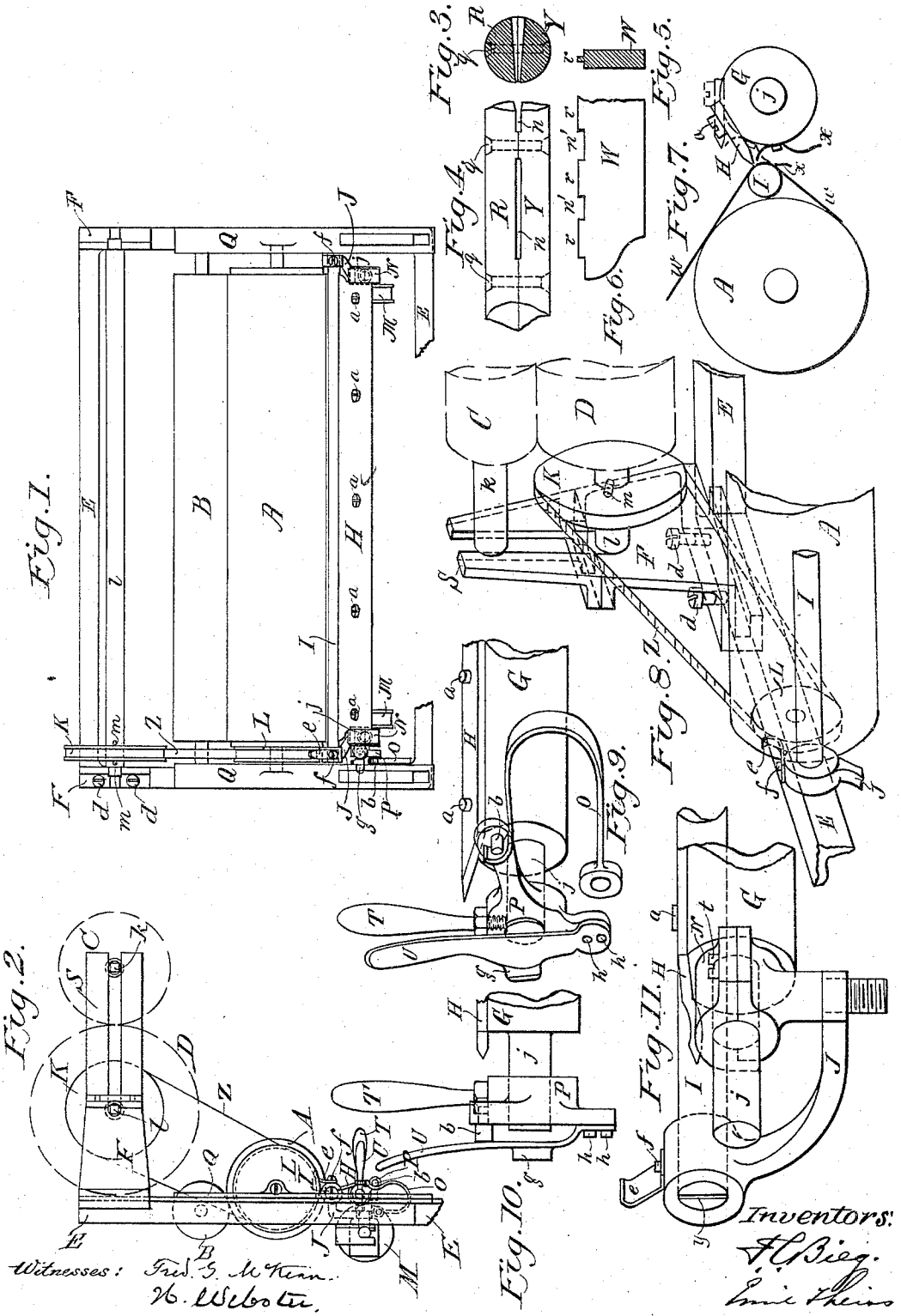
(No Model.)

F. C. BIEG & E. THEISS.

ATTACHMENT FOR TYPE WRITING MACHINES.

No. 489,920. Patented Jan. 17, 1893.



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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 489,920, dated January 17, 1893.

Application filed February 25, 1891. Serial No. 382,788. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK C. BIEG, residing in the city of Alexandria, county of Alexandria, and State of Virginia, and EMIL THEISS, residing in the city of Washington, in the District of Columbia, have invented a new, useful, and Improved Attachment for Type-Writing Machines, of which the following is a specification.

