

May 22, 1934.

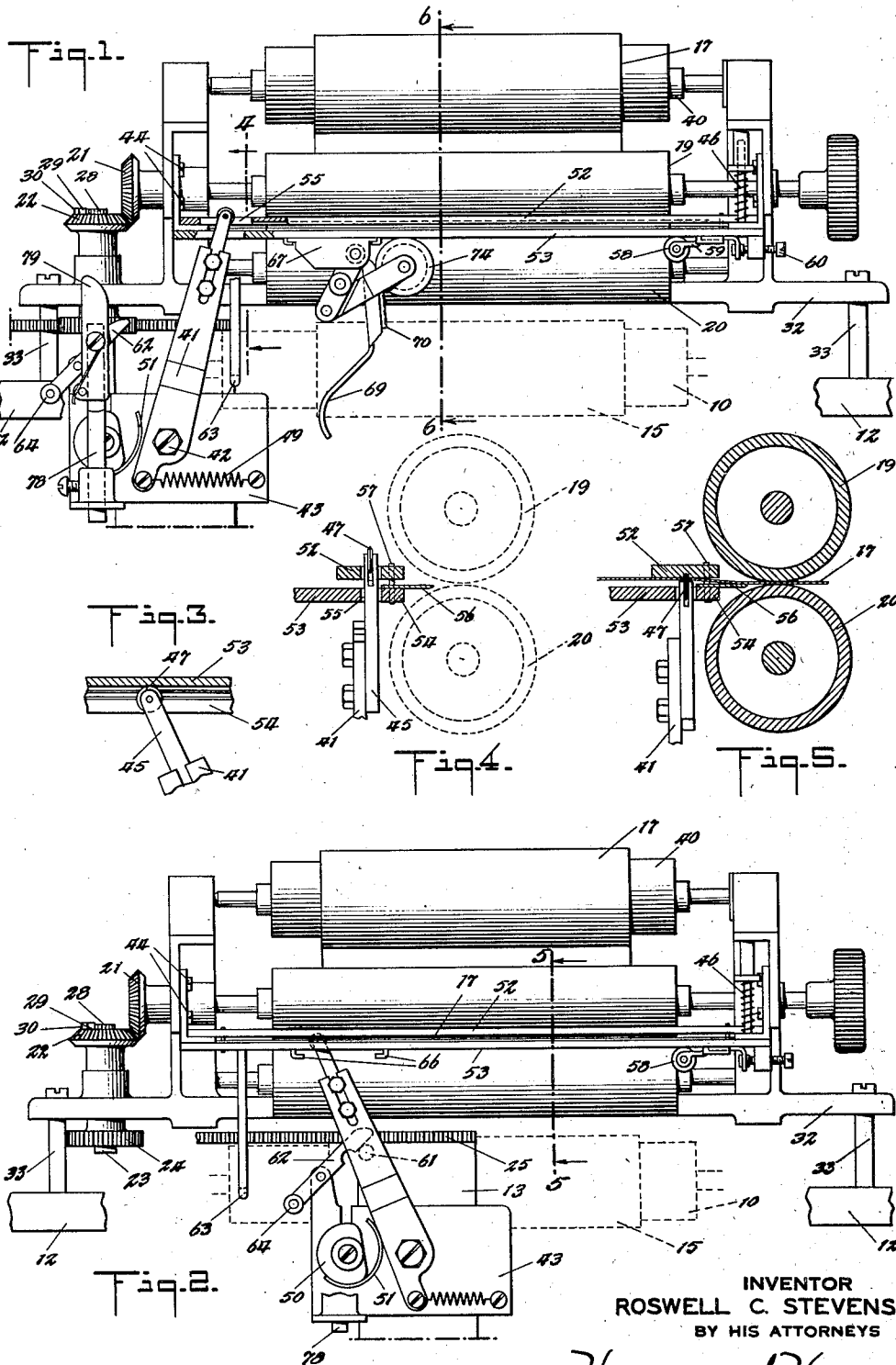
R. C. STEVENS

1,960,175

CUTTER FOR TYPEWRITERS

Filed Feb. 10, 1933

2 Sheets-Sheet 1



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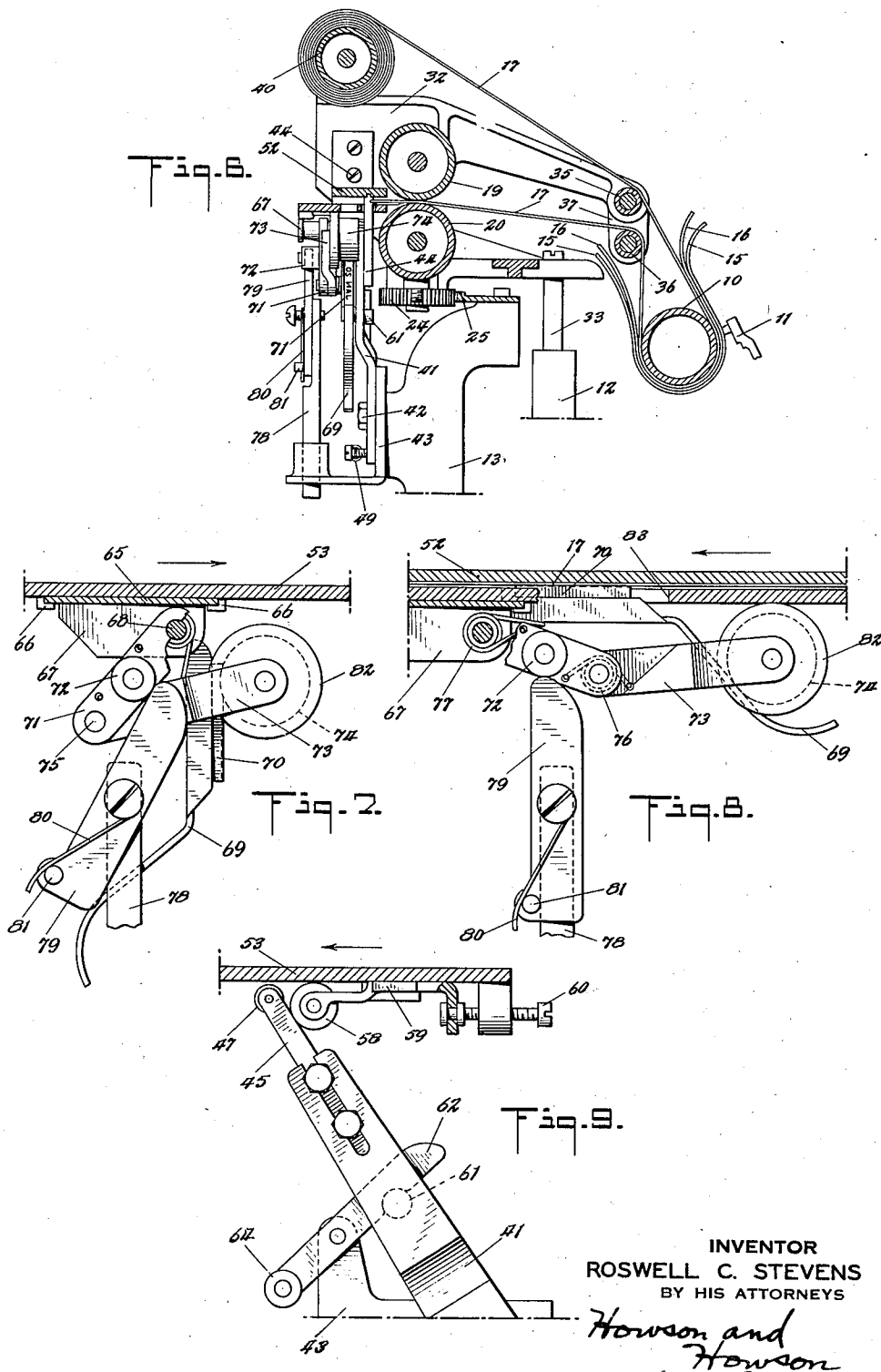
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UNITED STATES PATENT OFFICE

1,960,175

CUTTER FOR TYPEWRITERS

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Application February 10, 1933, Serial No. 656,185

30 Claims. (Cl. 197—133)

This invention relates to typewriter attachments, and more particularly to devices of this character which are actuated by the return movement of the typewriter carriage.

