

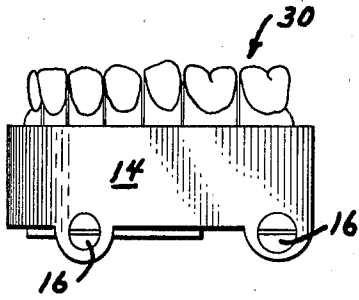
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G. D. KUHN

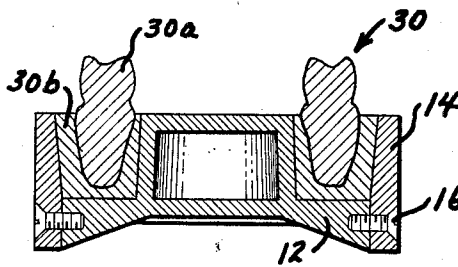
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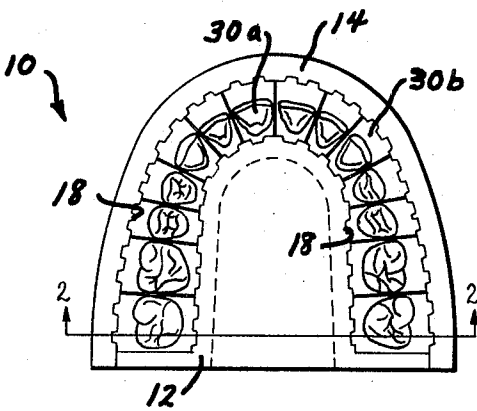
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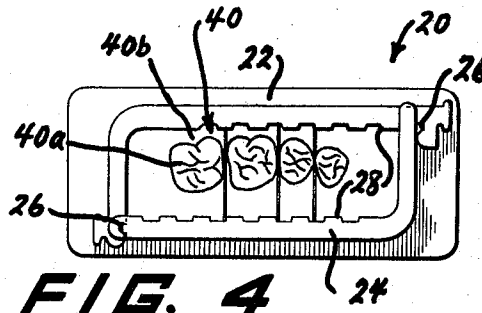
**FIG. 3**



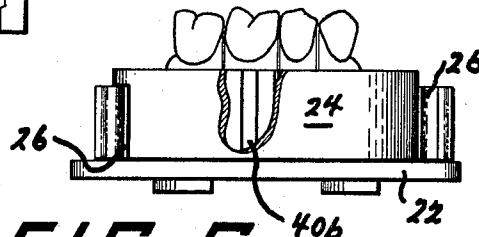
**FIG. 2**



**FIG. 1**



**FIG. 4**



**FIG. 5**

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3 Claims

## ABSTRACT OF THE DISCLOSURE

A dental die former characterized by assembled first and second wall members, where the inner surfaces of such first and second wall members are ridged vertically so that tooth sections may be readily and quickly removed for subsequent work and returned to their exact position, when desired, without any locking and/or unlocking action.

The present invention relates to a die former, and more particularly to a dental die former which provides quickness, convenience and accuracy in use not available heretofore.

As is known, in the making of gold crowns or the like, previous dental trays have been burdensome to the technician, considering, by way of example, the necessity, in one instance, of the repeated locking and unlocking of the tray while working on the model. In another approach, positioning pins were employed in connection with each tooth, a procedure which oftentimes resulted in the damage of the tooth model and the difficulty of tooth alignment during use. In any event, it has become evident that a new technique was necessary to achieve better workability on the part of the dental technician.

By virtue of the instant invention, the applicant herein has provided a new and novel die former which reflects ease in use by the dental technician and, at the same time, excellent end results. Broadly, the instant die former comprises, in the full arch embodiment, a member defined as a combined inner wall and base, where an outer wall is secured thereto through threaded means, for example. Most importantly, the inner surfaces of both the inner wall and the outer wall are ridged vertically so that tooth sections may be readily and quickly removed for subsequent work and returned to their exact position, when desired, in the die former. The preceding is accomplished without any locking and/or unlocking action, thereby affording a convenience and accuracy not at all present heretofore.

In the partial arch embodiment, the instant die former comprises a member defined as a combined wall and base, where another wall is selectively assembled therewith, as through snap-lock means. In any event, vertically disposed ridges are provided on the inner surfaces of the walls as in the full arch embodiment, where, again, a tooth section of the model may be readily withdrawn without any unlocking action, and, subsequently, after being processed, returned to its exact position in the die former.

Accordingly, the principal object of the present invention is to provide a new and novel die former having particular application to the dental profession.

Another object of the present invention is to provide a new and novel die former representative of a minimum number of operative components which combine to achieve quickness, convenience and accuracy in use.

