

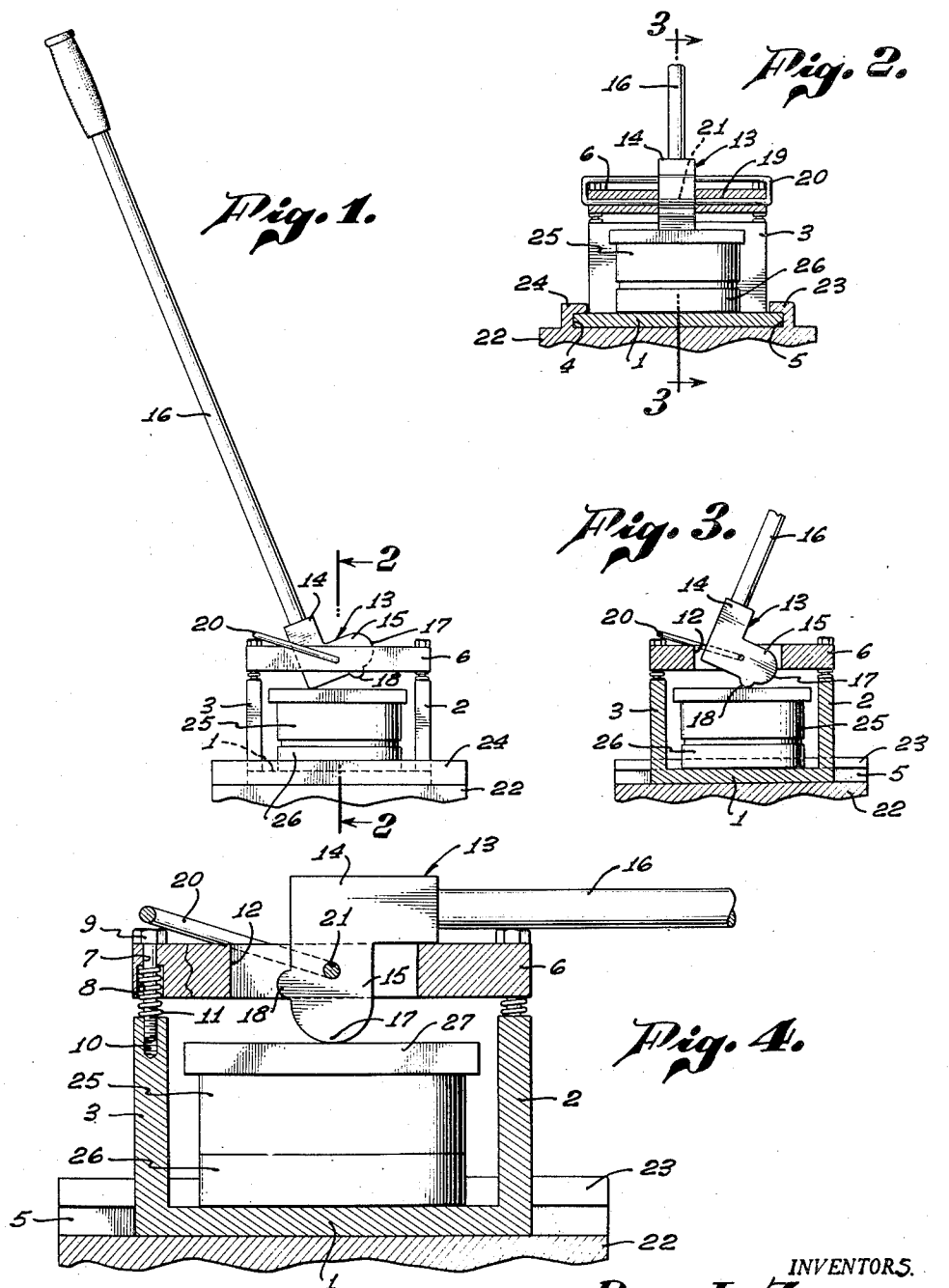
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DENTAL PRESS

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1

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DENTAL PRESS

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1 Claim. (Cl. 18—33)

The present invention relates to a dental press, sometimes termed a clamp or compress. The device of the invention is adapted to be used with a vulcanizing flask.

