

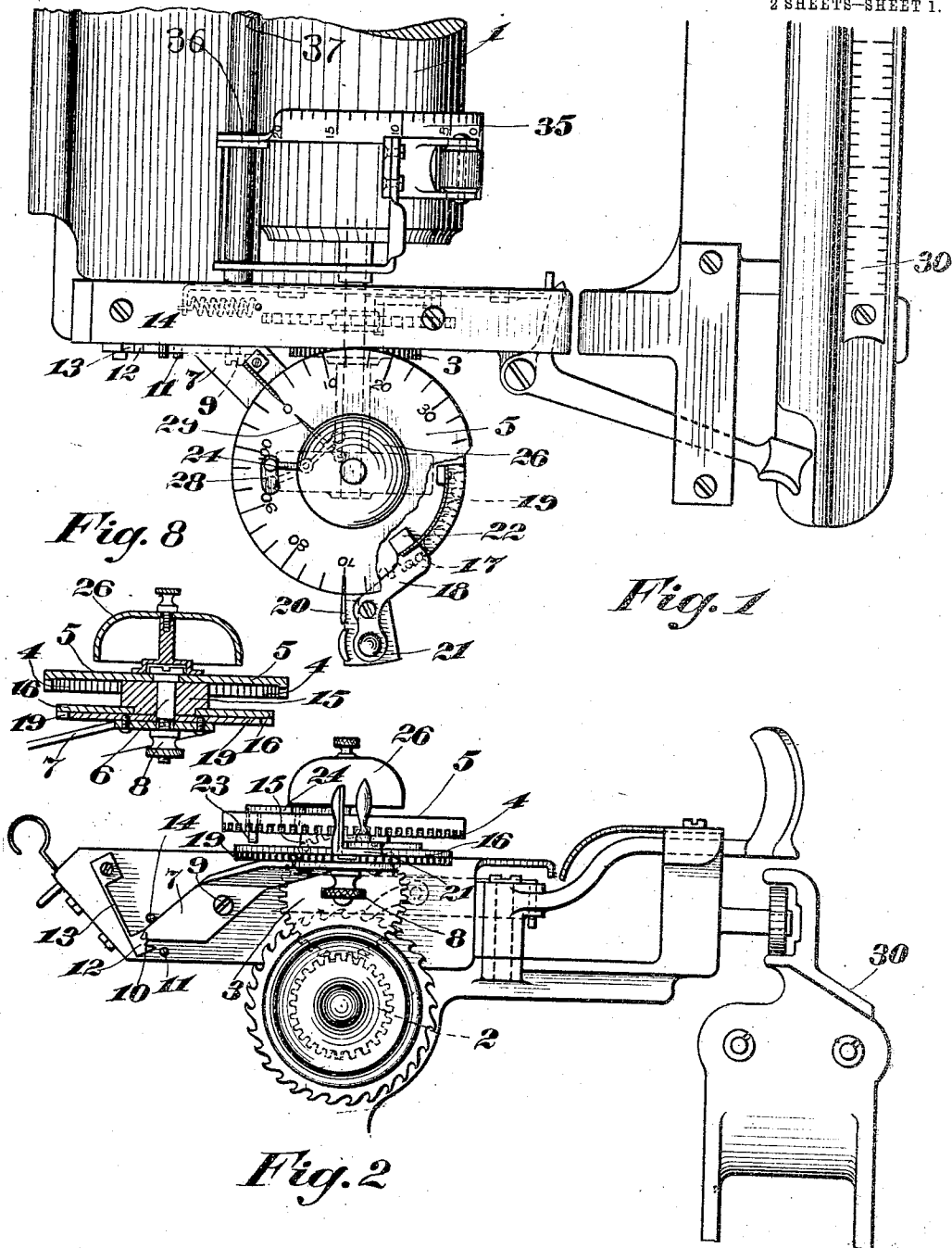
J. A. PAQUET.
TYPE WRITER ATTACHMENT.

APPLICATION FILED FEB. 17, 1910. RENEWED AUG. 31, 1911.

1,007,233.

