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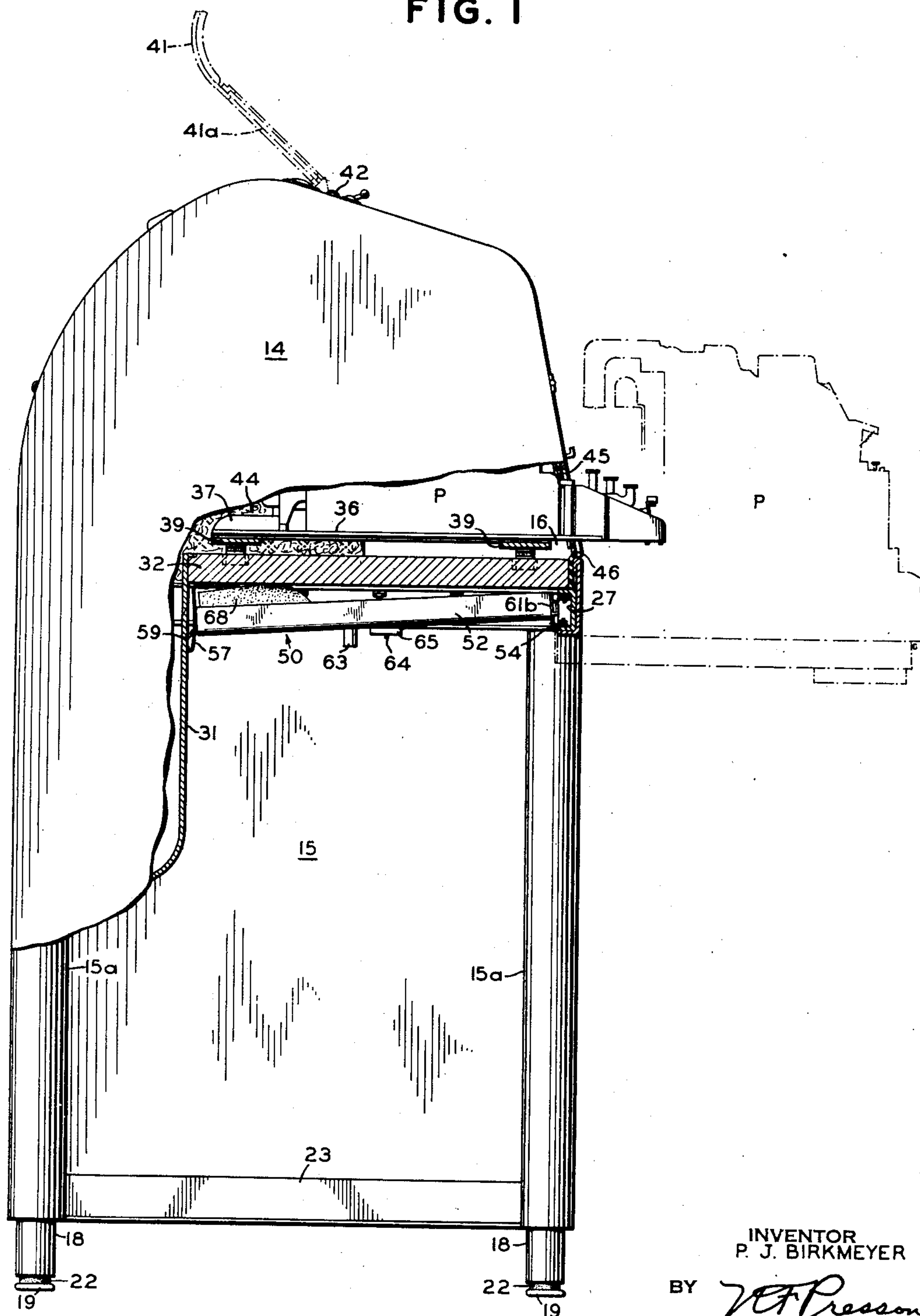
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RETRACTILE SHELF STRUCTURE

