

Dec. 13, 1949

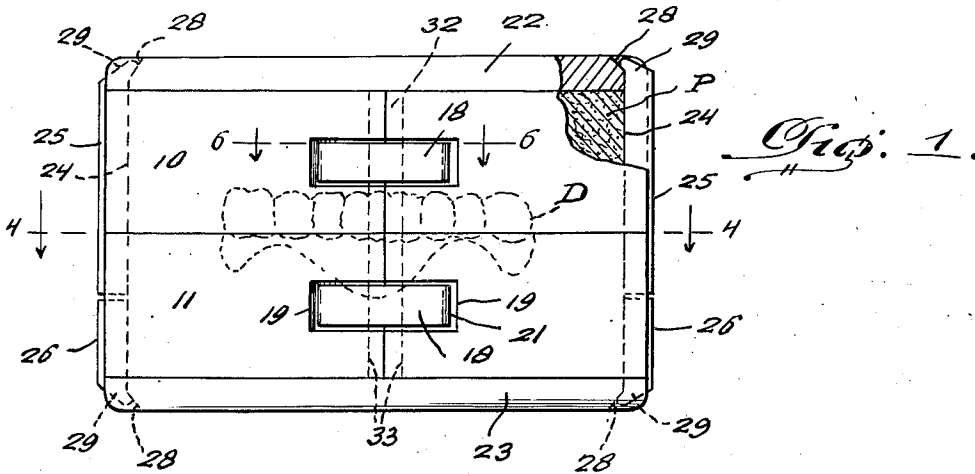
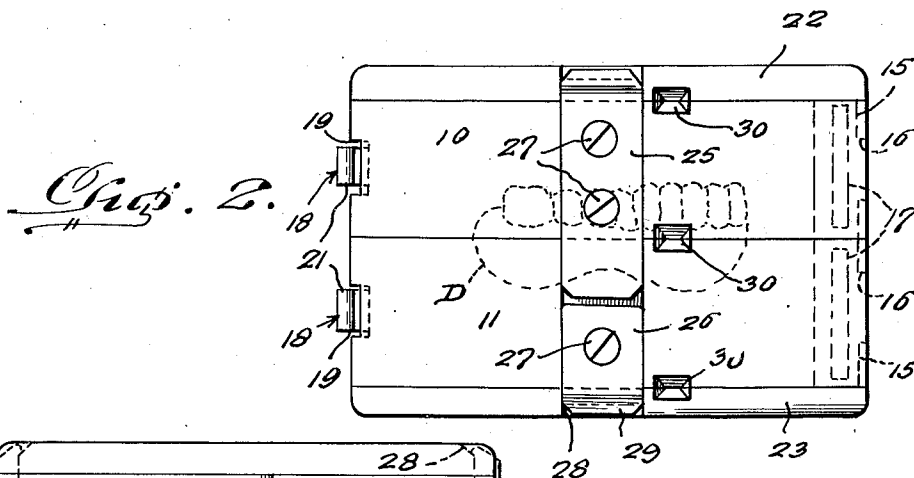
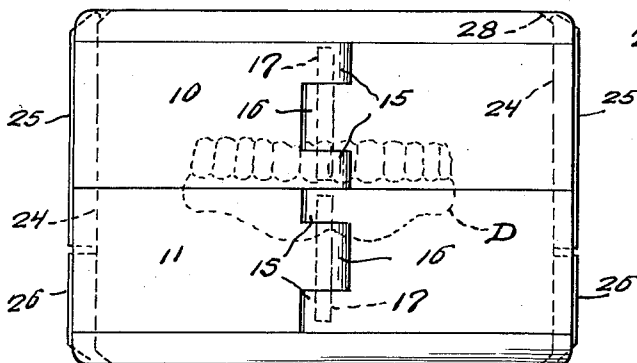
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2,491,046

DENTAL FLASK

Filed Feb. 25, 1947

2 Sheets-Sheet 1



Exp: 3.

