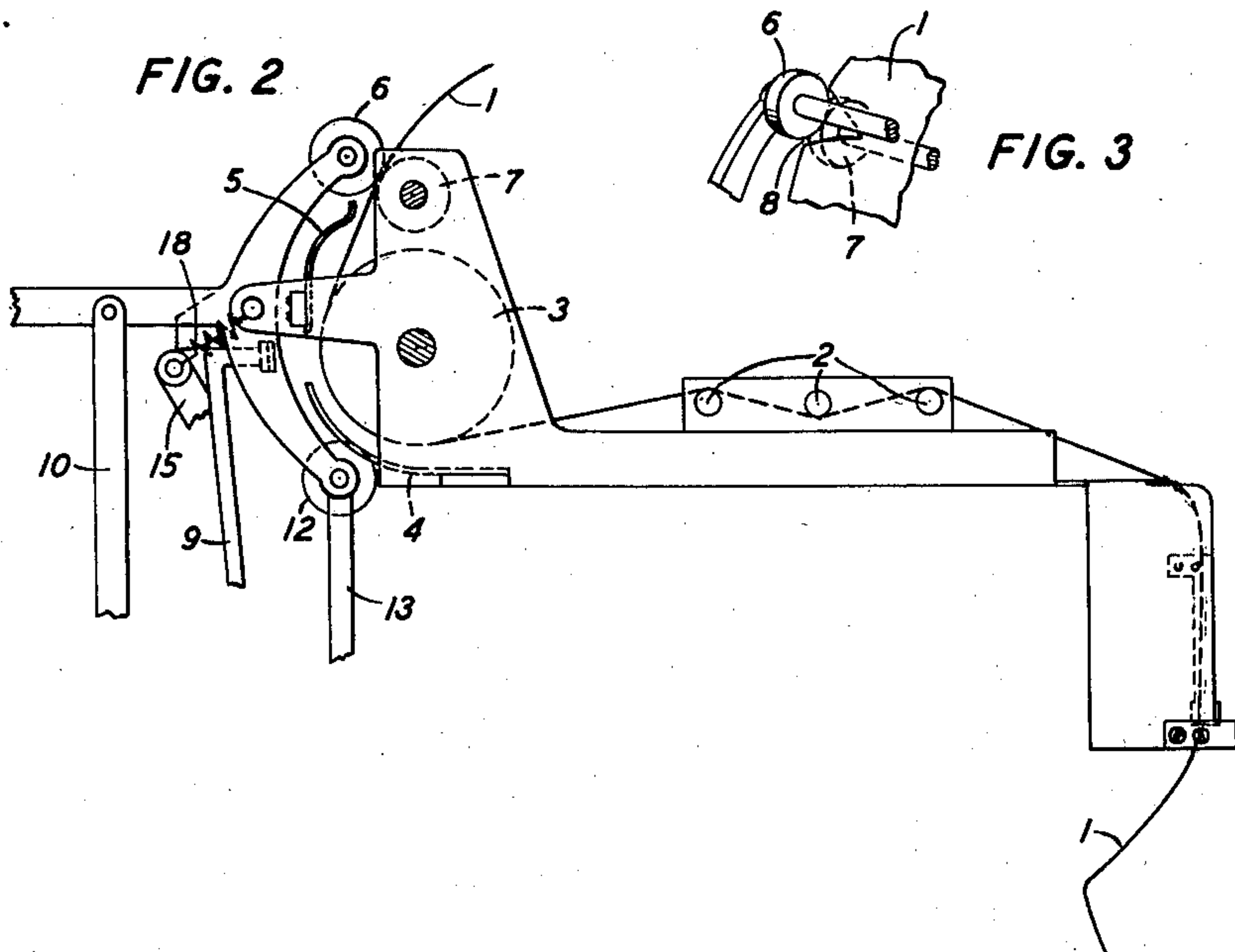
