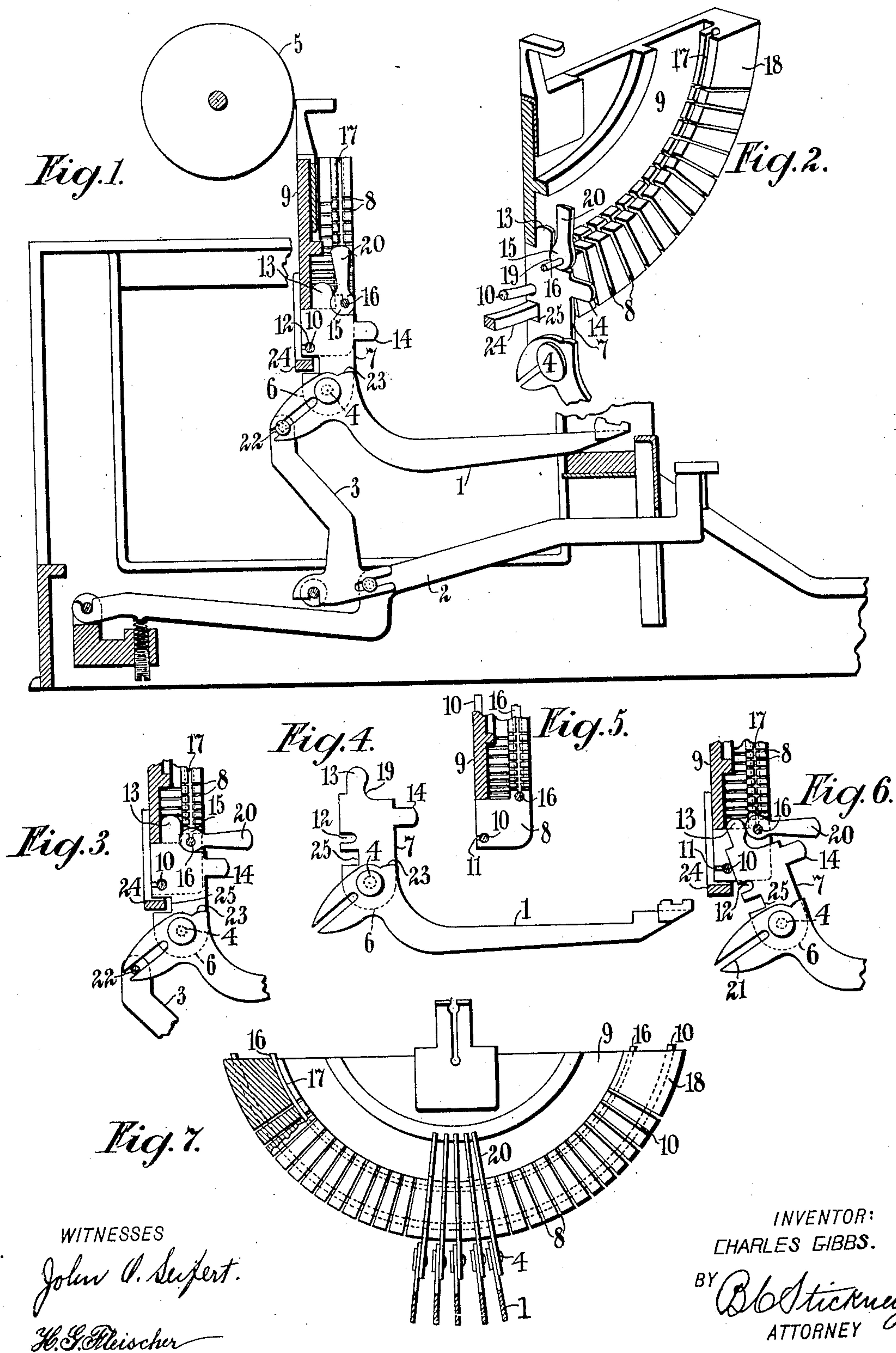


C. GIBBS.

TYPE WRITING MACHINE.

APPLICATION FILED JULY 8, 1907.





# UNITED STATES PATENT OFFICE.

CHARLES GIBBS, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY,  
OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

## TYPE-WRITING MACHINE.

No. 882,246.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed July 8, 1907. Serial No. 382,665.

*To all whom it may concern:*

Be it known that I, CHARLES GIBBS, a citizen of the United States, residing in borough of Bronx, city of New York, in the county of New York and State of New York, have invented certain new and useful improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to the type-bars and hangers of writing machines, and particularly to that class of hangers disclosed in United States Letters Patent No. 854,484, in which the hanger is in the form of a thin plate, and is fastened in a radiating groove.