An object of the invention is the provision of a press which allows the operator to quickly close a flask under pressure and maintain the flask closed during a vulcanizing operation.

At the present time, the general procedure is to employ a flask having two parts, to wit, a lower half and an upper half, which parts are separable and provided with a groove and tongue edges for holding the parts in alignment. A model of the denture base is constructed with wax on the cast, which may likewise include the teeth, assuming that an upper or lower denture is to be formed. This denture base is invested in the lower half of the flask, usually with the use of plaster or artificial stone. After the stone or plaster has set, a separating medium of some kind is applied and allowed to dry. The upper half of the flask is then placed in position and filled with artificial stone or plaster, which is allowed to harden thoroughly. Following this, the two halves of the flask are separated, and the wax which formed the model of the denture base is removed. After removal of the wax, a mold results, and into this mold is placed the material which forms the denture base. Various materials are utilized in the industry, such as vulcanite, which is a thermo-cure, or a thermo-plastic of some type, such as an acrylic resin, vinyl resin, Glyptal resins, and phenol-formaldehyde resins. Whatever the material used may be, this material is placed in the mold or space formerly occupied by the wax. Usually, the surfaces of the mold are treated with some liquid to prevent the denture material from adhering to the mold. As a rule, the material fills the lower half of the flask and to a height above the edge of said lower half of the flask. Thereafter, the top half of the flask is placed over the lower half, followed by tightly closing the flask. The press utilized for tightly closing the flask forms the present invention. As a rule, devices now known to the inventors for clamping or compressing the vulcanizing flask are difficult to use, time consuming, often require more than one person to manipulate, and are otherwise unsatisfactory.

An object of the present invention is the provision of a press for a dental flask which will quickly and easily close the flask and hold the flask against opening when subjected to internal pressure.

A further object is the provision of a dental press which is easily manipulated by an operator, either to open or close the press.

A further object is the provision of a press which is economical in cost of manufacture, and generally superior to presses now known to the inventors.

With the above mentioned and other objects in view, the invention consists in the novel and useful provision, formation, construction, association, and relative arrangement of parts, members and features, all as shown in a certain embodiment in the accompanying drawing, de-

2

scribed generally, and more particularly pointed out in the claim.

In the drawing:

Figure 1 is a side elevation of the dental press, holding a flask, prior to applying pressure to the flask,

Figure 2 is a fragmentary sectional view on the line 2—2 of Figure 1,

Figure 3 is a view taken on the line 3—3 of Figure 2, one of the members of the invention being moved so as to initially apply pressure to the flask, and,

Figure 4 is a fragmentary sectional view on an enlarged scale, showing the flask when the parts thereof have been pressed together.

Referring now with particularity to the drawing, the improved press includes a base member 1, two spaced-apart, parallel side members or walls 2 and 3 secured to the base member and in substantially right angular relationship to the base member, and which base member has portions extending beyond the side members, as shown in Figure 2, at 4 and 5. A top member 6 overlies the side members 2 and 3. As shown in the figures, the top is substantially square in outline, and is provided with through bores adjacent corners thereof. One of said bores is shown at 7, and is counter-bored at 8. Passed through the bore 7 and counterbore 8 is a screw 9 for reception in a threaded bore 10 in each side wall 2 and 3. Surrounding the screw and received in the counterbore 8 and resting on the top of each side member is a coil spring 11, which at all times tends to expand and lift the cover member 6 above the upper edges of the side members 2 and 3. Quite obviously, relative spacing between the tops of the side members 2 and 3 and the said cover is obtained by adjusting the screws 9 within the threaded bores 10. The cover member is formed centrally thereof with an elongated slot 12. Adapted to be carried by the member 6 is a head 13 constituting a member having two right angularly related parts 14 and 15. Part 13 is provided with an end socket adapted to receive one end of an operating lever 16, while the part 14 is provided with thrust portions 17 and 18. The throat portion 17 is formed by curving the end wall of part 15, while thrust portion 18 comprises a small curved protuberance on the side of portion 15. The head 13 is passed through the slot 12 and pivotally secured to the member 6 by one or more pintle pins which extend transversely through a transverse bore in the member 6, as shown in Figure 2, at 19. More particularly, a bail 20 is provided which permits the press to be handled and carried, the pintle pins forming that portion of the bail which is passed through the bore 19 and a transverse bore 21 in the head.

