Feb. 8, 1955 C. L. MONTGOMERY 2,701,618

TELETYPE SILENCING CABINET

Filed April 12, 1954 2 Sheets-Sheet 1

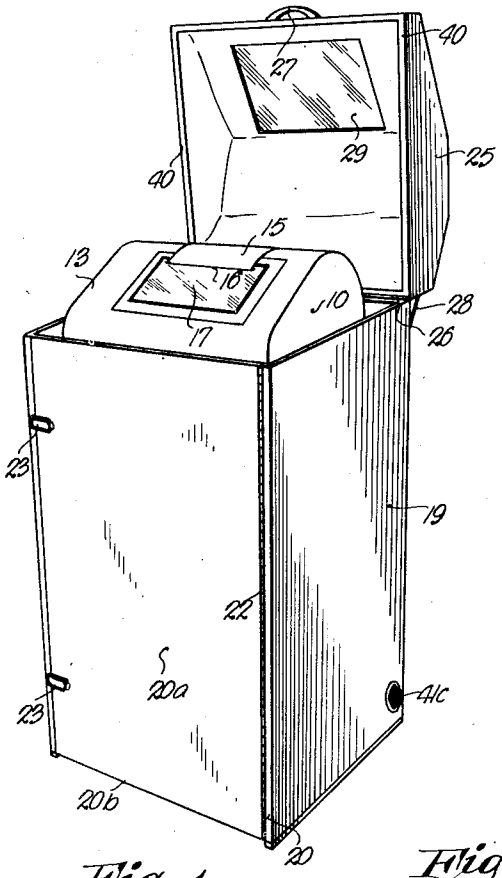


Fig. 1.

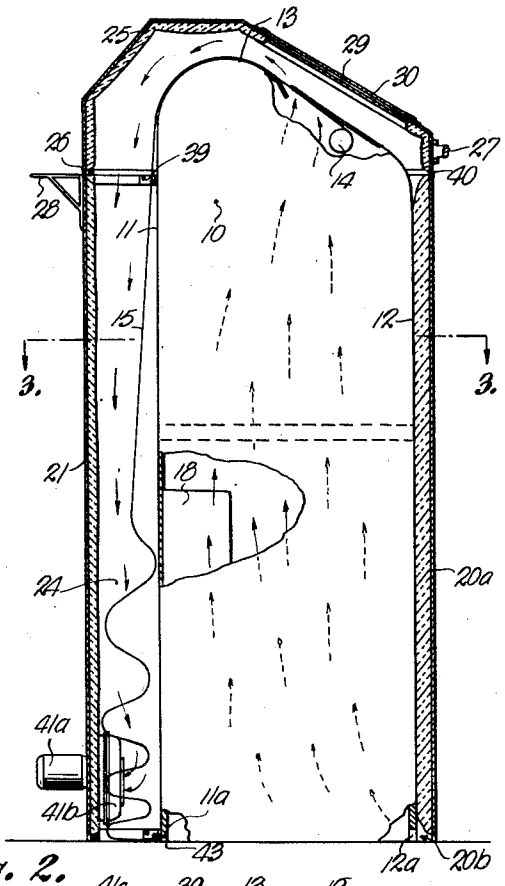


Fig. 2.

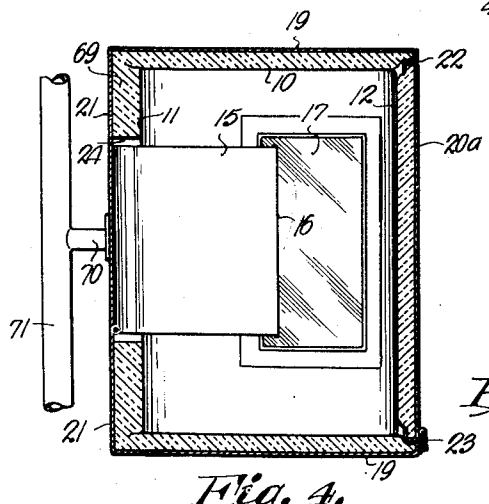


Fig. 4.

