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SILENCER FOR PRINTING TELEGRAPH APPARATUS

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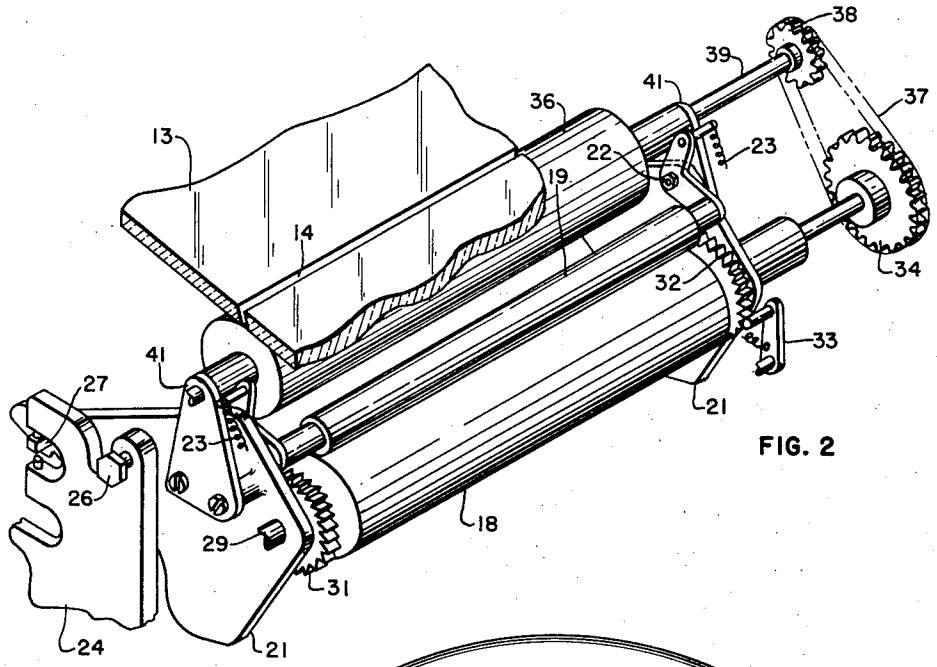


FIG. 2

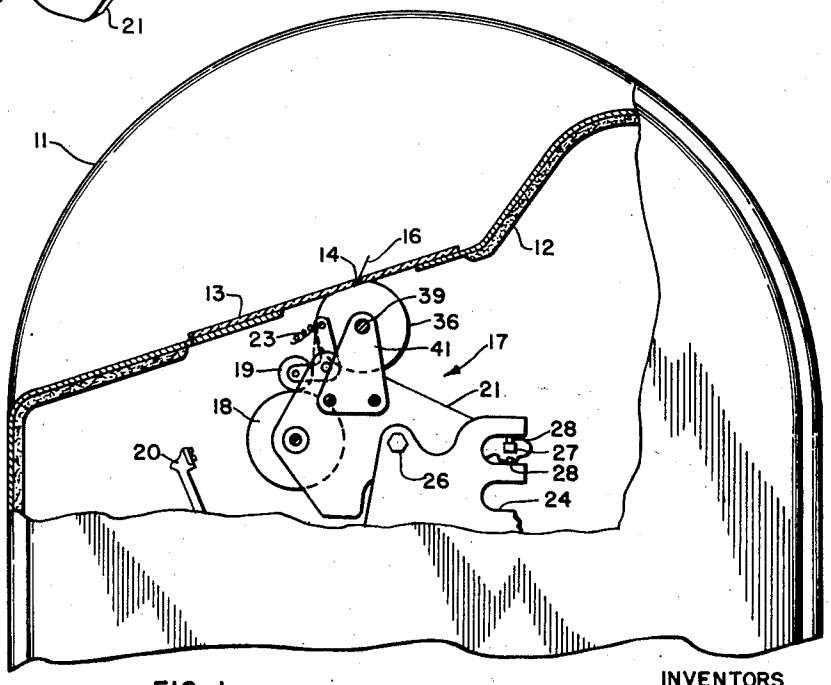


FIG. 1

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SILENCER FOR PRINTING TELEGRAPH APPARATUS

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5 Claims. (Cl. 178—23)

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This invention relates primarily to printing telegraph apparatus and more particularly to mechanisms for silencing a telegraph printer.

