No. 889,605. PATENTED JUNE 2, 1908.

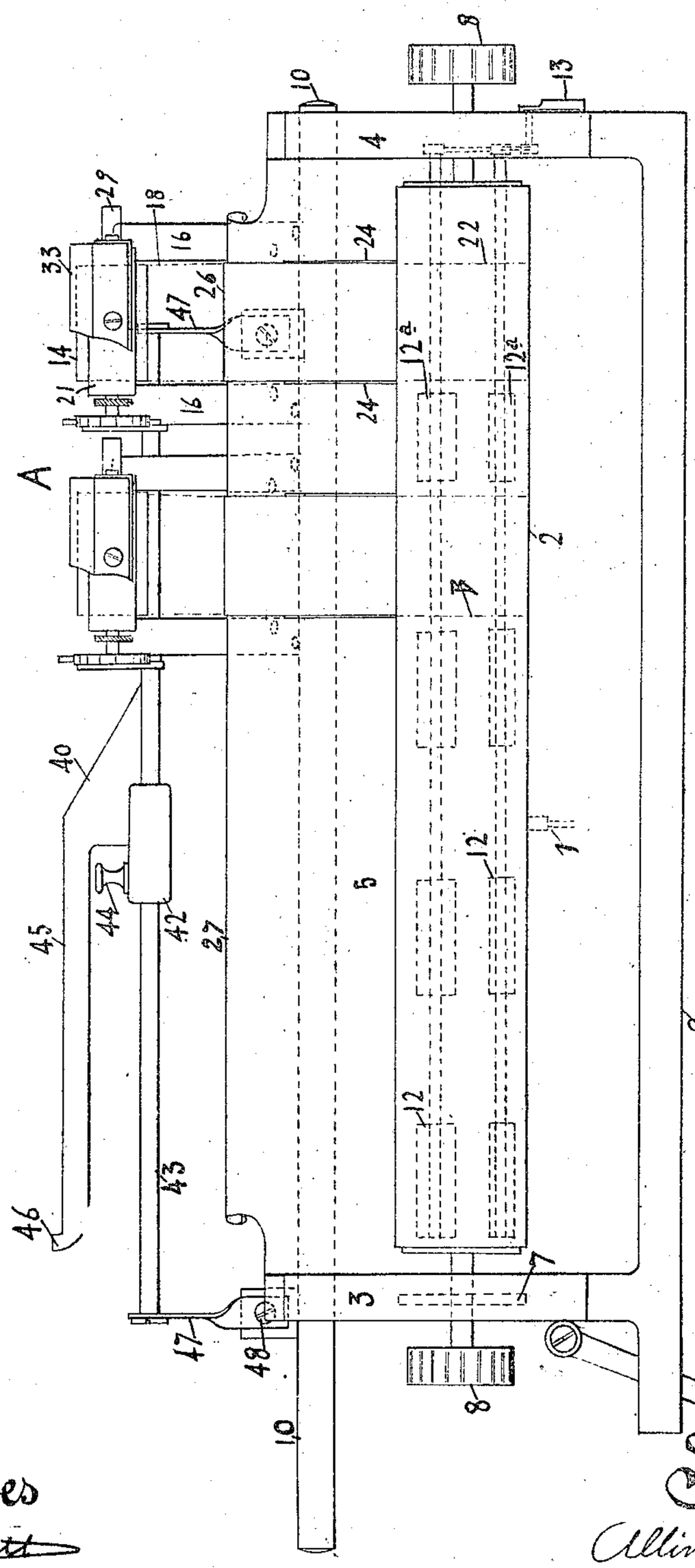
A. W. HEWITT.

TYPE WRITING MACHINE.

APPLICATION FILED OCT. 25, 1905.

4 SHEETS—SHEET 1.

Fig. 1.



