F. J. TANNER & I. E. JONES.

TYPE WRITING MACHINE.

APPLICATION FILED NOV. 25, 1908.

964,135.

Patented July 12, 1910.

2 SHEETS—SHEET 1.

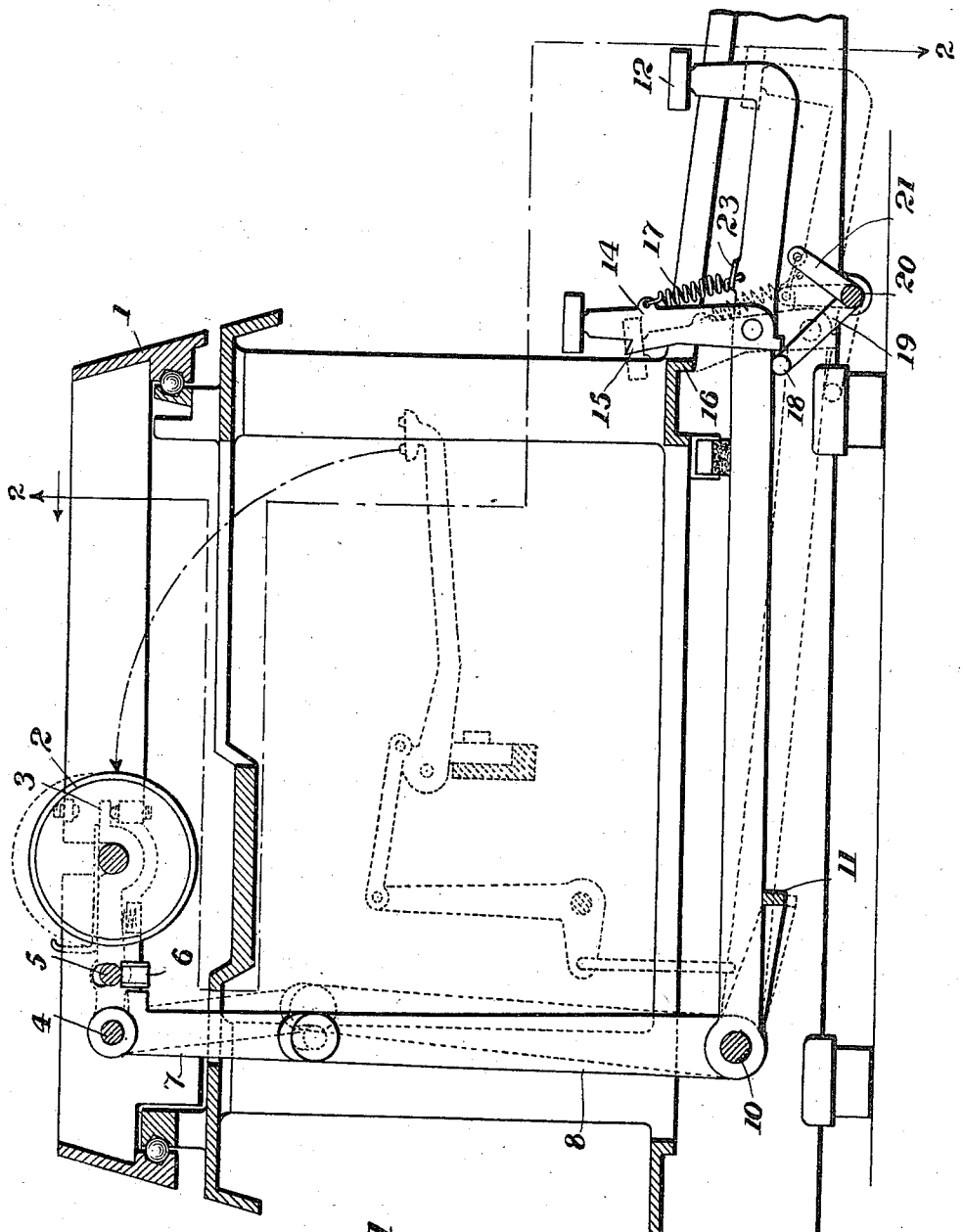

Fig. 1

Witnesses

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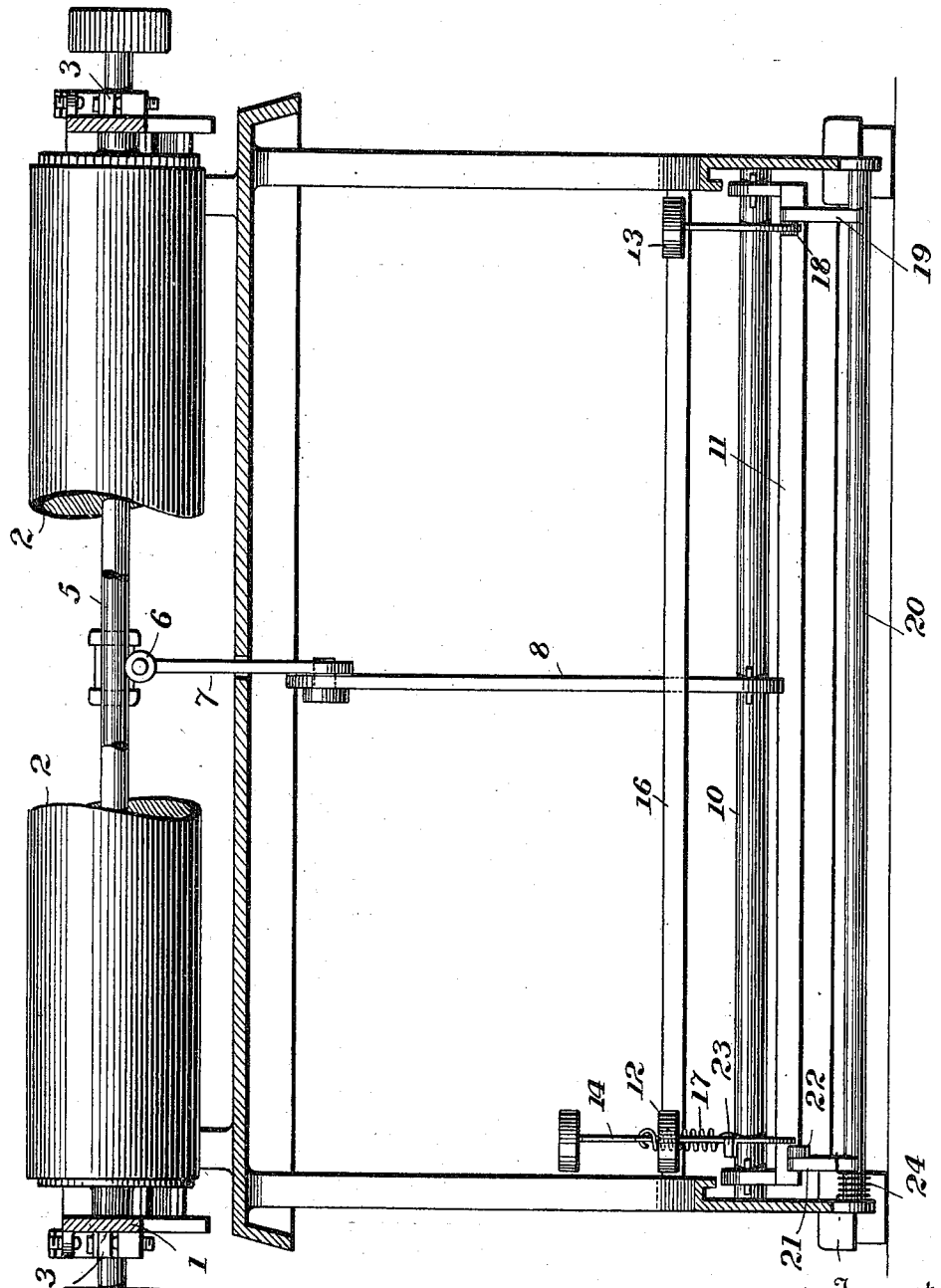

Fig. 2.