Due to the necessarily complicated nature of a telegraph printer, most of the printers in use at the present time are more or less noisy in their operation. Efforts to silence telegraph printers have been applied in two main directions. First, considerable effort has been expended in reducing the number of moving parts in a printer to an operational minimum, inasmuch as the moving parts obviously are the source of the greater part of the noise connected with printing telegraphy. Second, the entire telegraph printer can be placed in some kind of a soundproof cabinet or soundproof room.

It is obvious that the number of moving parts in a telegraph printer cannot readily be reduced below a certain number, which number of course, depends upon the different functions which are to be performed by the machine. Therefore, it is necessary to afford some type of a housing for the telegraph printer and thereby confine as much of the noise as possible, and this is done by providing either a substantially soundproof cabinet or room within which the printer is housed. The method of silencing printers by placing them in a soundproof room, though perhaps the most effective in absolutely confining the noise generated by the printers, is not free from inconveniences. In such case, for example, the attendant must be continually entering the soundproof room to pick up copy. This is not only bothersome and more or less inconvenient, but as soon as the door to the room is opened to permit access of the attendant much of the soundproofing effect is lost due to the escape of the noise through the open door.

The other alternative of placing the telegraph printer in a soundproof cabinet also is not unattended by difficulties and inconveniences. There is still the problem of withdrawing the printed copy from within the cabinet. A narrow paper exit slot has been found not to permit the escape of but a slight amount of noise itself, but as soon as the copy is allowed to protrude through the slot the escaping noise is multiplied several times. It has been found that by far the greater portion of the noise thus emitted to the outside of the cabinet is due to vibrations induced into the paper which travels therealong until it is dissipated outside the cabinet. Therefore by damping these vibrations before passage to the outside of the cabinet the effectiveness of the silencing cabinet is greatly increased.

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The present invention therefore has for its principal object the provision for a mechanism capable of effectively damping the vibrations induced in telegraph copy paper before its passage to the outside of the cabinet and further the complete sealing off of the paper exit slot in the cabinet so as to prevent substantially completely the escape of noise through the paper exit slot.

Another object of the invention is to provide a device for pushing telegraph copy through the paper exit slot in a silencing cabinet.

Broadly the invention contemplates a tape exit slot of a length substantially equal to the width of the telegraph copy paper and a soft rubber roller having its axis parallel to this slot and so mounted as to substantially seal off the tape exit slot on the inside. A chain or belt driven by the platen drives the soft rubber roller at a somewhat greater speed than the platen rotates and pushes the copy through the exit slot.

Other objects and advantages of the invention will be apparent and the invention will be better understood from the following detailed description when read in conjunction with the accompanying drawing wherein:

Fig. 1 is a side elevational view of a telegraph silencing cabinet partly cut away to show more clearly the principal features of the invention; and

Fig. 2 is a detail isometric view of the mechanism comprising the invention.

In the drawings a cabinet 11 is lined with suitable soundproofing insulating material 12. The top central portion of the cabinet 11 is cut away as shown and has a viewing plate 13 therein. The viewing plate 13 is hinged to the cabinet 11 and has a paper exit slot 14 through which a paper strip 16 passes. Mounted suitably within the cabinet 11 is a telegraph printer 17 having a cylindrical platen 18 around which the paper strip 16 travels, and also having a plurality of keys or type pallets 20 for printing intelligence on the paper strip 16. Suitable means such as a roller 19 are provided for maintaining the paper strip 16 against the platen 18, the roller 19 being mounted pivotally in the platen frame 21 by means of bolts 22 and being urged continuously towards the platen 18 by means of a pair of springs 23.

The platen frame 21 is mounted pivotally between a pair of members 24, which comprise a portion of the main frame by means of a pair of pivot bolts 26. A pair of lugs 27 on the platen frame engage either one of a pair of stop lugs 28 on the main frame, depending upon whether the

platen is in shift or unshift position. The platen 18 is rotatable on a platen shaft 29 on which are mounted the usual line feed ratchet wheel 31 and detent wheel 32 with which a spring actuated detent 33 cooperates. The platen shaft 29 also carries a toothed wheel 34 which drives a relatively soft rubber push out roller 36 through the medium of a chain 37 and toothed wheel 38. The roller 36 and toothed wheel 38 are both secured to a shaft 39 which is suitably mounted for rotational movement in a pair of brackets 41 affixed to the platen frame 21.