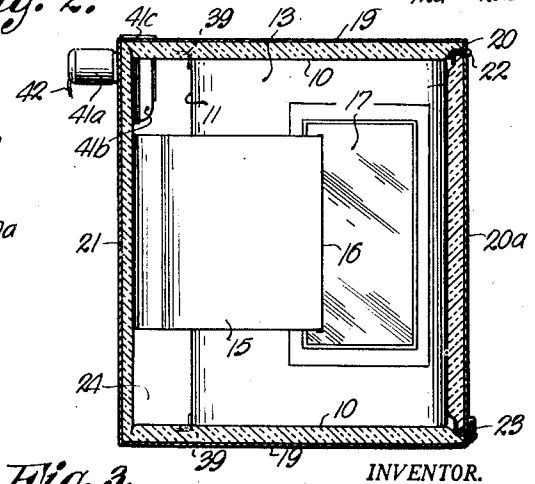


Fig. 3.

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TELETYPE SILENCING CABINET

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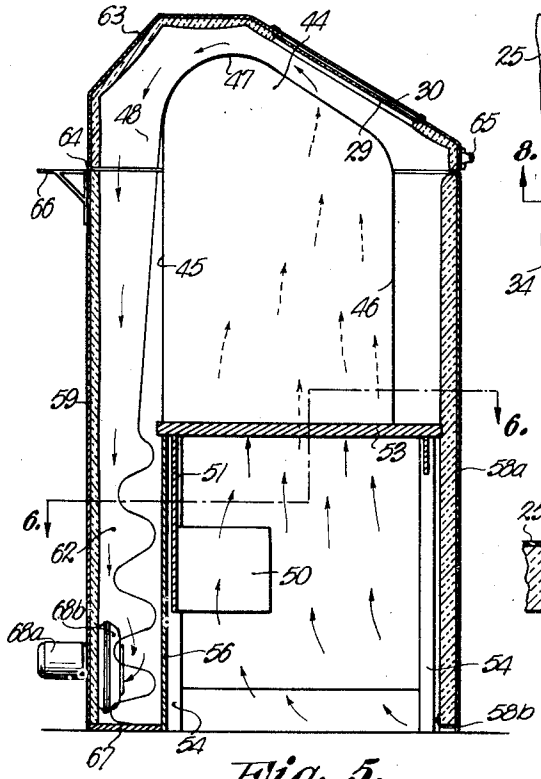


Fig. 5.

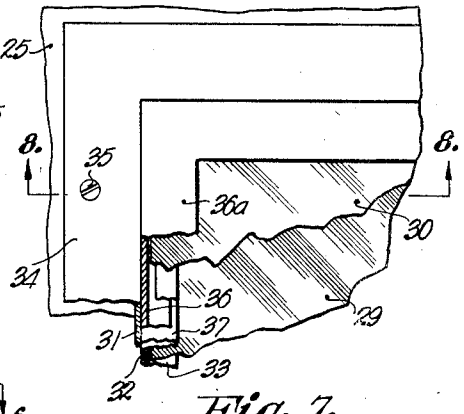


Fig. 7.

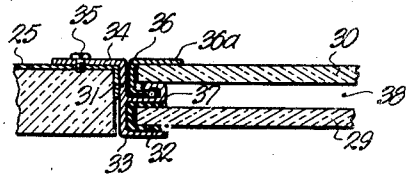


Fig. 8.

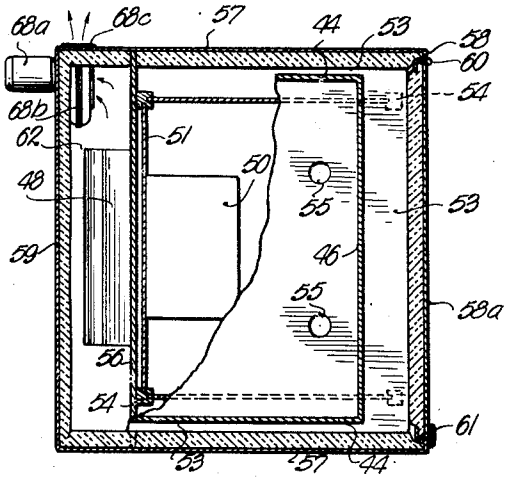


Fig. 6.