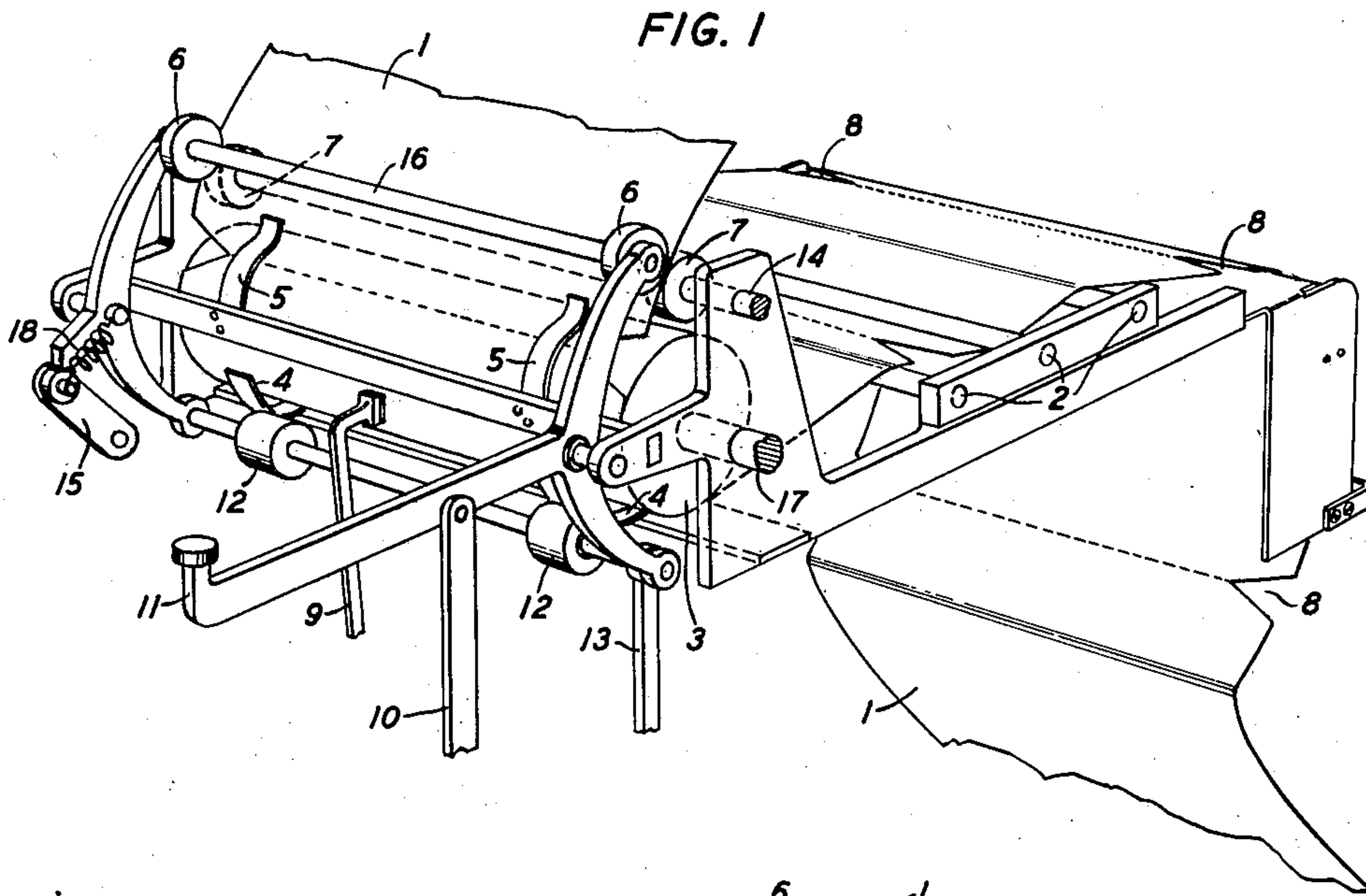


