July 1, 1924. 1,499,582

J. LAGUIONIE

TYPEWRITING MACHINE

Filed May 9, 1923 2 Sheets-Sheet 1

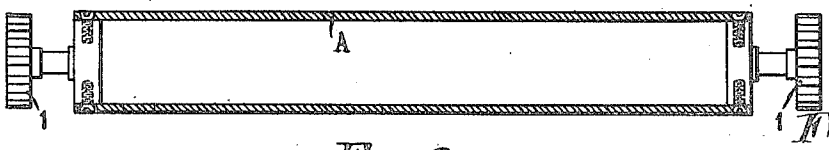


Fig. 1.

Fig. 2.



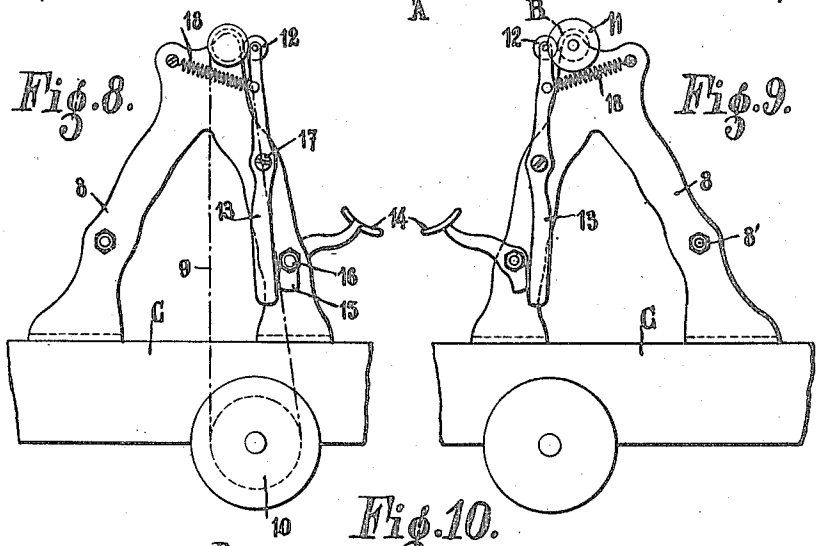
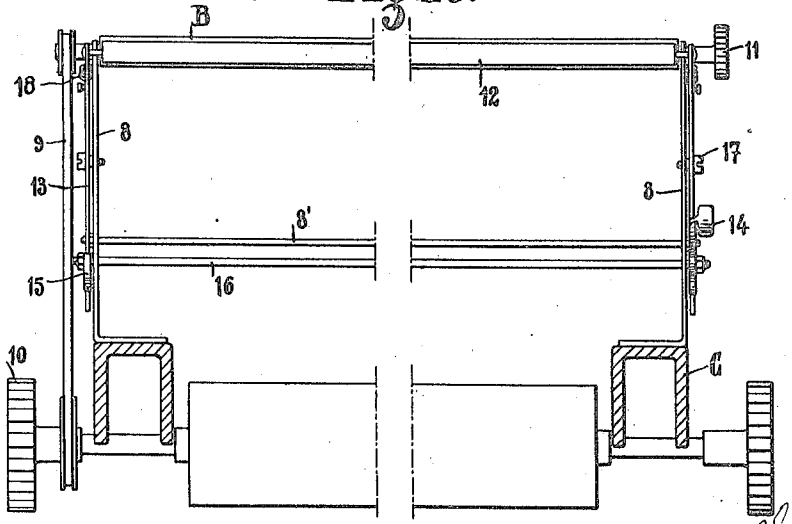


Fig. 8.

Fig. 9.

Fig. 10.



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Fig. 3.

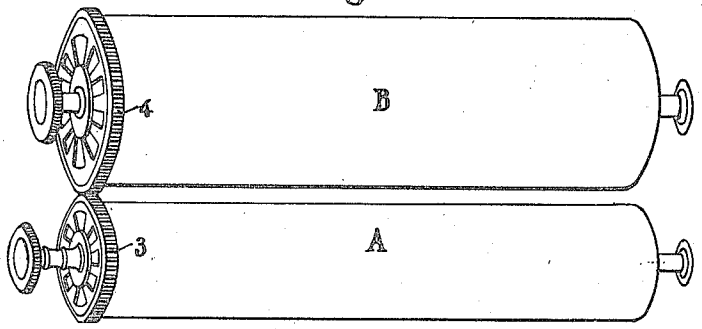


Fig. 4.

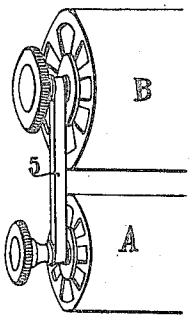


Fig. 7.