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TELETYPE SILENCING CABINET

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6 Claims. (Cl. 181—33)

This invention relates to means for silencing teletype machines and refers more particularly to a combination silencing and ventilating cabinet for both console and table model teletype machines.

Many attempts have been made to reduce the noise levels produced by teletype machines but these efforts have been essentially unsuccessful to date. When one or a plurality of these machines is employed in an office, the intermittent racket produced makes working conditions in the vicinity almost impossible. Previous efforts have involved closing up the paper slot as well as securing an insulating medium to the inside of the teletype cabinet itself. Closing the slot alone does not sufficiently reduce the noise level, while lining the teletype cabinet fails because:

(*a*) The teletype mechanism gets hot and unless an air circulating system is installed, the parts will be seriously damaged;

(*b*) The teletype cabinet absorbs vibration from the teletype mechanism and revibrates it;

(*c*) The lining packs and/or falls into the intricate mechanism of the teletype, causing malfunction and failure.

Therefore, an object of the present invention is to provide an insulated teletype silencing and ventilating cabinet for either full length console or table models of teletypes which will effectively reduce the noise level thereof.

A further object is to provide such an insulated silencing and ventilating cabinet which offers ready access to the teletype for replacement or repair without complete removal of the cabinet.

Another object is to provide a combination silencing and ventilating cabinet which is independent from the teletype mechanism and cabinet, which encompasses and almost completely dampens sound and other vibrations, is inexpensive, simple, attractive, practical and trouble-free.

A further object is to provide such a silencing and ventilating cabinet which completely encloses the teletype assembly, ventilates the teletype by making the teletype assembly serve as an intake ventilating duct and the remainder of the silencing cabinet serve as an exhaust duct and provides space in the exhaust duct for the accumulation of excess teletype paper.

Still another object is to provide such an insulated silencing and ventilating cabinet wherein a single source of suction may be employed to ventilate a plurality of such cabinets.

Other and further objects will appear in the course of the following description.

In the accompanying drawing which forms part of the specification and is to be read in conjunction therewith and in which like reference numerals indicate like parts in the various views:

Fig. 1 is a perspective view of a preferred form of teletype silencing cabinet enclosing a console type teletype machine with the top closure of the silencing cabinet in raised position;

Fig. 2 is a side sectional view of the silencing cabinet of Fig. 1 with additional parts in section;

Fig. 3 is a view taken along the lines 3—3 of Fig. 2 in the direction of the arrows;

Fig. 4 is a view similar to that of Fig. 3 but illustrates a modified form of silencing cabinet;

Fig. 5 is a side sectional view of a second modified form of teletype silencing cabinet for a table model teletype assembly;

Fig. 6 is a view taken along the lines 6—6 of Fig. 5 in the direction of the arrows;

Fig. 7 is a top sectional view of one corner of the window in the top closure of the silencing cabinets; and

Fig. 8 is a view taken along the lines 8—8 of Fig. 7 in the direction of the arrows.

Three modifications of the invention are shown in the figures as previously noted in the description of the figures. The modifications deal primarily with variations in structure of teletype machine cabinets and secondarily with variations in insulation placement and means of air circulation.

The essential feature in all the modifications lies in the provision of a sound absorbing box surrounding the teletype console or table and printer to form an enclosure. The enclosure is adapted to fit against and around the teletype structure and baffles are added to the structure if required so that there is created a partition within the enclosure dividing it essentially into two ducts for the purpose of ventilation and air circulation. An air inlet is provided in one duct and means for exhausting the air from the enclosure is provided in the other duct. The inlet and exhaust means are preferably positioned at the opposite extremities of the interconnected ducts so that maximum air flow within the enclosure is provided. One of the ducts comprises essentially the body of the teletype apparatus and the other the space between the back of the teletype apparatus and the rear wall of the enclosure. The teletype assembly plus whatever added baffles are required constitute the partition within the enclosure which defines the two ducts.