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TYPEWRITING MACHINE

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This invention relates to typewriting machines and more particularly to typewriting machines employing form stationery, such as coupon stationery.

5 One feature of this invention is the provision of means for quickly feeding a form sheet out of a typewriter after it has been typed upon.

Another feature of this invention is the provision of means for alining the next following
10 form sheet into position for typing thereon.

The invention may be best illustrated by applying it to a teletypewriter used for printing on coupon stationery. It is to be understood that the scope of the invention is not limited to teletype-
15 writers, but is, in general, applicable to all typewriters. Neither is it to be limited to coupon stationery, but it extends broadly to all types of stationery including single sheet stationery, multi-copy stationery, and manifold stationery.

20 In many types of businesses, it is frequently necessary to print upon a large number of coupons by means of teletypewriters. The coupons usually used comprise simple printed forms upon which information is typed. Such coupon sta-
25 tionery usually does not have perforations therein for feeding and alining it because, in general, typing is made upon only a small portion of each coupon so that accurate registration of the typ-
30 ing upon horizontally arranged lines is not necessary. Heretofore, the stationery was fed through teletypewriters in accordance with line-by-line typing operations. Although only one or two
35 lines may be typed upon an individual coupon, it has been necessary for an operator to feed the stationery through a teletypewriter only at the slow rate of one line at a time. In order to feed a
40 coupon out of a teletypewriter after it has been typed, it has also been necessary for an operator to feed the coupon out at the rate of only one line at a time. After having taken a typed coupon
45 out of a teletypewriter, in order to type upon the next following coupon, it has been necessary for an operator to exercise care in order to stop the feeding operations so that the first line which is
50 typed upon the next coupon will be in the proper position.

The purpose of the present invention is to speed up such operations in order to decrease the time lost in the alining operations both by the opera-
55 tor and the teletypewriter. The invention comprises feeding means for feeding stationary through a teletypewriter during the typing of a coupon, ejecting means for rapidly feeding sta-
tionery out of a teletypewriter after a coupon has
60 been typed upon, and an alining arrangement for

automatically bringing the next following coupon into the proper position for typing thereon.

The feeding means feeds stationery by means of the co-action of a driven platen with a pair of idler pressure rollers having a common axle. This
65 feeding means feeds stationary through a teletypewriter at the rate of one line at a time because it operates in accordance with line-by-line typing operations.

The ejecting means rapidly feeds stationery out
65 of a teletypewriter by the co-action of another pair of idler pressure rollers, also having a common axle, with two other pressure rollers having a common axle which is continuously driven.

The aligning arrangement depends upon the
70 use of a strip, or roll, of coupons having openings therein at spaced intervals. These openings are so located as to pass between the rollers of the ejecting means, but not between the rollers
75 of the feeding means. When the openings come between the rollers of the ejecting means, the rollers will become out of contact with the stationery and the ejecting of the stationery will
80 cease. Due to the proper location of the openings, the stationery will stop in the proper position for typing upon the next coupon and no additional alining will be required.

Control and disabling means are provided for controlling the operation of both the feeding
85 means and the ejecting means and for disabling either of them.

The invention will be better understood from the following detailed description with reference to the accompanying drawing in which:

Fig. 1 is a three-dimensional view of a pre-
90 ferred form of the invention;

Fig. 2 is a cross-sectional view of the arrangement shown in Fig. 1; and

Fig. 3 is a three-dimensional view showing how
95 stationery may be alined.

In considering the following description, it should be kept in mind that the description is applicable to both a teletypewriter at the trans-
100 mitting end of a telegraph line and to a teletypewriter at the receiving end. Both machines are similar in construction and operation. This description is given for purposes of illustration only and the invention is not to be restricted to the specific construction disclosed herein.

Figs. 1 and 2 represent only that portion of
105 a teletypewriter which is necessary for the purpose of illustrating the invention. In these figures the apparatus is shown as being in the process of ejecting stationery from a teletypewriter. Since the ejecting means is shown to
110

be in operation, the feeding means is shown to be disabled, or non-operable. Coupon stationery 1 is represented as coming into the teletypewriter from a supply (not shown) located near the lower right corner of each of Figs. 1 and 2. From this supply, stationery 1 passes between retarding rods 2, between driven platen 3 and guides 4, 4, between platen 3 and guides 5, 5, and is then fed out of the teletypewriter by the co-action of idler pressure rollers 6, 6 and driven pressure rollers 7, 7.

