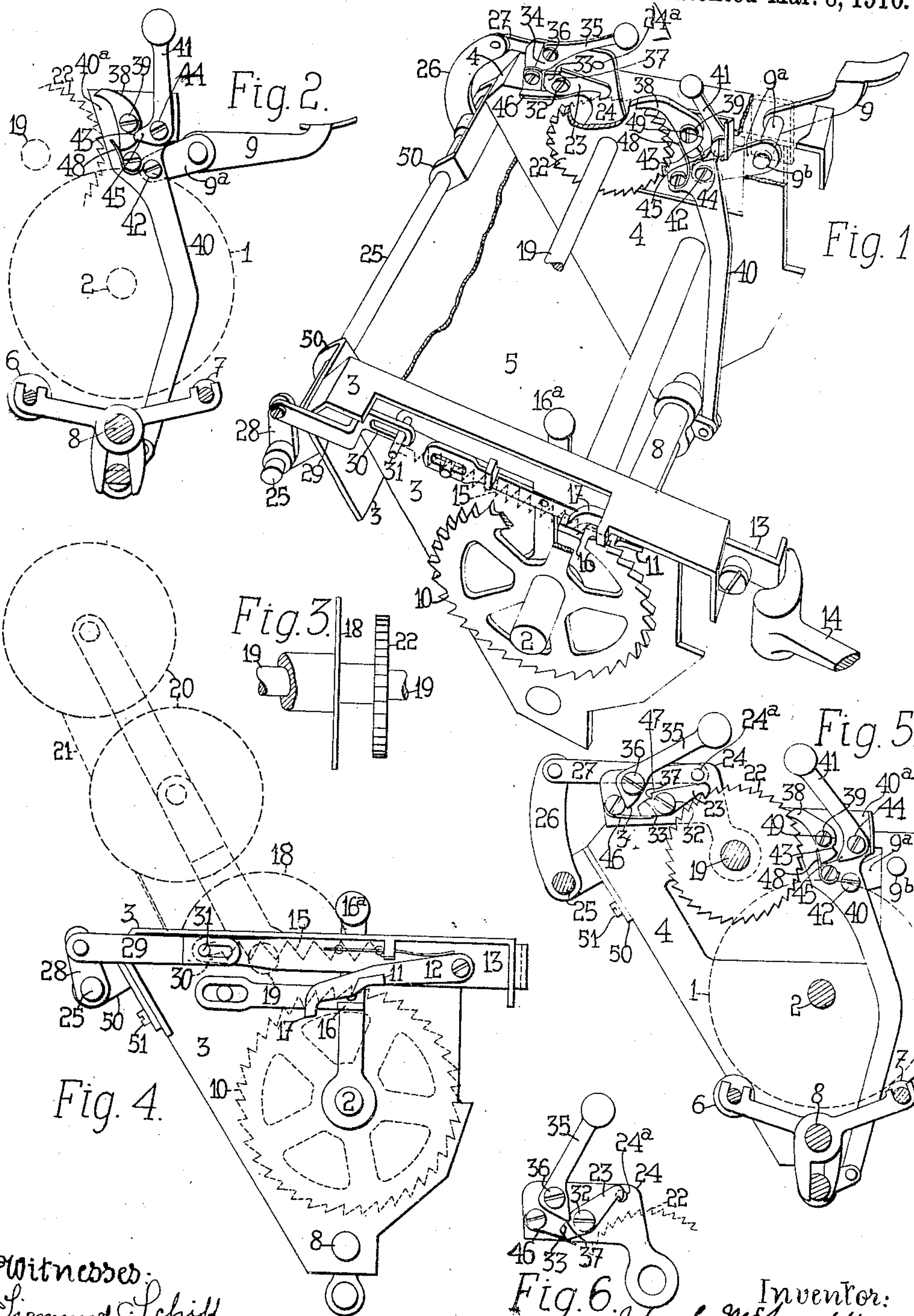


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TYPE WRITING MACHINE.
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UNITED STATES PATENT OFFICE.

