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2,738,495

CLOTH MARKING AND PENETRATION SIGNAL DEVICE

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FIG. 1

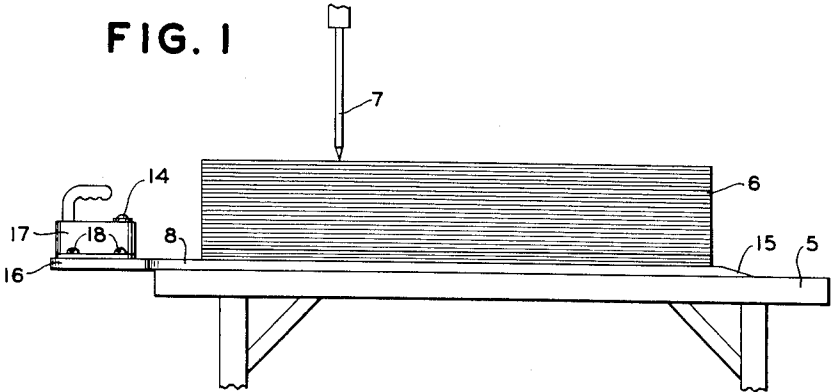


FIG. 2

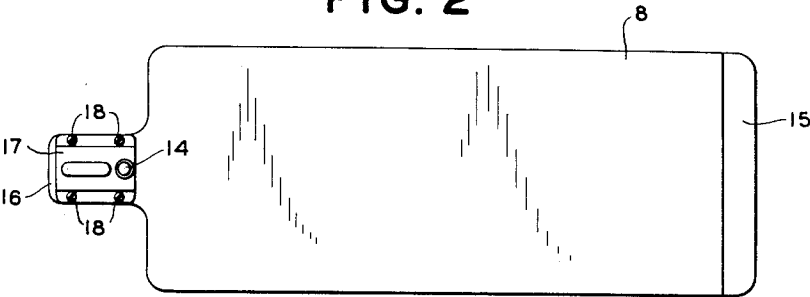


FIG. 3

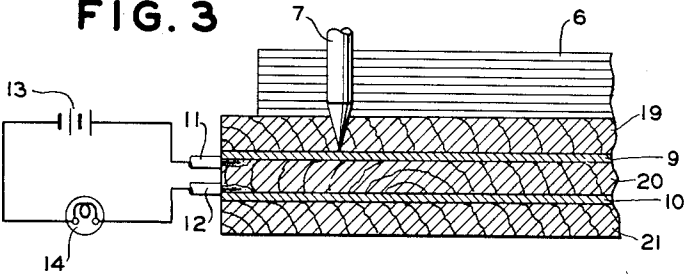
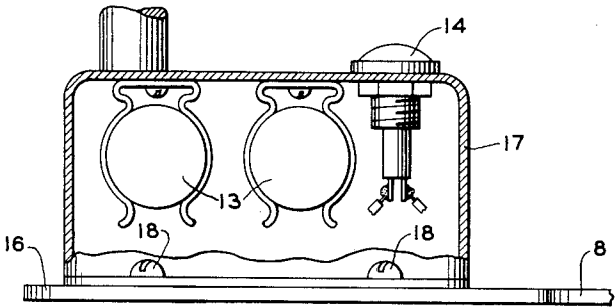


FIG. 4



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CLOTH MARKING AND PENETRATION SIGNAL DEVICE

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2 Claims. (Cl. 340—213)

The invention herein disclosed relates to cloth marking machines and the objects of the invention are to provide simple, practical means readily applicable to such machines, for showing when the marking drill or needle has fully penetrated the stack of cloth on the marking table.

Such a means eliminates the fault or objection present in these machines, of not knowing whether the last layer has been reached by the marking drill, without actually driving the drill down into the table.

The present invention makes that unnecessary by giving an indication as by a light or buzzer, when the last, bottom layer is reached and marked by the needle or drill.

More specifically, the invention comprises a thin pad or panel which can be slipped into position beneath the bottom layer of the stack of cloth on the table and which has incorporated in it relatively insulated conducting layers constituting terminals of a signal or alarm circuit and which will be electrically connected by the needle or drill immediately as it passes down through the bottom layer.