Patented Oct. 31, 1911.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

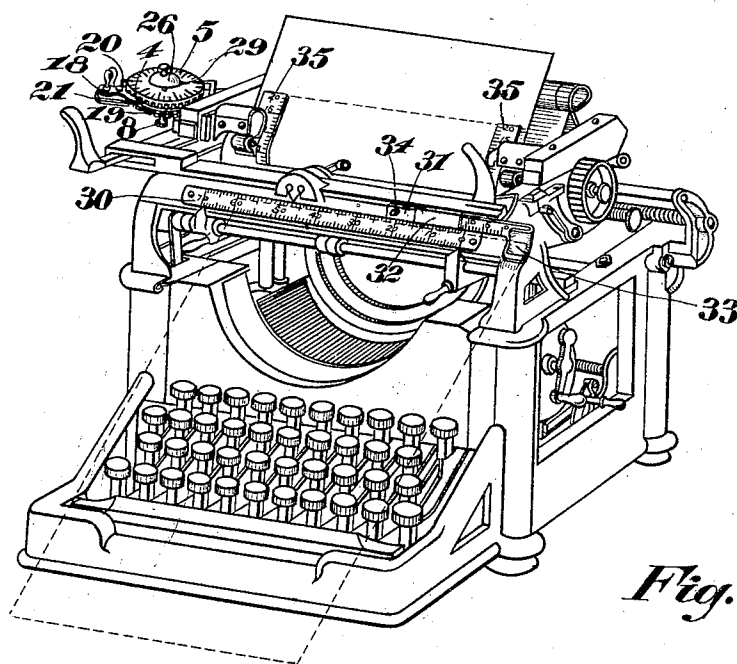


Fig. 3

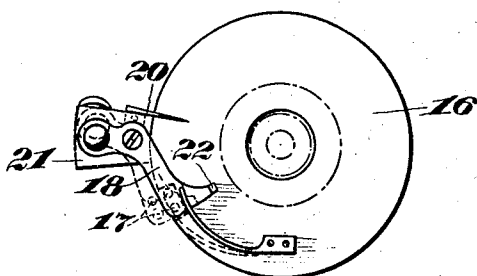


Fig. 4

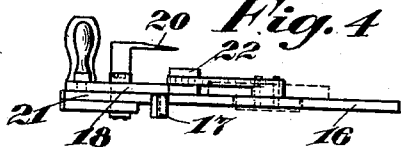


Fig. 5

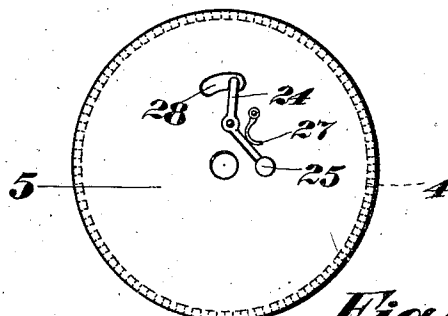


Fig. 6

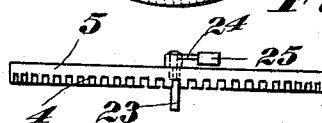


Fig. 7

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TYPE-WRITER ATTACHMENT.

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To all whom it may concern:

Be it known that I, JOSEPH ARTHUR PAQUET, a subject of the King of Great Britain, residing at the city of Quebec, county of Quebec, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Type-Writer Attachments; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention to be hereinafter described relates to typewriting machines, and more particularly to an attachment for regulating the bottom margin of sheets of paper.

Broadly speaking, it comprises, in combination with other parts of the typewriting machine, a platen or paper roller, means for effecting step by step rotation of the platen to cause line spacing, automatic stop mechanism adapted to prevent rotation of the paper roller at predetermined points, means for connecting the automatic stop mechanism to the paper roller, means for disconnecting the automatic stop mechanism, and means for setting the stop mechanism to operate at the desired point.

In order to more clearly disclose the construction, operation and use of the invention, reference should be had to the accompanying drawings forming part of the present application.

Throughout the several figures of the drawings, like reference characters designate the same parts.