It is the main object of the invention to provide a device of this character for cutting typed portions of a paper, leaving a remaining portion in the typewriter for further typing.

Another object of the invention is to provide a device of the character described for stamping indicia on the paper.

Further objects are to simplify and improve the construction and operation of devices of this character, to render them economical to manufacture, convenient in use, and otherwise well adapted for the purposes set forth.

Other objects and features of novelty will be apparent as the following description proceeds, reference being had to the accompanying drawings, in which

Figure 1 is a rear elevation of a typewriter having the preferred embodiment of the present invention applied thereto, showing the carriage near the end of its forward or typing movement;

Figure 2 is a view similar to Figure 1, showing the carriage starting on its return movement;

Figure 3 is a detail of the cutter;

Figure 4 is a section taken along the line 4—4 of Figure 1 showing the cutter in inoperative position;

Figure 5 is a section taken along the line 5—5 of Figure 2, showing the cutter in position operative to cut the paper;

Figure 6 is a section taken along the line 6—6 of Figure 1;

Figure 7 is a detail of the stamping mechanism in retracted position;

Figure 8 is a view similar to Figure 7, but showing the stamping position, and

Figure 9 is a detail of the cam and latch for the cutter mechanism.

The subject matter of this application embraces improvements upon and combinations with the subject matter of the co-pending application of Louis E. Youell, Serial No. 605,505, filed April 15th, 1932, for Typewriter attachment.

The invention is of general application to various kinds of typewriters, and for this reason it has been illustrated in connection with a conventional typewriter, of which the platen 10, type bar 11, and portions of the carriage 12 and stationary frame 13, are shown. In Figure 6 a sheet 15 which is to constitute the original being typed, is passed around the platen 10 so as to receive the impression from the type bar 11. A carbon

web 16 passes around the platen under the sheet 15, and a copy sheet 17 passes around the platen under both sheets 15 and 16.

In the form shown, it is desired to line space the copy sheet 17 a greater distance than that of the original sheet 15. For this purpose a roller 19 is provided, and the sheet 17 is passed between this roller 19 and a coacting pressure roller 20.

The roller 19 is driven by movement of the carriage 12. For this purpose, the shaft of the roller 19 has keyed thereto a bevel gear 21 which meshes with a bevel gear 22 loosely mounted on a shaft 23. Keyed to the shaft 23 is a spur gear 24 which meshes with a rack 25 secured to the stationary frame portion 13 of the typewriter. As shown in Figures 1 and 2, a ratchet wheel 28, is rigidly secured to the shaft 23 and cooperates with a pawl 29 pivoted on the gear 22. This pawl is biased into engagement with a ratchet wheel 28 by means of a spring 30.

It should be noted that in the form shown, the sheet 15 is wider than the sheet 17, so that the margins of the sheet 15 may be engaged by the customary feeding rollers which cooperate with the platen. The sheet 17 however, is relatively narrow, so that it may slide around the platen 10 underneath the sheet 15, as it is not wide enough to be caught by the platen pressure rollers.

With this arrangement, the sheet 15, after a line has been typed thereon, the line being reproduced on the sheet 17 by means of the carbon 16, the sheet 15 may be line spaced by the mechanism normally provided on the typewriter for this purpose, generally during the return movement of the carriage. As the carriage returns, the gear 24 meshing with the rack 25 is rotated, and imparts this rotation to the shaft 23 and the ratchet 28.

Through the pawl 29 which engages the ratchet 28, the bevel gears 21 and 22 are rotated to drive the roller 19 and thus advance the sheet 17 for a distance commensurate with the length of the rack 25 which is engaged by the gear 24. Thus by changing the location of the rack 25 laterally, the distance through which the sheet 17 is moved by the return movement of the carriage may be readily adjusted.

During the forward movement of the carriage for the typing operation, the gear 24 again meshes with the rack 25 and rotates the ratchet 28. However, during this forward motion, the ratchet escapes under the pawl 29 without positively engaging the same, so that this motion of the shaft

23 is an idling motion, and no movement is imparted to the gears 21 and 22.

The rollers 19 and 20 are preferably mounted in an auxiliary frame 32 which may be conveniently supported by a pair of bolts 33 extending upwardly from the carriage portion 12, which may be the customary tabular bar.