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UNITED STATES PATENT OFFICE.

FRANK J. TANNER AND IWAN E. JONES, OF SCRANTON, PENNSYLVANIA, ASSIGNORS TO INTERNATIONAL TEXT BOOK COMPANY, OF SCRANTON, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

TYPE-WRITING MACHINE.

964,135. Specification of Letters Patent. Patented July 12, 1910.

Application filed November 25, 1908. Serial No. 464,390.

To all whom it may concern:

Be it known that we, FRANK J. TANNER and IWAN E. JONES, citizens of the United States, and residents of Scranton, Lackawanna county, Pennsylvania, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

The present invention relates to improvements in case shifting mechanism for typewriting machines, that is, the means by which a relative adjustment is effected between the platen and printing devices to cause "upper case" characters to be printed.

The invention may be applied to typewriting machines of any style but in the accompanying drawings it is shown in connection with a machine in which the type bars are arranged to strike upwardly and rearwardly against the forward face of the platen and the latter is mounted in the carriage so as to be capable of a relative vertical movement.

In the drawings, Figure 1 is a vertical sectional view through a typewriting machine having the invention applied thereto, the platen and printing devices being illustrated only conventionally; Fig. 2 is a sectional view on the line 2—2 of Fig. 1.

In the drawings many of the features of the typewriting machine, which do not directly affect or concern the invention are omitted and some of the parts shown, as for instance the carriage 1 and platen 2, are only conventionally illustrated.

The platen 2 is supported by arms 3 which are fixed on the ends of a rock shaft 4, mounted in bearings in the ends of the carriage 1, said arms being also connected by a rod 5. This rod rests on a roller 6 carried by an arm 7 that is supported on the shaft 4. The arm 7 is connected by a pin and slot connection with an arm 8 and the latter is connected rigidly with a rock shaft 10 mounted in opposite sides of the base portion of the machine frame.

A bail 11 has its arms keyed to the shaft 10 and its connecting bar extending beneath the levers of two shift keys, 12, 13. The levers of said shift keys are loosely mounted on the shaft 10 so that when either key is depressed the other will not be moved. It will be seen that the parts above described are adapted to effect a relative movement between the platen 2 and printing devices to position the parts for writing "upper case" characters. When either of said shift keys, 12, 13, is depressed the bail 11 rocks the shaft 10 and this movement is transmitted by the arms 8 and 7 to the rod 5 and platen supporting arms carried thereby to adjust the platen in a substantially vertical direction into the position indicated in dotted lines in Fig. 1.

Means are provided whereby the platen may be locked in such adjusted position if desired. Preferably the device for effecting such locking is supported by the lever of the shift key 12 and comprises a pivotally mounted auxiliary key 14 having on its rear edge a toe or lock 15 adapted when said key is depressed and rocked rearwardly to extend beneath a projection or cross-bar 16 of the machine frame, as indicated in dotted lines in Fig. 1. A spring 17 tends constantly to hold the key 14 in such position that the toe 15 thereof will not engage with the frame or projection when the shift key 12 is actuated. However, as stated, if the lever carrying the key 12 is operated either by the operation of said key or by the key 14, and the latter is then rocked rearwardly on its pivot, the parts will be held in the position indicated in dotted lines in Fig. 1 until the auxiliary key or locking member 14 is rocked forward to its normal position. Such disengagement of the latch or locking member may be effected by a further downward pressure on the lever of the shift key 12 sufficient to carry the toe 15 out of engagement with the stationary abutment 16 when the spring 17 will immediately rock the latch forward into the position shown in full lines in Fig. 1 so that it will offer no obstruction to the rising movement of the shift key lever. Means are also provided by which such release of the "shift lock" may be effected by actuating the shift key

