19, 1950, Serial No. 168,998

6 Claims. (Cl. 197—74)

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My invention relates to an automatic case shifting attachment for typewriters. It has to do, more particularly, with an attachment for a typewriter which will ensure the striking of a capital letter immediately following the striking of a period at the end of a sentence.

With typewriters now commonly in use, after a period is struck to end a sentence and in order to obtain a capital letter to begin a new sentence, it is necessary to press a shift key to shift to the upper case or capital letters. This not only requires the operation of pressing the shift key but quite often it happens, especially with a speedy typist, that the capital letter is struck before the shift is completely made, which results in misalignment of the capital letter with the other letters in the first word or part of the sentence.

It is the main object of my invention to provide a typewriter attachment having means for automatically shifting to the upper case or capital letters after the striking of a period so that the machine will be set automatically for the beginning of a new sentence.

Another object of my invention is to provide a typewriter attachment of the type indicated which is of such a nature that as soon as the capital letter is struck, the mechanism will function to cause return to use of the lower case letters automatically.

Another object of my invention is to provide a typewriter attachment of the type indicated which can be easily mounted on any standard typewriter now in use or which can be easily built into a new typewriter during manufacture thereof.

A further object of my invention is to provide a typewriter attachment of the type indicated which is composed of a minimum number of parts of a rugged nature which will not wear any more readily than the various parts of a standard typewriter and which will not tend to jam or become inoperative.

Still another object of my invention is to provide a typewriter attachment of the type indicated which is of very simple and inexpensive structure and which can be mounted on a typewriter at a very low cost.

Various other objects will be apparent.

According to my invention, the attachment is such that a capital or upper case letter will follow automatically the striking of a period. If a lower case or small letter or number is desired after the striking of a period, the mechanism can be released manually before striking the letter following the period. After the capital letter is struck, the attachment serves to shift automatically to the small or lower case letters.

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In its preferred form, my typewriter attachment comprises a bracket attached to the period key arm which is designed to engage a catch pivoted to the adjacent shift arm. This arrangement is such that when the period key arm is moved to strike the period, the shift arm is automatically locked in the down position, that is, in that position where the upper case letters are in position to be used. When the next letter is struck, it will be a capital letter due to the previous actuation of the shift key. In most cases, it is desirable to strike a capital letter after a period. However, in those relatively few cases when it is desired to follow a period by a small letter or number, the shift key carried by the arm locked in the down position, can be struck to release the shifting mechanism. When the capital letter is struck after the automatic shift resulting from striking the period key, the shift arm is automatically released and allowed to return to its original or normal position. This automatic release is accomplished by having the ribbon feed rod of the machine engage a finger which is part of the shift arm and move it sufficiently to allow a spring, which is attached to both the shift arm and the catch, to release the catch, thus allowing the shift arm to return to its normal position.

The preferred embodiment of my invention is illustrated in the accompanying drawing wherein similar characters of reference designate corresponding parts and wherein:

Figure 1 is a plan view showing my attachment applied to a typewriter.

Figure 2 is a view mainly in side elevation showing the attachment on the typewriter and illustrating by dotted lines how the period key actuates the shift mechanism.

Figure 3 is a similar view but showing the period key returned to its original position with the shift mechanism locked in shifted position.

Figure 4 is a transverse sectional view taken along line 4—4 of Figure 2 showing the attachment.

With reference to the drawing, my attachment is located adjacent the shift key 10 which is at that side where the period key 11 is located. According to my invention, the arm 12 which carries the period key is provided with a depending U-shaped bracket 13. This bracket 13 is provided with an upstanding arm 14 which is rigidly secured to the period arm 12. It is pro-

vided with a horizontal portion 15 which extends below other keys and laterally to a point beyond the shift key 10. This horizontal portion 15 is so located that it will not interfere with operation of the keys above it. The outer end of the portion 15 is provided with an upstanding arm 16 which has an inwardly turned catch-engaging portion 17 on its upper end. This portion 17 extends over the arm 18 which carries the shift key 10. It will be noted that the period key arm 12 is pivoted at 19 and the shift key arm 18 is pivoted at 20, as shown best in Figures 2 and 3.

