An improved cardiological tracing cutting unit for trimming and preserving the pertinent portions of the trace. The unit has a plastic base upon one side of which are mounted three different size dies. A transparent plastic cover plate is pivotally hinged to a side edge of the base and has windows defined therein, overlaying the dies, the edges of the windows being the same configuration but of somewhat larger dimensions than the dies to act as a cut-out guide for any blunt edge bearing against the dies.

8 Claims, 3 Drawing Figures
CARDIOGRAPHIC TRACING CUTTING UNIT

PRIOR ART

This invention relates to improved cardiographic tracing cutting units, and more particularly to a portable unit to allow removal and preservation of pertinent portions of cardiographic traces, the portions being of such a size that they can be easily secured to a patient's record. The remaining extended portion of the trace can then be discarded.

A major problem in the preservation of hospital records of cardiac patients has been the fact that cardiographic traces tend to be somewhat long, and when they are folded up and placed with the patient record, they tend to be bulky, causing bulges in the files and thus expanding the records beyond that really required for proper maintenance of patient records. In addition, since they are folded up, they are difficult to secure to the files and have a tendency to become misplaced or separated from patient files.

There have been attempts to eliminate this problem. There have been developed rather extensive cutting presses of the punch-press type to remove pertinent portions of the trace, but these pieces of equipment are rather large, bulky and the doctor or technician removing the pertinent portion of the trace must go to the location where the press is positioned.

Another attempt to eliminate this problem has been the development of a portable trimmer which consists of a base with two sides and cover plates hinged to one edge and covering both sides of the base.

Among the problems that have existed for this particular unit is that the base is made of a very heavy metal, adding to the difficulty of portably moving the trimmer. In addition, the cover has been made of an opaque material, which makes it difficult to actually ascertain what is shown on that portion of the trace which is not in position over the dies and appearing through the window in the cover plates.

Finally, the use of the both sides of the base, and thus two cover plates, adds to the cost and maintenance problems for such a unit.

OBJECTS AND ADVANTAGES

Accordingly, it is among the principal objects of the present invention to provide an improved cardiographic tracing unit which is much lighter and more readily portable than present available units.

Another object of the present invention is to provide a device of the character described which requires only a single cover plate.

Still yet another object of the present invention is to provide a transparent cover plate so that all portions of the trace are viewable, especially when the trace is positioned within the cutting unit.

Still yet another object of the present invention is to provide a cardiographic tracing cutting unit of the character described which may be fabricated entirely from plastic, except for the cutting dies.

Still yet another object of the present invention is to provide a device of the character described which will be simple and inexpensive to manufacture and yet be durable to a high degree in use.

The present invention contemplates an improved cardiographic tracing cutting unit which consists of a plastic base, and having three cutting dies mounted only on one side thereof. The dies are positioned within channels on the top face of the base and have a sharp upper edge.

The channels accommodating the dies are of sufficient width to accommodate a cardiographic trace. A cover plate is hingedly secured to one side edge of the base and covers the entire top face. The cover plate has windows defined therein, so as to overlay the dies. The edge of the windows have the same general configuration of the dies, but are of somewhat larger dimensions. After a trace is positioned within the channel and the cover plate is closed on the trace to maintain it in proper position, the transparent cover plate allows the user to examine the trace once again to make certain that the pertinent portion of the trace is being cut out.

Then a blunt edged instrument is rubbed against the die using the edge of the window of the cover plate as a guide, all in the well-known manner.

After the blunt edged instrument has been rolled around the edges of the die, the pertinent portion of the trace has been cut out and can then be removed and placed in a location on the patient record. The length and width of the dies are so designed so that they can be placed in portions of the record which have been specifically set aside for them.

The above description and objects of the present invention will become apparent from a reading of the following description taken with reference to the accompanying drawings, wherein:

FIG. 1 is a plan view of an improved cardiographic tracing cutting unit embodying the present invention, with the cover plate in position over the upper face of the base;

FIG. 2 is a cross-sectional view taken along the line 2—2 of FIG. 1; and

FIG. 3 is a cross-sectional view similar to FIG. 2, with a portion of the left edge cut away, showing the cover plate slightly raised, and showing cardiographic traces in position within the channels and over the cutting dies.

Referring in detail to the drawings, and in particular to FIG. 2, there is shown an improved cardiographic tracing cutting unit 10 comprising a base 12, a cover plate 14, and cutting dies 16.

More particularly, the base 12 is molded from plastic. This is extremely important since it considerably reduces the overall weight of the unit. The purpose of the unit is to be portable and thus by making the base plastic, the unit becomes a much more acceptable item. The unit is defined by side edges 18, 20 and end edges 22, 24. The unit consists of several portions. The first portion extending from the edge 18 towards the edge 20 is a channel 26 extending the entire length of the base. The channel is defined by a side wall 28, a bottom wall 30, and another side wall 32. The wall 32 extends upwardly as at 34, and then is secured to an upper wall 36 which extends substantially the entire width of the base. The upper face 38 of the sidewall defines basically the upper face of the base. Extending centrally upwardly from the upper wall 36 is a central ridge 40, and then a right ridge 42. Extending downwardly from the upper walls 36 are ridges 44, 46, 48, and 50 which basically serve to provide strength and stability to the base. To the right of the element 50 is a downwardly extending leg 52 which is a continuation of the ridge 42. The ridge 52 and the outer leg 54 defined by the
edge 20 serve to form the channel to accommodate journalled openings (not shown) for the steel rod 56 for the purpose hereinafter appearing. Also located under the upper wall 36 are a plurality of terminals 58 having threaded bores 60 therein. There are four bored terminals lying alongside the channel defined between ridges 34 and 40 and three bored terminals lying within the channel formed by the ridges 40, 42.

As best seen in FIG. 1, positioned on top of the surface 30 of the upper wall 36 are three cut-out dies. The dies are made of metallic substance, which is very hard and is well-known in the industry, with the dimensions being designed to accommodate pertinent portions of various shapes within specific locations on patient records. The dies are substantially rectangular in configuration and have rounded corners. There is shown illustrated within the channel formed by ridges 40, 42 a single extended cut-out die 62 being secured into place by screw 64 located within the bore 60 of the three terminals 58. In a similar manner within the channel formed by the ridges 34, 40, there are positioned a die 66 of substantially two-thirds the length of die 62 being secured by screws 64 in a similar manner. Finally, lying also within the channel defined by ridges 34, 40 is a much smaller die 68 having a length approximately one-fourth that of die 62 and also secured by screws 64 in the same manner. Of particular importance is that the edges 70, 72, 74 of the dies 62, 66, 68 are very precise and quite sharp to provide a proper cutting edge that can be maintained for a significant length of time during use.

The cover plate 14 (FIG. 3) is hingedly secured to the base by a U-shaped hinge 76 in the well-known manner and secured around the rod 56, also in the well-known manner. The hinge is made of a transparent plastic, which greatly increases the value of the unit, since the entire portion of the tracing can be observed, even that portion under the cover plate.

The hinge is defined by a leading edge 78 which is in alignment with the edge 18, and is defined by end edges 80, 82, which are in alignment with edges 22, 24, and it is also defined by a side edge 86 in alignment with edge 20. Extending from edge 78 to 86, there is a shallow channel 88 defined by walls 90, 92, 94. The wall 90 depends from a perpendicular wall 96 whose leading edge is edge 78. This channel encloses the channel 26. The wall 94 is connected to another horizontal wall 96 from which depends a downwardly extending wall 98 having a sloping shoulder 100 and thence forming an upper wall 102. In a similar manner a central wall 104 is defined with a lower channel 106 to accommodate ridge 40 with side walls 108, 110, having shoulders 112, 114. Then the upper wall 102 continues until it meets a right wall 116 with a shoulder 118 and thence a horizontal wall 120 ending in edge 86, except for those portions forming the hinge 76. In the section of the upper wall 102 between the walls 104, 120, is defined a window 122 having an edge 124 approximating the configuration of the edge 70 of the die 62, but having somewhat larger dimensions. In a similar manner a window 126 has an edge 128 and a window 130 has an edge 132 accomplishing the same for the dies 66, 68.

In operation, a trace 140 or 142 may be placed within the channels formed by the walls 34, 40 or 40, 42, the width of the channels being just sufficient to accommodate the width of the trace, as shown in FIG. 3. The cover is, of course, in the lifted position. The cover may then be dropped so that the walls 102 contact the walls 36 at the base. The windows overlay the die so that the portion to be cut out from the trace is exposed and resting upon the dies 16. The fact that the cover plate is transparent easily allows any final adjustments of the trace in a longitudinal direction without necessitating lifting of the cover. This greatly improves the utility of the unit.

All that is then required is to pass any type of a blunt edge along the edges 124, 128, 132 of the windows, pressing the trace 140, 142 against the edges 70, 72, 74 of the dies and a shearing action will be created separating the portion to be cut out from the remaining trace. This is well-known in the art, and is similar to the manner in which bakers cut out dough forms.

The cut out portions of the trace may then be glued or otherwise secured to patient records. This eliminates retaining the bulky, unnecessary portions of the trace, increasing the value of the patient records.

While there has been described and illustrated a preferred embodiment of the present invention, it is apparent that numerous alterations, omissions and additions may be made without departing from the spirit thereof.

The embodiment of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A cardiographic tracing cutting device comprising a base having upwardly directed transversely spaced guide surfaces delineating a tracing receiving area, a die member located on said base between and spaced from said guide surfaces and a transparent cover member having a window formed thereon, substantially corresponding in shape and dimensions to the periphery of said die and being movable between an advanced position with said window registering with said die and a retracted position spaced from said die and tracing receiving area.

2. The device of claim 1 wherein said base has a longitudinally extending channel formed therein having upwardly extending side shoulders defining said guide surfaces, said die being medially located between said shoulders and being of substantially rectangular configuration.

3. The device of claim 2, said cover being hinged along a longitudinal line to said base.

4. The device of claim 2, wherein the portion of said cover bordering said window is of a thickness substantially equal to the thickness of the border of said die.

5. The device of claim 2, wherein the upper peripheral edge of said die is sharp and defines a cutting edge.

6. The device of claim 2, including a plurality of longitudinally spaced rectangular dies of different lengths positioned in said channel, said cover having a corresponding number of said windows formed thereon of substantially the same dimensions, shapes and spacing as said dies.

7. The device of claim 1 wherein said base and said cover are formed of synthetic organic polymeric resins.

8. The device of claim 2 wherein the corners of said die and said window are rounded.