The present improvements relate principally to the hanger, and one of the objects thereof is to facilitate detachment and attachment of the hangers independently of one another. To this end, I provide the hangers with individual locks or fastening devices, which in this instance are in the form of cams placed in the hanger slots in the segment, and manipulate to lock and unlock the hangers; each of the latter being preferably provided with two seats against both of which it is pressed by the locking device.

In the accompanying drawings, Figure 1 is a sectional side elevation of a front strike writing machine of the "Underwood" class showing my improvements applied thereto. Fig. 2 is a sectional front perspective view of a type-bar segment showing a hanger and type-bar. In Figs. 1 and 2 the hanger is locked in position. Fig. 3 is a fragmentary view similar to Fig. 1, but showing the hanger released. Fig. 4 is an elevation of the hanger and type-bar. Fig. 5 is a sectional fragmentary view of the segment. Fig. 6 is a fragmentary view similar to Fig. 3, but showing the type-bar and hanger in the act of removal. Fig. 7 is a front elevation of the segment partly in section.

Type-bars 1 are caused by key-levers 2 and bell-cranks 3 to swing up about pivots 4 to strike against the front side of a platen 5; the type-bars being pivoted facewise or in any other suitable manner upon portions 6 of hangers 7, which are secured by radiating slots 8, formed in a segment 9, said portions 6 depending or extending outwardly and down from the segment. The slots or sockets 8 cut completely through the bottom edge of the segment as seen clearly at Fig. 5, and the hangers 7 are in the form of thin plates which fit snugly in the slots 8. Preferably

the opposite cheeks or faces are parallel throughout, and in order to seat the same securely, a curved rod 10 is secured upon the rear side of the segment along its lower edge, and intersects the slotted portion of the segment. Said rod may be secured in any suitable manner, as by thrusting it endwise in an undercut groove 11 formed in the segment. Each hanger has in its lower portion a notch 12 formed on its rear edge to fit upon said seat-rod 10.

Projecting from the top of each hanger is a shoulder 13 adapted to bear rearwardly against the front face of the segment 9, said shoulder projecting above the slot 8. A finger-piece 14 may project forward from the body of the handle to be of use in extracting the same from the segment. The hangers are provided with individual locking devices, in this instance illustrated in the form of eccentric cams 15 fitting in the slots 8 and pivoted upon a common fulcrum rod 16, which may be mounted in any suitable manner upon the segment as by inserting the same endwise in an undercut groove 17 formed in the upper part of the slotted portion or front rib 18 of the segment. The hangers have bearings 19 to receive the eccentric rear edge of the cam, and each cam has a lever or handle portion 20 which normally stands upright or extends radially of the segment as seen at Figs. 1 and 7. In this position, the hanger is forced by the cam rearwardly and downwardly so that the shoulder 13 is pressed against the front face of the segment, and a notch 12 is pressed against the seat-rod 10, whereby the hanger is fastened immovably in the segment.

To detach the type-bar, it is only necessary to swing the cam lever 20 down to the Fig. 3 position, which of course is done independently of other type-bars. The type-bar may then be pulled forwardly until the notch 12 is clear of the seat-rod 10, and then the hanger and the type-bar may be drawn downwardly and forwardly, at Fig. 6, to remove the hanger from the segment; the type-bar having an open ended slot 21 to engage a pin 22 on the bell-crank 3, whereby the detachment of the type-bar is facilitated. Each type-bar has a heel 23 to press rearwardly the usual universal bar 24, each hanger having a cutaway 25 to accommodate said universal bar.