A further and more general object of the present invention is to provide a new and novel die former used by dental technicians which may be readily mounted on the known articulator; which eliminates any unnecessary and repetitive steps in use, such as locking and unlocking; and which lends itself to manufacturing economies.

Other objects and a better understanding of the present invention will become more apparent from the following description, taken in conjunction with the accompanying drawing, wherein

FIG. 1 is a plan view of a die former in accordance with the teachings of the instant invention;

FIG. 2 is a view in vertical section, taken at line 2-2 of FIG. 1 and looking in the direction of the arrows, showing further details of the invention at hand;

FIG. 3 is a view in side elevation of the die former of FIGS. 1 and 2;

FIG. 4 is a plan view of another embodiment of die former, for a model from a partial arch impression, in accordance with the invention at hand; and

FIG. 5 is a view in elevation, partly broken away, showing further details of this invention embodiment.

For the purposes of promoting an understanding of the principles of the invention, reference will now be made to the embodiments illustrated in the drawing and specific language will be used to describe the same. It will nevertheless be understood that no limitation of the scope of the invention is thereby intended, such alterations and further modifications in the illustrated devices, and such further applications of the principles of the invention as illustrated therein being contemplated as would normally occur to one skilled in the art to which the invention relates.

Referring now to FIGS. 1, 2 and 3, a die former 10 is disclosed for a model 30 from a full arch impression. More specifically, the die former 10 comprises an arch-shaped inner member 12, typically defining a wall and a base, and an arch-shaped outer member 14, typically defining a wall, assembled together by threaded means, such as screws 16, for example. Most importantly, and as should be particularly evident from FIG. 1, the facing surfaces of the walls of the inner member 12 and the outer member 14 each have vertically extending ridges or ribs 18 therealong, for purposes of accuracy and alignment, to be discussed herebelow. In any event, it should be understood that the outer member 14 can be readily disassembled from the inner member 12 by release of the screws 16.

With reference now to FIGS. 4 and 5, another embodiment of die former 20 is disclosed, in this instance having adaptability for use with a model 40 from a partial arch impression. In other words, and as is known, the die former 20 has adaptability for use with a small grouping of tooth impressions. In any event, die former 20 comprises a member 22, typically defining a side wall and a base, where another member 24, typically defining a side wall, is readily assembled with member 22 through known snap-locks 26. Again, and most importantly, the facing surfaces of the walls of the members 22 and 24 include vertically extending ridges or ribs 28, for accuracy and alignment purposes.

As a matter of background for the use of either embodiment of the instant invention, as in connection with making a gold crown or the like, for example, either a full or a partial arch impression is made by the dentist. Thereafter, the technician pours up the impression to make the desired teeth form, identified by either reference numeral 30a or 40a, which when set, is then cut into shape so as to fit into either the die former 10 or the die former 20.

Subsequently, the technician mixes stone 30b or 40b and places such material into the die former, laying the desired teeth form thereon so as to harden in position. Upon hardening, the resulting model 30 or 40 is released from the die former, either through tapping, after the screws 16 of the die former 10 are removed, or through tapping, after the unlocking of the snap-locks 26 of the die former 20. The technician then sections the model by

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saw cutting between the teeth and through the stone, as should be particularly evident from FIGS. 1, 4 and 5. The die former, in either embodiment, is then reassembled with the model and the technician can then proceed with the particular job at hand.

With the present invention, any desired model section defining a tooth can be readily removed from the die former by an upward motion and, of course, readily replaced for over-all technician work in the exact same position because of the described ridges or ribs. The applicant's new and novel die former, in either embodiment, affords quickness, convenience and accuracy, a combination of features not present in any prior art structure or technique.

The die formers described hereabove are susceptible, of course, to various changes within the spirit of the invention. For example, other fastening or assembly arrangements might be employed, and, additionally, a permanent magnet may be embedded in the base of either type of die former for ready mounting on a dental articulator.

I claim:

1. A dental die former for receiving a dental model comprising a first wall member having an upstanding wall portion integral with a laterally extending base, a removable second wall member abutting the side edge of said base, and means assembling said removable second wall member to said base, the inner facing surfaces of said wall portion of said first wall member and said re-

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movable second wall member each defined by vertically extending ridges and arranged to permit the free movement of said dental model into and from said dental die former.

2. The dental die former of claim 1 where screw means assemble said removable second wall member to said first wall member.

3. A dental die former for receiving a dental model comprising a first wall member having an upstanding wall portion integral with a laterally extending base, a removable second wall member resting on said base, and snap-lock means assembling said upstanding wall portion of said first wall member and said removable second wall member, the inner facing surfaces of said wall portion of said first wall member and said removable second wall member each defined by vertically extending ridges and arranged to permit the free movement of said dental model into and from said dental die former.

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