The sheet 17 is preferably a continuous web, and a supply roller 40 therefor is journaled in the frame 32. Guide rollers 35 and 36 are carried by extensions 37 of the auxiliary frame 32. From the roller 40 the sheet 17 passes over roller 35, around the platen 10, over roller 36, and between the rollers 19 and 20. The carbon sheet 16 and the original sheet 15 may be inserted in the typewriter in the usual manner, or otherwise fed thereto as desired.

While the invention is not so limited in its use, it is of particular advantage with respect to the operation of typing a master sheet of closely spaced items, carbon impressions of these items being widely spaced on a continuous web, which is to be stamped and/or severed to produce individual copy slips for each item. Hence the copy web may be advanced by the return movement of the carriage as described above, and stamping and/or cutter mechanism is actuated by the remainder of the carriage return movement.

As shown in Figures 1 and 2, an arm 41 is pivoted on a bolt 42 carried by a plate 43 mounted on the frame 13. Adjustably secured to the arm 41 is a bar 45 in which is rotatably mounted a cutter wheel 47. The arm 41 is biased in one direction about its pivot by a helical spring 49 secured to the plate 43. A block 50 is adjustably mounted on the plate 43, and carries a leaf spring 51 which serves as a resilient stop for the arm 41.

A backing strip 52 is mounted on the carriage, having one end secured to the frame 32 as at 44, and the other end yieldably mounted on a spring 46. Guides 53 and 54 are mounted under the strip 52, and the cutter bar 45 passes between the guides. The backing strip 52 has a slot 55 at one end thereof, through which the cutter bar 45 and cutter wheel 47 may pass.

As shown in Figures 4 and 5, the backing strip 52 and guides 53 and 54 are mounted close to the rollers 19 and 20, to receive the web 17 therefrom. To facilitate the passage of the web 17, a flapper plate 56 is loosely mounted on pins 57 between the backing strip 52 and the guide 54.

As shown in Figure 9, a cam roller 58 is carried by a slide 54 mounted on guide strip 53, and adjustable thereon by a screw 60. This cam roller is mounted in the path of the cutter bar 45 so as to cam it downwardly, to bring a pin 61 on the arm 41 into the notch of a latch 62 pivoted on an extension of the plate 43. The other end of the guide strip 53 carries a trip 63 in the path of a release roller 64 on the latch 62.

In operation, the initial part of the carriage return movement advances the copy strip 17 as described, and during this initial movement the cutter bar 45 extends upwardly through the slot 55. Further movement of the carriage causes the cutter to ride down through the slot, bringing the arm 41 against the leaf spring 51. Thus during the remainder of the carriage return movement, this spring causes the cutter wheel 47 to bear against the paper 17 and cut it against the backing strip 52. As the bar 45 passes beyond the strip 17, it engages the cam wheel 58, and the cutter wheel 47 is latched in position clear of the paper, for the typing stroke of the car-

riage. At the end of the typing stroke, the latch is released by the roller 64 engaging the trip 63, which permits the cutter to pass up through the slot 55, for the sheet advancing portion of the return stroke.

The guide strip 53 carries mechanism for stamping the strip 17. In the form shown in Figures 7 and 8, this mechanism is detachable for overhaul and adjustment, being mounted on a plate 65 slidable in guides 66 carried by the strip 53. The plate 65 carries a housing 67 with a pin 68 therein, on which is pivoted a stamp arm 69 carrying a changeable rubber dating stamp 70.

A toggle link 71 is pivoted on the pin 68 and carries an operating roller 72. A second toggle link 73 has pivoted thereon an inking roller 74, the toggle links being pivoted at 75 and biased to closed position by spring 76 coiled about the pivot. This spring is stronger than a spring 77, coiled about the pin 68, and which urges the stamp arm 69 toward the bar 53, and thus normally holds the parts in the position shown in Figure 7. A stem 78 extends up from an adjustable mounting on the plate 43 and has a trip 79 pivoted thereon. A spring 80 permits the trip to yield in one direction, and a pin 81 prevents yielding in the other direction.