The ejecting means will now be described in detail and its operation explained. It may be assumed that an operator, having finished typing upon a coupon, wishes to eject the typed coupon from the teletypewriter and to bring the next following coupon into position for typing thereon. In order to do this, the operator transmits a predetermined signal combination or eject signal. In response to this eject signal, link 13 of both the transmitting teletypewriter and the receiving teletypewriter or teletypewriters will be pulled down. Any of several methods may be employed for transmitting the eject signal and for pulling down link 13. The pulling down of link 13 pulls rollers 12, 12 away from platen 3, thus disabling the feeding means as will be explained hereinafter. At the same time, idler rollers 6, 6 will be pushed against driven rollers 7, 7. Rollers 6, 6 are locked in this position by detent 15 which also maintains them under pressure as shown in the drawing by means of its spring 18. Rollers 7, 7 have a common axle 14 which is continuously driven by any convenient means such as the power supply which operates the teletypewriter. Unlike platen 3 which can rotate only one line space at a time, rollers 7, 7 are rotating continuously. Therefore, the speed at which stationery 1 will be ejected from the teletypewriter depends upon the speed of rotation of rollers 7, 7. This constitutes a saving in operating time because a typed coupon was formerly fed out of a teletypewriter at the rate of only one line space at a time. This former method not only was slower, but also required more work on the part of an operator.

The alining arrangement will now be described and explained. It will be observed from the drawing that stationery 1 has a V-shaped notch 8 cut out from each margin along the line of division between two contiguous coupons. The use of V-shaped notches instead of openings of some other shape has been shown simply to illustrate one embodiment of the invention. This shape of opening was chosen because it does not unnecessarily disfigure a coupon. The scope of the invention includes stationery having openings of other shapes and locations. When stationery having openings shaped and located as shown in the drawing is used, it is necessary that idler rollers 6, 6 be so spaced on their common axle 16 that the distance from the inside end of one roller 6 to the inside end of the other roller 6 is a little greater than the distance between the points of the V-shaped notches 8 in stationery 1. Due to this construction, rollers 6, 6 will travel only over that portion of stationery 1 wherein notches 8 are located. When a pair of notches 8, 8 comes between rollers 6, 6 and 7, 7 (as is indicated in Fig. 3), a stationery 1 will become out of contact with rollers 6, 6 and 7, 7 and will cease to be ejected. In order to avoid the danger of further ejection of stationery 1 due to its being carried forward by its momentum and thus being brought into contact with rollers 6, 6 and 7, 7, it

is advisable to employ some sort of speed checking device, such as retarding rods 2. Rollers 6, 6 and 7, 7 are so located that, upon ceasing to be ejected (due to the appearance of notches 8, 8 between rollers 6, 6 and 7, 7), stationery 1 will stop in the proper position, with respect to type bar 9, for typing upon the next coupon. No further alining of stationery 1 is necessary. This does away with the need for alinement attention by an operator, thereby effecting a saving in operating time. An additional saving in operating time is due to the fact that the coupon which follows an ejected coupon is stopped in position for typing thereon so that an operator need no longer feed an untyped coupon up into place at the slow rate of only one line space at a time.

When an operator wishes to resume typing he may do so by printing any character. This will cause link 10 to be pulled down by the printing bail (not shown) of both his teletypewriter and the receiving teletypewriter or teletypewriters. The ejecting means will now be disabled because idler rollers 6, 6 will be lifted up out of contact with driven rollers 7, 7. The same result may be obtained by manually depressing key 11. Although rollers 7, 7 may keep on rotating, their rotation without the co-action of rollers 6, 6 is insufficient to eject stationery 1.