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FIG. 1



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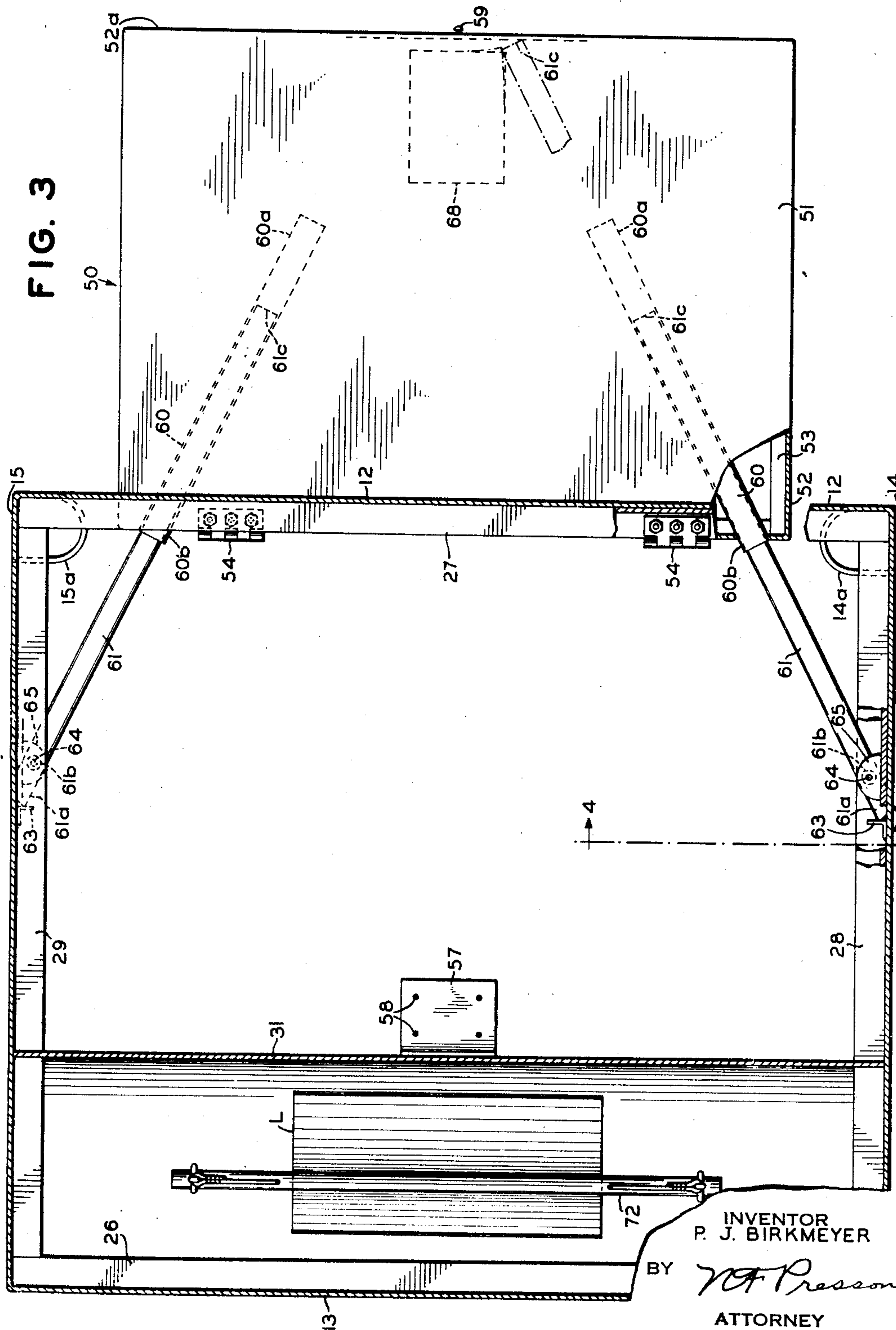
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RETRACTILE SHELF STRUCTURE

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8 Claims. (Cl. 312—160)

This invention relates generally to a novel and improved supporting shelf structure, and more particularly to a more suitable supporting shelf or auxiliary support for telegraphic printing apparatus such, for example, as the sending and receiving printers employed in telegraph message exchange systems in which a subscriber can transmit and receive printed messages to and from other subscribers in this system or to and from a central or branch office in the system.