In the drawings: Figure 1 is a top plan view of the attachment, as applied, partly broken away; Fig. 2 is an end view of Fig. 1; Fig. 3 is a perspective view of the typewriter with the invention applied; Fig. 4 is a plan view of the locking pawl and disk for setting the locking mechanism. Fig. 5 is an edge view of Fig. 4; Fig. 6 is a top plan view of the rotary plate of the automatic stop mechanism; Fig. 7 is an edge view of Fig. 6; and, Fig. 8 is a central vertical section through the stop mechanism.

The main object of the invention is to provide a simple, economical and positively acting automatic attachment, by which the bottom margin on a sheet may be regulated with absolute certainty, together with means for varying the amount of the margin for different sheets, as may be desired.

As shown in the drawings, the attach-

ment is applied to a well known form of machine, the Underwood standard typewriter. No change has been made in the machine itself.

Referring to the drawings in detail, 1 indicates the usual platen or paper roll of the typewriter, actuated by the ordinary pawl and ratchet line spacing mechanism, all as clearly shown in Figs. 1 and 2 of the drawings. To one end of the platen is fixed a toothed wheel or gear 2, so proportioned that each step movement of the ratchet wheel causes the gear to advance or rotate the distance of one tooth. Above the gear and mounted on the machine frame is a second similar gear 3, which meshes therewith and is driven thereby. This second gear is also adapted to be intermeshed with an annular gear 4 formed on a disk or plate 5 mounted at right angles to the gear 3. This plate 5 is mounted to rotate freely about an upright post 6 which is removably secured in a swinging bracket 7 by means of a thumb nut 8 which is threaded on the end of the post. The number of teeth on the gear 3 correspond with the number of teeth on the gear 2, and the number of teeth on the annular gear 4 correspond with the number of teeth on the gear 3. Therefore, the disk or plate 5 will be rotated the distance of one tooth for each single step movement of the line spacing mechanism.

The bracket 7 is fulcrumed on the machine frame at 9, and is provided with a tapered end 10 adapted to be selectively seated in one of the several notches 11 of a small block 12 made fast to the free end of a holding spring 13. Limit pins 14 are provided, projecting from the machine frame on opposite sides of the end 10, to prevent too great a movement of the bracket in either of its directions. By this movement, it is possible to swing the bracket 7 so that the gear 3 and annular gear 4 will be out of mesh, if desired. By swinging the bracket to such position, the tension of the spring 13 will be overcome and the narrow or tapered end of the bracket 7 will move to the lower notch of the block 12. When seated in this lower notch, the tension of the spring will be sufficient to retain the bracket in changed position, so that the annular gear 4 and gear 3 will remain out of mesh. When the three gears are intermeshed, it is clear that rotation of the platen may be prevented by locking or stopping rotation of any one of the

three gears. Therefore, in order to regulate the bottom margin of a sheet, it is only necessary to automatically stop one of the intermeshed gears as soon as the desired number of lines has been completed. In order to accomplish this result, the plate 5 is graduated, each graduation corresponding to a single step movement of the line spacing mechanism, and the graduations being duly numbered. Below the plate 5 is mounted a spacing block 15, provided with an annular seat on which is revolubly mounted a plate 16 provided with a notch into which pass the holding pins 17 of a spring-pressed pivotally mounted dog 18, when the dog is in operative position. These pins project below the edge of the plate 16 and engage the teeth of a fixed plate 19 which is secured to the bracket 7. As the result of this construction, it is possible to rotate the plate 16 on the fixed plate 19 and to hold the plate 16 in various positions relatively to the fixed plate 19. The amount of relative movement between the two may be clearly indicated by means of an index needle 20. This needle is secured to an arm 21 projecting from the rotary plate 16 (the same arm as that on which the spring-pressed dog 18 is pivoted) and extends up over the edge of the disk 5, cooperating with the graduations thereon.

