

J. C. McLAUGHLIN.
TYPE WRITING MACHINE.
APPLICATION FILED FEB. 16, 1910.

1,022,373.

Patented Apr. 2, 1912.

Fig. 1.

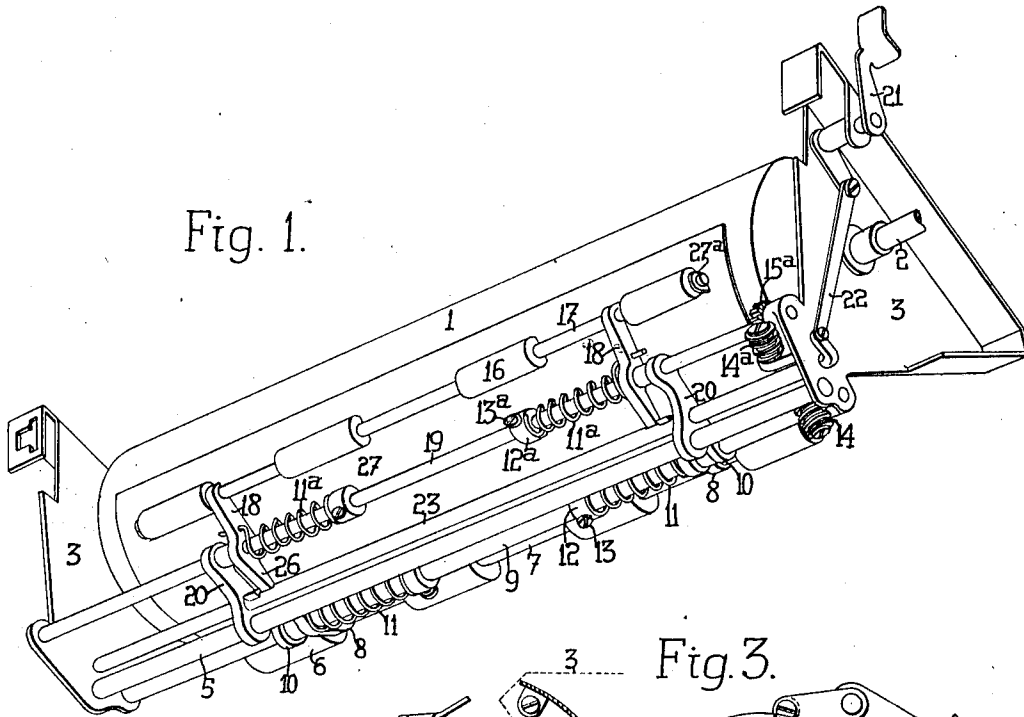


Fig. 2.

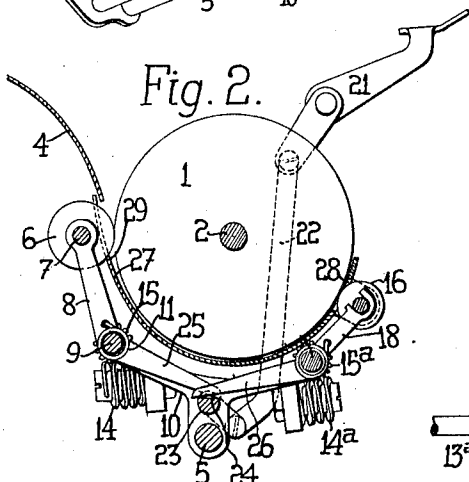


Fig. 3.

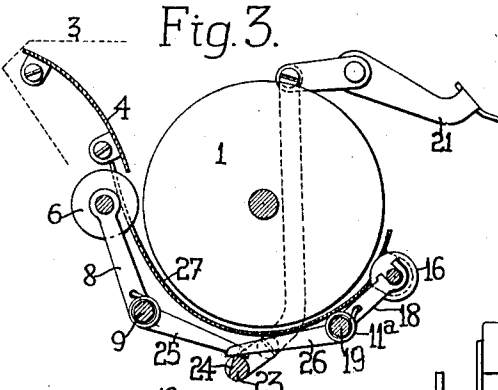
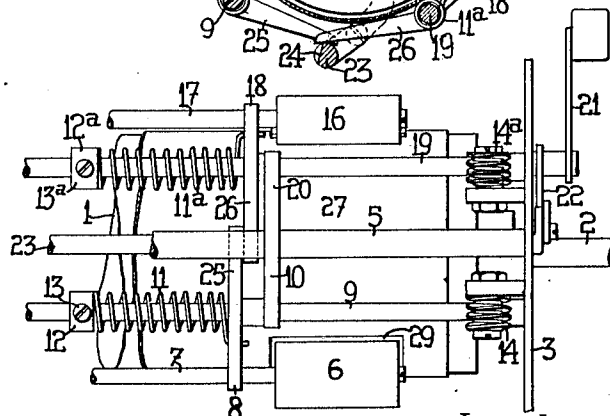


Fig. 4.



Witnessed.

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UNITED STATES PATENT OFFICE.

JOHN C. McLAUGHLIN, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

1,022,373.

Specification of Letters Patent.

Patented Apr. 2, 1912.

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To all whom it may concern:

Be it known that I, JOHN C. McLAUGHLIN, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to paper feeding devices for typewriting machines.

The principal object of the invention is to improve and simplify the mechanism for pressing the forward and rear feed rolls against the platen, and for regulating such pressure.

