R. C. BELL.

SANITARY DENTAL IMPRESSION TRAY.

APPLICATION FILED MAY 21, 1914.

1,113,090.

Patented Oct. 6, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

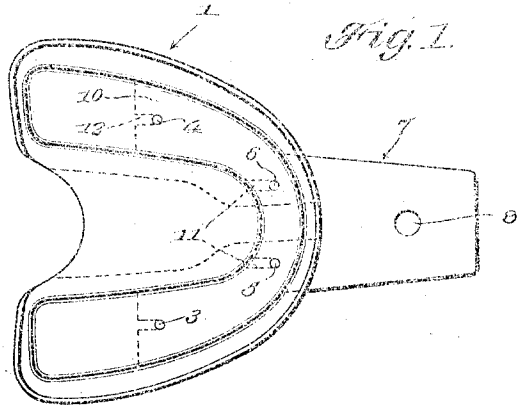


Fig. 2.

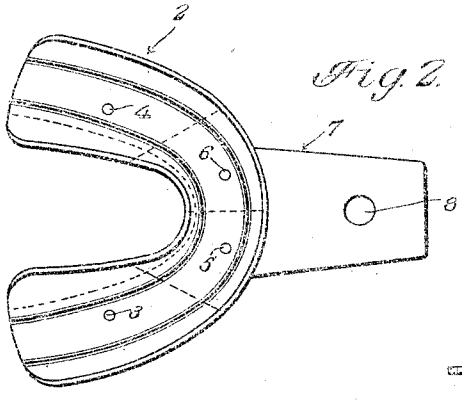
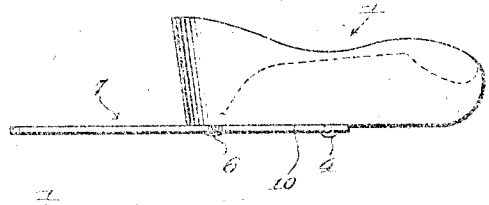


Fig. 3.



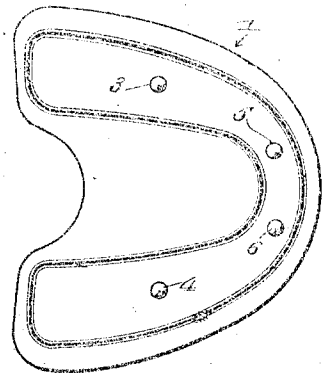


Fig. 4.

Inventor

R. C. Bell,

Witnesses

J. H. Crawford.

C. C. Hines.

By Victor J. Evans

Attorney

R. C. BELL.

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2 SHEETS—SHEET 2.

Fig. 6.

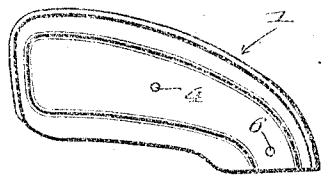


Fig. 7.

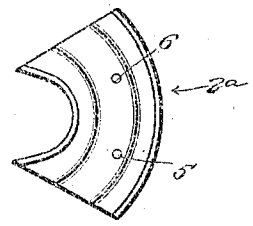
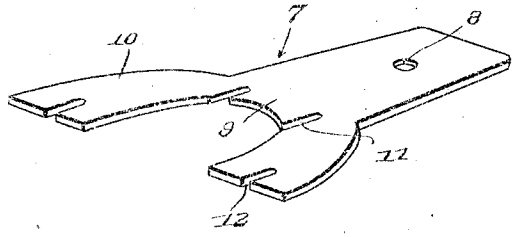
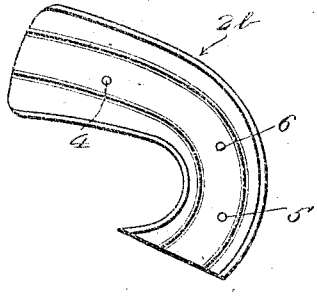


Fig. 5.





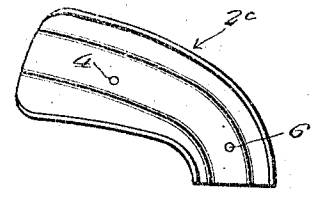


Fig. 9.

Fig. 8.

Inventor

R. C. Bell,

Witnesses

J. H. Crawford.

A. C. Hines.

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

ROSCOE C. BELL, OF MOUNT CARMEL, ILLINOIS.

SANITARY DENTAL IMPRESSION-TRAY.

1,113,090. Specification of Letters Patent. Patented Oct. 6, 1914.

Application filed May 21, 1914. Serial No. 840,077.

To all whom it may concern:

Be it known that I, ROSCOE C. BELL, a citizen of the United States, residing at Mount Carmel, in the county of Wabash and State of Illinois, have invented new and useful Improvements in Sanitary Dental Impression-Trays, of which the following is a specification.

My invention relates to dental impression trays for taking impressions of the mouth in the production of artificial dentures.

The invention consists of the features of construction, combination and arrangement of parts herein fully described and claimed, reference being had to the accompanying drawings in which:—

Figure 1 is a top plan view of a full upper impression tray embodying my invention. Fig. 2 is a similar view of a full lower impression tray embodying the invention. Fig. 3 is a side elevation of the tray shown in Fig. 1. Fig. 4 is a bottom plan view of the same. Fig. 5 is a perspective view of the handle. Fig. 6 is a partial tray made from the tray shown in Fig. 1. Figs. 7, 8 and 9 are views of various types of partial impression trays made from the tray shown in Fig. 2.