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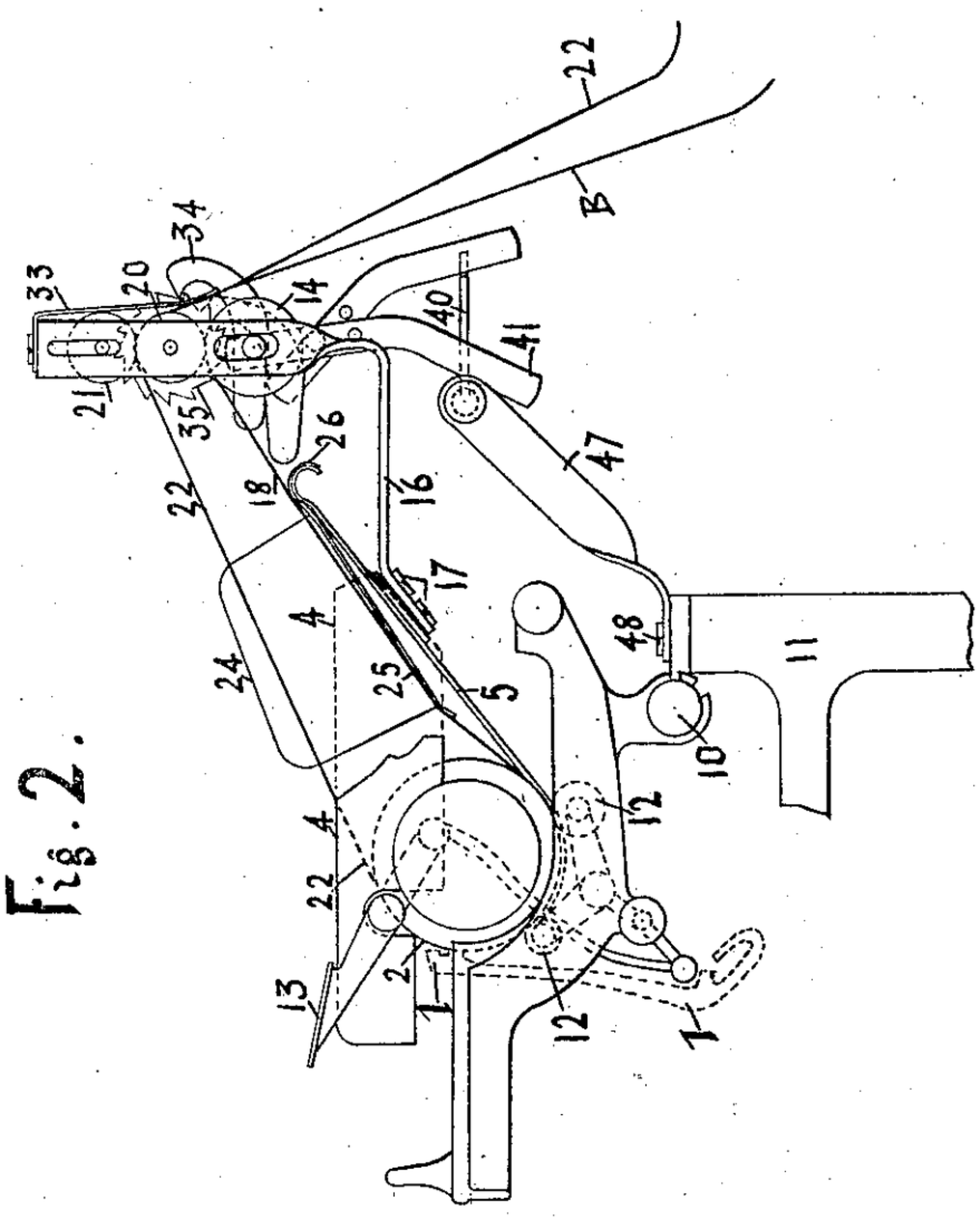
4 SHEETS—SHEET 2

Fig. 2.