Telegraph exchange systems of the foregoing character are well-known in the art, and various known types of sending and receiving telegraph printers may be used in such systems. Usually a printer is employed which has a typewriter keyboard for transmission, and either a typewheel or typebar for printing the received messages and also for providing a printed copy or copies of each message transmitted by the printer. One type of message printer which is suitable for use in such an exchange system is disclosed in the application of Noxon et al., Serial No. 66,906, filed March 3, 1936, for Telegraph printer, now Patent No. 2,231,215, issued February 11, 1941, assigned to the assignee of the present application.

The printers thus employed preferably are enclosed in printer consoles or cabinets in order to prevent escape of objectionable noise produced by the vibration of the paper due to the operation of the typebars or printing wheel as they strike the paper during the printing operations, and also to prevent accidental tearing or pulling of the paper which would adversely affect the printer operations. The enclosure of such printing apparatus in a console also substantially prevents the paper from absorbing moisture from the surrounding air when the humidity is high, and since such paper frequently has gum or other adhesive on one side the gum or adhesive becomes sticky if the paper is permitted to absorb moisture.

The console supports the printer at the proper height from the floor, with only the keyboard and platen wheel handle of the printer exposed, the remaining parts of the printer being enclosed in the console. The console must be so constructed that the printing mechanism is readily accessible to maintenance men for inspection, repair or replacement purposes, and to facilitate this, it is desirable to have a shelf support at the front of the console, whereby the printer may be removed from the cabinet and placed onto the shelf or support, referred to by maintenance men as a "testing and regulating shelf," the electrical connections to the printer being sufficiently long to enable the printer to operate while on the auxiliary support. Since the printing apparatus is quite heavy, such a shelf must be very strong, and yet the shelf must be so constructed that it

can be retracted or put out of the way when not in use, in such manner that it does not interfere with the operator who sits at the front of the console for operating the printer.

5 An object of the invention is the provision of a suitable retractile shelf support structure which is simple in construction and sufficiently strong and rugged to hold the transmitting and receiving printer when placed thereon, and which may readily be brought into operative position and also may readily be retracted when not in use, and which when retracted within a console or the like does not have any projecting surfaces or members to interfere with the operator or other person at the front of the console in which the apparatus is enclosed.

10 An additional object is a hingedly mounted retractile shelf support structure capable of general use, and which has improved brace structure that is easily and quickly operated for either extending or retracting the shelf structure.

15 An additional object is a retractile shelf support structure employing telescopic braces in which only one telescopic section for each brace is required, and in which the brace structure is embodied within the shelf structure.

20 Other objects and attending advantages will be apparent from the following detailed description, taken in connection with the accompanying drawings, wherein:

25 Fig. 1 is a side view in elevation of a printer console unit having a printer shelf support constructed in accordance with my invention, with certain parts broken away more clearly to disclose the construction of other parts, and showing the shelf support in closed or retracted position;

30 Fig. 2 is a view similar to Fig. 1, showing the shelf support extended in operative position for supporting the printer in front of the console;

35 Fig. 3 is a plan view showing various elements of the shelf support structure, taken along the line 3—3 in Fig. 2;

40 Fig. 4 is a sectional view, taken along the line 4—4 of Fig. 3, showing certain details of the shelf support structure; and