At the same time that the ejecting means is disabled, the feeding means is rendered operable and will now be described and explained. When link 10 is pulled down, it unlocks detent 15 from the position shown in the drawing and shifts it into a new position (not shown). At the same time, idler rollers 12, 12 are pushed against driven platen 3 which has its axle 17 connected to the power supply of the teletypewriter. Rollers 12, 12 are locked in this position by the new position of detent 15 and maintained under pressure by means of spring 18. Stationery 1 can now be fed through the teletypewriter by the rotation of platen 3 in accordance with line-by-line typing operations. Rollers 12, 12 are so located upon their common axle 16 that the distance from the outside end of one roller 12 to the outside end of the other roller 12 is less than the distance between the points of the V-shaped notches 8 in stationery 1. Since notches 8 are located in the margins of stationery 1, it is evident that they do not come between rollers 12, 12 and platen 3. Therefore, the feeding means is not directly affected by notches 8.

After a coupon has been typed upon as much as is desired and the operator wishes to eject it and bring an untyped coupon into position for typing thereon, the operator transmits a predetermined signal combination or eject signal. This eject signal causes link 13 to be pulled down thereby causing rollers 12, 12 to be pulled away from platen 3. This disables the feeding means because the rotation of platen 3 without the co-action of rollers 12, 12 is insufficient to feed stationery 1. As was explained above, this eject signal causes rollers 6, 6 to be pushed against rollers 7, 7 thereby rendering the ejecting means operable. Since rollers 7, 7 are continuously driven, they will co-act with rollers 6, 6 and rapidly feed the typed coupon out of the teletypewriter as is shown in Figs. 1 and 2. Also, the next following coupon will be alined into position by the alining arrangement as described above.

If an operator wishes to tear off a typed coupon after it has been ejected, he should first manually depress key 11 which, as has been described above,

disables the ejecting means and brings rollers 12, 12 into contact with platen 3. This procedure will hold the next following coupon firmly between rollers 12, 12 and platen 3 thereby facilitating the tearing off of the typed coupon and preventing misalignment of the untyped coupon during the tearing operation. If desired, a tearing edge may be supplied, otherwise the stationery should be perforated along the line of division between two contiguous coupons, as is shown in the drawing. For the sake of simplicity in the drawing, a tearing edge has not been shown. If a tearing edge were desired, a convenient location would be just above axle 14 and just below axle 16, so as to enable stationery 1 to be torn along the line of division between two contiguous coupons.

This use of the device is illustrative of its operation. As has been stated above, the application of the invention is not limited to the use of V-shaped marginal notches. If stationery having openings of other shapes and locations were employed, the apparatus shown in the drawing could be readily modified accordingly. Also, if it were desirable to use stationery having perforations therein for pinwheel feeding, this could readily be done. In short, the embodiment described will serve to assist in interpreting the claims. The claims are not to be restricted to the precise construction disclosed, but are intended to include all changes and modifications employing the principles and features of operation of the invention.

What is claimed is:

1. A teletypewriter having a driven cylindrical platen which is rotated in accordance with line-by-line typing operations, said teletypewriter comprising in combination feeding means for feeding stationery through the teletypewriter in accordance with line-by-line typing operations, said feeding means comprising an idler pressure roller co-acting with the platen, and ejecting means for rapidly feeding stationery out of the teletypewriter, said ejecting means comprising a second idler pressure roller co-acting with a roller which is continuously driven during the time that the teletypewriter is being used.

2. A printing telegraph machine comprising in combination feeding means for feeding stationery through the printing telegraph machine, said feeding means comprising a pressure roller co-acting with the platen, and ejecting means for rapidly feeding stationery out of the printing telegraph machine, said ejecting means comprising a second pressure roller co-acting with a roller which is continuously driven during the time that the printing telegraph machine is being used.

3. A teletypewriter comprising in combination feeding means for feeding stationery through the teletypewriter, ejecting means for rapidly feeding stationery out of the teletypewriter, disabling means for disabling the feeding means, and disabling means for disabling the ejecting means, both of said disabling means being responsive to the same control means.

4. A teletypewriter comprising in combination feeding means for feeding stationery through the teletypewriter, ejecting means for rapidly feeding stationery out of the teletypewriter, disabling means for disabling the feeding means, and disabling means for disabling the ejecting means, both of said disabling means being operated by the same electrically controlled instrumentality.

