United States Patent [19]

Bauer

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[45] **Oct. 22, 1974**

[54] **TYPE HEAD FOR TYPEWRITING MACHINE**

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[52] U.S. Cl. ..... **197/52,** 197/16, 24/252 TC

[51] **Int. Cl.**..... **B41j 1/60**

[58] **Field of Search**..... 197/52, 55, 16; 24/252 TC

[56] **References Cited**

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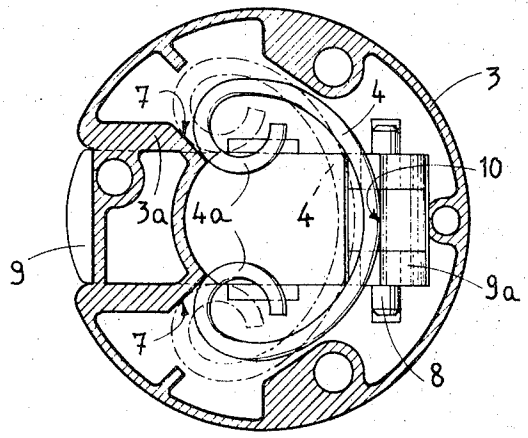
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[57] **ABSTRACT**

A type head provided with a central hole for engaging a shaft of a typewriting machine. The type head has a U-shaped spring operable to releasably secure the head to the shaft. The arms of the spring are disposed on both sides of the central hole and engage, under the effect of the spring's elasticity, a groove provided on the shaft.

4 Claims, 3 Drawing Figures



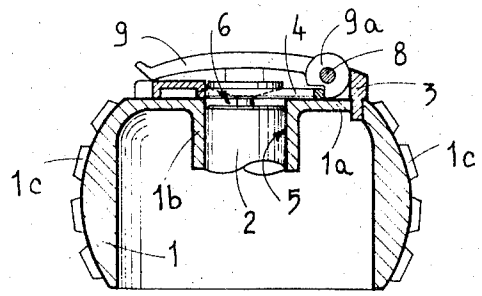


FIG. 1

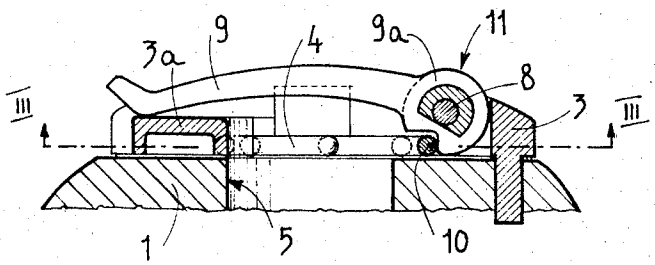


FIG. 2

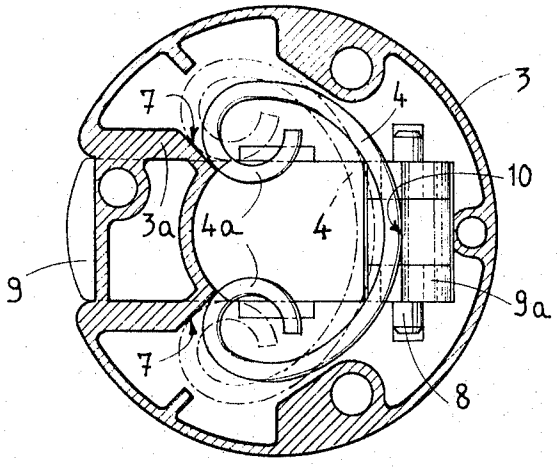


FIG. 3

TYPE HEAD FOR TYPEWRITING MACHINE

BACKGROUND OF THE INVENTION

This invention relates generally to typewriting machings, and more particularly to a type head for use with such machines.

SUMMARY OF THE INVENTION

The type head of the invention includes a spring member of generally U-shaped configuration positioned surrounding a central hole in the type head within which a shaft of a typewriting machine is engaged. The ends of the arms of said spring member are bent so as to engage or bite on the walls of said central hole when the spring is at rest. The walls of the central hole include two converging inclined planes on which the ends of the spring bear. When pressure is exerted on the medium portion of the spring urging it to move radially towards the axis of the hole, the two inclined planes, which are engaged between the ends of the spring like a wedge, urge the arms to be separated one from another and to be brought into a position in which the bent portion of the ends ceases to bite on the central hole of the head so as to release the type head so that the same may be removed from the typewriting machine.