In carrying my invention into practice, I provide a tray which is formed by means of a die or otherwise from compressed paper or like comparatively soft, fibrous material, which is, nevertheless sufficiently rigid to carry the impression material and sustain the force of the bite, and which may be also altered in shape to a requisite extent to suit special conditions and is capable of being cut up or divided for the production of partial impression trays. The tray thus made of a compressed fiber is rendered moisture proof in any suitable manner, as by saturating it with oil or other water-proofing substances, or coating it with wax, the water-proofing agent serving to give it a desired increase of rigidity so that it will maintain its shape under all normal conditions. The water proofing agent, furthermore, serves to facilitate the easy removal of the impression from the tray. In the drawings I have shown several different styles of impression trays made of the material mentioned, Fig. 1 showing a full impression tray 1, Fig. 2 a full lower impression tray 2, Fig. 6 a partial impression tray 1^a cut from the form of tray shown in Fig. 1, and Figs. 7, 8 and 9 partial impression trays 2^a, 2^b and 2^c made from the form of impression tray shown in Fig. 2. Fig. 1 shows in dotted lines the lines cut for making right or left partial impression trays from the full upper impression tray shown therein, while Fig. 2 shows the dotted lines of cut for making the several forms of partial impression trays shown in Figs. 7, 8 and 9 from the full lower impression tray disclosed therein. It is evident that other shapes or styles of partial impression trays may be made from the trays shown in Figs. 1 and 2, those illustrated being simply for purposes of example and as best exemplifying the applicability of the invention in this particular. It is also evident that the marginal edges of the tray may be partially cut away, bent or shaped to suit any special conditions, Fig. 2 illustrating in dotted lines a line of cut which may be adopted in cutting away a portion of the marginal inner flange or wall of the tray 2 for a special purpose.

I provide means by which a handle may be detachably connected with a tray, so that a single handle or set of handles will serve for continuous use in connection with the trays consecutively employed. The handles used are of novel construction to secure certain beneficial results, and the trays are constructed to receive the handles in a plurality of ways to increase the efficiency of the tray for use under different conditions.

As shown, each tray is provided with headed pins or studs, denoted, respectively, 3, 4, 5 and 6, the studs 3 and 5 being arranged on one side of the longitudinal center of the tray and the studs 4 and 6 on the opposite side of the longitudinal center thereof. The upper surfaces of these studs lie flush with the upper surface of the bottom of the tray, while the lower headed ends of the studs project sufficiently for engagement with a handle 7, the construction of which is hereinafter described. It will be observed that the studs 3 and 4 are disposed in the bottom of the channel of each tray in transverse alinement with each other and midway of the length of the tray, while the studs 5 and 6 are disposed at the forward portion of the tray immediately on opposite sides of the longitudinal center thereof, which arrangement of the studs is especially designed for the purpose of enabling full and partial upper and lower impression trays to be interchangeably connected with one and the same style of handle, the arrangement of the studs further

serving to insure a firm connection of a full tray with its adequate support from the handle.

The handle 7 comprises a handle proper having at one end an opening 8 by which it may be suspended when not in use from a hook, nail or other suitable support. The opposite end of the handle is bifurcated or forked, providing a tray engaging portion of substantially semi-circular shape and consisting of an intermediate section 9 and curved arms 10, the portion 9 being provided with slots 11 for engagement with the headed ends of the pins or studs 5 and 6 and the arms 10 with similar slots 12 for engagement with the headed ends of the pins or studs 3 and 4, the slots being adapted to register with the respective studs when the engaging end of the tray is brought into proper position, so that by an endwise movement of the handle in a direction longitudinally of the tray the slotted portions of the handle may be engaged with or disengaged from the studs. The width of the slots and thickness of the engaging portion of the handle is such as to secure a firm frictional engagement between the handle and studs, thus obviating any liability of accidental disengagement of the tray when applied to the handle, while at the same time enabling the handle to be applied to and removed from the tray without the necessity of the use of any material amount of force.

It will be evident that the described arrangement of the pins or studs and the slots in the handle enables all the various styles of full and partial trays illustrated, and others which may be formed, to be connected at all times by at least two of the pins or studs with the handle, a handle of the construction described being accordingly interchangeable for use in connection with any and all of the various trays which may be employed. Furthermore, it will be evident that by the arrangement of the pins and slots specified, any of the partial impression trays may be firmly supported from the handle, irrespective of the particular form of the tray in question. The handle is preferably stamped up from a single piece of sheet metal made of Sterling or German silver, or any other suitable material, which whenever necessary may be properly plated or protected to prevent rust and insure perfect sanitation. This style of handle may be easily and conveniently cleansed, thus avoiding the transmission of diseases from one person to another.

I claim:—

A dental impression tray formed from a semi-rigid, semi-pliable, moisture proof fiber, a pair of headed studs projecting from the underside of the tray in transverse alinement with each other, said studs being located on opposite sides of the longitudinal center of the tray and beyond the transverse center thereof, and a second pair of headed studs projecting from the bottom of the tray on opposite sides of the longitudinal center thereof and adjacent to the rear portion of the tray and in transverse alinement with each other and immediately on opposite sides of the longitudinal center of the tray, and a handle comprising a plate having fork arms, the outer ends of said arms being provided with slots to engage the first-named pair of studs and the body of the plate between the inner ends of the arms being provided with slots to engage the second named pair of headed studs.

In testimony whereof I affix my signature in presence of two witnesses.

ROSCOE C. BELL.

Witnesses:
W. H. Roberson,
Carl A. Sharpe.