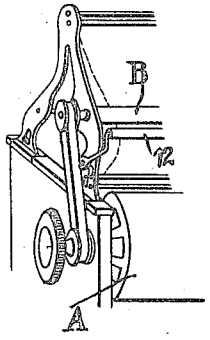


Fig. 5.

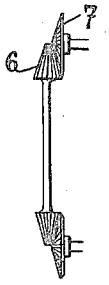
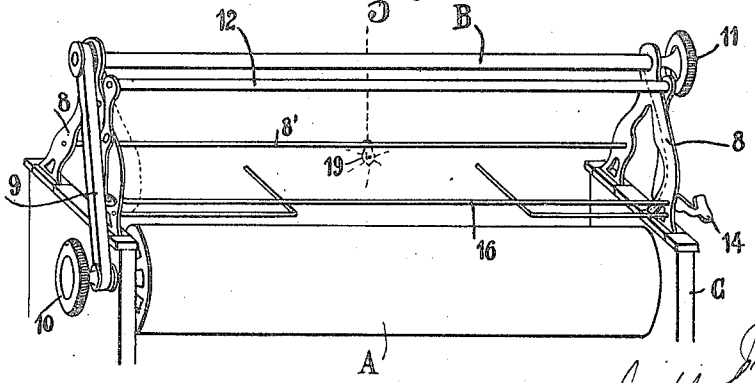


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSEPH LAGUIONIE, OF PARIS, FRANCE.

TYPEWRITING MACHINE.

Application filed May 9, 1923. Serial No. 637,900.

To all whom it may concern:

Be it known that I, JOSEPH LAGUIONIE, a citizen of France, and a resident of Paris, France, have invented new and useful Improvements in Typewriting Machines, of which the following is a specification.

This invention relates to a device applicable to typewriting machines to facilitate the copying of writing, letters, signs or the like.

It is the object of the invention to provide improved means to permit the direct copying of writing or printing matter, signs, or tracings on a typewriting machine and enable a single or a number of carbon copies also to be obtained.

I attain this object by means of an apparatus in the form of a translucent or transparent roller which is rendered luminous by interior lighting or self-luminosity and intended to replace the solid rubber roller or platen such as is generally used in typewriting machines.

The invention consists therefore in the first place in substituting a transparent roller (such as glass) for the opaque roller usually used in typewriting machines and in utilizing this transparent roller for the striking of characters and for direct impression on the sample placed under the sheet to be reproduced.

In this manner the necessity of watching the keys and the text to be reproduced while the operator is typing is avoided. Thus loss of time and the mental effort required to retain the phrase in the mind and the omission and substitution of words is avoided. Clerical errors and errors of punctuation are also avoided.

For use when making a plurality of copies, necessitating the interposition of a great number of sheets of paper, with interposed carbon sheets and the thickness of the sheets becomes such that the transparency is insufficient to enable the matter to be copied, means cooperative with the aforesaid means have been provided, which means attains the advantages above enumerated.

The apparatus further comprises a second transparent, semi-transparent or opaque roller moved by the initial transparent roller or by the unwinding of the sample in the view of the operator gradually as the copying advances.

Two devices are thus provided, the one utilizing solely the luminous striking roller for two copies, for example made directly on the sample applied to the luminous roller, the other device utilizing the luminous roller with or without lighting, according to requirements, for the striking of the characters with the sample applied to and being unwound on the opaque or transparent roller which is associated therewith. This additional roller can be of a diameter greater than that of the platen or of a small diameter with a rocking movement for effecting the movement of the sample.

Reference is made to the accompanying drawings which illustrate devices in accordance with the present invention.

Figs. 1 and 2 show two constructional forms of the transparent and luminous roller.

Fig. 3 shows the coupling of the luminous roller with a secondary opaque or transparent roller in the case where the direct transparency cannot be utilized on the platen.

Figs. 4 and 5 are modified constructional forms of the means for actuating the two rollers.

Figs. 6 and 7 are two further constructional forms shown in perspective comprising the luminous platen combined with the secondary roller and the controlling and actuating means therefor.

Figs. 8 and 9 are respectively end elevations of the opposite ends of Fig. 6.

Fig. 10 is a front elevation shown partly in section.

The roller A (Fig. 1) may be constructed of any suitable transparent or translucent material such as polished or unpolished glass. The ends are provided with milled knobs or manipulating members 1 and lighting means, such as 2, shown in this instance as electric incandescent lamps. If for any reason the surface of the glass platen is considered to be too hard and it is desired to damp the shocks, the glass roller could be covered with a sleeve A′ (Fig. 2) of transparent or translucent flexible material such as colorless rubber, celluloid or like material.

The roller above described is actuated in a typewriting machine as an ordinary opaque roller.