13. The lever supporting this latter key extends over a roller or stud 18 projecting laterally from an arm 19 on a rock shaft 20 and a second arm 21 on said shaft is adapted to engage the lever of the shift key 12, when the latter has been locked in operative position, and effect a further downward movement of such lever to disengage the latch 14. This is accomplished by a roller 22 carried by the arm 21, passing over the cam 23, which projects from the side of lever 12. The arm 21 is fixed to the shaft 20 which is operated by lever 13, which forces arm 19 downward and rocks the shaft 20. When the roller 22 rides over the cam 23 it depresses the shift key 12 sufficiently to allow the latch 14 to spring back to normal position. The cam is so constructed that as soon as the latch is released the roller 22 passes therefrom and allows the shift key 12 to return to its normal position. Then when pressure on the shift key 13 is removed the shaft 20 and the arms thereon assume their normal position. A spring 24 acts to normally maintain the rock shaft 20 and parts secured thereto in the positions indicated in full lines in Fig. 1.

From the foregoing description and the drawings, the operation and advantages of the invention will be readily understood. It will be seen that the latch or auxiliary key 14 is normally held in such position that the shift key 12 may be employed as readily as the key 13 for positioning the platen for "upper case" writing without locking the parts in adjusted position and that when said latch is operative it may be quickly disengaged by a slight movement of either shift key or by being itself directly actuated by the operator.

What we claim and desire to secure by Letters-Patent is,

1. In a typewriting machine, the combination with two shift key levers each when depressed effecting a relative movement between the platen and printing devices to position said parts for writing "upper case" characters, of means adapted to be adjusted to maintain the parts in shifted position, said means being positioned for operation by the actuation of one of the shift key levers, and a rock shaft adapted to be rocked by the other shift lever and having an arm for releasing said locking means.

2. In a typewriting machine, the combination with two shift key levers each when depressed effecting a relative movement between the platen and printing devices to position said parts for writing "upper case" characters, of means to maintain the parts in shifted position, said means being rendered operative by the actuation of one of the shift key levers, and a rock shaft adapted to be rocked by the other shift lever and to actuate the first lever and release the locking means.

3. In a typewriting machine, the combination with two shift key levers each when depressed effecting a relative movement between the platen and printing devices to position said parts for writing "upper case" characters, a latch or dog pivotally mounted on one of said levers and adapted, when the lever is depressed, to be adjusted to engage a stationary abutment to maintain the parts in shifted position, a rock shaft, an arm on said shaft which acts to release the latch when the shaft is rocked, and means for rocking the shaft when the other lever is depressed.

4. In a typewriting machine, the combination with two shift key levers each when depressed effecting a relative movement between the platen and printing devices to position said parts for writing "upper case" characters, a latch or dog pivotally mounted on one of said levers and adapted, when the lever is depressed, to be adjusted to engage a stationary abutment, a rock shaft having an arm which as the shaft is rocked will engage the latch carrying lever and depress said lever sufficiently to move the latch out of engagement with the abutment, a spring acting to hold the latch in position not to engage the abutment as said lever is actuated, and means for rocking said shaft when the other lever is depressed.

5. In a typewriting machine, the combination of two shift key levers arranged at opposite sides of the key board of the machine and each when depressed effecting a relative movement between the platen and printing devices to position said parts for writing "upper case" characters, of an auxiliary key pivotally mounted on one of said levers and adapted when the lever is depressed to be rocked into position to engage a stationary abutment, a spring acting to hold said key in position not to engage the abutment as its supporting lever is actuated, a rock shaft extending across the machine and having thereon an arm which engages a cam surface on the latch carrying lever when the shaft is rocked with said lever in operative position, and another arm on the rock shaft extending into the path of the other shift key lever.

6. In a typewriting machine, the combination of two shift key levers each adapted when depressed to effect a relative movement between the platen and printing devices for positioning said parts for writing "upper case" characters, an auxiliary key pivotally mounted on one of said levers and having on its rear face a projection adapted to engage a stationary abutment on the frame when said key is rocked rearwardly after its supporting lever has been de-

pressed, a spring acting to hold said key at one side of said abutment, and to release the same when the shift key lever is depressed below its operative position, a rock shaft for depressing said lever below its operative position, and means actuated by the other shift key lever for rocking said shaft.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK J. TANNER.
IWAN E. JONES.

Witnesses:
N. H. PROUTY,
P. G. MOORE.