

July 19, 1960

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2,945,281

DOUBLE ACTION LOCK FOR CASKETS

Filed Nov. 18, 1957

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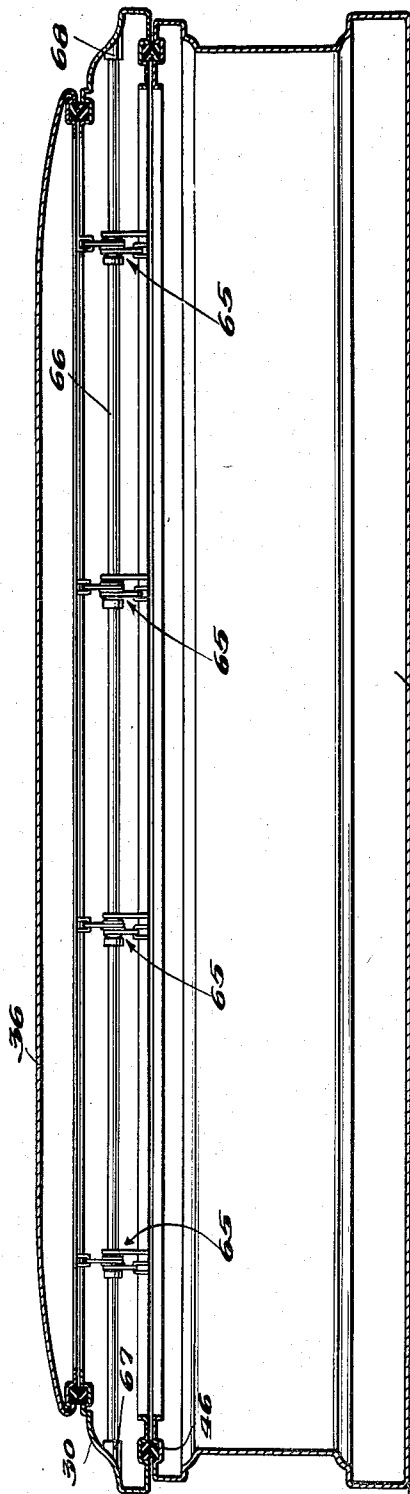
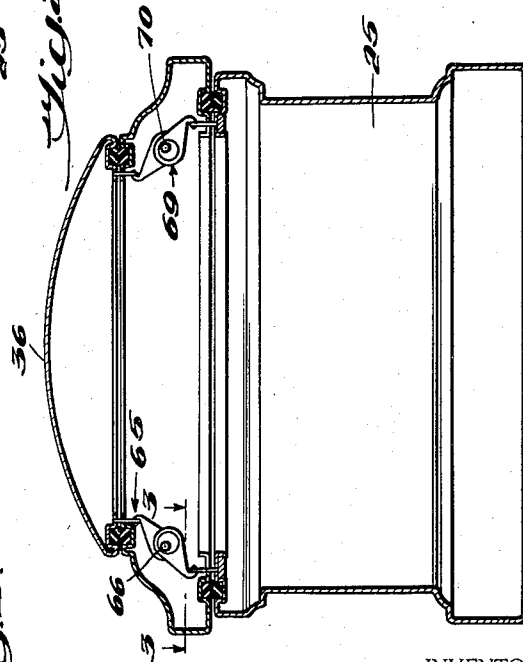


Fig. 1.

Fig. 2.



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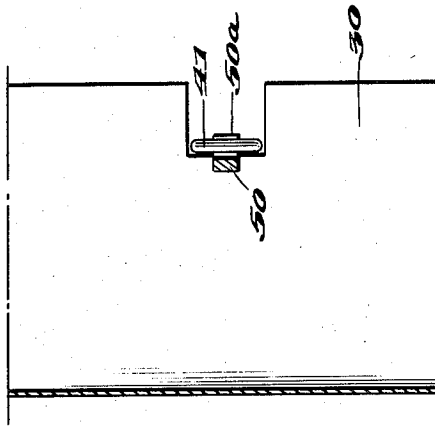


Fig. 3.