Variations may be resorted to within the



scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. The combination of a segment having radiating slots, hangers in the form of thin plates detachably fitted in said slots, thin plate-like releasable locking devices fitted to vibrate in said slots, one for each hanger, each of said locking devices mounted for a swinging movement, to lock its hanger in its socket or release it therefrom independently of all the other hangers, and type-bars pivoted to portions of the hangers which project from the slots.
2. The combination of a segment having sockets, hangers in the form of thin plates fitted in said sockets, two separate seats being provided upon the segment for each of said hangers, pivoted cam plates fitted in said sockets for locking the hangers against all of said seats, and type-bars pivoted to portions of the hangers which project from the sockets.
3. The combination of a segment having radiating slots, hangers in the form of thin plates fitting in said slots, the segment being provided with seats, thin plate-like individual locking means fitted to vibrate in said slots, each of said locking means mounted to press its hanger against its seat independently of all of the other hangers, and type-bars pivoted to portions of the hangers which project from the slots.
4. The combination of a segment having sockets, hangers in the form of thin plates fitting in said sockets, said segment provided with two separate seats for each hanger, individual releasable pivoted locking devices fitted in said sockets for pressing each hanger against both of its seats, independently of all the other hangers, and type-bars pivoted to portions of the hangers which project from the sockets.
5. The combination of a segment having sockets, hangers in the form of thin plates detachably fitted in said sockets, a curved rod secured upon said segment to form seats for the hangers, the latter having shoulders to bear against the body of the segment, individual locking means pressing each hanger against said rod, and also pressing each shoulder against the segment, and type-bars pivoted to portions of the hangers which project from the sockets.
6. The combination of a segment having sockets, hangers in the form of thin plates fitting in said sockets, a series of cams mounted upon said segment to lock the hangers in the sockets, each cam movable to release its hanger independently of the other cams, and type-bars pivoted to portions of the hangers which project from the sockets.
7. The combination of a segment having sockets, hangers in the form of thin plates

fitted in said sockets, a series of levers having cams formed thereon and mounted upon said segment to lock the hangers in the sockets, each cam-lever movable to release its hangers independently of the other cam-levers, and type-bars pivoted to portions of the hangers which project from the sockets.

8. The combination of a segment having sockets, hangers in the form of thin plates fitted in said sockets, a series of levers having cams formed thereon and mounted upon said segment to lock the hangers in the sockets, each cam-lever movable to release its hanger independently of the other cam-levers, and type-bars pivoted to portions of the hangers which project from the sockets; said cam-levers being pivoted upon a common fulcrum rod which is mounted in said segment.

9. The combination of a segment having sockets, hangers in the form of thin plates fitting in said sockets, a series of locking devices also fitting in said sockets and movable to release the hangers independently of one another, and type-bars pivoted to portions of the hangers which project from the sockets.

10. The combination of a segment having sockets, hangers in the form of thin plates fitting in said sockets, a series of locking devices also fitting in said sockets and movable to release the hangers independently of one another, and type-bars pivoted to portions of the hangers which project from the sockets; said locking devices being in the form of thin cam-plates pivoted upon a common fulcrum rod which is mounted in said segment.

11. The combination of a segment having radiating slots, hangers in the form of thin plates fitting in said slots, and having at their upper ends shoulders to bear rearwardly against the front face of the segment, a rod secured upon the rear portion of the segment to form seats for the hangers, the hangers having notches at their lower portions to fit upon said rod, and cams fitted in said slots to bear against said hangers to press them rearwardly against the segment and the rod, and type-bars pivoted to portions of the hangers which depend from said segment.

12. The combination of a segment having radiating slots, hangers in the form of thin plates fitting in said slots, and having at their upper ends shoulders to bear rearwardly against the front face of the segment, a rod secured upon the rear portion of the segment to form seats for the hangers, the hangers having notches at their lower portions to fit upon said rod, and cams fitted in said slots to bear against said hangers to press them rearwardly against the segment and the rod, and type-bars pivoted to portions of the hangers which depend from said segment; said cams having handles or levers and working upon the curved fulcrum rod which is secured in the front slotted portion of the segment.



13. A type-bar hanger in the form of a thin flat plate to fit in a radial slot of a segment and having a notch in its rear edge to engage a seat-bar on the segment and having  
5 a shoulder above said notch to press against the front face of the segment, and having on its front portion a bearing having a cam, and also having a lower portion to which to pivot a type-bar.

10 14. In a typewriting machine, the combination of a type-bar segment formed on its outer or curved edge with a series of radiating slots which extend completely through the segment, a curved rod secured upon the  
15 rear side of the segment within a groove formed along the series of slots, a series of plate-like hangers fitting in said slots and having notches to engage said rod and also having shoulders projecting above said slots,

individual cam-levers mounted in said slots 20 upon a fulcrum wire which is seated in a curved groove provided in said segment; said cam-levers normally locking said shoulders against the front side of said segment, and also forcing the hangers against said rod; 25 and type-bars pivoted to said hangers at portions thereof which depend from said segment.

15. A segment having radiating slots to receive a set of type-bar hangers, and having 30 a curved rod or bar to form seats for the hangers, and also having a curved fulcrum bar extending along the series of radiating slots to receive hanger locking cams.

CHARLES GIBBS.

Witnesses:

JOHN O. SEIFERT,  
KITTIE FRANKFORT.