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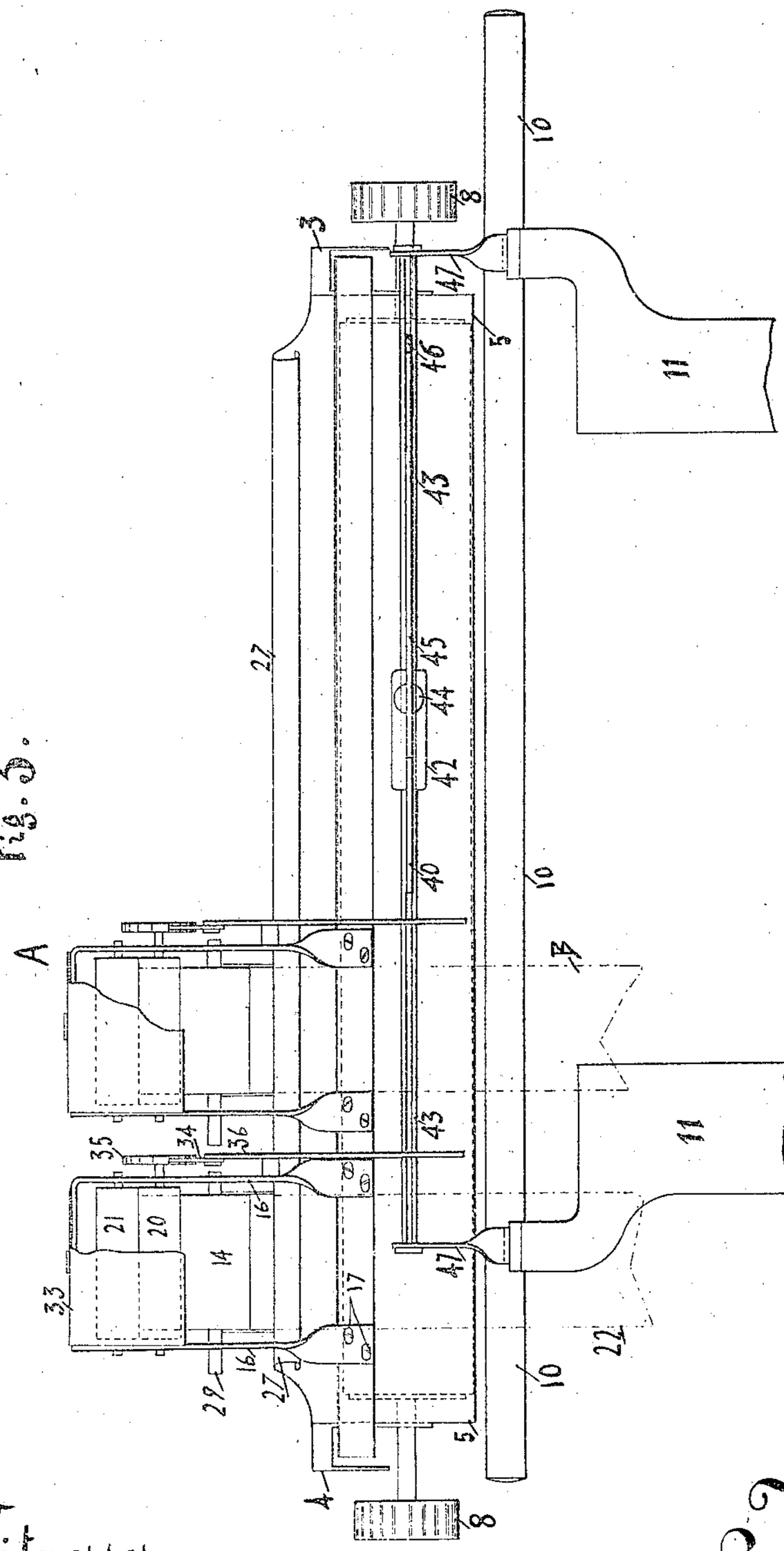
4 SHEETS—SHEET 3.

Fig. 3.



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4 SHEETS—SHEET 4.

Fig. 5.