The dog 18 is provided with an upwardly extending lug 22 adapted to engage the over-turned depending end 23 of one arm of a bell crank lever 24 provided with a striker 25 adapted to sound the bell 26. The striker is held, normally, inoperative, by means of a leaf spring 27. The over-turned end 23 has limited movement in a slot 28 in the plate 5. Consequently, as the disk 5 is rotated by the gears 2, 3 and 4, the over-turned end 23 will engage the lug 22 and be forced from its normal position to the opposite end of its slot 28. As it reaches the opposite end of the slot, the striker 25 will sound the bell 26. The over-turned end 23, of course, cannot move beyond the end of the slot 28. Consequently, the lug 22 engaging the over-turned end 23 will be blocked thereby and further rotation of the disk 5 will be prevented. As soon as rotation of the disk 5 is stopped, movement of the gear 4 is stopped, thus preventing operation of the line spacing mechanism and rotation of the platen or paper roll 1. Consequently, that portion of the sheet below this point cannot be written upon, and, therefore, must remain as a margin. It is therefore evident that it is only necessary to move the disk 18 with its lug 22 to the desired position for engagement with the over-turned end 23 of the lever 24, in order to regulate the amount of margin desired at the bottom of the sheet. The number of line spaces to be used, on the sheet, will be clearly indicated by the index needle 20. Thus, we will suppose that it is

desired to write on 70 line spaces of the sheet. The bracket 7 will be swung to disengage the gears 3 and 4 and the dog 18 will be moved so that the pins 17 will be out of engagement with the teeth of the fixed plate 19. The disk 5 will then be rotated until the zero mark of the graduations falls beneath the end of the index needle 29, which is fixed to the bracket 7 and projects above the plate, as shown in Figs. 1 and 3. Then the dog 18 and plate 16 will be rotated until the index needle 20 reaches the graduation mark 70. At this point the dog 18 is freed and the pins 17 allowed to engage the teeth of the fixed plate 19, securing the dog 18 and plate 16 against further rotation. The bracket 7 will then be swung to its former position so that the gears 3 and 4 are again intermeshed. The paper, of course, will be properly inserted before the gears 3 and 4 are intermeshed. At each step movement of the line spacing mechanism, the disk 5 will be moved one graduation in a clockwise direction. Consequently, when the line spacing mechanism has been operated 70 times, for 70 line spaces, the disk 5 will be rotated 70 graduations in a clockwise direction, so that the zero point will fall beneath the index needle 20. At this point, the over-turned end 23 of the lever 24 will engage the lug 22 of the dog 18 and be forced to the opposite end of its slot 28, after which further rotation of the disk 5 will be prevented; thus locking the gears 2, 3 and 4 and preventing further rotation of the platen or paper roller, so that the remainder of the sheet will be a bottom margin.

The number of lines per sheet depends, of course, greatly upon the length of the sheet used, as also upon the amount of space or margin left at the top of the sheet. A graduated strip or measure 30 may be secured to the upper forward part of the framework of the machine, as in Fig. 3. This measure is provided with graduations which correspond to the graduations on the disk 5. Thus, we will assume that the sheets being used are only 70 graduations or line spaces in length, that it is desired to begin at the very top of the page and leave a bottom margin of 5 spaces. In such case, only 65 line spaces will be used. Therefore, the automatic stop mechanism will be adjusted with the index needle 29 over the zero mark on the plate 5 and the index needle 20 over the 65 mark on the same plate. Again, we will assume that the same length of paper is being used and a top margin of 10 line spaces is desired, as well as the bottom margin of 5 line spaces. In such case, the adjustment of the automatic stop mechanism will be the same, except that the index needle 20 will be placed over the mark 55.

In order to render the gaging of the upper or top margin easier and more accurate,

a small graduated scale 31 has been provided. This scale is slidably mounted in a strap or guide 32 just above one end of the scale 30 and is provided with an over-turned or hooked end 33 and a stop or limit pin 34. The graduations on this scale 31 are the same as on the scale 30, but arranged in reverse order. The fit between the scale 31 and its guide is just snug enough to give sufficient friction to hold the scale 31 in any position to which it may be moved, and prevent accidental movement of it. Therefore, in order to set the scale 31 at the desired point, it is only necessary to draw it out, to the right in Fig. 3, until the required number of spaces appears opposite the zero mark on the scale 30. We will assume that a top margin of 10 line spaces is required. In such case, the scale 31 will be drawn out until the graduation mark 10 falls opposite the zero graduation of the scale 30. In such position, the amount of top margin will be before the writer at all times, thus acting as a reminder. If a greater or less top margin is desired, it may be marked on a sheet of paper and the scale 31 may be adjusted to accord, indicating the margin in terms of line spaces. This indication in line spaces is necessary for an accurate setting of the automatic stop mechanism, as will be clear from the preceding detailed description.