45 Fig. 5 is a sectional view, taken along the line 5—5 of Fig. 2, showing other details of the shelf support structure.

50 Referring now to Figs. 1 to 3 of the drawings, the printing unit comprises a cabinet or console preferably formed from sheet metal stamped or rolled to the desired configuration, in which the printer and associated operating and control elements are acoustically enclosed. The cabinet has front and rear walls 12 and 13, respectively, and two side walls 14 and 15, the front portion of the cabinet comprising a compartment 16, Figs. 1 and 2, which acoustically encloses the sending and receiving printer, including the var-

ious transmitting, selecting and printer mechanisms, a page printer of the type disclosed in the aforementioned Noxon application being shown in the drawings. The outer portion of the two side walls are rolled, as at 14a and 15a, to form four legs to which are secured, in any suitable manner, feet 18, Fig. 1, the latter having sliders 19 which enable the unit easily to be slid over the floor to any desired position in the office or room in which the printer is used, the sliders being separated from the feet by resilient pads 22 of rubber or other sound dampening material. Iron braces, such as angle members 23, tie the legs together and stiffen the bottom edges of the metal sides 14 and 15. Other channel iron members 25, 26, 27, 28 and 29, Figs. 2 and 3, are employed to stiffen the cabinet and also serve as supports for the various mechanisms and elements of the printer structure. Secured to the rear wall 13 of the cabinet is a well 31 that encloses the loop L of the paper on which the messages are printed. The channel members 27, 28 and 29 serve as supports for a plate or board 32 which forms the floor of the compartment 16 and provides a mounting means for the printer, the floor member 32 being secured to the channel members in any desired manner as by bolts 33. The length of the legs 14a and 15a is such that the keyboard of the printer is at the optimum working height for the operator when seated at the front of the printer. The upper portions of the front legs terminate adjacent to the lower portion of the front wall 12, as seen in Fig. 2, and the upper portions of the rear legs terminate adjacent to the well 31.

In its normal operating position the base 36 of the printer rests in guideways 37 of a supporting framework which is mounted on four resilient supports 39, which resilient supports dampen vibrations set up in the printer and prevent them from being transmitted to the cabinet structure. The floor member 32 preferably is made of wood or other material that assists in dampening vibrations set up in the printer and its supporting framework.

The front portion of the compartment 16 includes a door 41, Fig. 1, hinged at 42, so that the door may be raised as shown in dot-and-dash outline in the figure to give access to the printer and other elements within the cabinet, the door having a transparent portion 41a of glass or other suitable material to enable the messages to be read by the operator and others as the messages are printed, during transmission and reception, without the necessity of opening the door.

The noise caused by the transmitting, selecting and printing mechanisms ordinarily would cause vibrations in the air within and without the compartment and produce a disturbing effect in the office when the printer is operating, and to obviate this the printer compartment is acoustically insulated by felt pads or other sound dampening material 44, Figs. 1 and 2. Noises which otherwise would escape through the opening around the keyboard of the printer are prevented from escaping by flexible strips 45 and 46 which closely engage the upper, lower and side portions of the printer when the door is closed.

It is occasionally necessary for the printer to be removed from the compartment 16 and placed in front of the cabinet for inspection, testing, repair or regulating by maintenance men, and for this purpose there is provided an auxiliary

printer shelf support 50 constructed in accordance with the present invention, the shelf being shown in full line in its retracted position in Fig. 1, and in dot-and-dash outline in its extended or working position with the printer P resting thereon. Fig. 2 shows the shelf in full lines in its extended position. The shelf comprises a smooth, flat metal plate 51, Fig. 3, which provides the upper surface of the shelf, the plate having bent or flanged portions 52, 53 extending around the entire periphery of the plate and forming a rigid channel-shaped support for the plate. The shelf is hingedly mounted at 54 to the channel member 27 of the front wall portion of the printer, so that when not in use the shelf may be swung downwardly and rearwardly to the position shown in Fig. 1.