There are two basic forms of teletype machines in general use, the type AC–15 printer with standard table and the type AC–21 console. The present invention provides a ventilating and silencing cabinet adaptable with minor modifications to fit either type. The Figs. 1, 2 and 3 show the invention as applied to the type AC–21 console and Figs. 5 and 6 show the invention as applied to the type AC–15 printer with standard table. These modifications will be discussed separately in the above order.

Referring to the drawings and more particularly to Figs. 1, 2 and 3 which illustrate a ventilating and silencing cabinet embodying the invention as applied to the type AC–21 (full-length console type) teletype machine, the numeral **10** indicates the side wall of the console, **11** the back wall, **12** the front wall and **13** the top wall. As the teletype internal mechanism is conventional, it is not shown in detail, but at **14** is shown a cylindrical platen around which a work sheet or paper strip **15** travels. The paper strip **15** emerges from the cabinet through paper slot **16** at the top of viewing plate **17** and conventionally passes over the top **13** of the cabinet until it is cut or torn off. The rectifier **18** of the teletype is shown in the cut-away of Fig. 2. The walls of the console conventionally extend almost to floor level but have air gaps **11***a* and **12***a* of greater or lesser lengths therebetween. The console table, the front of which forms the lower portion of the front side of the teletype console **12**, is mounted on rollers. This console table rolls out easily when the front door of the silencing cabinet is opened.

The ventilating and silencing cabinet comprises a box fitting around the console having side walls **19**, front wall **20** and rear wall **21**. The walls of the silencing cabinets are preferably of metal, especially aluminum. The front wall **20** is preferably formed as a door **20***a* with continuous hinge **22** and latches **23**. Access to the front of the teletype console may be had through door **20***a* and the door is preferably of slightly greater width than the console. Door **20***a* preferably does not reach to the floor level but has gap **20***b* thereunder to serve as an air inlet for ventilation. Side walls **19** are of substantially greater depth than side walls **10** of the console which provides a chamber **24** between the rear wall **11** of the console and the rear wall **21** of the silencing cabinet when the front of the console abuts the back of door **20***a* as is contemplated in use. The box has a top closure **25** mounted on continuous hinge **26** and having handle **27** for opening. Supports **28** on rear wall **21** serve as rests for top closure **25** in open position. A viewing window is provided in the front of the top closure to permit reading the teletype paper **15** without opening the silencing cabinet. The structure of the mounting for the window is shown in Figs. 7 and 8. The window comprises interior **29** and exterior **30** glass plates, preferably of double strength window glass. The internal plate **29** is secured to a metal molding

31 by fitting into rubber strip 32 which lies in channel 33 of the molding. Flange 34 of the molding is secured to the top closure wall 25 by screws 35. Exterior plate 30 is held to molding 31 by channel strip 36 which is gripped on one side 36*a* by upper channel 37 of molding 31. Dead air space 38 lies between the plates and aids in the sound insulation.

The sound suppressing cabinet is lined throughout (all sides and the top closure) preferably in the following manner: the two sides and the front door of the base section are lined with thick (approximately 1½ inch) sound proofing material (preferably long textile-type glass fiber insulation enclosed in bats). All the inside surfaces, except the window area, of the top section are lined with the same type acoustical material approximately 1 inch thick. The rear wall of the base section is lined with the same type sound proofing material approximately ½ inch thick. These insulation bats are faced with suitable material (4 vinyl film, fire resistant muslin, etc.).

The box is constructed to be of such a width that when it is enclosing the console the fit between the side walls 10 of the console and the insulation pads is substantially air tight. It is contemplated also that the front wall 12 of the console abut the front pads on door 20*a* in substantially airtight relationship and angle iron stop members 39 (best seen in Fig. 3) are provided to maintain this relationship when the cabinet is in position around the console. The bottom edge of the top closure has a sponge rubber shim or hollow strip 40 along its circumference to seal the space between the top and base parts of the silencing cabinet for air and sound leakage. Positioned in the chamber 24 between the rear wall 11 of the console and the rear wall 21 of the box is blower 41 having motor portion 41*a* and fan 41*b* with outlet 41*c* best seen in Fig. 1. Electrical leads 42 furnish power to the motor. The blower 41 may be positioned in any desired manner in the chamber 24, but the position illustrated is preferred because the motor 41*a* is outside the chamber 24 where it is cooled by outside air and the outlet 41*c* is positioned as near to the bottom of the chamber 24 as feasible; thus the blower does not obstruct the channel or the fall of teletype paper therein.

