

anism may be rotated and locked at any angle about an axis parallel with the base by lock screw 19 Fig. 5.

With the keying mechanism rotated for semi-automatic operation at any angle off the horizontal plane, responsive and lag-free operation is possible by means of a vibrating section designed for this operation. See Fig. 3, and in particular dot contact spring 28 and dot spring holder 26.

Heretofore, the conventional dot spring assembly as shown in Fig. 7, has consisted of a U spring 60, providing support for contact 62, and secured to spring holder 64, said spring holder being drilled for mounting on the round vibrating arm 31 at a point directly opposite to adjustable contact 29. Positioning the said U spring at this point distant from the fulcrum which shifts to the extreme end of lever 21 when the vibrating section is in an oscillating condition, necessitates excessive weight in said vibrating section in order to overcome the damping effect of said U spring contact with adjustable contact 29. To offset this disadvantage, the said U spring is made extremely flexible, resulting in poor contact characteristics.

In my invention, dot spring holder 26, supporting dot contact spring 28, is secured on the vibratable spring 27 in such a position, adjacent to the established fulcrum, as to give a greater mechanical advantage. Owing to this increased leverage, the damping effect of dot spring 28 is greatly reduced and consequently said dot spring 28 can be much more rigid. The reduction in required force necessary for vibration with firm dotting characteristics, reduces the amount of mass required in the vibrating section. This reduction is effected by the use of lighter material for vibrating arm 31 and speed control weight 32.

By the method described herein, satisfactory oscillation is obtained in any plane from the horizontal to the vertical and a variety of speeds is obtained by shifting the position of speed control weight 32 on vibrating arm 31.

I am aware that prior to my invention, telegraph keys have been made to provide semi-automatic operation and also that various adjustable hand lever keys have been presented.

I do not therefore claim these broadly.

I claim:

In a telegraph key, a base, a journal bearing, said journal bearing being provided with a suitable locking device for fixing position at any angle about an axis parallel with the base and said journal bearing being provided with two arms parallel to the base and a flange for securing an additional ring, said ring in combination with the journal bearing, provided with three arms carrying adjustable contacts, adjustable bumper screws, and adjustable tension springs which rotate simultaneously with operating levers and vibrating section on a bearing secured to said base, maintaining contact alignment between contacts by said levers being fulcrumed in said journal bearing, the combination providing semi-automatic operation at any desired angle about said axis parallel to said base.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
336,653	Maloney -----	Feb. 23, 1886
1,483,669	Lyle -----	Feb. 12, 1924