The shift key arm 18 carries the catch 21 which is pivoted thereto at 22. This catch is provided with a hook-shaped lower end 23 adapted to snap in an opening 24 provided in an upstanding fixed member 25 on the typewriter frame. A spring 26 is connected to the lower end of the catch 21 and to the arm 18 at 27 and normally swings the catch 21 about pivot 22 away from member 25. A stop pin 28 on arm 18 limits this swinging movement. The inturned end 17 on bracket arm 16 is so located that when it is moved downwardly, it strikes an actuating finger 29 on the upper end of catch 21.

When the period key 11 is pushed downwardly, the arm 12 is swung downwardly about pivot 19. This moves the bracket 13 downwardly which, in turn, will pull the inturned bracket end 17 downwardly. This end 17 will engage the finger 29 on the catch 21 and force the hook 23 against the upstanding member 25 moving the shift arm 18 downwardly until the hook 23 is snapped into the opening 24. The release of pressure on the period key will permit slight upward movement of the shift arm about pivot 20 and keep the catch 23 in the opening 24 against the releasing force of the spring 26. The period key can return to its original position, as shown in Figure 3.

It will be apparent that the catch 21 can be released if the outer end of the arm 18 is moved downwardly slightly about pivot 20. For this purpose, the arm 18 is provided with an extension or finger 30 on its rear end which is adapted to be engaged by the usual ribbon feed rod 31 of the typewriter. This rod 31 is moved in the usual manner each time one of the type-moving keys of the typewriter is actuated. Thus, the case of the machine will be shifted when the period key is struck and when the next type key is struck it will type a capital letter. The striking of this next key will actuate the rod 31 which will, as shown in Figure 2, engage the rear end of arm 18 and force the forward end of arm 18 down slightly, allowing the spring 26 to pull the hook 23 from the opening 24. The shift key 10 will then return to its original position. The usual spacer bar 32 may be actuated after the period key is struck in order to get the proper spacing before the capital letter is struck.

In most cases, it is desirable to have a capital letter follow the striking of a period. However, in those few cases where it is not desirable, the shift mechanism can be released by downward pressure on the key 10 in the usual manner before striking the character that is to follow the period.

It will be apparent from the above description that I have provided a typewriter attachment which will result in the automatic striking of a capital letter immediately following the striking of a period. Furthermore, the mechanism will be released automatically following the striking of the capital letter. The attachment can be applied easily to typewriters now in use or can be built in typewriters during manufacture thereof.

The attachment is simple, inexpensive and rugged.

Various other advantages will be apparent.

Having thus described my invention, what I claim is:

1. In combination with a typewriter having a case of type members each of which is provided with upper and lower characters and means for shifting the case from normal position where the lower case characters are used to a lower position where the upper case characters are used, said case of type members including a period member and said typewriter having a period key for actuating said period member, and means connecting the period key to said case-shifting means so that each time the period key is struck the case is automatically shifted into lower position for use of the upper case characters, said connecting means comprising means for locking the case in shifted position.

2. Structure according to claim 1 wherein the typewriter has other keys for actuating the other type members, and means for automatically releasing said locking means upon striking any of the said other keys of the typewriter.

3. Structure according to claim 1 wherein the typewriter includes a spacer bar which moves a carriage and a member movable by striking any of said keys, and means operatively connecting said member to said locking means to release it upon movement of said member.

4. Structure according to claim 3 wherein said movable member is the ribbon feed rod of the typewriter.

5. In a typewriter having a carriage and a relatively shiftable case carrying movable type members having upper and lower case characters, the lower case characters being normally in position for use, means for relatively shifting the case and carriage to move the upper case characters into position for use, a pivoted arm carrying a key for actuating each of said movable type members and one of the lower case characters being a period, said shifting means including a pivoted arm, a bracket rigidly carried by the arm which actuates the type member having the period character, a catch pivoted to said shift arm and which is engaged by said bracket to cause it to hold the shift arm in shifted position, and means for releasing said catch upon subsequent movement of any of said pivoted arms which actuate said type members.

6. Structure according to claim 5 wherein said last-named means includes a ribbon feed rod which is moved by movement of any of said arms, and a finger carried by said shift arm which is engaged by said rod to move the shift arm sufficiently to release the catch.

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