In operation, after the initial part of the carriage return movement has advanced the strip 17, further movement causes the roller 72 to engage the trip 79 which does not yield in this direction. Hence the trip 79 overcomes the spring 76, and spreads the toggle, causing a flange 82 on the inking roller 74 to roll along the underside of the strip 53. This permits the spring 77 to swing the arm 69 upwardly, and push the stamp 70 through an aperture 83 in the strip 53, and thus stamp the paper 17 against the backing strip 52 as shown in Figure 8.

As the roller passes the trip 79, the spring 76 is released, and draws the parts back to the position of Figure 7. In this movement the inking roller rides along the arm 69 and the stamp 70, thus inking the stamp for the next impression. On the typing stroke of the carriage, the spring 80 yields and permits the trip 79 to ride under the roller 72 without actuating the stamp mechanism.

The invention is not limited to the details disclosed, but instead includes such embodiments of the broad ideas as fall within the scope of the appended claims.

I claim:

1. In combination with a typewriter having a carriage and a platen adapted to receive a paper, means actuated by return movement of said carriage for relatively moving another paper around said platen, and means actuated by further movement of said carriage for cutting the paper advanced by said first mentioned means.

2. In combination with a typewriter having a carriage and a platen adapted to receive a carbon web, means independent of the platen and actuated by movement of said carriage for moving paper around said platen relative to said carbon web, and means actuated by further movement of said carriage for severing the paper advanced by said first mentioned means.

3. In combination with a typewriter having a frame and a carriage thereon having a platen, means for simultaneously typing papers on said platen, means actuated by initial return movement of said carriage for advancing one of said papers more than another, and means actuated by the remainder of the carriage return move-

ment for cutting the more advanced typed paper.

4. In combination with a typewriter having a frame and a carriage, an arm pivoted on said frame, a cutter carried by said arm, and means for swinging said arm in a plane parallel to the movement of the carriage to bring said cutter into engagement with paper thereon and then holding said arm stationary, whereby movement of said carriage causes cutting of said paper.

5. In combination with a typewriter having a frame and a carriage, an arm pivoted on said frame, a cutter wheel carried by said arm, means for actuating said arm to cause said cutter wheel to cut paper on said carriage upon movement of said carriage, said means also serving to move said cutter wheel to inoperative position upon further movement of the carriage.

6. In combination with a typewriter having a frame and a carriage, guides on said carriage between which typed paper passes, an arm pivoted on said frame, a cutter wheel carried by said arm, and means for causing said cutter wheel to force the paper against one of said guides, to sever the paper upon return movement of the carriage.

7. In combination with a typewriter having a frame and a carriage thereon having a platen, a backing strip, means for yieldingly mounting said backing strip on said carriage to receive paper from said platen, a cutter wheel, and means mounted on said frame for causing said cutter wheel to cut the paper against said yieldingly mounted backing strip, upon return movement of said carriage.

8. In combination with a typewriter having a carriage and a platen, means for moving paper around said platen, means actuated by return movement of said carriage for cutting said paper, including a cutter wheel and means for camming said cutter wheel out of the path of said paper for the forward movement of said carriage.

9. In combination with a typewriter having a carriage and a platen, means for moving paper around said platen, means actuated by return movement of said carriage for cutting said paper, means for camming said cutting means out of the path of said paper for the forward movement of the carriage, means for latching said cutting means in cammed position, and means for releasing said latch for the return movement.

10. In combination with a typewriter having a frame and a carriage thereon having a platen, a backing strip under which typed paper from said platen passes, an arm pivoted on said frame carrying a cutter wheel, said backing strip having an aperture through which said cutter passes at the end of the forward movement of the carriage, and means for actuating said arm to withdraw said cutter from said aperture and to cause said wheel to cut the paper against said backing strip during the return movement of the carriage.

11. In combination with a typewriter having a carriage and a platen, means actuated by movement of said carriage for cutting and stamping the paper typed on said platen.

12. In combination with a typewriter having a carriage and a platen around which paper passes, a cutter, a stamp, and means actuated by movement of said carriage for causing said cutter and said stamp to act upon said paper.

13. In combination with a typewriter having a carriage and a platen around which paper passes,

means for stamping said paper, means for severing said paper, and means for actuating both of said means by movement of the carriage.

14. In combination with a typewriter having a frame and a carriage thereon having a platen, a backing strip receiving paper from said platen, an arm pivoted on said frame carrying a cutter wheel, a stamp pivoted on said carriage, and means for causing said wheel and said stamp to force said paper against said backing strip.

