

Nov. 26, 1940.

E. R. WATKINS

2,223,196

CABINET FOR CALCULATING MACHINES AND THE LIKE

Filed April 27, 1939

2 Sheets-Sheet 1

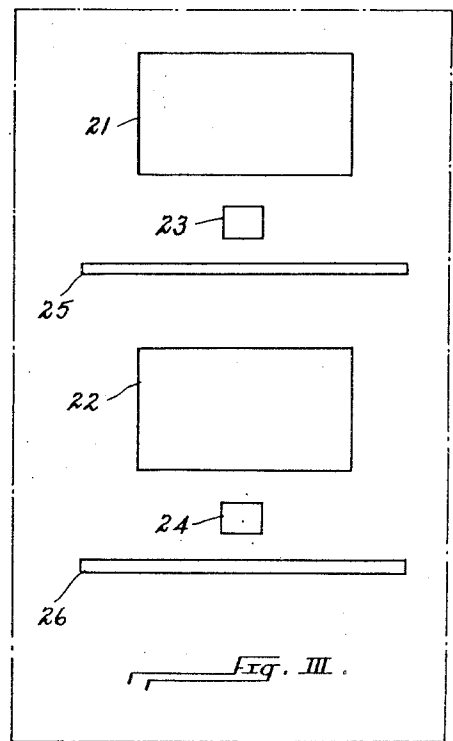
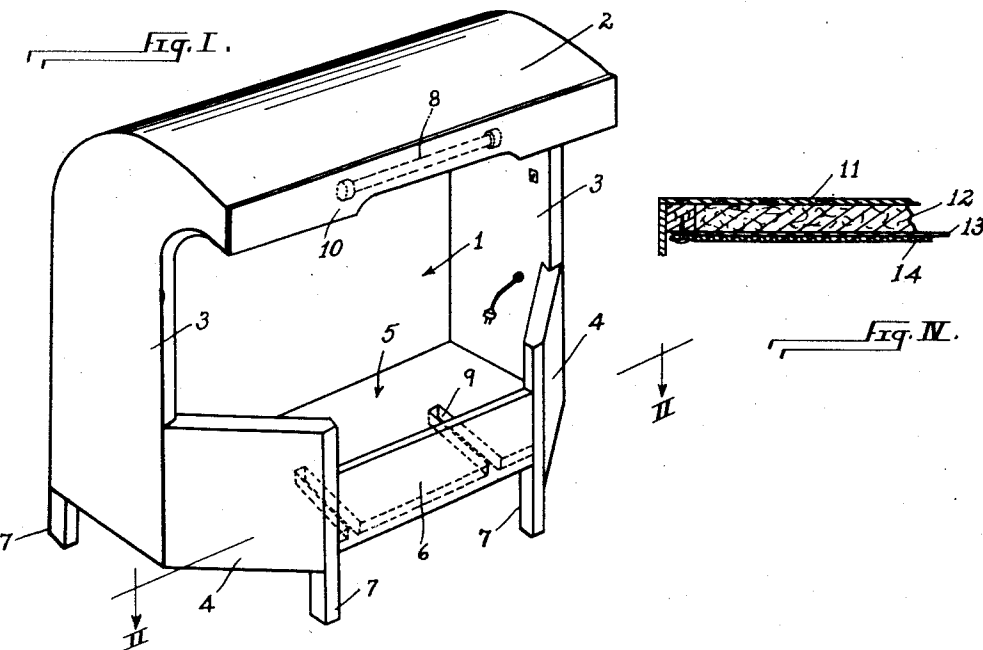
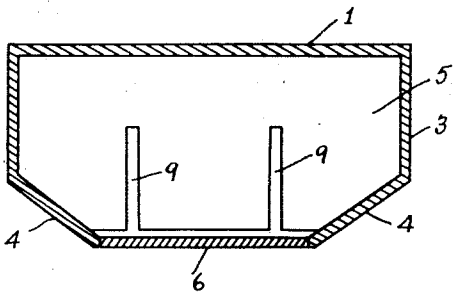


Fig. II.