The auxiliary printer support 50 is normally held up under the floor 32 of the printer compartment 16, in a substantially horizontal position, by a latch 57 of spring metal, Figs. 2 and 5, the latch being secured to one end of the floor 32 by means of bolts 58, the lower depending portion of the latch being bowed outwardly, as seen in Fig. 2, and having the rolled lower end thereof bearing against the well 31. The latch has an apertured portion 57a which receives a bolt or stud 59 secured to the flanged portion 52a of the shelf, so that as the shelf is pushed downwardly and inwardly the bolt or stud 59 slides into the apertured portion 57a of the latch and firmly holds the shelf substantially flat against the bottom of the compartment 16, where it is completely out of the way of the operator, the surface 51 of the shelf being smooth and having no projecting portions to engage or interfere with the dress or body of the operator when sitting at the console. Whenever it becomes necessary for a maintenance man to inspect or work on the printer, the lower portion of the spring 57 is manually pushed inwardly thus permitting the support 50 to be swung outwardly and upwardly to its working position.

Due to the very considerable weight of the printer P when resting on the shelf 50, and also to insure that the shelf will be rigidly held horizontally in its working position, there are provided two telescopic braces each of which comprises a tubular member 60, Figs. 3 and 4, preferably of steel, one end 60a of which is secured, as by spot welding or otherwise, to the under side of the plate 51, the other end 60b passing through an aperture in the flanged portion 52. Each of the members 60 is disposed obliquely with respect to the support 50 and the frame members 28 and 29 of the console side wall structure. Slidably received within each of the tubular members 60 is a telescopic brace member 61, preferably of steel tubing or bar construction, this member having a sufficiently close fit with respect to the telescoping member 60 as to provide a rigid support for the shelf structure when in working position. It will be noted that the rear ends 60b of the tubular members 60 are spaced from the plate 51, as seen more clearly in Fig. 4, and thus the shelf is caused to incline slightly upwardly from the horizontal so that even though a very heavy weight is placed on the shelf it will not sag or drop below the horizontal. When the shelf is extended, each of the telescopic members 61 is slid rearwardly until the end 61a thereof engages an angle or abutment 63, Figs. 2 and 3, the abutments acting as stops for the tubes 61 and also serving to cause an apertured portion 61b in each telescopic member to be in proper posi-

tion to engage a pin 64 which is mounted in and projects downwardly from a supporting member 65, the latter member 65 being secured in any suitable manner, as by welding, to the channel members 28 and 29 of the console structure. The weight of the shelf causes each of the telescopic members 61 to rest against its associated rear support member 65, in which position the stud 64 projects through the apertured portion 61b of the telescopic brace and prevents accidental withdrawal or dislodgement of the brace when the shelf 50 is in working position. The tubular member 60 and telescopic brace member 61 extend obliquely and in such manner that the shelf 50 is rigidly supported not only in a substantially horizontal plane, but is also braced against lateral displacement. Since the extensible members 61 engage the channel members 28 and 29 of the console structure to provide the rear support therefor, the telescopic section 61 for each brace may be of a length such that the section 61 may be substantially contained within the shelf when not in its working position. Also, there is no lost play which might be present if a plurality of telescopic members were required and the structure is thereby made simpler and also more rugged for a given size of tubing. In its working position it will be noted that the telescopic structure is contained within the shelf structure and close to the under side of the printer compartment, and thus the supporting structure in no way interferes with the maintenance man or other person when seated in front of the printer which is placed on the shelf 50.

When a printer has been replaced in its compartment 16, and the shelf structure is to be retracted, all that is necessary is to raise the front end of the shelf structure slightly so that the apertured portions 61b of the telescopic members 61 are disengaged from the pins or studs 64, the members 61 then being slid forwardly into the tubular members 60 until the forward ends 61c of the members 61 engage either a dampening member 68 or the forward flanged portion 52a, or both, depending upon the length of the members 61 and the angle at which they are disposed. The position of each of the members 61 at this time is generally indicated in dot-and-dash outline in Fig. 3. The dampening member 68 may be composed of sponge rubber or other sound dampening material secured, as by cementing, to the under side of the plate 51, the dampening material not only preventing noise and jars when the members 61 slide to their fully retracted positions, but also dampening any vibrations which might be set up in the members 61 or the shelf 50 while the printer is working in its accustomed position in the printer compartment. When the members 61 are fully retracted the shelf is swung inwardly and upwardly until the stud 59 engages the apertured portion 57a of the spring latch 57, and in its retracted position it will be noted that the shelf is substantially enclosed within the space between the channel members 28 and 29 and the floor member 32.