It is necessary, of course, in inserting the paper in the machine, to so place it that the first line will be started at the right point in the length of the sheet. To this end, scales or measures 35 are provided. The scales are carried by blocks 36 revolvably and slidably mounted on a transverse rod 37 placed parallel with the platen 1 and slightly above it. Thus, the scales 35 may be swung upward to inoperative position and moved toward or from each other, according to the width of the paper being used, and then lowered to operative position. The graduations on these scales are, of course, similar to those on the other scales, the zero mark being so placed that it will fall in line with the letters as they strike the paper on the platen, when the regular letters are being used. Thus, if a top margin of 10 and a bottom margin of 5 is being used with a total sheet length of 70 line spaces, the sheet will be placed in the machine so that its top edge lies in line with the number 10 graduation of each scale 35. The automatic stop mechanism will then be set with the index needle 29 over the zero mark and the index needle 20 over the 55 graduation, and the bracket 7 will be swung down to intermesh the gears 3 and 4. By having the two scales 35, it is possible to place the paper absolutely straight in the machine, the top edge being exactly aligned with the same graduation on each of the scales 35.

Should it not be desired to use the auto-

matic stop, it may be very easily disconnected by simply swinging the bracket 7 so that the gears 3 and 4 will be out of mesh. The spring 13 will then hold the notched block 12 in engagement with the lower beveled or narrow pointed end 10 of the bracket, thus maintaining the gears 3 and 4 out of mesh and keeping the automatic stop mechanism inoperative.

When it is desired to use very long sheets of paper, gears 3 and 4 may be constructed accordingly, or reducing gears may be inserted in the gear train, or the plate 5 may be allowed to make several complete rotations, being reset for each rotation. Or, if the sheet is long enough to require more than one complete rotation of the plate 5 and less than 2, it is simply necessary to set the apparatus for one complete rotation, and then, after that is completed, to reset it for the necessary fraction of the second rotation with the allowance for the desired bottom margin.

It is thought that the operation and use of the invention will be clear from the preceding detailed description.

Changes may be made in the construction, arrangement and disposition of the several parts of the invention, without in any way departing from the field and scope of the same, and it is meant to include all such within this application, wherein only a preferred form has been disclosed.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In combination with a typewriter, a train of gears operated by the platen of the typewriter, a disk carried by one of the gears of said train and movable therewith, a plate adapted to have movement relatively to the aforesaid disk, a fixed plate, a dog carried by the movable plate and provided with means to engage the fixed plate and couple the two together, and means projecting from the aforesaid disk and adapted to engage said dog to prevent further movement of the disk.

2. In combination with a typewriter, a train of gears operated by the platen of the typewriter, a disk carried by one of said gears and movable therewith, a movably mounted plate, a stationary plate provided with a toothed or notched edge, a dog mounted on the movable plate and provided with pins adapted to be seated in the notches of the stationary plate, and means projecting from the aforesaid disk and adapted to engage said dog.

3. In combination with a typewriter, a train of gears operated by the platen of the typewriter, a disk carried by one of the gears of said train and movable therewith, a plate, a dog mounted on said plate, means for adjusting said plate relatively to the

disk, means carried by the disk and adapted to engage said dog to prevent further movement of the disk, and means for intermeshing the gears.

- 5 4. In combination with a typewriter, a train of gears operated by the platen of the typewriter, a disk carried by one of the gears of said train and movable therewith, a plate, a dog mounted on said plate, means
10 for adjusting said plate relatively to the disk, means carried by the disk and adapted

to engage said dog to prevent further movement of the disk, a pivotally mounted bracket for supporting said disk and plate, and means for holding said bracket in in- 15
operative position.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOSEPH ARTHUR PAQUET.

Witnesses:

J. A. MORENCY,
GEORGES BELLAR.