

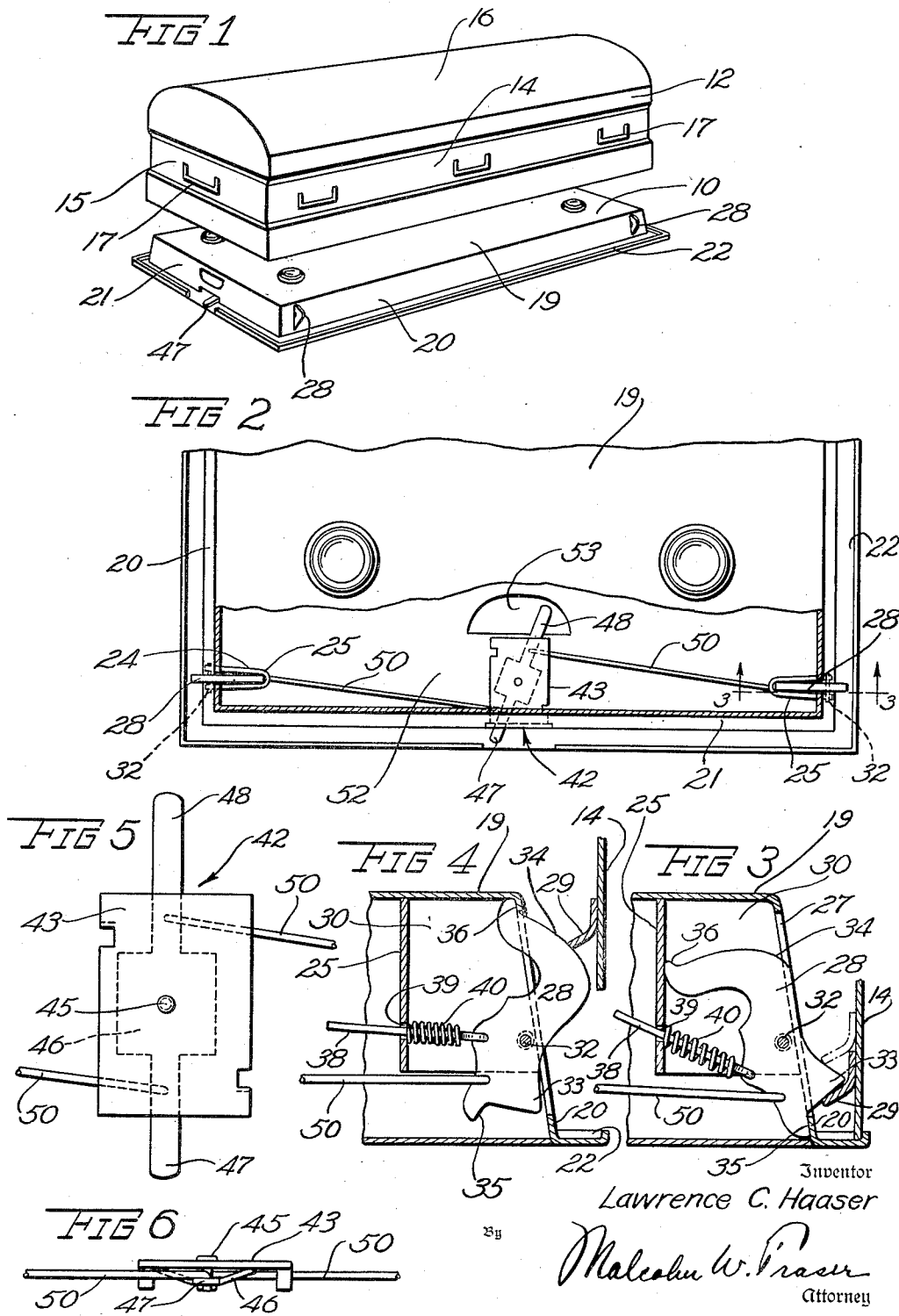
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LOCK MECHANISM

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LOCK MECHANISM

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4 Claims. (Cl. 292—48)

This invention relates to vaults, and is particularly directed to improved means for interlocking the base and bell of a burial vault.