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TYPE-WRITING MACHINE.

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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 and controlling devices for typewriting machines, and particularly to machines wherein the tally strip is line-spaced simultaneously with the line-spacing of the paper on the platen, and in which the tally strip may alternatively be fed by the key usually employed to release and restore the pressure rolls which run upon the platen.

The principal object of the invention is to simplify the tally strip feeding mechanism and render it more compact and efficient, and to provide improved means for enabling the operator to silence either or both tally strip feeding mechanisms at will.

Another object is to construct the tally-strip mechanism so that it may be sold as an attachment and readily applied to existing machines, particularly those of the Underwood manufacture.

In the accompanying drawings, Figure 1 is a perspective view showing one embodiment of my invention applied to the Underwood front strike writing machine, omitting the paper shelf. Fig. 2 is a detail side view showing the key-operated pawl or dog out of use. Fig. 3 is a detail view showing the connection between the winding spool and the feeding wheel. Fig. 4 is a detail end view of an Underwood platen frame showing the connection of the tally strip feeding mechanism with the line-spacing mechanism of the platen, the slide of the platen line-spacing mechanism being at the end of its operative stroke. Fig. 5 is a detail view of the two tally-strip feeding mechanisms, the main feeding pawl being shown at the completion of its operative throw. Fig. 6 is a detail view showing the main feeding pawl out of use.

A platen 1 is mounted on an axle 2 journaled in the ends 3, 4 of a platen frame of a typewriting machine. The platen frame includes a paper shelf 5. The platen has the usual pressure rolls 6, 7 supported on a rod 8, and controlled by the usual release

key 9 through a crank 9^a journaled at 9^b in the end 4 of the platen frame and pivoted at 42 to a link 40 connected to the rod 8. The bill or sheet is line-spaced around the platen by a ratchet wheel 10 at one end of the axle 2, engaged by the tooth 11 of a spring-pressed dog 12 pivoted on a slide 13, which is thrown backward by a lever 14, against the tension of a returning spring 15, to engage the tooth 11 with the ratchet 10 and rotate the platen. The effective engagement of the tooth 11 and ratchet 10 is varied by adjusting a trip 16 through a trip lever 16^a, relatively to a nose 17 on the pawl 12.

The tally strip devices include a winding spool 18 journaled on a rod 19 usually extending between the ends 3, 4 of the frame, and one or more delivery spools 20 located above the winding spool, the whole supporting a tally strip 21. The winding spool 18 draws the strip 21 off from the delivery spool 20. A ratchet wheel 22 is connected to the winding spool. A spring-pressed pawl 23 is pivoted at 32 on an arm 24 mounted to swing on the rod 19 and connected to the platen line-spacing mechanism already described. A rock-shaft 25 journaled behind the paper shelf 5 extends from end to end of the frame and has a crank and link connection 26, 27 with the arm 24 at 24^a. An arm 28 and link 29 connect the opposite end of the rock-shaft to the slide 13.

I loosely connect the link 29 and slide 13 to reduce the extent of throw of pawl 23. This is done by a slot 30 in the link 29 engaged by a pin 31 on the slide 13. When the spacing lever 14 drives the slide backward against the tension of the spring 15, the pin moves idly in the slot first, and finally causes the link 29 to swing the pawl 23 to feed the tally strip. The spring 15 returns the parts to normal positions.

To permit the line-spacing mechanism to turn the platen without feeding the tally strip, I provide a throw-off lever or device 35, pivoted intermediate its ends at 36, directly to the swinging arm 24, to raise the pawl 23 from the tally strip ratchet 22. When the throw-off 35 is turned, one arm or end 34 thereof rides onto and depresses the tail 33 of the pawl to swing it against the tension of its spring 46 to disengage its tooth end from the ratchet.