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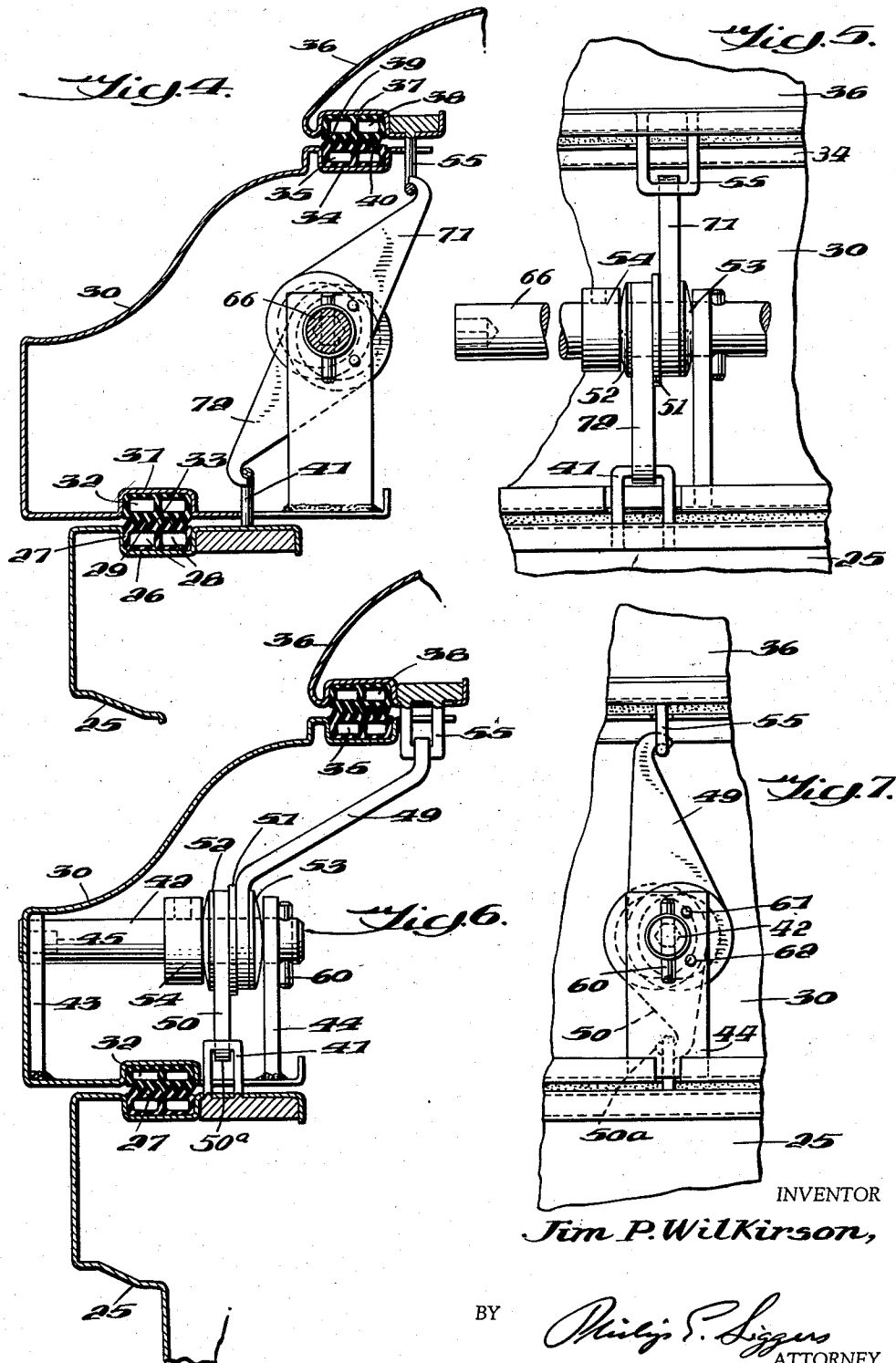
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Fig. 8.