It will be observed that with the exception of the gaps between the walls of the console and the floor (only gaps 11*a* and 12*a* at front and rear being visible in Fig. 2) the stationing of the silencing cabinet in closed position (front door and top closure) surrounding the console completely encloses the console. Rubber shim 43 is provided to seal rear gap 11*a* to the floor and the side gaps are either sealed automatically by the side wall 19 insulation pads or shims (not shown) may be used to seal them, and thus an enclosure is provided with a partition therein (the rear wall of the console plus shim 43) which divides the enclosure into two ducts interconnected at their upper ends with an air inlet in one duct and air exhausting means in the other. The air inlet comprises the juxtaposed slot 20*b* and gap 12*a* leading to the interior of the teletype console which comprises the first duct. The chamber 24, the second duct, also provides space for the accumulation of excess teletype paper. The interconnection of the two ducts is above the top of the console through the paper slot of the teletype.

The air cooling system is necessary to reduce the temperature inside the teletype console, which rises considerably with the installation of the silencing cabinet. The cooling system operates in the following manner: The air enters under the front door of the silencing cabinet and gap 12*a*, goes up through the center of the teletype cabinet past the rectifier 18, into the top part of the teletype cabinet; through the teletype mechanism and out through the paper slot in the top of the teletype machine; back over the top and down the back of the console, between the console and silencing cabinet and finally out near the bottom and back of the silencing cabinet through the blower. The path of this air flow is indicated by the arrows in the figures. It is appreciated that variations in structure of the console might be made by the manufacturer. However, the side walls and front of the silencing cabinet may be varied to seal in airtight manner these walls along their length and appropriate sealing members provided to seal the rear wall of the console so a substantially continuous partition is provided from the floor to the upper portion of the console to define the ventilating duct as described. Similarly, somewhat varying provision such as ports of various sizes in console and door 20*a* could be made to obtain ingress of air into the console front should gap 12 not be available. The important feature of the invention is the provision of the enclosure partitioned into ducts with inlet and outlet entrances into the ducts.

Referring now to Figs. 5 and 6 illustrating the type AC–15 printer (table model), it should be understood that considerable variation may be encountered in the size of the table mounting this model printer although a standard size table is generally provided. The size and shape of the silencing and ventilating cabinet will be altered in conformance with the size and shape of the table or stand on which the printer is mounted or supported.

Numeral 44 indicates the side walls of the teletype printer, 45 the rear wall, 46 the front wall and the top wall 47. Again, the teletype mechanism being standard, it is not shown in detail but paper strip 48 is shown emerging from a slot at the top of the viewing plate (not shown but similar to slot 16 in the embodiment illustrated in Fig. 1) and passing over the top of the printer. The rectifier 50 is shown mounted below the printer on rear plate 51 of a stand or table. The printer rests on table top 53 and the rear plate 51 is attached to the underside of the top 53 between legs 54. Table 52 typically has a plurality of holes 55 in the top 53 thereof for passage of cable to the printer and these are generally large enough to permit passage of the required air flow. Additional holes may be provided in the top or felt or similar pad removed if required. These holes, of course, must be located under the printer. Shield or baffle 56 extends from floor level up to the lower edge of the table top 53 and is usually of greater width than top 53. There are generally no casters on the base of the table for the type 15 teletype. The bottom of the printer lies essentially flush with the top 53 of the table and a strip of sealing material (sponge rubber shim or similar) may be applied either on top or on the front side near the top of shield 56 if desired or needed (not shown).