In carrying out this invention, I mount two tension springs on a shaft on which the roll-supporting arms are also journaled, the springs being individually adjustable.

Other objects and advantages will hereinafter appear.

In the accompanying drawings, Figure 1 is a perspective view of the platen frame of an Underwood typewriting machine having one embodiment of my invention applied thereto. Fig. 2 is a cross-sectional view showing the feed rolls and paper deflector in normal position. Fig. 3 is a similar view showing the rolls and deflector cast off from the platen, parts being removed. Fig. 4 is an enlarged detail plan view of the platen and rolls.

The platen 1 has an axle 2 by which it is journaled in the ends 3 of a platen frame. Said ends are connected by a rigid rear paper shelf 4 inclining downwardly and forwardly toward the middle portion of the rear face of the platen. Also rigidly connecting said ends is a tie-rod 5. A series or set of rear paper-feeding rolls 6 is located with its axis approximately on a level with the axis of the platen (Fig. 2). The leading edge of the sheets may be squarely presented to the bite between said rolls and platen, thus aiding to render the feed accurate. The opening between the rolls and platen is visible, so that error in presenting the sheets to the feed rolls may be detected. The paper shelf at its lower edge terminates preferably between the pressure rolls and the platen. Said rear feed rolls are carried by a shaft 7 supported in rocking arms 8 loosely journaled on a shaft 9 mounted in rearwardly extending bracket-arms 10, projecting from the tie-rod 5. Said rear rolls

are pressed against the platen by springs 11, coiled around the shaft 9, and one at each end thereof, one end of each spring being secured to the adjacent rocking arm 8, to urge the latter toward the platen, the other end of each spring being connected to a tensioning collar 12, which is rotatively adjustable upon the shaft 9 independently of the latter, and held where adjusted by a set screw 13. By reason of this adjustment, the tensions of the two springs on the one shaft can be equalized, so as to press the individual rolls 6 of the series evenly against the platen when feeding ordinary sheets; or whenever desired, the tension of one of the springs can be increased over that of the remaining spring, as for instance when feeding folded sheets, the folded edges being thicker or more bulky than the opposite edges, and consequently necessitating the application of greater pressure in order to secure even feed of the sheets around the platen. The tension of both springs may be increased or diminished simultaneously and an equal amount, by turning the shaft 9, through a worm 14 and gear 15. Other spring mechanism may be employed in some cases, if desired. Forward feed rolls 16 are similarly supported on a shaft 17, carried by rocking arms 18 journaled on a tension shaft 19 rotatable in forwardly-projecting bracket arms 20, which may be integral with arms 10. Springs 11^a on the shaft 19 press the forward rolls toward the platen, the tension of the springs being individually adjustable by the set collars 12^a. The tension of both springs may be increased or diminished equally and simultaneously by rotating the shaft 19, through a gear 15^a and worm 14^a.

By the depression of a release key 21, a link 22 turns a central shaft 23, on which are formed flats or cams 24 (see Fig. 3) engaged by releasing arms 25, 26 connected with or formed upon the rocking arms 8, 18 respectively, and extending toward one another, to engage said cams. By means of these flats or cams, the rocking arms are turned against the tension of the springs 11, 11^a to drop the rolls 6, 16 from the platen.

A yielding paper deflector 27 lies beneath the platen, its front portion being hinged to the forward roll shaft, at 27^a. The springs 11^a on the forward roll shaft hold the deflector in place, the engagement or bearing of the front edge of the deflector against

the platen enabling said springs to hold up the rear edge of the deflector also. The forward portion of the deflector is apertured, as at 28, to permit the forward rolls to engage the platen. The rear edge of the deflector underlies the lower edge of the paper shelf 4, and may be recessed, as at 29, for the rear rolls.

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. In a typewriting machine, the combination with a platen and forward and rear feed rolls therefor, of a turning shaft, roll-supporting arms journaled thereon, a plurality of springs on the shaft to press a series of said rolls against the platen; one end of each spring being adjustably secured to the shaft to permit relative tensioning of the springs, and a shaft-rotating device effective to regulate the tension of all the springs simultaneously and an equal amount.

2. In a typewriting machine, in combination, a platen, a roller shaft extending longitudinally therewith, a plurality of pressure rollers carried by said shaft and disposed apart along the length of said shaft, a tension shaft, arms carried loosely thereby and supporting said roller shaft, springs connected respectively with said arms, means

for individually adjusting the tension of said springs; and means for simultaneously adjusting the tension of said springs.

3. In a typewriting machine, in combination, a platen, a pair of tension shafts disposed adjacent to the face thereof, arms carried by said shafts, rollers carried by said arms, springs in connection with said arms for pressing the same individually toward said platen, means for independently rotating said shafts to adjust the tension simultaneously of the springs associated with each shaft, and means for actuating said arms to cast off said rollers from said platen.

4. In a typewriting machine, in combination, a platen, a pair of oppositely disposed tension shafts adjacent thereto, rocking arms loosely mounted on said shafts, rollers carried thereby adapted to engage the platen, springs in connection with said rocking arms individually for pressing said rollers against the platen, means for rotating each of said shafts to adjust the tension of all of the springs on one shaft simultaneously, releasing arms rigid with said rocking arms and lying adjacent to each other, and means for actuating said releasing arms to cast off said rollers from said platen.

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Witnesses:

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