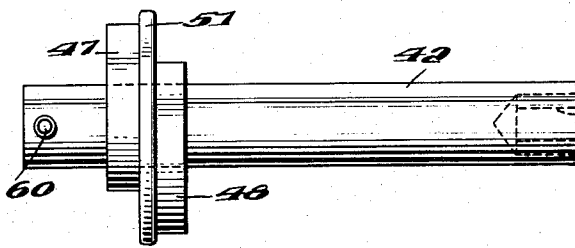


Fig. 9.

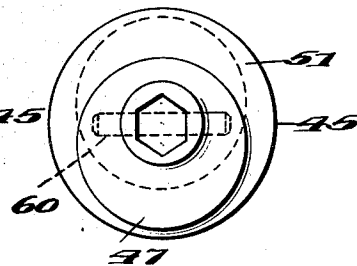


Fig. 10.

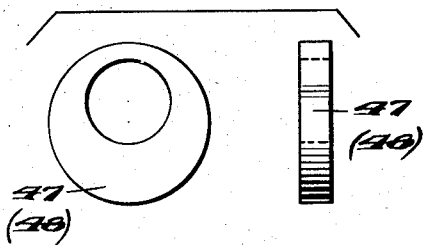


Fig. 11.

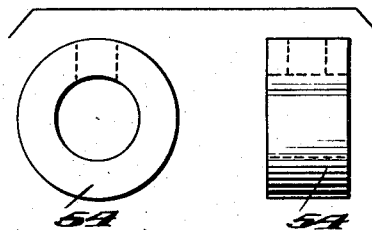
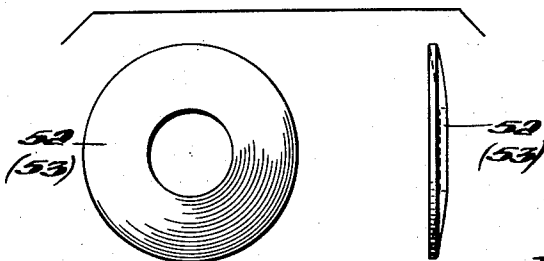


Fig. 12.



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DOUBLE ACTION LOCK FOR CASKETS

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10 Claims. (Cl. 27—17)

This invention relates to locking and sealing mechanisms for caskets, especially those caskets which have a body, a frame or molding mounted on top of the body, and a lid on top of the frame or molding. The invention aims to provide a simple but effective mechanism which not only locks the parts but tightens them against the seals provided at the joints, the action taking place in a single movement. Thus for the first time a mortician may quickly lock and seal caskets provided with moldings and lids, the old laborious tightening of a multiplicity of bolts or screws being entirely eliminated. The invention has further objects which will be understood from the following description of a preferred embodiment of the invention.

In the accompanying drawings forming a part of this specification,

Fig. 1 is a vertical longitudinal section through a casket equipped with an embodiment of the invention;

Fig. 2 is a vertical cross section through the same;

Fig. 3 is an enlarged section on line 3—3 of Fig. 2;

Fig. 4 is an enlarged fragmentary vertical section showing one of the latching mechanisms;

Fig. 5 is a fragmentary view in elevation showing the mechanism of Fig. 4;

Fig. 6 is a view like Fig. 4 but showing a slightly different form of the invention;

Fig. 7 is a fragmentary view in elevation showing the mechanism of Fig. 6;

Fig. 8 is a side elevation of the shaft and cam assembly in the form of Figs. 6 and 7;

Fig. 9 is an end elevation of the assembly of Fig. 8;

Fig. 10 is a composite view showing in front and side elevation one of the cams;

Fig. 11 is a composite view showing the set collar in front and side elevation;

Fig. 12 is a similar composite view of one of the spring tension washers.