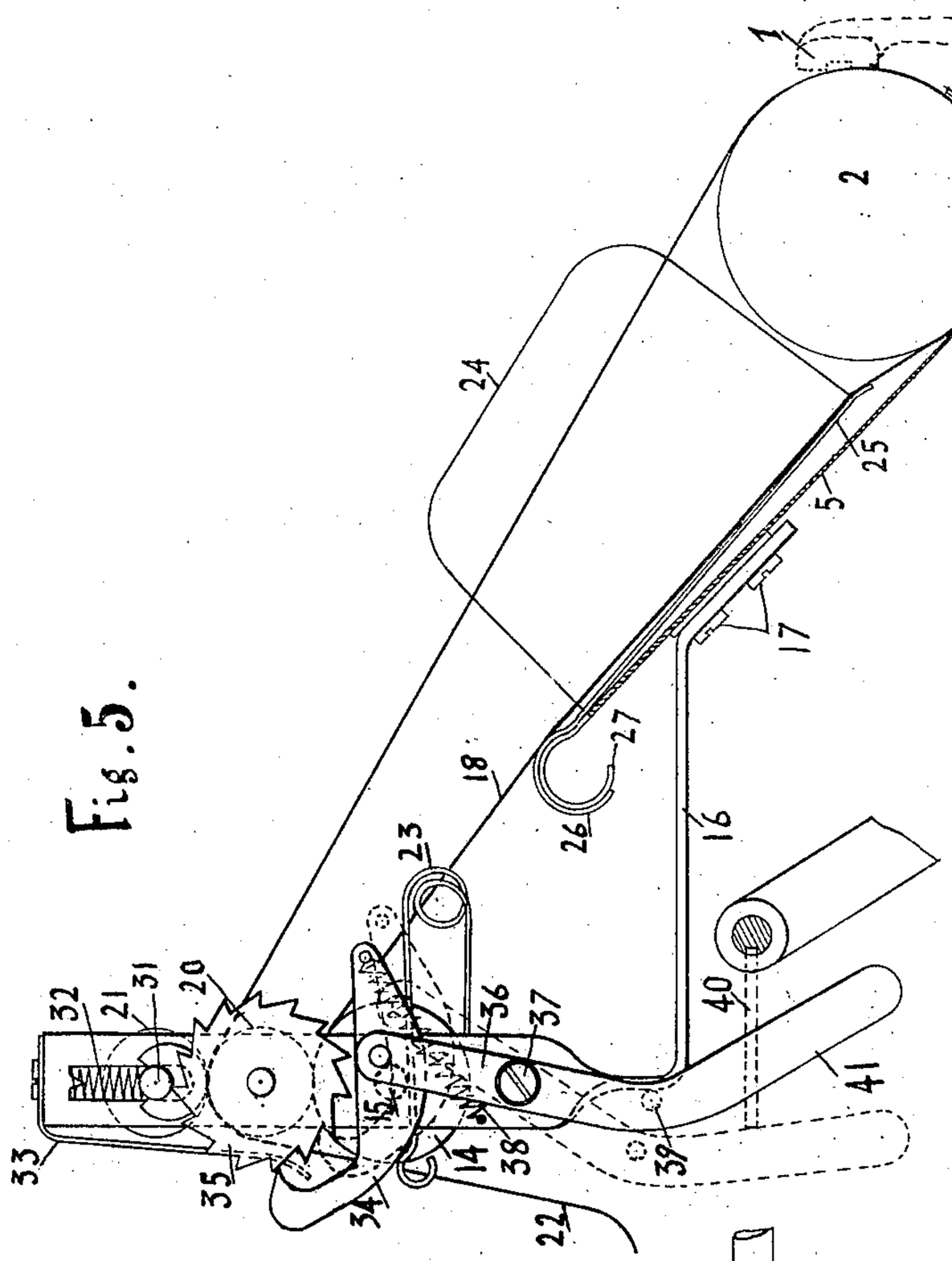
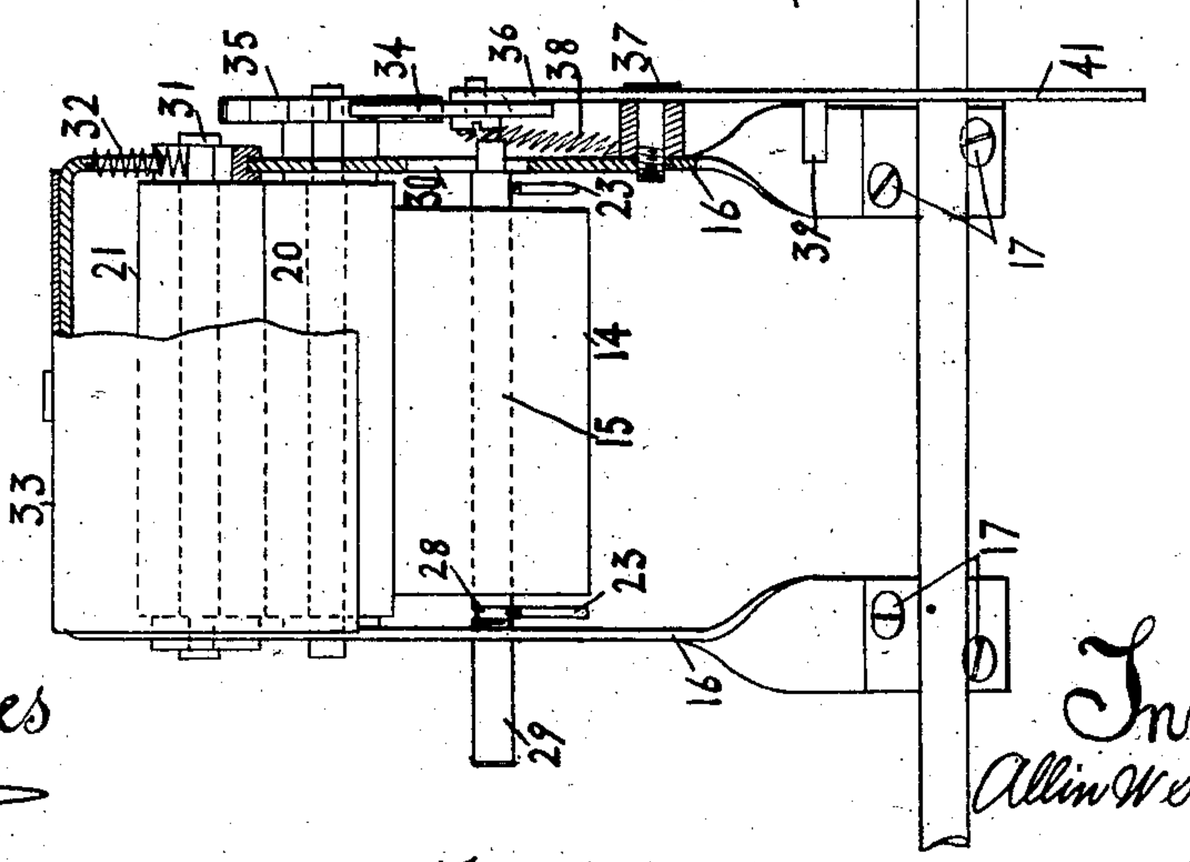