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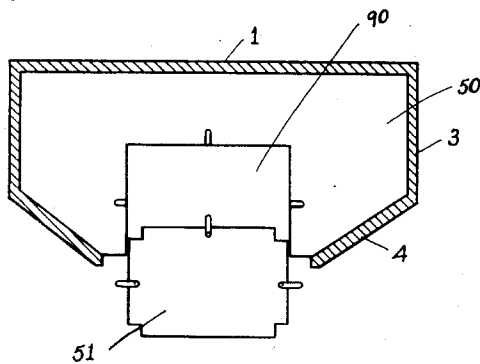


Fig. V.

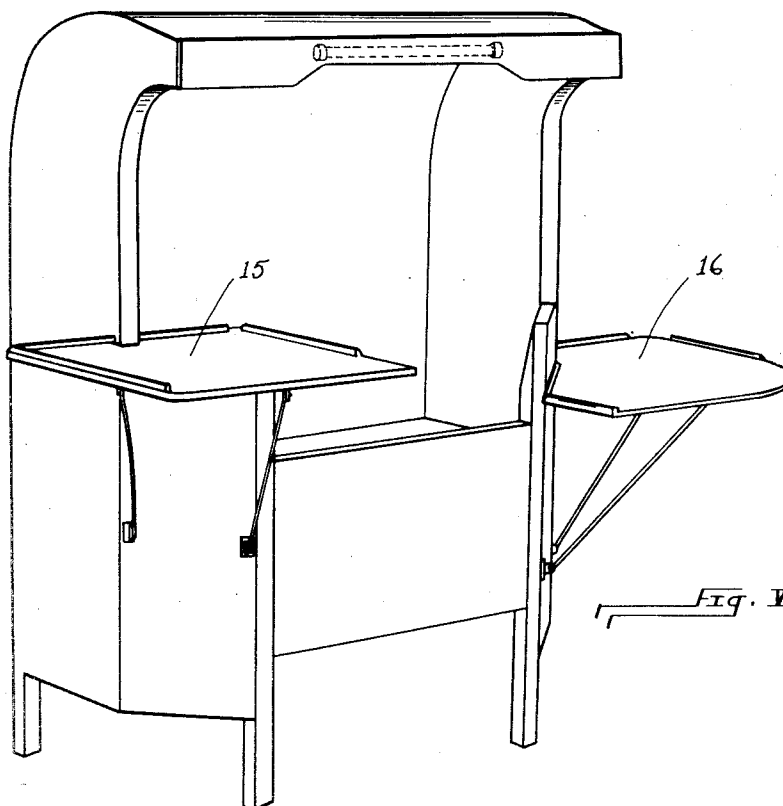


Fig. VI.

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UNITED STATES PATENT OFFICE

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CABINET FOR CALCULATING MACHINES
AND THE LIKE

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Application April 27, 1939, Serial No. 270,349

4 Claims. (Cl. 45—68.1)

This invention relates to cabinets or cells within which calculating machines, posting machines, and other such like machines, may be enclosed and acoustically isolated, to the end that in counting-rooms and other places where machines of such sort are installed and operated the noise of operation shall be deadened, and the operator of the machine and the operators of other machines installed in the same room and other persons engaged in business in the room shall be relieved consciously and unconsciously of the annoyance that the noise of operation of such machines otherwise and inevitably produces.

In the accompanying drawings, Fig. I is a view in perspective of a cabinet of the invention. Fig. II is a view in horizontal section, on the plane approximately indicated by the line II—II, Fig. I. Fig. III is a diagrammatic view in plan of an assembly in a counting-room of a plurality of cabinets, and in it a further feature of the invention is shown. Fig. IV is a view to larger scale, showing in detail the wall-structure that I have found adequate and serviceable to achieve the ends in view. Fig. V is a view corresponding to Fig. II and showing an alternative arrangement. Fig. VI is a view corresponding to Fig. I and showing additional adaptation.

I shall in the ensuing description allude to the posting machine as the particular machine in adaptation to which the cabinet of the invention has been developed. It will be manifest in the sequel that it is applicable to all machines of the general sort that involve the essential elements of a typewriter: namely, a set of types that, driven in response to the pressure of keys in a keyboard, strike hammer-like blows upon a record sheet mounted on a platen (ordinarily of cylindrical shape). It is, for example, applicable to calculating machines, posting machines, addressing machines, plate cutting and printing machines, punch card tabulating machines. The clatter of such machines in operation is familiar to all. In a room where a considerable number of such machines are in simultaneous operation, as is common in banking houses, the cumulative din is both an annoyance and a burden upon the physical powers of operators and others engaged in business there, and in effect a drain upon the nervous endurance of all concerned. The noise tends to cause loss both in efficiency and in accuracy.