It is rendered luminous at the desired moment by interior lamps placed behind the exterior surface, the lighting being effected by a switch of any suitable type.

Where a multiple number of copies of

the sample is required as very frequently occurs necessitating the interposition of a large number of carbon sheets, thus decreasing the transparency, a transparent or opaque roller B may be used on which is placed the sample to be reproduced, the original sheets with the carbon sheets then being unwound on the transparent roller A which forms the platen and becomes in this case an ordinary roller.

As it is necessary that the unwinding of the sample be effected gradually as the original sheets are advanced as the copying progresses, various means can be utilized for actuating the rollers A and B simultaneously.

According to Fig. 3 the coupling and the actuation are effected by means of toothed wheels 3 and 4 fixed at one end of each of the rollers A and B or at both ends thereof.

It will be understood that by actuating the platen A the roller B will also be actuated.

In a modification this movement may be effected by means of a belt 5 (Fig. 4) or by means of a bevel gearing as shown at 6 and 7 (Fig. 5).

A preferred form, in which the support for the sample is arranged for use in combination with the rollers A and B, and for adaptation to a typewriting machine, is shown in Figs. 6 and 10.

The arrangement as a whole (Fig. 6) comprises a light frame preferably of aluminium with tie rods 8' on which frame the different parts are mounted. This frame is mounted for example on a carriage C of any type of typewriting machine.

In this arrangement the opaque platen of the machine is replaced by the luminous roller A. The secondary roller is indicated at B and is of a reduced diameter. Its movement is effected by means of a belt 9 connected to the roller A which can be displaced by means of knobs 10. But as the roller A can be rendered free by means of the ordinary declutching members, the roller B is provided with a knob 11 by which the roller can be directly rotated or rendered stationary.

In front of the roller B is another roller 12 which has a rockable movement and which forms a means of clamping any sheet or memorandum of the sample to be copied against the roller B.

The actuation of the roller 12 is effected by means of symmetrical levers 13 placed at each side of the frame and actuated simultaneously by a finger lever 14 for one 13 of the levers and by a cam 15 for the other lever. The cam 15 is rigid with a rod 16 on which is secured the finger lever 14. The levers 13 are pivotally secured to the frame as at 17.

In order to position the sample on the roller B it is necessary to separate the roller 12 from contact with the roller B by means of the finger lever 14. The return movement of the roller 12 into contact with the roller B is effected by replacing the finger lever 14 so as to allow the springs 18 to act on the lever 13.

From the foregoing description of Fig. 6 it will be readily understood that the roller A carries the original sheets upon which the typing is to be effected, that the roller B carries the sample to be copied and that its movement is determined by the rotation of the roller A, thus insuring the upward movement of the original sheets upon which the typing is to be impressed.

It will be recalled that the roller B is only utilized to carry the sample in the case of a multiplicity of reproductions on the roller A. In order to copy any simple sample the sample is placed on the roller A with the sheet to be impressed by utilizing the transparency in the interior of the roller or the luminosity of the roller per se.

In the case of insufficient lighting to enable the operator to follow the sample placed on the roller B when it is a matter of multiple reproduction on the roller A the separation of the rollers A and B is such that it is always possible to place the lamp 19 behind the sample which by transparency will be readily read as on the luminous roller A.

Fig. 7 shows a similar arrangement to that of Fig. 6 but the actuating roller B and the clamping roller 12 are placed nearer the platen A, thus resulting in a useful decrease in the length of the transmission belt.

It is evident that for purposes of economy and according to the requirements only one of the two parts of the apparatus need be used.

What I claim, is:

1. In a typewriting machine a carriage, a luminous platen therein and means to permit of placing on the carriage the sample to be reproduced under the sheet to be impressed in the same visual field relatively to each other.

2. In a typewriting machine a carriage, a platen therein, means to render the platen luminous and, means to permit of placing on the carriage the sample to be reproduced.

3. In a typewriting machine, a carriage, a translucent platen roller therein, and means to place a source of light within the roller.

4. In a typewriting machine a translucent roller in the form of a tube, a source of light in the tube, and a flexible translucent sleeve on the tube to damp shocks.

5. In a typewriting machine, a translucent tube-roller, a source of light within the same, a flexible translucent sleeve on the

roller, a secondary roller, means to actuate the same by the luminous roller and means to arrange the sample to be reproduced in a visual field corresponding to that of the multiple sheets to be impressed, on the carriage and on the said secondary roller.

6. In a typewriting machine, a luminous platen, a secondary opaque roller, means to arrange the sample to be copied on this roller, and means to ensure the upward movement of the sample by the pressure of a rockable roller adapted to act as a clamping roller and to be retained in the clamping position by resilient means.

In witness whereof I affix my signature.

JOSEPH LAGUIONIE.