The sound dampening member 68 also serves to absorb any shock or jar as the shelf is pushed upwardly to its non-working position, the member 68 also acting as a resilient stop member for the shelf at this time and causing the position of the stud 59 to be such that it readily enters the apertured portion 57a of the spring latch. The member 68, which contacts both the floor member 32 and the shelf when the shelf is in its non-working position, prevents vibra-

tions set up in the printer compartment or the floor member 32 from vibrating the shelf structure. It will be noted that when the shelf is released and is swung downwardly and outwardly from its non-working position, the extensible members 61 will remain, due to force of gravity, substantially entirely within the shelf structure and so remain until they are manually extended after the shelf has been raised to its working position. To facilitate engagement of the apertured portion 61b with the associated locking pin 64, the shelf is raised slightly above its normal working position, after which the weight of the shelf will cause the ends 61a of the members 61 to rise and engage the supporting members 65.

In the illustrative embodiment shown, two telescopic brace members 61 are employed, but it will be understood that the number of such telescopic brace members may vary, for example, one, two or more of such members may be employed, depending upon the weight of the object to be supported and also upon the nature of the construction of the particular shelf employed.

In the illustrative embodiment disclosed, the shelf structure is shown as forming a part of a printer console or cabinet, but it will be understood that the shelf structure is also applicable to various other types of cabinets, desks, tables and the like, and may be utilized for a variety of purposes, and the invention is, therefore, not limited except as indicated by the scope of the appended claims.

I claim:

1. Retractable supporting shelf structure comprising a supporting housing having a first wall portion and other wall portions adjoining said first wall portion, a shelf hingedly secured to and dependent from said first wall portion so that the shelf may be swung outwardly and upwardly to a working position adjacent to said housing, and downwardly and rearwardly to a non-working position intermediate said other wall portions, telescopic brace structure for rigidly supporting said shelf in its working position comprising a slidable telescopic brace member and means carried by said shelf for telescoping said brace member, said telescopic brace structure being disposed obliquely with respect to one of said other wall portions so that when the slidable telescopic brace member is extended one end thereof will engage said one of the other wall portions, and means on said one of the other wall portions for releasably securing thereto the extended end of said brace member when the shelf is in working position.

2. Retractable supporting shelf structure comprising a supporting housing having a first wall portion and other wall portions adjoining said first wall portion, a shelf hingedly secured to and dependent from said first wall portion so that the shelf may be swung outwardly and upwardly to a substantially horizontal working position adjacent to said housing, and downwardly and rearwardly to a substantially horizontal non-working position intermediate said other wall portions, telescopic brace structure for rigidly supporting said shelf in its said working position comprising a slidable telescopic brace member and means carried by said shelf for telescoping said brace member, said telescopic brace structure being disposed obliquely with respect to one of said other wall portions so that when the telescopic brace member is extended one end thereof will engage said one of the other wall portions, and means on said one of the other wall portions for releasably

securing thereto the extended end of said brace member when the shelf is in its said working position.

3. Retractable supporting shelf structure comprising a supporting housing having a first wall portion and other wall portions adjoining said first wall portion, a shelf hingedly secured to and dependent from said first wall portion so that the shelf may be swung outwardly and upwardly to a working position adjacent to said housing, and downwardly and rearwardly to a non-working position intermediate said other wall portions, telescopic brace structure for rigidly supporting said shelf in its working position comprising a slidable telescopic brace bar and a tube secured to the under side of said shelf for telescoping said brace bar, said telescopic brace structure being disposed obliquely with respect to one of said other wall portions so that when said telescopic brace bar is extended one end thereof will engage said one of the other wall portions, said one end of the bar and said one of the other wall portions having complementary projecting and recessed portions for releasably locking the bar in its extended position to secure the shelf in its working position.