Fig. 4.



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UNITED STATES PATENT OFFICE.

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TYPE-WRITING MACHINE.

No. 889,605. Specification of Letters Patent. Patented June 2, 1908.

Application filed October 25, 1905. Serial No. 284,365.

To all whom it may concern:

Be it known that I, ALLIN W. HEWITT, a citizen of the United States, residing in Bogota, in the county of Bergen 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 typewriting machines employed for billing and analogous purposes, and particularly to those machines in which it is desired to enter upon a single paper ribbon or strip, the amounts of a succession of bills or the like, which are written upon the typewriting machines.

One of the principal objects of the invention is to provide simple, inexpensive, readily attached and easily operable means for line-feeding a tally strip.

Another object is to relieve the operator of the necessity of attending to the line-feeding of the tally strip.

Another object is to provide convenient means for entering tallies upon different strips, so that one strip can be employed for one purpose, as in entering the amounts of all bills which are written in one day, while another strip can be used for another purpose as for entering the total sales of successive days.

In carrying out my invention in its preferred form, I mount at one end of the paper carriage, means for drawing a tally strip around the platen in position to be written on, the device being mounted preferably near one end of the platen and the latter being of the usual unipartite type. I so contrive the machine that the platen may be rotated either forwardly or backwardly without disturbing the strip carried thereon; and I also provide means whereby when the carriage is moved into position for writing on the strip, the line-feeding of the strip is effected, thereby relieving the operator of the necessity of attention to the feeding of the strip. I provide also in some cases for the placing of a series of strips side by side around the platen, each to be line-fed only when in position to be written upon.

Other objects and advantages will hereinafter appear.

In the accompanying drawings, Figure 1 is a plan of an "Underwood" front strike writing machine provided with one form of my improvements. Fig. 2 is an end elevation, and Fig. 3 a rear elevation. Fig. 4 is a rear elevation partly in section of one of the strip feeding devices, and Fig. 5 is a side elevation thereof.

Types 1 strike upon the front side of a cylindrical platen 2, revolubly mounted in a platen frame comprising ends 3, 4, and a rear plate or paper shelf 5; said platen being revoluble forwardly by means of a line-spacing mechanism including a lever 6 and a line space wheel 7, and also being revoluble either forwardly or backwardly by hand wheels 8. The platen frame is mounted upon a carriage 9, which is guided along a rail 10 mounted upon the framework 11 of the machine. Said line-spacing mechanism serves to feed the usual bills or main sheets, which are held against the platen by the usual pressure rolls 12, the latter being releasable by the usual lever 13.

Around the platen, and preferably at the extreme right hand end thereof, I carry a tally strip or paper ribbon, which may be supplied in the form of a coil 14 carried by a core or shaft 15, mounted between a pair of arms 16, detachably secured by screws 17 on the rear side of said plate 5. The strip extends downwardly and forwardly from the coil, as at 18, and is led around the under side of the platen between the latter and the usual curved deflector 19, and is hence carried up around the front side of the platen and back over the same, and between a pair of feeding rolls 20, 21, whereby the strip is drawn up from the platen; the leading end of the strip hanging from the rear of said feed rolls as at 22. The axle 15 of the coil is pressed upwardly, at its ends by a pair of springs 23, whereby the coil is pressed against the feed roll 20, so that the latter both draws the strip from the platen, and causes the strip to pay off from the coil, these linear movements of the strip being equal, as each depends upon the surface movement of the single roll 20. The strip or ribbon is sufficiently taut, so that it clings to the platen tightly enough for writing purposes, but does not interfere in any way with the rotation of the platen, so that the latter may be turned freely in either direction, while the strip remains stationary. In order to prevent lateral displacement of the strip along the platen, I provide a pair of side guides 24, which extend upwardly from

the sides of a thin plate 25, whose upper end is formed into a claw 26 to catch detachably upon the usual rim 27, rolled upon the top of the plate 5.