Other novel features of the invention and further desirable objects and results attained by the invention are hereinafter set forth or will appear in the course of the following specification.

The drawing accompanying and forming part of the specification illustrates a present commercial embodiment of the invention. Structure, however, may be modified and changed as regards this illustration, all within the true intent and scope of the invention as hereinafter defined and claimed.

Fig. 1 in the drawing is a broken front elevation and somewhat diagrammatic view illustrating use of the invention in a cloth marking machine, only the supporting table and marking drill or needle of the machine being shown;

Fig. 2 is a plan view of the signal board or pad which, with the cooperation of the cloth penetrating marker, provides the desired signal or indication;

Fig. 3 is a broken sectional diagrammatic view illustrating the signal circuit;

Fig. 4 is a broken cross-sectional detail of the signal unit on the outer end of the pad.

In Fig. 1 the table of a cloth marking machine is indicated at 5, supporting a stack of cloth 6 to be penetrated by the marking needle or drill 7.

In accordance with this invention a thin pad or board 8 is slipped underneath the bottom layer of the stack in position to be penetrated by the drill, and this pad has incorporated within it relatively insulated layers 9 and 10 of conducting material such as metal foil or gauze, connected by external wiring 11, 12, as shown in Fig. 3, to form the terminals of a circuit including a source of energy 13 and a signal 14 such as a bell, lamp, buzzer or the like.

The panel is shown as having a sharpened or beveled end 15 to facilitate its location beneath the stack, and as having a reduced width outer end 16 to serve as a handle.

The signal and electrical source may be combined in a single unit mounted on the outer, handle portion of the device, as shown in Figs. 1, 2 and 4, it being indicated

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in these views as comprising a small casing 17 secured over the handle by screws 18 and containing batteries 13 and a signal lamp 14.

The board or panel may be made up of three thin laminations 19, 20, 21, of wood or other insulating material arranged as shown in Fig. 3, with the two conducting layers 9, 10 interposed therebetween. Preferably the combined layers are relatively thin and the board as a whole is somewhat flexible so as to be easily slipped into position and so as to bend under the weight of the stack to any appreciable curvature or unevenness in the table top.

In place of a local battery the signal may be energized by a step-down transformer such as can be connected with an ordinary service outlet.

The device is readily usable with ordinary cloth marking machines and provides a dependable means for indicating to the operator the fact of penetration of the last layer of fabric being marked. The operator knows at once that and when the bottom layer is marked, and also knows when to stop the penetration to prevent marking the table. In the latter respect the invention is of value in saving the drilling into the table top which occurs with conventional, unprotected cloth marking machines.

The location of the signal indicator on the projecting handle portion of the device enables it to be readily seen or heard by the operator without distracting attention from the cloth marking operations.

The electrical signal parts may be made up as shown, as a simple unit interchangeable with different boards, the latter replaceable as they may be more or less used up from extensive piercing.

The conductive layers may be quite thin and be provided in various ways as by spraying, printing, coating, dipping, plating, painting with metal pigment or the like. By way of example, a thin flexible layer of sheet insulation may be dipped to coat both sides with a metal filament and thin layers of sheet insulation applied to the opposite faces of the same, over the metal coats, thus to form an integral laminated structure, thin and flexible, having embedded, relatively insulated, conducting layers, penetrable by the marking drills or needles.

This method of construction avoids possibility of warpage or other objectional characteristics.

What is claimed is:

1. An indicator for a cloth marking machine comprising a thin, flat, flexible, portable board of insulating material having a beveled edge enabling free insertion of the board beneath a stack of fabric on the table of a cloth marking machine and of a size and shape to be readily handled and be slipped into position beneath a selected portion of the stack, said freely portable board having relatively insulated, electrically conductive layers embedded therein, said board including said electrically conductive layers being penetrable by the cloth penetrating marking element of the cloth marking machine, and electric signal means mounted in perceptible relation on the board and connected in electrical circuit relation with said conductive layers.

2. The invention according to claim 1, in which the board has a projecting handle portion by which the board may be manipulated and which will be located at the side of the stack of fabric when the board is in use on the table and said signal means being mounted on said projecting handle portion where it will be exposed at the side of the stack.

References Cited in the file of this patent

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