15. In combination with a typewriter having a frame and a carriage thereon having a platen, means on said carriage for passing paper around said platen, and cooperating means on said carriage and frame actuated by movement of the carriage for cutting and stamping said paper.

16. In combination with a typewriter having a carriage, a backing strip on said carriage, a guide strip associated with said backing strip, means for causing paper to pass between said strips, a cutter adapted to pass along said guide strip to cut the paper against said backing strip, said guide strip having an aperture therein, and stamp mechanism detachably carried by said guide strip and operable upon said paper through said aperture.

17. In combination with a typewriter having a frame and a carriage thereon having a platen around which paper passes, means for typing paper on said platen, a backing strip under which the paper passes, an arm pivoted on said frame carrying a cutter wheel, said backing strip having an aperture through which said cutter passes at the end of the forward movement of the carriage, and from which said cutter returns, and means for actuating said arm for causing said wheel to cut the paper against said backing strip during part of the return movement of the carriage.

18. In combination with a typewriter having a frame and a carriage thereon having a platen, means for typing paper on said platen, a backing strip under which the paper passes, a support detachably mounted on said carriage near said backing strip, a stamp pivoted on said support and biased toward said backing strip, an inking device biased to hold said stamp away from said backing strip, and means for moving said inking device clear of said stamp for causing said stamp to stamp said paper against said backing strip during part of the return movement of the carriage.

19. In combination with a typewriter having a carriage and a platen adapted to receive a paper, a cutter, means for causing said cutter to follow behind said platen during the forward movement of the carriage, and means actuated by return movement of said carriage for causing said platen to overtake and said paper to engage said cutter.

20. In combination with a typewriter having a frame and a carriage thereon having a platen, a stamp pivoted on said carriage, means for cutting the paper typed on said platen, and means operated by movement of said carriage for actuating said stamp and cutting means.

21. In combination with a typewriter having a main frame and a carriage thereon provided with a platen around which paper passes and means for typing on said paper, mechanism for stamping said paper, and means independent of said typing means actuated in timed relation to the movement of said carriage for actuating said stamping mechanism.

22. In combination with a typewriter having a main frame and a carriage thereon provided with

- a platen around which paper passes, means for stamping said paper, means for cutting said paper, and means actuated in timed relation to the movement of said carriage for actuating said cutting and stamping means. 80
23. In combination with a typewriter having a frame and a carriage thereon having a platen, coating pressure rollers mounted on said carriage for drawing paper around said platen, means cooperating with said frame for driving said rollers and actuated by the initial part of the return movement of said carriage, and means actuated by a further return movement of said carriage for severing said paper. 85
24. In combination with a typewriter having a frame and a carriage thereon having a platen, coating pressure rollers mounted on said carriage for drawing paper around said platen, means for driving said rollers actuated by the initial part of the return movement of said carriage, and means actuated by a further return movement of said carriage for stamping said paper. 90
25. In combination with a typewriter having a carriage and a platen around which paper passes, a stamp biased toward said paper, an inking device biased to hold said stamp away from said paper, and means actuated by return movement of said carriage for moving said inking device clear of said stamp. 95
26. In combination with a typewriter having a carriage and a platen adapted to receive a paper, means actuated by return movement of said carriage for stamping said paper. 100
27. In combination with a typewriter having a carriage and a platen, means actuated by return movement of said carriage for moving paper around said platen and means actuated by further movement of said carriage for stamping the paper advanced by said first mentioned means. 105
28. In combination with a typewriter having a carriage and a platen, means independent of the platen and actuated by movement of said carriage for moving paper around said platen, and means actuated by further movement of said carriage for stamping the paper advanced by said first mentioned means. 110
29. In combination with a typewriter having a carriage and a platen adapted to receive a carbon web, means actuated by movement of said carriage for moving paper around said platen relative to said carbon web, and means actuated by further movement of said carriage for stamping the paper advanced by said first mentioned means. 115
30. In combination with a typewriter having a frame and a carriage thereon having a platen, means for simultaneously typing papers on said platen, means actuated by initial return movement of said carriage for advancing one of said papers more than another, and means actuated by the remainder of the carriage return movement for stamping the more advanced typed paper. 120
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