One of the springs 23 fits in a groove 28, Fig. 4, formed in the axle 15, thereby yieldingly retaining the same, so that by pulling upon the projecting end 29 of said axle, the latter may be withdrawn. The brackets 16 have vertical slots 30 to permit upward play of the axle 15, as the paper pays off from the coil. The roll 21 is provided with an axle 31, upon the end of which bear springs 32, to cause the required pressure between rolls 21 and 20.

A plate 33 extends down in rear of the feed roll 20 to deflect the strip downwardly, as it is fed out by the rolls.

Intermittent rotation of the roll 20 for the purpose of advancing the strip line by line is effected by a pawl 34, engaging a ratchet wheel 35 secured to said roll, said pawl mounted upon a lever 36, and the latter pivoted at 37 upon one of the brackets 16. A returning spring 38 for the pawl and lever holds the pawl in engagement with the ratchet wheel, and also holds a stop 39 upon the lever against the bracket arms 16. The preferred means for operating the lever comprises a fixed cam 40 placed in the path of the lower end of the lever, so that during the longitudinal or letter-feeding movement of the carriage, said lever arm 41 engages the cam, and is thereby moved from the full line to the dotted line position at Fig. 5, thereby acting through the pawl 34 to rotate the strip-feeding ratchet-wheel 35. This movement takes place just before the strip reaches the printing position, the cam being so related to the point where the types 1 strike, at Fig. 1, that the strip is fed just before reaching the printing field. Hence whenever the carriage makes an excursion to and from the position for writing on said strip, the latter is fed in line space direction, although it is immaterial at what part of said excursion such feeding is done. It may be done upon the return stroke of the carriage. By this means the operator is relieved of all care as to the feeding of the strip, and needs only to write the entries thereon, the line-feeding being effected automatically for each entry, and no line feeding of the strip being effected during the insertion or writing of the bill, or at any time, except when an entry is made upon the strip.

The cam 40 is in the form of a plate adjustably secured by a collar 42, upon a fixed rod 43, whereby the cam may be adjusted in the direction of the travel of the carriage; a thumb screw 44 serving to hold the collar and cam wherever adjusted. The lever is held in the operative or dotted line position, at Fig. 5, by means of a straight edge or dwell portion 45; and upon the return of the carriage said lever rides back along said straight edge 45, and then down along the cam 40 to normal position. At the end of the straight edge 45 may be formed a stop 46, which arrests the carriage, so that the lever may not ride off from the left hand end of the member 45. The rod 43 is mounted upon a pair of arms 47 detachably secured by screws 48 upon the framework. It will be seen that the strip feeding means may be detached from the machine, and the latter then be employed in the usual manner for writing upon wide paper along the entire length of the unipartite platen.

It will be seen that the strip feeding device is independent of the means for feeding bills or main sheets around the platen, the latter being operable independently of the strip feeding device; that the strip feeding device is operable to draw the strip around the platen while the latter is stationary; and that the two rolls 20 and 21 together with the core 15 hold the paper ribbon stationary.

In some instances, it is desired to make a series of tallies of such a nature that they must be made upon different strips, and in order to accomplish this result, I mount upon the carriage a second device for feeding the strip around the platen side by side with the strip which has been already described; said device being substantially a duplicate of the one already explained, and designated generally as A, Figs. 1 and 3, the strip thereon being designated as B. Both of the line feeding levers may be operated by the same cam 40, and ride along the same dwell member 45. Between the strips upon the platen may run a pair of pressure rollers 12^a similar to the rolls 12.

It will be seen that the strips are line fed independently of each other, and also independently of the main sheets. It is believed that a provision of means for independently feeding a plurality of tally strips in combination with means for feeding a main sheet, is broadly new, and it is not essential in all cases, that the precise means shown be employed for feeding the strips, nor that said plurality of strips be carried by a unipartite platen. The novel means for effecting the line spacing, by movement of the carriage into the field for writing the tally strip, may be employed in all tally strip mechanisms.

In other instances, portions of my improvements may be used without others, and many variations may be resorted to within the scope of my invention.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination of a platen, means for feeding paper line by line around the platen, and independent intermittently operative means mounted away from the platen for supporting one end and drawing the other end of a paper strip

line by line around the platen while the latter is stationary; said platen being revoluble while the paper strip remains stationary.