A posting machine may be characterized as an enlarged and elaborated typewriter. It is mounted on a frame and stands upon four legs upon the floor of the counting-room.

The cabinet of my invention is box-like and stands independently upon legs on the counting-room floor. It includes a rear wall 1 and, integral with and continuous with the rear wall, it includes an overarching hood 2, and side walls 3. The side walls are continued in forwardly extending wings 4. Additionally, the cabinet includes a floor plate 5, a splash-apron 6, and it stands upon legs 7.

The sources of noise in machine operation lie in and near the platen. The rear wall 1 of the cabinet extends opposite all the sources of sound in the machine and is extended sufficiently to allow for free and necessary play of all moving parts of the machine. The overarching hood 2 extends forwardly over and beyond the sources of noise, leaving the keyboard of the machine exposed to the free vision of the operator when seated before the machine. I have found the forward rim of the hood a suitable location for an electric lamp 8 that, concealed from the seated operator, brightly illumines the keyboard of the machine and the adjacent work to which in the act of posting the operator makes reference. This lamp carried by the cabinet that stands independently on the floor is free of the vibration to which it would be subject, were it carried on the stand-ard of the machine itself.

The side walls 3 flank the machine on either side, and particularly the portion whence noise chiefly proceeds. The wings 4 converge beneath the wider space required for carriage travel, and at their forward edges define a space of sufficient width to allow the application of the cabinet to and its removal from the machine. And, since these machines are various in their particular adaptations and correspondingly various in dimensions, I build particular cabinets with wings suited in angularity and extent to the particular spacing desired. The convergence of the wings 4 permits the arrangement of trays of record cards, for example, nearer to and within the range of easier vision of the operator of the machine; and such nearer arrangement makes for accuracy and speed in reading and recording.

The floor plate 5 is slotted at 9, 9 with slots that extend from the forward edge rearwardly. Their spacing and depth are such as to allow application of the cabinet to the machine and the advance of the cabinet, until it properly surrounds the machine. The floor plate 5 is removable, to the end that floor plates with differently spaced slots may be alternatively applied, suiting the cabinet to assembly with one machine and another of different dimensions.

The apron-plate or splash-plate 6 is removably

set between the forward edges of the wings 4, 4 and extends from the forward edge of the floor plate 5 upwardly. It serves both as a screen to cut off sound waves and as a shield, protecting the clothing of the operator from such small splashing of lubricating oil as may at times be incident to machine operation.

In Fig. V I show an alternative form of floor plate. The plate 50 is slotted from its forward edge rearwardly; but, instead of two narrow slots (the slots 9, Fig. II), a single slot 90 is provided, of sufficient width to take over the standard of the machine to which application is made; and a supplementary plate 51 is provided, which is applicable to the floor plate 50, to close the space 90 after the cabinet has been assembled with a machine.

In Fig. VI I show such a cabinet as I have described with the addition of posting trays 15 and 16 mounted externally upon it, and adapted to support the records with which the operator of a posting machine has to do. These trays, so attached to the cabinet that stands firm upon the floor, do not vibrate under jar of machine operation, and consequently the operation of posting is facilitated.

Thus the cabinet is seen to be a box that surrounds the posting machine, provided with a window through which the operator has free view of and free access to the keyboard and free access to the machine for all ordinary usage. When the machine is in need of further attention the cabinet may readily be removed from it, and, when attention has been given, may readily be replaced.