The ventilating and silencing cabinet comprises a box fitting around the table and printer having side walls 57, front wall 58 and rear wall 59. Front wall 58 is preferably formed as a door 58*a* with continuous hinge 60 and latches 61. Access to the front of the printer may be had through door 58*a* and door 58*a* is preferably of slightly greater width than the table top 53. Door 58*a* preferably does not reach to floor level but has gap 58*b* thereunder to serve as an air inlet for ventilation. Side walls 57 are of substantially greater depth than the depth of table top 53 which provides a chamber 62 between the rear wall 45 of the printer, the shield 56 and the rear wall 59 of the silencing cabinet. Note that it is not absolutely necessary that the printer rear wall be next the rear edge of top 53 but a smoother paper fall will be provided if it is so. The box has a top closure 63 mounted on continuous hinge 64 and having handle 65 for opening. Supports 66 on rear wall 59 serve as rests for top closure 63 in open position. The viewing window has the same structure as detailed previously and will not be again described. The insulating cabinet is lined in the same manner as the cabinet for the type 21 machine and this will not be again described.

The box is constructed to be of such a width that when it is enclosing the table top 53 the fit between the side edges of the table top and the side wall insulation pads is substantially airtight relationship. The table may be positioned firmly as described by a number of methods but, in the preferred form, shield 56 is attached to side walls 57 at a distance from the rear wall 59 of the box so that it abuts the rear table legs 54 when the table is properly positioned in the box. If it is desired to attach the shield 56 to the table instead of the side walls, the shield 56 is made at least as wide as table top 53 and a floor 67 may be provided in chamber 62 to abut the bottom portion of the shield 56. Thus the volume beneath the table top 53 is sealed off at all times when door 58*a* is closed except for air inlet 58*b*. The bottom edge of the top closure 63 is sealed as previously described and a blower 68 is provided having motor 68*a*, fan 68*b* and outlet 68*c* also as previously described in the description of the cabinet of Figs. 1, 2 and 3.

By enclosing the table top 53 on three sides and providing shield 56 to seal the fourth side as described, the stationing of the silencing cabinet in closed position completely encloses the table and printer with the exception

of air gap 58*b* under the door 58*a*. This provides an enclosure with a partition therein (the shield 56, table top 53 and printer walls) which effectively divides the enclosure into two ducts interconnected at their upper ends, with an air inlet in one duct and air exhausting means in the other. The first duct comprises the enclosed underside of the table, the holes in the table and the inside of the teletype printer and the second duct comprises the chamber 62 between the shield 56 and the rear wall 59 of the box and the volume surrounding the printer casing above the table top 53. The interconnection of the two ducts is above the top of the printer through the paper slot 49.

The arrows in Fig. 5 indicate the air flow route which enters under the front door of the silencing cabinet, under the front end of the teletype table, then through the holes in the table top into the teletype cabinet, out through the top of the teletype cabinet via the paper slot, down between the printer cabinet and the back of the silencer cabinet, then lower between the vertical shield and the back of the silencing cabinet, into the blower and out through the outlet.

In the case of the type 21 or similar full length console type teletype machine, the air flow simply entered the console at the bottom and came out the paper slot at the top and down the back of the console and then out the bottom. With the type 15 or similar table model, there is no console from the table top to the floor, so it is necessary to seal off the space below the table top 53 and in front of the back edge of the table. The table top 53 itself seals against the front 58 and both right and left sides 57 of the silencing cabinet and the vertical shield 56 seals off the back side of the table from the table top to the floor. In this manner, the air currents must go through the holes in the table top 53, into the printer cabinet and then through essentially the same route as for the type 21 console for the remainder of the cycle.