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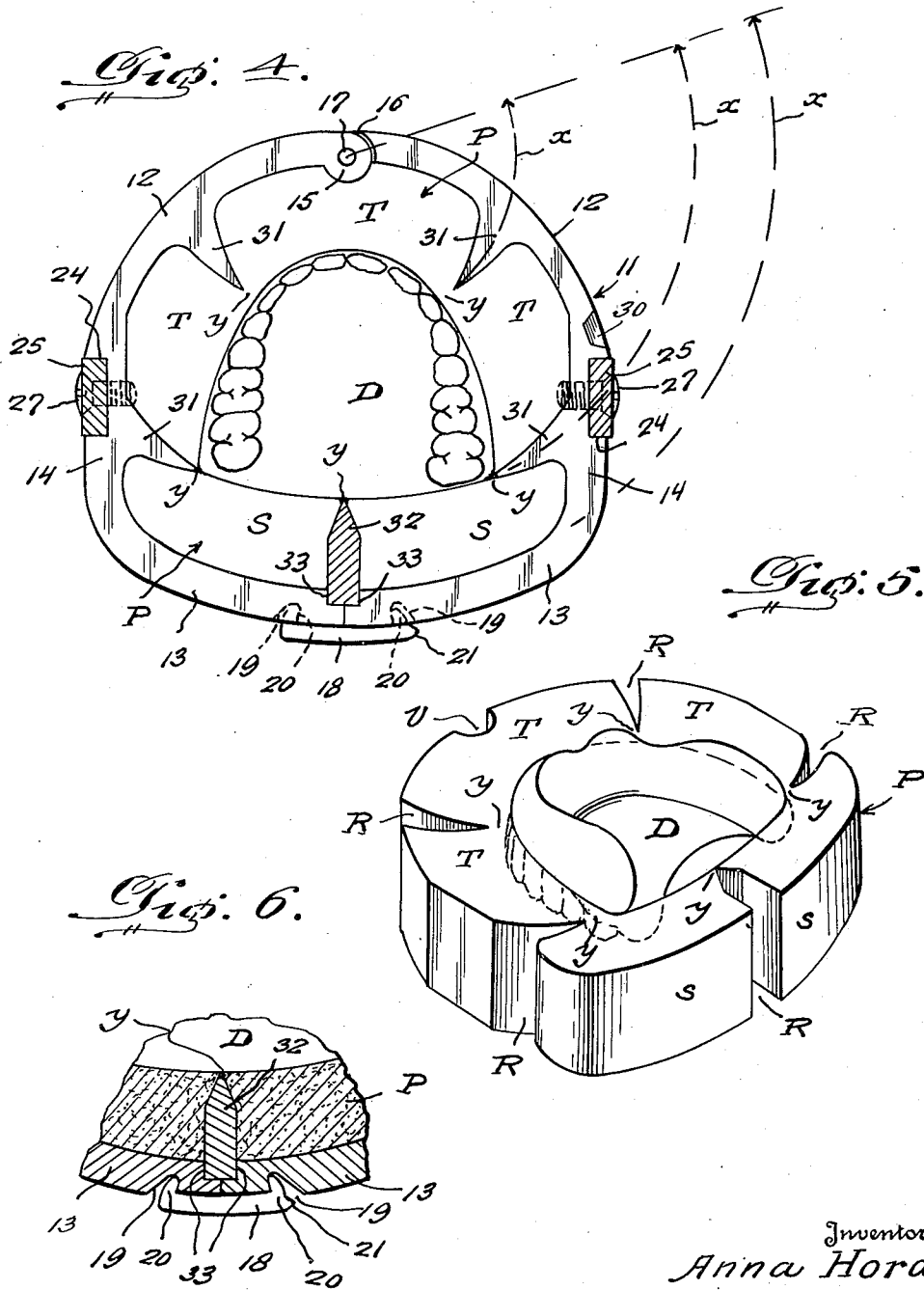
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2,491,046

DENTAL FLASK

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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DENTAL FLASK

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3 Claims. (Cl. 18—33)

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My invention relates to dental flasks for making dentures and more particularly to a novel construction thereof which facilitates assembly and disassembly of the sections thereof and removal of the plaster investment and separation and removal thereof from the denture of acrylic or methacrylate and teeth without cracking or checking of the former or cracked or broken teeth.