2. In a typewriting machine, the combination with a revoluble platen and means for feeding paper line by line around the platen, of a revoluble device mounted away from the platen for drawing a strip of paper around the platen, and away therefrom, and intermittently operative means for turning said strip-feeding device step by step to effect line feeding of said strip while the platen is stationary; the platen being revoluble independently of said strip and said strip feeding device.

3. In a typewriting machine, the combination with a revoluble platen and means for feeding paper line by line around the platen, of a device for supporting a roll of paper-ribbon, a revoluble device for drawing said ribbon around said platen, and intermittently operative mechanism for operating said revoluble device while the platen is stationary; said parts being so related that the ribbon may pass from said supporting device around the platen and back to said drawing device.

4. In a typewriting machine, the combination with a revoluble platen and means for feeding paper line by line around the platen, of a device for supporting a roll of narrow paper ribbon, a revoluble device for drawing said ribbon around said platen, and intermittently operative mechanism for operating said revoluble device while the platen is stationary; said parts being so related that the paper ribbon may pass from said supporting device around the platen, and back to said drawing device; and said platen being revoluble independently of said ribbon and said drawing device.

5. In a typewriting machine, the combination with a revoluble platen and means for feeding paper line by line around the platen, of a device for supporting a roll of paper ribbon, and a pawl and ratchet mechanism for drawing said ribbon line by line around the platen when the latter is stationary; said platen being revoluble independently of said ribbon while said pawl and ratchet mechanism remains stationary.

6. In a typewriting machine, the combination with a platen and means coöperating therewith to feed sheets line by line around the platen, of an auxiliary device for feeding a paper ribbon around the platen, and means between the platen and said auxiliary device for preventing lateral displacement of the ribbon upon the platen; said platen being revoluble independently of said ribbon and of said auxiliary device.

7. In a typewriting machine, the combination with a platen and means coöperating therewith to feed sheets line by line around the platen, of auxiliary means for feeding a paper ribbon around one end of said platen and means for preventing lateral displacement of the ribbon upon the platen; the latter being revoluble forwardly and backwardly independently of said ribbon and of said auxiliary feeding means.

8. In a typewriting machine, the combination with a platen and means coöperating therewith to feed sheets line by line around the platen, of rolls mounted near one end of the platen for drawing a paper ribbon around the platen, while the latter is stationary and a pawl and ratchet mechanism for operating said rolls independently of the platen; said platen being revoluble both forwardly and backwardly independently of said rolls and ribbon.

9. In a typewriting machine, the combination with a platen and means coöperating therewith to feed sheets line by line around the platen, of rolls mounted near one end of the platen, a pawl and ratchet coöperating with said rolls for drawing a paper ribbon around the platen, means for supporting a coil of the ribbon, and means for preventing lateral displacement of the ribbon upon the platen: the latter being revoluble independently of said rolls and ribbon.

10. In a typewriting machine, the combination with a platen, and a line spacing mechanism therefor, of means for supporting a coil of paper ribbon, and intermittently operable means, including a series of surface feeding rolls, for feeding said ribbon towards the platen and simultaneously drawing it from the platen at the same linear speed.

11. In a typewriting machine, the combination with a platen and a line spacing mechanism therefor, of a feed roll mounted near the platen and provided with a pawl and ratchet, a coöperative feed roll pressing against said roll, whereby a ribbon of paper may be drawn around the platen, and means for pressing a coil of said ribbon against the first-mentioned feed roll, so as to cause the ribbon to pay off from the coil.

12. In a typewriting machine, the combination with a platen and a line spacing mechanism therefor, of a feed roll mounted near the platen and provided with an intermittent turning mechanism, a coöperative feed roll pressing against said roll, whereby a ribbon of paper may be drawn around the platen, a detachable shaft for carrying a coil of the ribbon, and means for pressing said shaft towards the first mentioned feed roll.

13. In a typewriting machine, the combination with a platen and a line spacing mechanism therefor, of a feed roll mounted near the platen and provided with an intermittent turning mechanism, a coöperative feed roll pressing against said roll, whereby a ribbon of paper may be drawn around the platen, a detachable shaft for carrying a coil of the ribbon, and means for pressing said shaft towards the first mentioned feed roll, a

carriage whereon said platen is mounted, and a bracket mounted upon one end of said carriage and carrying said feed rolls.