I provide a stop 47 on the pawl 23, which

arrests the throw-off 34, 35. The end 34 of the throw-off then seats in a depression 37 on the pawl 23 (one side of the depression consisting of the stop 47.) This prevents the spring from camming the throw-off back to idle position. A slight pressure on the handle of the throw-off 35 will overcome the spring tension to release the end 34 from the depression 37 in which it is seated, and permit the pawl 23 to be thrown into use by the spring.

The usual pressure-roll release key 9 may operate a separate pawl 38 to turn the tally-strip ratchet wheel 22 when the platen is stationary. Such pawl 38 is pivotally mounted, as at 39, on an extension 40^a of the link 40, which connects the key 9 and the pressure rolls 6, 7. On this link is also pivoted intermediate its ends, as at 44, a throw-off or releaser 41, to silence the pawl 38.

The throw-off may be in construction and operation similar to the throw-off 35 already described. It has an arm 45 which is brought against the tail of the pawl 38 to silence the latter, such arm being arrested by a stop 49 when the pawl is silenced, and seated by the spring 48 in a notch 43 in the pawl, where it remains against accidental displacement to retain the pawl out of use.

The invention provides a compact and simplified means for controlling the tally strip feed, and one which is readily applicable to existing machines without change. Thus it will be observed that the link 40 may be easily substituted for the ordinary link connecting the pressure rolls and the release key in the usual machine. Such link 40 in addition carrying the tally strip feeding pawl 38 and the simple, easily manipulated throw-off therefor. It is also to be noted that the swinging arm 24 carries both the pawl 23 and the throw-off 34, 35 and may be readily applied to the usual rod 19 supporting the tally strip devices.

The brackets 50, which carry the rock-shaft 25, are secured upon the back of the paper shelf by the screws 51, which usually attach said paper shelf to the platen frame end 3 (Fig. 4). The attachment therefore would comprise the link 30, the rock-shaft 25, brackets 50, the link 27, the arm 24, with its appurtenances, the tally strip spools, with their appurtenances, and the link 40, with its appurtenances.

It is manifest that the parts can be attached to any standard Underwood machine, without previously altering the construction thereof, as the link 40 will readily take the place of the usual link, and the remaining

parts are likewise adapted to attach readily to the platen frame.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with tally strip devices, of a line-spacing mechanism therefor, including a ratchet wheel connected with the tally strip devices, a swinging arm, a pawl pivoted thereto to engage the ratchet, and a throw-off also carried by the arm, one end of the throw-off engaging the tail of the pawl to shift the pawl away from the ratchet wheel.

2. In a typewriting machine, the combination with tally strip devices, of a line-spacing mechanism therefor, including a ratchet wheel connected with the tally strip devices, a swinging arm, a spring-pressed pawl pivoted thereto to engage the ratchet, and a throw-off acting upon the pawl to silence the latter, the pawl having a combined stop and seat for arresting the throw-off when the latter has silenced the pawl, and interlocking it with the pawl; the throw-off being held in active position by the spring tension on the pawl.

3. In a typewriting machine, the combination with tally strip devices, of a line-spacing mechanism therefor, including a ratchet wheel connected with the tally strip devices, a swinging arm, a pawl pivoted thereto to engage the ratchet, a throw off engaging the pawl to silence the latter, and means for releasably interlocking the pawl and throw-off to maintain the pawl in silenced position.

4. In a typewriting machine, the combination with a platen frame having a platen, line-spacing mechanism therefor, and tally strip devices including a winding spool and ratchet, of tally strip feeding mechanism comprising a rock shaft attached to the back of the platen frame by bearings, a link and arm connecting the rock shaft and the platen line-spacing mechanism, a swinging arm carrying both a pawl and throw-off therefor, associated with the winding spool, and a crank and link connecting the swinging arm and the rock-shaft.

5. In a typewriting machine, the combination with a platen frame having a platen, pressure rolls on the platen, a release key therefor, and tally strip devices including a ratchet, of a link connecting the release key and pressure rolls and carrying both a pawl and a throw-off therefor, the pawl cooperating with the ratchet to feed the tally strip.

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