With the flasks at present in use it takes fifteen to twenty minutes to pound them open with a hammer or other tool, and the dentures and stone model are left firm, with the stone hard set and unbroken, so that dental technicians sometimes check and crack the dentures and one or more teeth, thereby requiring resetting and replacing such teeth or remaking of the denture, causing hours of extra labor and cost, as well as misfits.

My flask comprises upper and lower hinged sections and top and bottom lids or covers in the form of flat plates all of suitable metal, the hinged sections being held together or closed at their free edges and the lids on the top and bottom, by readily disengaged resilient snap fasteners and the adjoined edges of the parts having registering pry slots or notches so that only a pry tool or screw driver is required to open and close the flask sections without requiring hammering and leaving the teeth perfect.

Another object is to provide means to form the plaster investment for the denture in the mold or flask, in segments, preferably five, which are joined together by thin portions at recesses therein cut away nearly to the imbedded denture so that the segments may be readily separated and broken away from the denture in addition to easy separation of the plaster from the flask sections by lining the latter with tin foil covering, the parting line or joint between the upper and lower sections so that the plaster and denture may be easily and quickly taken out of the flask when opened, so that to open it is to clean it, thereby overcoming the objections, difficulties and cumbersome methods generally employed in addition to requiring no hammering, less plaster with a saving of at least 10%, making it much easier to remove the plaster from the denture than where the plaster is thick all around, safer, and avoiding breaking, checking and cracking of the acrylic or teeth as pulling the teeth out or loose.

The invention also comprehends the provision of curved tapered parting fins or partitions extending in from the walls of the flask sections in a direction away from the hinge or pivot

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thereof adapted to form segmental recesses in the edge of the plaster to points in close proximity to the denture and a similar fin or partition inserted in opposed recesses in the sections where they come together opposite the hinge joint, so that when the sections are swung open, they easily move out of the recesses in the plaster, slip or release therefrom without resistance due to the movement thereof in the same arc traveled by the sections on the pivots or hinge pins so that there is no tendency to crack the denture, and no back-draft or undercut to resist opening, thereby facilitating removal of the plaster with the denture therein and separation of the plaster from the denture after such removal and making the device 50% quicker, easier and safer to use.

The present invention consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawing, and claimed.

In the drawings:

Figure 1 is a front elevation of the improved flask of my invention.

Figure 2 is a side elevation thereof.

Figure 3 is a rear elevation.

Figure 4 is a sectional view taken on the line 4—4 of Figure 1.

Figure 5 is a perspective view of the plaster investment with a denture therein removed from the flask, and

Figure 6 is a fragmentary section taken on the line 6—6 of Figure 1.

Referring to the drawings in detail, the novel easy out dental flask is shown as comprising upper and lower lateral sections 10 and 11 comprising side walls each having substantially concentric portions 12 and obtusely curved portions 13 of larger arcs with relatively flat side portions 14 therebetween. The ends of the portions 12 are provided with interfitting apertured ears 15 and lugs 16 hinged or pivoted together by means of pivot pins or pintles 17 separately pivoting the parts of each section to swing together or apart as shown by the arcs X as seen in Figure 4.

The free ends of the side walls are designed to abut in closed relation and are detachably held together by snap fasteners 18. For this purpose, the sections at the outerfaces of their portions 13 in spaced relation to their abutting ends, are provided with slightly oppositely undercut tapered notches 19 into which inwardly extending slightly oppositely curved or inwardly converging lugs 20 at the ends of the bars of the snap fasteners 18, which may be slightly resilient, are adapted to frictionally engage. One end

of each bar is also provided with a projection 21 spaced from the outer beveled face of a notch, beneath which a screw driver or similar instrument is adapted to be engaged to pry off or dislodge the fasteners to permit the sections to be opened.