BRIEF DESCRIPTION OF THE DRWING

FIG. 1 is an axial sectional view through the type head of the invention;

FIG. 2 is an enlarged axial sectional view of the upper portion of the same; and

FIG. 3 is a sectional view taken along the line III—III of FIG. 2 in the direction indicated generally.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The type head of the invention is of the spherical type, that is to say, the geometric surface enveloping the type face is comprised of a segment of sphere. The head includes a body or type support 1 constructed of plastic material having the shape of a socket. The bottom 1*a* of the body 1 is provided with a tubular sleeve 1*b* for receipt of a shaft 2 on the typewriting machine such that the head may be mounted on the machine by engagement of sleeve 1*b* on shaft 2. The body 1 carries several rows of type 1*c*, in relief, in the number of four in each row.

The head is provided with a cap 3, also constructed of plastic material, secured to the bottom 1*a* of body 1. The cap carries a generally U-shaped wire-spring 4, in the form of an arc-of-circle, the ends 4*a* of the arms of which are return-bent so as to constitute buckles. When spring 4 is in its rest position shown in solid line in FIG. 3, the ends 4*a* bite on the central hole 5 of the body 1 and engage a groove 6 provided in the shaft 2, so as to ensure securement of the head on the shaft.

The cap 3 is provided with a portion 3*a* having two converging inclined planes 7 disposed symmetrically with respect to the central hole 5. The ends 4*a* of spring 4 bear respectively on inclined planes 7.

A lever 9 is pivotally connected to cap 3 above spring 4. The lever 9 is formed at one end thereof with a generally tubular portion 9*a* through which axis pin 8 is positioned to permit pivoting of the lever. A segment 10 (FIG. 2) of the outer surface 11 of tubular portion 9*a* is cut out to provide a bearing surface against which the central portion of the spring 4 normally bears. When the lever 9 occupies its position in which it is tilted down, as shown in FIGS. 1 and 2, the spring 4 is in its rest position shown in solid line in the drawing. When the lever is lifted, the bearing surface 10 acts on the central portion of spring 4 to move it radially and cause the spring to move into the dotted line position shown in FIGS. 2 and 3. In this latter position, the ends 4*a* of the spring are separated from each other by the inclined planes 7, which act like a wedge on the spring. When the ends 4*a* are separated, they no longer bite on the central hole 5 of the head, thus permitting placement or removal of the head on or from the tyewriter machine. When the type-carrying head is engaged on the shaft 2 and the lever 9 is tilted down, the ends 4*a* of the spring 4 engage the groove 6 (FIG. 1) of the shaft 2, so as to maintain the head in place thereon.

It is to be noted that when the lever 9 is lifted beyond a determined position, the spring 4 jumps over the bearing surface 10 and comes in contact with the outer surface 11 of cylindrical portion 9*a* of the lever. In this manner the pressure exerted by the spring on the surface 11 ensures that the lever 9 will be maintained in its lifted position until forced into its down position.

What it is desired to be secured by Letters Patent of the Unites States is:

1. A type head for a typewriting machine having a grooved shaft adapted to mount the type head, said type head comprising, a generally spherical body, the body having a central passageway for receipt of the shaft, a generally U-shaped spring positioned on the body and substantially surrounding an opening of the passageway, the spring having a pair of return-bent arms positioned respectively on both sides of the opening and extending partially thereacross to bite on the central passageway and secure the head to the shaft by engagement of the arms in the groove when the spring is at rest, the head including a pair of converging inclined planes engaged between the arms of the spring, whereby when a force is exerted on the median portion of the spring the same will be moved radially towards the axis of said hole and the arms will be separated one from the other by said planes to release the arms from the groove.

2. A type head as claimed in claim 1 including a lever pivotally mounted on the body for controlling the position of the spring, said lever being operable between a first position when the spring is at rest and a second upraised position to act on the median portion of the spring thereby moving the same radially towards the axis of said hole.

3. A type head as claimed in claim 2 in which the lever has a generally tubular formation on the pivotal end thereof, said tubular formation having a bearing surface operable on the spring for movement of the median portion thereof, the bearing surface being formed on only part of the tubular formation such that when the lever is moved to the upraised position the spring will leave the bearing surface and engage the tubular formation to maintain the same in its upraised position.

4. A type head as claimed in claim 1 in which the spring is formed in the shape of an arc-of-circle, the arms having ends bent to form two portions in the shape of a buckle bearing on the inclined planes.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,842,959 Dated October 22, 1974

Inventor(s) ALFRED BAUER

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

[30] Foreign Application Priority Data
February 6, 1973 Switzerland.....1685/73

Signed and sealed this 4th day of February 1975.

(SEAL)
Attest:

McCOY M. GIBSON JR.
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents