

A Method of Showing and Shipping Orthodontic Models*

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Those who have had occasion to show orthodontic case reports before society meetings probably have experienced some difficulty in keeping the various records and models in an efficient order. Models must be handled for examination. They are usually not returned to their proper places and there is very real danger of their being damaged. Then, too, there is the problem of packing them for shipment.

Recently the Graduate Department of Orthodontia of the University of Illinois had occasion to exhibit eighteen case reports. This meant that a minimum of thirty-six models must be displayed in such a manner that confusion would be eliminated. The method for showing the models and for their shipment proved so satisfactory that the plans of construction are offered to those who may wish to use them or the idea involved.

Figure 1 shows the assemblage of one case report. The records are mounted on a $\frac{1}{4}$ inch panel of pressed wood and may be quickly removed for packing and shipping. The x-rays are mounted between two pieces of single weight glass and are lighted by a shadow box attached to the back of the panel. Small mirrors are held against the backs of the model display brackets by lugs, formed from the metal of the bracket.

This method of exhibiting entirely eliminated confusion. The models and records can be easily seen, the mirror behind the models giving a very good lingual view. There is no necessity for handling any of the records—a distinct advantage in an exhibit of this type.

The metal selected for constructing the brackets was .065 inch polished aluminum, because it is pleasing in appearance and easily worked. It was purchased in pieces cut 4 x 5½ inches. Figure 2 shows the layout drawing of a bracket. The drilling of the holes is much simplified if all of the plates are clamped firmly together, thus permitting all of the brackets to be drilled at one time. The aluminum, being soft, has a tendency to form burrs on the edges of the hole. By clamping the plates together to form a solid block the

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holes will be clean cut. If many brackets are to be constructed the bending of them is greatly facilitated by making a jig which can be clamped in a vise, thus eliminating measuring and marking each plate. To turn back the lugs which hold the mirror a template was cut of the same thickness and 1/16 inch longer than the mirrors to be used. By clamping this against the plate the lugs are easily and uniformly turned over.

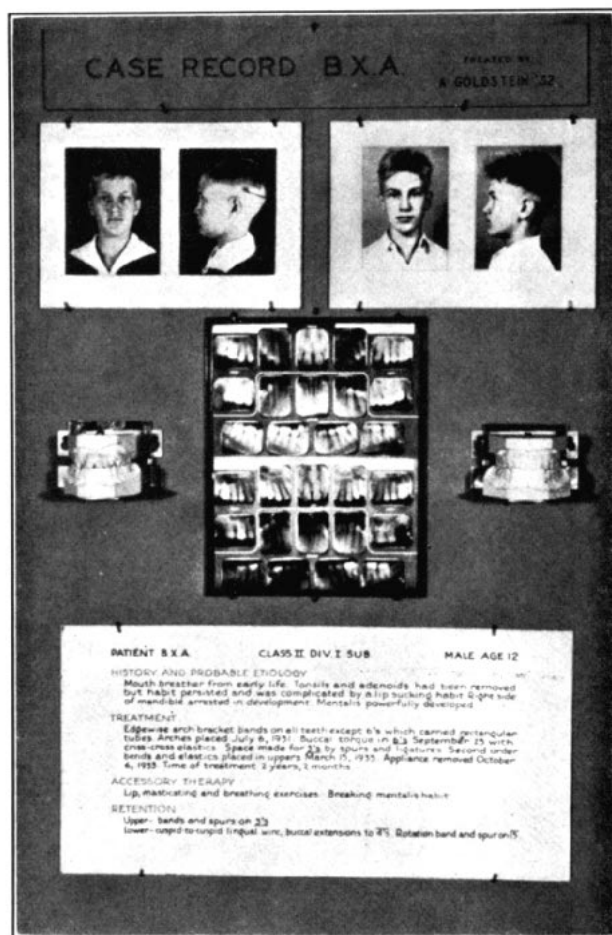


Fig. 1
 Panel assembly of records for one case report.

It is advisable in exhibiting models to use duplicates, and in this instance duplications were made in a rapid setting stone. After the models have become well dried a hole is drilled through the upper and lower model. Blocks were fastened to a piece of wood which was clamped to the table of the drill press in such a manner that all the holes would be drilled the same distance

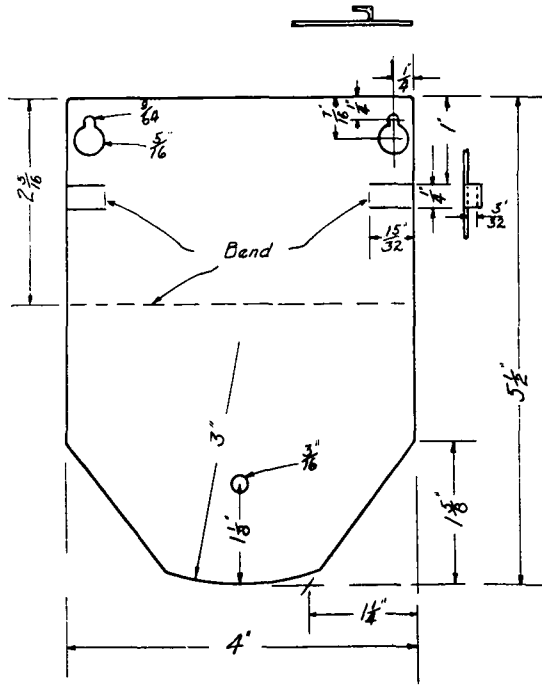


Fig. 2
Working drawing for construction of the model brackets

from the anterior edge of the model. This gives a uniformity and neatness to the mounted models.

The method of attachment of the bracket to the panel is to fasten stove bolts $\frac{1}{8}$ inch in diameter into the panel, allowing the heads to protrude slightly more than the thickness of the bracket: it is then quite simple to slip the bracket over the stove bolts through the large hole and drop it into the small holes. If desired, the stove bolt can then be tightened, firmly attaching the bracket to the panel.

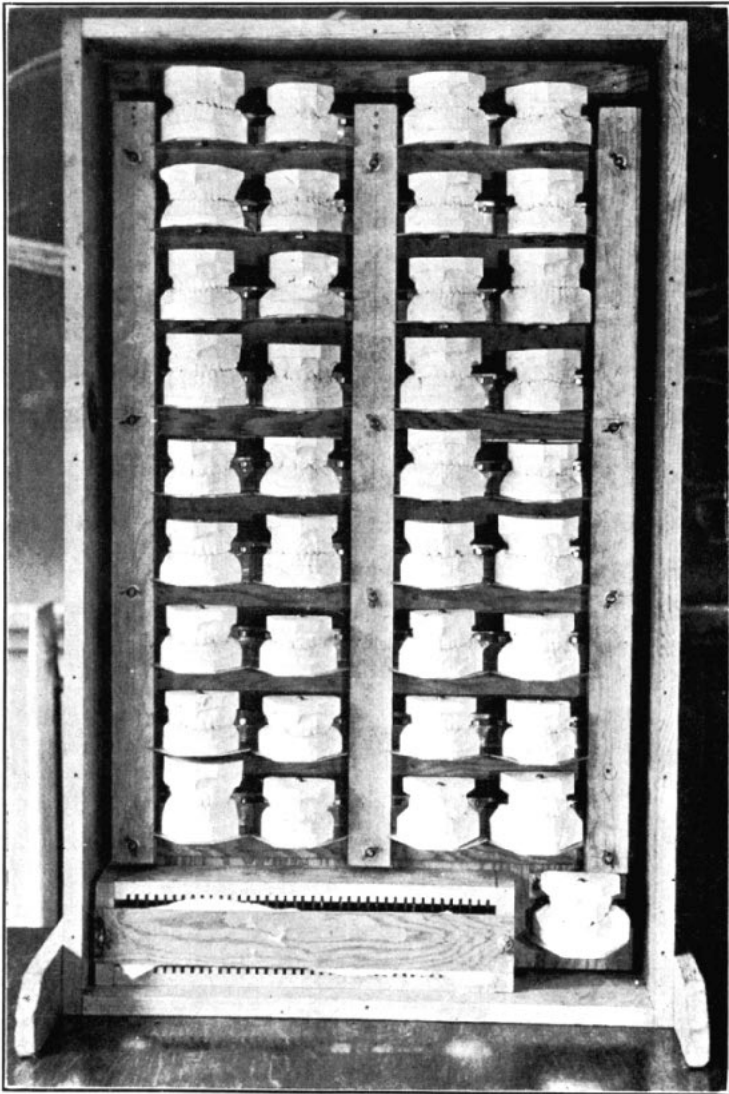


Fig. 3

Models and mirrors fastened in the packing case ready for shipment.

Figure 3 shows the method of packing the models for shipment. The mirrors are slipped off the brackets and placed in the rack at the base. A strip of cotton wadding is placed under the top plate (B, Fig. 4) which is

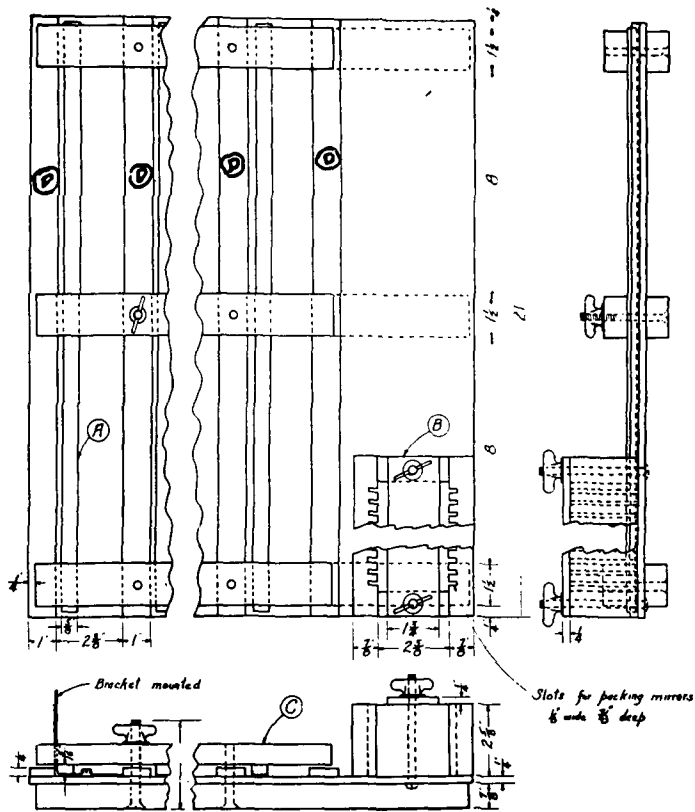


Fig. 4

Working drawing for the construction of the packing case.

fastened down with two wing nuts. The working drawings for the construction of this packing case are shown in Figures 4 and 5. To conserve space only the essential dimensions are shown. Four models can be placed in a row and as many rows constructed as is necessary.

The case is built on a base of $\frac{1}{4}$ inch ply wood. The strips (D) are $\frac{1}{4}$ inch ply wood fastened to the base and are separated $2\frac{5}{8}$ inches, which is the height of the vertical part of the bracket. The strips (A) are of hard wood $\frac{5}{8} \times \frac{5}{16}$ inch and are removable. Following the packing of the models in the case, these strips are placed as indicated in Figure 5. To fasten strips (A) the three vertical pieces (C) are clamped down with wing nuts. A section of the rack for the mirrors is shown at (B). The entire mounting panel is enclosed in a tight box as shown in Figure 3.

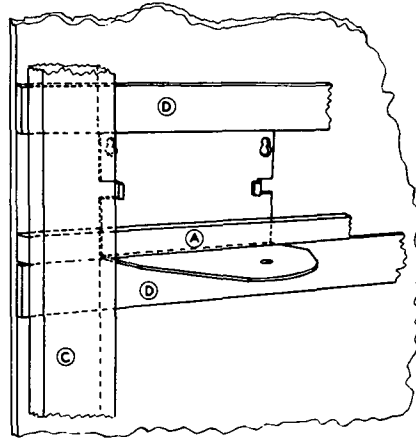


Fig. 5

Detail of a section of packing case showing a bracket mounting.

Anyone showing plaster models will no doubt find, as we have, that the construction of these brackets and shipping case is well worth the effort. This case has made several trips to meetings in the United States and to the International Congress in Vienna. The only damage to models occurred when European customs officials pried off the back with a pinch bar instead of taking out a few screws to remove the cover.

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