5. A teletypewriter comprising in combination

feeding means for feeding stationery through the teletypewriter, ejecting means for rapidly feeding stationery out of the teletypewriter, disabling means for disabling the feeding means, and disabling means for disabling the ejecting means, both of said disabling means being responsive to the same manual control means.

6. A printing telegraph machine having feeding means for feeding stationery through the printing telegraph machine, said printing telegraph machine being characterized in this that it employs ejecting means for rapidly feeding stationery out of the printing telegraph machine, and alining means for alining stationery into position for typing thereon, disabling means for disabling the feeding means, and second disabling means for disabling the ejecting means and the alining means, both of said disabling means being operated by the same control instrumentalities.

7. A teletypewriter having feeding means for feeding stationery through the teletypewriter, said teletypewriter being characterized in this that it employs ejecting means for rapidly feeding stationery out of the teletypewriter, said ejecting means comprising an idler pressure roller capable of co-acting with a roller which is continuously driven during the time that the teletypewriter is being used.

8. In a teletypewriter adapted to print on stationery having symmetrical and uniformly spaced openings cut out from each margin, an arrangement for feeding and alining the stationery, said arrangement comprising in combination a pair of co-acting rollers for pressing against opposite sides of only one margin of the stationery and another pair of co-acting rollers for pressing against opposite sides of only the other margin of the stationery, one of each pair of rollers being an idler roller and the other roller of each pair being continuously driven during the time that the teletypewriter is being used.

9. In a teletypewriter adapted to print on stationery, an arrangement for feeding and alining the stationery, said arrangement comprising a plurality of co-acting rollers for pressing against the opposite sides of a portion of the stationery, one of each pair of rollers being an idler roller and the other roller of each pair being continuously driven during the time that the teletypewriter is being used, and stopping means for stopping the feeding of the stationery by the rollers, said stopping means comprising openings cut in that portion of the stationery which passes between the co-acting rollers.

10. In combination in a teletypewriter adapted to print on stationery having openings therein, feeding means for feeding stationery through the teletypewriter, said feeding means comprising a driven platen and an idler pressure roller capable of co-acting with the driven platen, ejecting means for rapidly feeding stationery out of the teletypewriter, said ejecting means comprising a driven roller and a second idler pressure roller capable of co-acting with the driven roller, control means for causing the first idler pressure roller to co-act with the driven platen and for causing the second idler pressure roller to become out of contact with the driven roller, second control means for causing the first idler pressure roller to become out of contact with the driven platen and for causing the second idler pressure roller to co-act with the driven roller for pressing against opposite sides of that portion of the sta-

tionery wherein the openings are located, and alining means for stopping the feeding of the stationery by the second pressure roller and the driven roller and for alining the stationery into position for typing thereon.

11. A printing telegraph instrument adapted to print on form sheets, said printing telegraph instrument comprising in combination feeding means for feeding form sheets through the printing telegraph instrument, ejecting means for rapidly feeding form sheets out of the printing telegraph instrument, said ejecting means comprising a pressure roller capable of co-acting with a roller which is continuously driven during the time that the printing telegraph instrument is being used, and alining means for alining the form sheets into position for typing thereon.

12. A teletypewriter having a platen, a roller co-acting with the platen for feeding stationery through the teletypewriter, and instrumentalities for facilitating the tearing off of stationery after it has been typed upon, said instrumentalities including holding means for holding the roller firmly and immovably against the platen.

13. A teletypewriter comprising in combination feeding means for feeding stationery through the teletypewriter, ejecting means for rapidly feeding stationery out of the teletypewriter, said ejecting means including a pressure roller co-acting with a roller which is continuously driven during the time that the teletypewriter is being used, and disabling means for causing the pressure roller not to co-act with the continuously driven roller.

14. A teletypewriter comprising in combination feeding means for feeding stationery through the teletypewriter, ejecting means for rapidly feeding stationery out of the teletypewriter, said ejecting means including a pressure roller in engagement with a roller which is continuously driven during the time that the teletypewriter is being used, and an electrically controlled instrumentality for taking the pressure roller out of engagement with the continuously driven roller.

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