The shaft 39 and the pivotal axis of the platen frame 21, which passes through the pivot bolts 26, are parallel to one another and both lie in a plane substantially perpendicular to the viewing plate 13. The soft rubber roller 36 is mounted so that it engages the viewing plate 13 for some distance on either side of the paper exit slot. The fact that the roller 36 is soft permits this engagement with the viewing plate. It will be noted in Fig. 1 that the lug 27 on the platen frame 21 is in engagement with the upper lug 28 and thus the platen frame occupies its counterclockwise or unshift position. In this position of the platen frame 21 the roller 36, although moved slightly leftward relative to the slot 14, nevertheless, engages the viewing plate 13 on either side of the slot 14 and thereby seals the slot. When the platen frame 21 is moved clockwise to its shift position the roller 36 is moved to the right slightly (Fig. 1) but still seals off the slot 14.

The paper 16, after having received the printed matter passes under the roller 19 and thence between the roller 36 and viewing plate 13 until reaching the slot 14, whereupon it passes outwardly through the slot. Clearly any vibrations induced into the paper are absorbed by the soft rubber roller 36. It will be noted that the wheel 38 is somewhat smaller than the wheel 34, the roller 36 and the platen 18 being of approximately the same diameter. Consequently whenever the platen 18 is advanced by the line feed mechanism (not shown) the roller 36 rotates somewhat faster and therefore the paper is maintained in a taut condition continuously. By maintaining the paper 16 taut the tendency for it to wrinkle is substantially eliminated, and the viewing plate 13, being smooth, the roller pushes the paper, sliding it beneath the viewing plate 13 until it reaches the paper exit slot 14 from whence it emerges outside the machine.

The roller 36 effectively seals the paper exit slot 14 at all times that the viewing plate 13 occupies its closed position, as shown in Fig. 1, and thereby dampens very effectively any vibrations induced into the paper strip 16 by them moving parts of the telegraph printer. Further, as the slot is sealed such noise as would ordinarily pass through an unsealed tape slot itself, is also cut off.

Thus the present invention provides an inexpensive, efficient mechanism for eliminating the transfer of noise created within a silencing cabinet by a telegraph printer to the outside through the paper exit slot.

Obviously changes and modifications may be made in the invention without departing from the spirit or scope thereof.

What is claimed is:

1. In an apparatus for silencing telegraph printers, a substantially soundproof cabinet for housing a telegraph printer, said printer having a plurality of type pallets for printing intelligence on a paper strip, said cabinet having a paper exit and a rubber roller secured to said printer being so positioned as to substantially seal said exit for engaging said paper strip to dampen vibrations induced therein by type pallets striking thereagainst and further for pushing said paper strip out said paper exit.

2. In an apparatus for printing intelligence on a work sheet, printing means for striking a work sheet to impress intelligence thereon, a cabinet for housing said printing means, said cabinet having an opening therein and a roller for sealing said opening and pushing said work sheet through said opening thereby dampening vibrations induced in said work sheet by said printing means.

3. In an apparatus for silencing telegraph printers, a substantially soundproof cabinet for housing a telegraph printer, said printer having a plurality of type pallets for printing intelligence on a paper strip, said cabinet having an exit slot for the passage of said paper strip to the outside of said cabinet, a rotatable platen for advancing said paper strip, and a roller rotatable with said platen for sealing said exit slot and for pushing said paper strip therethrough, said roller being effective to dampen substantially all vibrations induced in said paper strip by said type pallets during printing of intelligence on said paper strip.

4. In a silencing apparatus for telegraph printers, a substantially soundproof cabinet, a telegraph printer mounted within said cabinet, a platen in said printer for advancing a paper strip therethrough, said cabinet having an exit slot for enabling the emission of said paper strip from said cabinet, and a soft roller geared to and rotatable with said platen for pushing said paper strip through said exit slot, said roller further being effective to seal said exit slot thereby preventing transmission of vibrations of said printer from passing through said exit slot as noise.

5. In a silencing apparatus for telegraph printers, a telegraph printer, a substantially soundproof cabinet for housing said printer, means in said printer for printing intelligence on a paper strip, a viewing plate in said cabinet positioned above a portion of said paper strip having intelligence printed thereon, said viewing plate having an exit slot for permitting emission of said paper strip from within said cabinet, and a soft roller for sealing said exit slit, said paper strip having intelligence printed thereon passing between said roller and said viewing plate and thence through said exit slot, whereby said roller is effective to dampen vibrations induced in said paper strip by said telegraph printer and to push said paper strip along said viewing plate and through said exit slot.

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