Our invention relates to a paper-cutting and guiding attachment to and measuring device for type-writing machines.

The object of the invention is to make practicable the employment of a roll of paper, either blank or with letter-heads printed on the paper at intervals, thereby preventing the necessity of and loss of time due to entering and arranging separate sheets of paper each time that a letter or other matter is to be type-written; to provide ready and efficient means of cutting or separating the type-written part of the paper from the blank paper, at any desired point, but leaving the leading or top end of the blank paper in such position that the paper can be type-written upon without further adjustment; to provide means whereby the length of the written paper can be easily and correctly measured, so that uniformity in the length of sheets can, if desired, be readily secured, and so that the position of the last printed line can be determined; and finally, to provide for the disposition of a continuous length of type-written paper by means of a shaft and roll which can easily be attached and which will be driven at the correct speed preferably by direct contact with the supply roll of paper, all substantially as hereinafter described and fully pointed out in the claims.

The invention consists in the construction of certain details and arrangements of parts.

Referring to the drawings, Figure 1 is a plan of the carriage of a type-writing machine, with the front broken away, and Fig. 2 is an end elevation of the same, with the addition of the two rolls of paper C and D shown in broken lines. Fig. 3 is a section of one form of the anvil or rest of the paper-cutting device and Fig. 4 is a plan of the same. Fig. 5 is a section of one form of the cutter or perforator and Fig. 6 a plan of the same. Fig. 7 is an end view of part of another form of the cutting device showing its position in front of the impression roller A. Fig. 8 is a perspective view of the measuring device and shows the two rolls of paper C and D. Fig. 9 is a perspective view in detail of the working or spring end of the paper-cutting device. Fig. 10 is a detailed front elevation of the working or spring end of the paper-cutting device without the curved spring O. Fig. 11 is a perspective view of the working end of the paper-cutting device, with the springs and lever P removed, and shows the position of the paper cutter and anvil and their supports.

The drawings show the application of the invention to a Remington type-writer, but with a few mechanical changes, not affecting the spirit of the invention, the apparatus can be applied to other machines like the Caligraph and National, where the supply roll of paper D is on the carriage, and to the Hammond type-writer, where the supply roll is put inside of the carriage.

The preferred form of the cutter and anvil or rest is shown in Figs. 1, 2, 7, 8, 9, 10 and 11, while Figs. 3, 4, 5 and 6 show a modification of the cutter as a perforator. In the preferred form, the cutter H is secured to the shaft G by the screws *a*, *a*, *a*, *a*. The shaft G can be turned on its journals *j*, supported in bearings the caps of which are shown at N, by the handle T, so that the cutter H can be placed in position for use as shown by the full lines, or out of use as shown by the broken lines in Fig. 7. To fix these two positions of the cutter H, an angular lever P is secured to the journal *j* of the shaft G by means of the screw end of the handle T. Near one end of the lever P is the pin *b* bearing against the free end of the strong curved spring O, the other end of said spring O being secured to the carriage of the type-writer; to the other end of the lever P the flat spring U, having a flange or catch at *g*, is attached by the screws *h*, *h*. When the cutter is to be used, that is, pressed against the paper, the spring U is pressed toward the handle T, thereby disengaging the catch *g* from the top of the carriage of the type-writer and allowing the spring O to force up the pin *b* and, by the partial revolution of the shaft G, to press and hold the cutter H firmly against the paper

and anvil I. The paper can then be torn off and, as the top end of the blank paper is caught by the guide-springs x as soon as the cutter H is thrown back out of use, the type-writing can be resumed without further adjustment of the paper. The guide-springs x, which are secured to shaft G, barely touch the paper while the latter is feeding, being guides by virtue of their shape and position. To make a firm rest or anvil for the cutter H, the rod I, extending along the whole length of the impression roller A, is introduced; its shape may be flat or otherwise, the circular form shown in the drawings being preferred, as should grooves unavoidably form on one part of the surface of said rest or anvil I, another part can be turned into position by inserting a screw-driver in the notch y, loosening the set-screw f, and then turning the rod I partly around. The said rod I is supported at each end by the curved arms J which are held in place by the supports for the journals of shaft G. These latter supports, in the Remington machine, are preferably screwed into the block now used to hold the guiding-strips for the rubber bands which pass over the pulleys M, M, and hold the paper against the impression roller A. The caps for the supports are shown at N, N, each held in place by a screw t.