4. Retractable supporting shelf structure comprising a supporting cabinet having a front wall portion and side wall portions adjoining said front wall portion, a shelf hingedly secured to and dependent from said front wall portion so that the shelf may be swung outwardly and upwardly to a working position in front of said cabinet, and downwardly and rearwardly to a non-working position intermediate said side wall portions, telescopic brace structure for rigidly supporting said shelf in its said working position comprising a slidable telescopic brace bar and a tubular member secured to the under side of said shelf for telescoping said brace bar, said telescopic brace structure being disposed obliquely with respect to one of said side wall portions so that when said telescopic brace bar is extended one end thereof will engage said one of the side wall portions, and coacting means on said one of the side wall portions and said one end of the brace bar for releasably locking the extended end of the bar to said one of the side wall portions when the shelf is in its working position.

5. Retractable supporting shelf structure comprising a supporting housing having a wall portion, a shelf hingedly secured to and dependent from said wall portion so that the shelf may be swung outwardly and upwardly to a working position adjacent to said housing, and downwardly and rearwardly to a non-working position within said housing, telescopic brace structure for rigidly supporting said shelf in its said working position comprising an extensible telescopic brace member and a tubular telescopic brace member carried by said shelf for telescoping said extensible brace member, support means within said housing for receiving and engaging said first named telescopic brace member when extended for supporting the shelf in its said working position, said telescopic brace structure being contained within said shelf when the extensible telescopic brace member is retracted and the shelf is in its non-working position.

6. Retractable supporting shelf structure comprising a supporting housing having a first wall portion and other opposed wall portions adjoining said first wall portion, a shelf hingedly secured to said first wall portion so that the shelf

may be swung outwardly and upwardly to a working position adjacent to said housing, and downwardly and rearwardly to a non-working position intermediate said other opposed wall portions, a plurality of telescopic brace structures for rigidly supporting said shelf in its working position each comprising a slidable telescopic brace bar and an associated tubular member embodied in and rigidly secured to said shelf for telescoping the brace bar, said telescopic brace structures being disposed obliquely with respect to said opposed wall portions so that when said telescopic brace members are extended one end of each will engage one of said opposed wall portions, respectively, and means on said opposed wall portions for releasably securing thereto the extended ends of said brace members when the shelf is in its working position.

7. Retractable supporting shelf structure comprising a supporting housing having a first wall portion and other wall portions adjoining said first wall portion, a shelf hingedly secured to and dependent from said first wall portion so that the shelf may be swung outwardly and upwardly to a working position adjacent to said housing or downwardly and rearwardly to a non-working position intermediate said other wall portions, telescopic brace structure for rigidly supporting said shelf in its said working position comprising a slidable telescopic brace member and means secured to said shelf for telescoping said brace member, said telescopic brace structure being disposed obliquely with respect to one of said other wall portions so that when said telescopic brace member is extended one end thereof will engage said one of the other wall portions, means on said one of the other wall portions for releasably securing thereto the extended end of said brace member, and vibration-dampening means for engaging said brace member when retracted and the shelf is in its non-working position for obviating or dampening vibrations in the brace member.

8. Retractable supporting shelf structure comprising a supporting housing having a first wall portion and other wall portions adjoining said first wall portion, other housing structure positioned intermediate said other wall portions, a shelf hingedly secured to and dependent from said first wall portion so that the shelf may be swung outwardly and upwardly to a working position adjacent to said housing or downwardly and rearwardly to a non-working position intermediate said other wall portions and adjacent to said other housing structure, telescopic brace structure for rigidly supporting said shelf in its said working position comprising a slidable telescopic brace member and means secured to said shelf for telescoping said brace member, said telescopic brace structure being disposed obliquely with respect to one of said other wall portions so that when said telescopic brace member is extended one end thereof will engage said one of the other wall portions, means on said one of the other wall portions for releasably securing thereto the extended end of said brace member, and vibration-dampening means disposed intermediate and contacting said other housing structure and said shelf when the latter is in its non-working position for obviating or dampening vibrations in the shelf.

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