Fig. 4 is designed to show a modification of the silencing cabinet for the console type teletype machine and shows the cabinet with the top closure removed. In this view like numbers are employed to show like parts to the views in Figs. 1, 2 and 3. Thus, 10, 11, 12 and 13 indicate the side, back, front and top walls of the console, respectively, 15 the paper, 16 the paper slot and 17 the view plate. 19, 20 and 21 indicate the side, front and rear walls of the silencing cabinet, with 22 indicating the door hinge and 23 a latch thereof. The cabinet walls are insulated as indicated in the description of Figs. 1, 2 and 3 with the exception that the single thickness of insulation on rear wall 21 is replaced by thick insulation panels 69 which extend from the rear wall 21 to the back wall 11 of the console thereby defining the lateral edges of chamber 24 which is at least greater than the width of paper strip 15. In this modification also is illustrated the air exhaust system contemplated when a plurality of silencing cabinets are employed. An exhaust pipe 70 penetrates rear wall 11 and connects with chamber 24. The other extremity of pipe 70 connects with suction pipe 71 which leads to a suction source (not shown). The air flow in this modification is the same as that described for the console system of Figs. 1, 2, 3 and all other structures are the same as in those figures with the exception of the omission of angle iron stop members 39 and the blower assembly which are omitted.

Thus it is seen that a teletype silencing and ventilating cabinet has been provided for both console and table model teletype machines which completely enclose the said machines and, furthermore, enclose the teletype machines and their mountings so as to effectively partition the enclosing cabinet into two interconnected ducts, one comprising the teletype assembly and having an air inlet, the other comprising the residual volume of the silencing cabinet and having air exhausting means therein, the ducts being interconnected by the paper slot in the upper portion of the teletype machine. In addition, this silencing cabinet has provision for receiving excess teletype paper, a viewing aperture, top and side access doors, and accomplishes all of the objects previously set out theretor.

From the foregoing it will be seen that this invention is one well adapted to attain all of the ends and objects hereinabove set forth together with other advantages which are obvious and which are inherent to the structure.

It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of the claims.

As many possible embodiments may be made of the invention without departing from the scope thereof, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

1. An insulated sound absorbing cabinet for teletype machines comprising an insulated enclosure surrounding the machine, a partition dividing the enclosure into separate ducts interconnected at only one end thereof, one duct having therein the teletype machine, an air intake opening in a wall of one duct and air exhausting means in a wall of the other duct.

2. A cabinet as in claim 1 wherein the air intake opening and air exhausting means are positioned so as to provide for maximum travel of air therebetween.

3. An insulated sound absorbing cabinet for table model teletype machines which models include a teletype machine mounted on a table having a top and legs, the table having a hole in the top thereof beneath the teletype machine, comprising an insulated enclosure surrounding the teletype machine and table and abutting the table top on three sides, a partition dividing the enclosure and forming with the table top and teletype machine two separate ducts interconnected at the upper end thereof, one of said ducts extending through the teletype machine and the other of said ducts being external of the machine but within the enclosure, an air intake opening in a wall of one duct and air exhaust means in a wall of the other duct.

4. An insulated sound absorbing cabinet for essentially floor length console model teletype machines, comprising an insulated enclosure surrounding the machine and abutting the console on three sides, the remaining side of the console forming a partition dividing the enclosure into separate ducts interconnected at the upper end thereof, an air intake opening in a wall of one duct and air exhaust means in a wall of the other duct.

5. An insulated sound absorbing and ventilating cabinet for teletype machines of the type having a teletype mechanism enclosed within a housing, said housing being provided with openings at the top and bottom for the ingress and egress of air, comprising an internally insulated enclosure surrounding the machine and including means forming with the machine housing an air exhaust duct open to the atmosphere and communicating only with the opening at the top of said housing, said enclosure being provided with an air intake communicating only with the opening at the bottom of said machine, and forced air exhaust means located in said exhaust duct for drawing air through said intake and through said machine.

6. An insulated sound absorbing and ventilating cabinet for teletyping machines of the type having a teletype mechanism enclosed within a housing, said housing being provided with openings at the top and bottom for the ingress and egress of air, comprising an insulated enclosure surrounding the cabinet having a cross-sectional area greater than that of the housing, means for maintaining the housing tightly against at least one of the walls of said enclosure thereby to provide a duct within said enclosure between another wall of the enclosure and an adjacent wall of said housing, said enclosure being so formed as to provide open communication between the opening at the top of said housing and said duct, intake means for communicating air from outside said enclosure to the opening at the bottom of said housing, and forced air exhaust means in said duct communicating with the atmosphere to draw air upwardly through said housing and to discharge said air to the atmosphere.

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