5 An object of the present invention is to provide a vault of this character with automatic means for positively locking the sections together irrespective of the position of the locking means, together with central control means for unlocking the vault sections.

10 Another object of the invention is to provide a vault with means responsive to the assembly of the bell and base for automatically securing the sections together, such means requiring subsequent unlocking prior to the separation of such sections.

15 A further object of the invention is to provide an automatic latching means of the above character with common control means accessible from a plurality of positions so that the sections may be unlocked irrespective of the position of the vault.

20 A still further object is to provide a vault with a pair of simultaneously operating automatic locking means adapted to be normally located in locking position, but capable of being rendered effective to secure the vault sections together when disposed in either locking or unlocking positions.

30 Further objects and advantages will become apparent from a study of the following description when taken in connection with the accompanying drawing, in which

35 Figure 1 is a perspective view of a vault with the bell and base sections slightly separated to illustrate a form of the invention;

40 Figure 2 is a fragmentary top view of an end section of the base of the vault shown in Figure 1, with a portion broken away to illustrate the locking mechanism;

45 Figure 3 is a sectional detail view taken substantially on a line 3—3 of Figure 2;

50 Figure 4 is a view similar to Figure 3, but illustrating another position of the locking element;

55 Figure 5 is a top plan view of the control member shown in Figure 2; and

Figure 6 is an end view of the control member in Figure 5.

The form of vault illustrated in Figure 1 comprises a base portion 10 and a bell or cover 12 having sides 14, ends 15 and a dome 16. The sides and ends are provided with the usual handles 17 for convenience in handling the bell or the assembled vault. The base 10 has an ele-

vated top portion 19 and slightly angularly disposed side and end portions 20 and 21, respectively, the lower marginal edges of which are flanged outwardly as at 22 to provide a support for the lower edges of the sides and ends of the bell 12. The bell and base are adapted to be automatically interlocked by means now to be described.

5 Adjacent each end of the sides 20 of the base are a pair of latch or lock elements 24, shown as comprising body portions 25 secured to the interior surfaces of sides 20 and the adjacent surface of the top 19, as by welding. The walls 20 are slotted as at 27, through which a movable latch element 28 projects to engage a catch plate 29 secured to the inner surface of the side wall 14 of the bell.

10 As particularly shown in Figures 3 and 4, element 28 is pivotally supported by the sides 30 of the lock body 25, by means such as a pin 32. Latch 28 is formed with a locking projection 33 and a generally arcuately formed cam portion 34, adjacent each of which are stops 35 and 36, respectively. Stop 35 limits the outward projection of lock portion 33 through slot 27, while stop 36 serves similarly to limit the movement of portion 34, the stops engaging the inner surface of wall 20 adjacent the ends of slot 27. A link member 38 is pivotally carried by the latch 28 and projects through an aperture 39 in the end of the body 25. Interposed between the body 25 and the latch 28, and surrounding the link 38 is an helical expansion spring 40. The pivotal points of the latch and link are arranged so that the spring produces a toggle action to hold the latch in either of two positions and permit the latch to be rocked into the opposite position, as hereinafter described. The cam portion 34 blends into the upper edge surface of the projection 33 so that the plate 29 may ride the entire surface, should the portion 34 be initially projected. When the projection 33 is in normal locking position, the cam surface is ineffective, as will be readily understood.

45 In order to manually manipulate the lock mechanism, each pair of locks 24 is provided with a central control means illustrated generally at 42, and comprising a base or anchor plate 43, welded or otherwise secured to the inner surface of the end 21 of base 10 intermediate the sides thereof. Pivotally carried by the plate 43, as at 45, is a control element 46 provided with oppositely extending actuating arms 47 and 48. To each arm is connected an operating 55

link 50, in turn connected to the opposite latches 28 adjacent the locking projections 33 thereof.