Sections 10 and 11 are fitted together at coacting edges and the open top and bottom are closed by lids or covers 22 and 23 detachably held in position. For this purpose, the opposed relatively flat portions 14 and lids 22 and 23 are provided on their outer faces and edges with transverse aligned grooves 24 in which guide bars 25 and 26 are secured as by screws 27 engaged in threaded apertures in the wall portions 14. The upper bars 25 are longer than the lower bars 26 and overlap the lower section 11 partially and have two securing screws attaching to the upper section 10, while a single screw attaches the lower bar. The ends of the grooves 24 at lids or covers 22 and 23 are inset or beveled as at 28 frictionally engaged by angularly projecting end lugs 29 which may be beveled as shown. These bars 25 and 26 hold the flask sections and lids in register, and may be removed by removing or loosening the screws and pried loose by a screw driver at undercut inset or beveled groove ends 28. In addition, one or opposite sides 14 adjacent grooves 24 may be provided with registering tapered pry slots or notches 30 at the coacting faces of the sections and edges of the lids or covers, for the insertion and twist of a screw driver or the like to separate the sections and lids to take the flask apart.

The walls of the flask sections are provided with curved tapered parting fins or partitions 31 extending in from the walls of the flask sections in a direction away from the hinge or pivot thereof or curved in arcs so as to swing or move along the arcs X swung by the sections when opened and closed. Two spaced fins 31 are provided on each side at portions 13, and in addition, a fifth fin or partition 32 is removably inserted in coacting corner recesses 33 in the inner faces and abutting ends of the sections. The fin 32 is tapered at its inner end and extends toward the pivot 17 to form two segments S in the plaster investment P between the denture D, the adjacent fins 31 and portions 13 and 14. The fins 31 form three segments T therebetween, so that there are five segments in all joined by thin portions Y at recesses R formed by said fins extending in from the edge of the plaster. By reason of these thin or fragile portions Y, the segments may be readily separated and broken away from the denture. The pivot ears and lugs 15 and 16 also form a recess U in the plaster. When the snap fasteners 18 are removed, the tapered or wedge partition 32 may be readily removed from the plaster, besides being released from the abutting ends of the sections when separated, and since the flask is lined with foil and the curved fins 31 move in the arcs X the same as the sections 10 and 11 after removing the lids, the fins 31 will readily move, pull out, slip or withdraw from the plaster investment leaving the recesses and thin frangible portions to permit the plaster to be easily broken away from the denture, without hammering, breaking, checking or cracking of the denture and teeth. As the

upper and lower flask sections are the same, the stone model with the plaster below and the dentures with plaster above are out with the twist of a screw driver. The plaster and denture are easily taken out of the flask or the latter easily removed in a few minutes safely without mistakes and cracked acrylic or broken teeth. The flask will last indefinitely in service as it does not require hammering or severe treatment to use it, and the plaster recesses produced by the fins require less plaster with five integral segments easily broken away from the dentures, leaving very little plaster to dispose of.

I claim:

1. In a dental flask, a body section composed of two similar parts hingedly connected at corresponding ends and each having an inwardly projecting and tapered investment dividing fins, said fins being spaced from and cured in a direction concentric with the hinge connection between said parts, said fins being of the same vertical width as said body section.

2. In a dental flask, a body section composed of two similar parts hingedly connected at corresponding ends and having spaced inwardly projecting and tapered investment dividing fins which are spaced from and curved in a direction concentric with the hinge connection between said parts, said parts having mating recesses in the inner corners of their other ends, a removable investment dividing fin having its outer portion received in said recesses, and means releasably securing said other ends together and retaining the outer portion of said removable fin in said recesses.

3. A dental flask comprising an open-ended body composed of two similar superimposed body sections, each body section comprising two similar parts hingedly connected together at corresponding ends and releasably secured together at their other ends, said parts having aligned transverse grooves in their outer faces intermediate their ends, top and bottom covers for the body having edge grooves aligned with said grooves of said parts, catch bars secured in the grooves of the parts of one body section and having corresponding ends thereof engaging one cover to secure it in place and the other ends of the same extending into the grooves of the parts of the other body section to register the body sections, and other catch bars secured in the grooves of said other body section and having corresponding ends thereof engaging the other cover to secure it in place.

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