The walls of the cabinet are formed throughout, excepting only the coping or edge-plate 10 of the hood 2, behind which the lights 8 are screened, of compound sound-absorbing structure. This edge plate is advantageously formed of a single web of press-wood. Elsewhere the wall structure is conveniently that particularly shown in Fig. IV. It consists of an outer web 11 of tempered press-wood, continuous and impermeate, a lining 12 of sound-deadening bulky material, such for example as glass wool, glued to the inner face of web 11 and held in place by cord 13 laced or netted over it, and a covering 14 of cloth. Manifestly the outer web 11 might be of sheet metal or of ply-wood (as might also be the coping 10 of the hood); the sound-deadening lining might be of asbestos wool or of cotton wool or of other material of like sound-deadening property, and it might be otherwise secured, as by working it into the condition of plaster and shaping and hardening it in situ. As for the covering 14, it need only be such as to afford the slight protection needed, to be sufficiently durable, and to present a smooth and trim and agreeable appearance.

In the use of such a cabinet I have found that objectionable noise is adequately controlled. It is the higher sound vibrations chiefly that are dampened and suppressed. Such diffused noise as inevitably finds exit is small in quantity and less disturbing in pitch.

The provision of lights within the hood makes possible adequate lighting and renders dispensable the goose-neck light fixtures that ordinarily form part of such equipment.

The relief of the operators in the matter of nervous fatigue makes for accuracy, speed, and longer hours. In such ways the cabinets abundantly pay for themselves.

In Fig. III I have diagrammatically shown a

collocation of two cabinet-encased machines, 21 and 22. Before each an operator's chair 23, 24 is shown to be placed, and behind each chair is a screen 25, 26. The screens will be seen to be of relatively wide extent. They are of sound-deadening construction, conveniently such in essence as that illustrated in Fig. IV (although it would be better that both surfaces of the screen be of the relatively rigid press-wood 11). While it is true that the body of the operator seated at a machine is in some degree a screen, cutting off the sound waves that emerge through the window, it is immediately apparent that a screen such as the screens 25 and 26 of Fig. III, of dimensions such as those indicated and placed as shown, will be vastly more effective than the body of the operator alone. And it will further be apparent that if, immediately behind the operator seated before a machine in cabinet 21, instead of a second machine, there were a sound-reflecting wall, the interposition of such a screen as 25 between machine in cabinet 21 and the wall would have effect, very substantially to reduce the volume of noise in the room in which the machine is placed.

I claim as my invention:

1. A sound-proof cabinet for a posting machine or the like that is borne upon a standard, the said cabinet being adapted to rest independently on the floor upon which the standard of the machine also rests, and including a sound-absorbing rear wall prolonged in an over-arching hood, and a sound-absorbing floor panel that extends forwardly from the rear wall and that is slotted from the forward edge rearwardly, adapting the cabinet to assembly with and removal from the machine, the said floor in the assembly extending beneath and free of contact with the encased machine.

2. A sound-proof cabinet for a posting machine or the like that is borne upon a standard, the said cabinet being adapted to rest independently on the floor upon which the standard of the machine also rests, and including a sound-absorbing rear wall prolonged in an over-arching hood, sound absorbing side walls extending forwardly from the rear wall, a sound-absorbing floor panel that extends forwardly from the rear wall and that is slotted from its forward edge rearwardly, and a sound-absorbing apron panel removably carried between the forward edges of the side walls and extending from the forward edge of the floor panel upwardly, the forward edges of hood, side walls and apron panel defining a window, through which the operator has access to a machine when encased by the cabinet.

3. A sound-proof cabinet for a posting machine or the like that is borne upon a standard, the said cabinet being adapted to rest independently on the floor upon which the standard of the machine also rests, and including a sound-absorbing rear wall prolonged in an over-arching hood, sound-absorbing side walls extending forwardly from the rear wall and themselves provided at their forward edges with forward-extending and converging wings, a sound-absorbing floor panel that extends forwardly from the rear wall and that is slotted from its forward edge rearwardly, and a sound-absorbing apron panel removably carried between the forward edges of the converging wings of the side walls.

4. A sound-proof cabinet for a posting machine or the like that is borne upon a standard,

5 the said cabinet being adapted to rest independently on the floor upon which the standard of the machine also rests, and including a sound-absorbing rear wall prolonged in an over-arching hood, and a sound-absorbing floor panel that extends forwardly from the rear wall and that is slotted from its forward edge rearwardly, adapt-

ing the cabinet to assembly with and removal from the machine and a removable closure for the slot in the floor panel, the said floor in the assembly extending beneath and free of contact with the encased machine.

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