14. In a typewriting machine, the combination with a carriage and a platen mounted thereon, of means for feeding sheets around the platen, an auxiliary device near one end of the platen for feeding a paper ribbon, and means for enabling said auxiliary device to be operated independently of the platen by a movement of said carriage.

15. In a typewriting machine, the combination with a carriage and a platen mounted thereon, of means for feeding sheets around the platen, a device near one end of the platen for carrying a ribbon of paper in position to be written upon by the types, and a line feeding mechansim for said ribbon, operable independently of the platen by a longitudinal movement of said carriage.

16. In a typewriting machine, the combination with a carriage and a platen mounted thereon, of means for feeding sheets around the platen, a device for carrying a sheet of paper in position to be written upon by the types, a line feeding device for said strip, and means called into action only by reason of an excursion of said carriage to and from position for writing upon the said strip, for line-feeding the strip independently of the platen.

17. In a typewriting machine, the combination with a carriage and a platen mounted thereon, of means for feeding sheets around the platen, a device for carrying a strip of paper in position to be written upon by the types, and a line feeding device for said strip, operable independently of the platen and only by the movement of said carriage into position for writing upon said strip.

18. In a typewriting machine, the combination with a carriage and a platen mounted thereon, of means for feeding sheets around the platen, a device for carrying a strip of paper in position to be written upon by the types, and a strip feeding device including a cam mounted for coöperation with said carriage during an excursion of the latter to and from position for writing upon said strip; said strip-feeding device being operable independently of the platen.

19. In a typewriting machine, the combination with a carriage and a platen mounted thereon, of means for feeding sheets around the platen, a device for carrying a sheet of paper in position to be written upon by the types, a line feeding device for said strip, and means called into action only by reason of an excursion of said carriage to and from position for writing upon the said strip; said strip feeding device including a part adjustable longitudinally of the carriage, for timing the action of the strip feeding device.

20. In a typewriting machine, the combination of a carriage, a platen, line spacing means for said platen, and means independent of said line spacing means and operable by a movement of said carriage, for drawing a strip of paper around said platen; the latter being revoluble independently of said strip drawing means.

21. In a typewriting machine, the combination with a carriage, of a platen, and line spacing means therefor mounted upon said carriage, a device also mounted upon said carriage, for feeding a strip of paper around said platen independently of said line spacing means, and means for enabling said strip feeding device to be operated by the excursion of said carriage to and from position for writing upon said strip.

22. In a typewriting machine, the combination with a platen and line feeding means coöperating therewith, of means independent of said line feeding means, for carrying a plurality of paper strips side by side in position for writing thereon, and means for feeding said strips line by line independently of each other and of the first-mentioned line feeding means.

23. In a typewriting machine, the combination with means for supporting side by side both a main sheet and a series of paper strips all in position to be written upon, of means for effecting line spacing of either said main sheet or either of said strips, at will.

24. In a typewriting machine, the combination with means for supporting side by side both a main sheet and a series of paper strips all in position to be written upon, of manually operable means for line feeding the main sheet, and means called into action by the movement of either of said strips into position to be written upon, for line spacing such strip.

25. In a typewriting machine, the combination with a carriage, of means supporting side by side both a main sheet and a series of paper strips all in position to be written upon, manually operable means for line feeding the main sheet, and means called into action by the movement of said carriage, for line feeding the strips.

26. In a typewriting machine, the combination with a carriage, of means mounted thereon for supporting side by side both a main sheet and a series of paper strips all in position to be written upon, means for line feeding the main sheet, means called into action in consequence of the movement of said carriage into position for writing upon the first strip, for line feeding said strip, and means called into action in consequence of the movement of said carriage into position for writing upon the said second strip for line feeding the latter.

27. In a typewriting machine, the combination of a revoluble platen, means for feeding main sheets line by line around the platen, and means for feeding around the platen

either of a series of paper strips carried side by side upon the platen.

28. In a typewriting machine, the combination with a carriage, of a platen, and means for feeding line by line either of a series of strips carried side by side upon said platen, said feeding means including a part called into use by the movement of the carriage into position for writing upon one of said strips, and also including a part called into use by the movement of the carriage into position for writing upon another of said strips.

29. In a typewriting machine, the combination with a carriage, of a platen, means for feeding main sheets of paper line by line around the platen, and a series of devices for drawing around the platen independently of each other strips of paper carried side by side upon the platen.

30. In a typewriting machine, the combination with a carriage, of a platen, means for feeding main sheets of paper line by line around the platen, and a series of devices for drawing around the platen independently of each other strips of paper carried side by side upon the platen, the latter being revoluble independently of said strips and said strip feeding devices.

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