Figures 2 and 3 illustrate the locks and central control in locking position, from which it will be clear that in order to unlock the bell from the base, it is only necessary to move either of the actuating arms of the control to its opposite position. Thus, the arrangement is such that each pair of locks operates simultaneously. When the vault is in its normal position, it will be noted that the central control may be operated from the end by means of arm 47. However, such vaults are frequently stored on end, and in the event that it is desired to unlock the vault in such position, the other arm 48 is utilized. In order to permit such manipulation, the base plate 52 is pierced at 53 to provide an opening through which arm 48 is readily operable.

In Figures 1 and 4, the locking mechanism is shown in unlatched position. Should the bell be assembled with the base when the locks are so positioned, the catch plate 29 will ride down the cam portion 34, urging the latter inwardly, and due to the force of spring 40, move the latching projection 33 into operative position. As the plate 29 rides over the upper surface of the projection 33, the same is urged inwardly temporarily until the plate is below the catch plate, and spring 40 again urges the projection into locking position. Thus, it will be clear that irrespective of the position of the latch elements, assembly of the bell and base automatically effects the locking operation to secure the sections together. It is to be further noted, however, that the bell and base cannot be separated until the locks are unlocked by means of the central control means. Accordingly, a positive, automatic locking arrangement is provided which requires no attention on the part of the person assembling the vault, but requires manual manipulation to effect the unlocking of the vault sections.

It is to be understood that numerous changes in details of construction, arrangement and operation may be effected without departing from the spirit of the invention especially as defined in the appended claims.

What I claim is:

1. Locking means for vaults comprising a latch housing, a latch element pivotally mounted therein and having one edge formed to provide a cam face on one portion thereof and a latch projection on another portion of said edge, a slot in the housing through which said cam face and latch projection are adapted alternately to extend, a snap action spring arrangement in said housing in operative engagement with said latching element and holding the said element in positive latched or unlatched position, and means formed as an integral part of said latching ele-

ment adapted to engage said housing to limit the movement of the said latching element.

2. Locking means for a burial vault having a base and a bell adapted to be secured to the base, comprising a pair of latch elements pivotally mounted adjacent each end of the base, cooperating latch plates secured to the bell, said latch elements being interconnected for simultaneous manipulation, each of said latch elements having one edge formed to provide a cam face on one portion thereof and a latch projection on another portion of said edge, a slot in the said base provided for each of said latch elements through which the cam face and latch projection of the said latch elements are adapted alternately to extend for engagement with their respective latch plates, a snap action spring arrangement for each of said latches and in operative engagement therewith for holding the said latch elements in positive latched or unlatched position, and means formed as an integral part of said latching element to act as a stop limiting the movement of said element.

3. Locking means for a burial vault having a base, a top adapted to be secured to the base, comprising a plurality of locking members pivotally mounted in said base and having latching and unlatching positions adapted to automatically lock the top to the base, latch plates secured to said top for actuating said locking members from either of said positions, each of said locking members having an edge formed to provide a cam face on one portion thereof and a latch projection on another portion of said edge and so designed that when the latch projection is in unlatched position the cam face extends into the path of the latch plate for moving the said latch projection into latching position, a spring snap action arrangement for each of said locking members and in operative engagement with said members for holding them in latched or unlatched position, and means formed as an integral part of said locking members to act as stops limiting the movement of said members.

4. Locking means for vaults comprising a latch housing, a latch element pivotally mounted therein and having one edge formed to provide a cam face on one portion thereof and a latch projection on another portion of said edge, a slot in the housing through which said cam face and latch projection are adapted alternately to extend, a snap action spring arrangement in said housing in operative engagement with said latching element and holding the said element in positive latched or unlatched position, and projections formed integrally with said latch element for engagement with said housing to limit the movement of the said latch element.

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