To stabilize the device in use, we have provided a foundation or base member 22, provided with a pair of parallel, angular flanges 23 and 24, between which are received the portions 4 and 5 of the base. As shown in Figure 2, the angular character of the flanges prevent any tipping movement of the base 1.

The operation, uses and advantages of the press just described are as follows:

In the showing of the drawing, we have provided a two-part flask having an upper half 25 and a lower half 26. When a flask of this character is placed upon the base 1 of the press, the upper half 25 will be raised above the upper edge of the lower half 26, due to the presence of an excess of denture base material therein. The operator having adjusted the screws 9 for the given flask and the degree of movement necessary to close the two halves of the flask together, applies over the upper half of the flask a pressure plate 27, whereupon the lever 16 is swung from the position shown in Figure 1 to the position shown in Figure 3, which will bring the thrust element 18 into engagement with pressure plate 27. Thrust

3

element 18 will move the pressure plate slightly downwardly to move the upper half 25 toward the lower half 26 of the flask. Upon swinging the lever downwardly to the position shown in Figure 4, the thrust element 17 is brought into full engagement centrally of the pressure plate and of the flask to close both halves tightly together. The operator then removes the lever 16 from the socket end of portion 14 of the head 13, and the press, together with the flask containing the denture to be treated, may then be placed in a boiling pan, in the usual manner.

After a given length of time, as determined by the operator, the press together with the flask, are removed from the boiling pan and the operator may again insert the portions 4 and 5 of the press between the flanges 23 and 24, reinsert the lever 16 in the socket of portion 14 and a slight upward movement will move the thrust element 17 over the pressure plate, bringing the thrust element 18 into position, the springs 11 moving the top member 6 upwardly from the side members 2 and 3, whereupon further tilting of the lever to, say, the position of Figure 1, will allow the flask to be removed from the press, the pressure plate removed from the top of the flask, and the flask cover and base separated in the usual manner.

It will be noted upon reference to Figures 1 and 3 that the thrust elements 17 and 18 move from one side of dead center relative to the pivot point for the head with the top member 6, to dead center. Thus, the lever may be maintained in any one of several positions, and the operator is assured that the flask will be closed tightly and under considerable pressure when the head is in the position shown in Figure 4. It is evident that considerable pressure must be exerted between the two flask portions to force them together when the denture material

4

is within the mold, and this excess of material will flow from between the upper and lower halves of the flask.

We claim:

A press for dental flasks, including a base upon which a dental flask is adapted to be supported, a pair of parallel side members extending from one surface of said base to a position above the top of the flask, a top member spanning the side members secured to the base, headed screws passed through said top member for reception in threaded bores extending inwardly from the tops of the side members, coil springs surrounding said headed screws for urging the top member to engage the heads of said screws to separate the top member from the tops of the side walls, the headed screws adjustably and positively spacing the top member from the tops of the side members; said top member provided with a transverse slot, a head having first and second leg portions in right angular relationship, said first leg portion extending through the slot of said top member, means pivoting said first leg portion to the top member, said first leg portion having a curved end forming one thrust element and the side of said first leg portion provided with a second thrust element, and means secured to the other leg of said head for swinging the said head to bring one or the other of said thrust elements into engagement with the top of the flask.

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