In the modification of the form of cutting device, as shown in Figs. 3, 4, 5 and 6, the paper is perforated. The anvil or rest consists of the two parts R and Y of a rod, the inner sides of which are beveled and notched at intervals, as shown in Figs. 3 and 4. The said parts R and Y are fastened together by rivets q, q. The cutter or perforator consists of the plate W, Figs. 5 and 6, secured to the shaft G in the same manner as before described for the cutter H, and has alternate projections r, r', and notches n', n', on its side next the anvil or rest. These projections r, r, can be made as numerous as required and their edges can be made sharp, pointed, or otherwise, the corresponding notches n' in the anvil being made to agree with whatever number and form may be adopted. It is evident that this device performs the same function as the cutter H.

In order to be able to know where to cut the paper, when uniformity in length of sheets is desirable, or to know when to stop type-writing, and also that the position of the last type-written line may be easily determined, the measuring device, consisting of the endless graduated band Z, the fixed pulley L, loose pulley K, and marker e, is introduced. The pulley L is secured to the end of the impression roller A and therefore turns with it, while the pulley K is loose and free to turn on the shaft l of the lower roll of paper D.

The endless band Z is divided into marks representing inches and parts of inches, and it is evident that every part of a revolution made by the impression roller A and of the paper that is moved by said roller A will be shown in linear measure on the gage or measure Z. By means of the marker e, which presses very lightly against the band Z and is secured to the top of the support J by the screw f, the exact position of the marks or graduations on Z can be noted, and from said marks, the position of the line that is being type-written obtained. The screw f likewise serves as a set-screw for the anvil I. By making an allowance in inches for the size of the letter-head, or for the distance between the line of type and the line of cutting or perforation, the measure Z will show the operator when to stop type-writing; by pulling up the printed paper until the marks on Z show the required length of sheet, and then placing cutter H in position and tearing off or perforating, as the case may be, the printed sheet, the blank paper is ready for the next letter or type-writing without further adjustment. The shaft l of the roll of paper D is carried in the uprights F, which are secured to the type-writer carriage by the set-screws d, d. The form of support for shaft l and manner of securing said support to carriage can, of course, be varied, and will vary for different styles of type-writers.

When the paper is not cut or separated into sheets, but type-written upon continuously, a secondary shaft k, resting directly upon the supply roll D and its ends being simply guided by the slots in the uprights S, may be employed on which the printed paper will be automatically rolled by the friction between it and the supply roll D.

Other changes and variations in the cutting or perforating and in the measuring devices may be made without departing from the spirit of the invention and will readily suggest themselves to the skilled mechanic.

Having thus described our invention, what we desire to secure by Letters Patent is as follows:

1. In an attachment to type-writing machines, a paper cutting device, capable of rotation in journals, and an anvil, in combination with guide springs secured to the cutter, a lever, handle, and the springs O and U as specified.

2. In a type-writing machine, the combination of a roll of unperforated paper secured to the carriage, a paper cutting or perforating device capable of rotation in journals on said carriage, a graduated endless band, or measuring device to show the length of the type-written part of the paper, passing over a pulley fixed on the impression roller and a loose pulley on the supply roll, and a secondary roll in direct contact with the supply roll for winding up the type-written paper, substantially as described.

3. In a type-writing machine, the combination of a roll of unperforated paper secured to the carriage, a paper cutting or perforating device capable of rotation in journals on said carriage, arranged so that the blank paper, after the type-written paper has been sepa-

rated, will be left in position for immediate type-writing without further adjustment owing to the guide springs *x*, substantially as described.

4. In a type-writing machine, a paper cutting or perforating device capable of rotation in journals on the carriage, the anvil or rest and the spring detaching or holding apparatus on the cutter, all arranged so that the type-written paper can be cut or torn off or separated easily and efficiently at any point and leave the blank paper, owing to the guide springs *x*, in position to be immediately type-written upon without further adjustment, substantially as described.

5. In a type-writing machine, the combination of the pulley L secured to the impression roller A, with the loose pulley K, shaft *l* of supply roll D, graduated endless band Z, marker *e*, and set-screw *f*, all arranged and operating substantially as described.

6. In a type-writing machine, a supply roll of paper in combination with a self-adjusting shaft and roll of paper thereon, the latter driven at the correct speed by direct contact with the supply roll.

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