Referring particularly to the drawings, the casket body 25, which is a metal shell open at the top, is provided with a continuous upwardly opening groove 26 extending around the upper edges of the casket on all four sides. A sealing strip or gasket 27 is received in groove 26 and is held therein by an adhesive, not shown. Seal 27 is made of a plastic composition which yields to pressure, and it has two or more air spaces or cavities 28 running longitudinally of the seal. The upper surface of seal 27 projects above the upper surfaces of the casket body and has longitudinally extending ridges or teeth 29. A rectangular open frame or molding 30 made of metal and finished to conform to the casket body rests on top of said body and has a groove 31 on its underside and a seal 32 secured therein, the seal 32 being like seal 27 and having complementary ridges or teeth 33 which intermesh with teeth 29 when the molding is firmly seated on the casket. On its upper side the molding has a groove 34 which extends around the four sides and receives a seal 35 that is like seals 27 and 32 except that its perimeter is smaller. A lid 36

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of sufficient size to cover the opening in the frame or molding has a groove 37 extending around all four sides on the underside, and a seal 38 is secured by an adhesive within groove 37 and has longitudinal teeth or ridges 39 which intermesh with teeth 40 on seal 35. Thus the three principal parts of the casket, the body, the molding, and the lid, are seated one on top of the other and have double seals or a "Dual-Seal" (trademark) at each of the two joints. Each double seal is compressible laterally due to the cavities that extend for its entire length. It will be clear that the casket 25 in order to be closed and securely sealed must have the molding tightened against the body of the casket and must have the lid tightened against the molding, with consequent compression of both the double seals. The mechanism now to be described is particularly designed to draw together, lock and seal the three principal parts of the casket by a single movement, under the control of one operator.

Fixed to the upper marginal portion of the casket, at both the front and rear (when there are no hinges), are a series of inverted U-shaped latch keepers 41 which project upwardly. There are as many latch keepers 41 as there are latching mechanisms. In one form of the invention, four latching mechanisms are provided at the front and four at the rear. In the form of the invention shown in Figs. 6 and 7, each latching mechanism further includes a short shaft 42 rotatably supported by plates 43, 44 on the inside of molding 30, and extending to the outside of the molding, where its exposed end presents a hexagonal socket 45 for receiving the hexagonal end of a hand crank, not shown, thus permitting the operator to turn each shaft 42 on its axis. Fixed to each shaft 42 are a pair of eccentric cams 47, 48, shown in Figs. 8-10, the cams being so disposed that their "throw" or eccentricity is on opposite sides of the shaft or 180° apart. A pair of hook-like latch members 49, 50 fit over the circular peripheries of the eccentric cams; thus the inner ends of the latches provide bearings in which the cams may rotate when the latches are held against turning. A flat washer 51 on the shaft spaces the latch members apart. A spring tension washer 53 is interposed between the supporting plate 44 and latch 49 and another spring tension washer 52 is interposed between latch 50 and a set collar 54 which is fixed to the shaft by a set screw, not shown. If preferred, set collar 54 could be secured to the shaft by screw threads, not shown, with a set screw to hold the adjustment. The set collar imposes a thrust on the spring tension washers 52, 53 on the shaft, and this thrust is transmitted to the side faces of the inner ends of the latches 49, 50. Thus the latches are held to the shaft by a resilient, yielding, frictional clutch.

The downwardly extending latches 50 have hook-like extremities 50a which engage the U-shaped latch keepers 41 projecting upwardly from the casket body. The upwardly extending latches 49 (which are angularly bent for the purpose) engage keepers 55 projecting downwardly from the lid 36 and fixed thereto. When a shaft 42 is turned by a crank, the latches 49, 50 that are frictionally clutched to it will turn with it until their hook-like extremities encounter the keepers 55, 41 respectively, when further swinging of the latches is arrested. However, the shaft is not prevented from turning, and as it turns further, the cams that are fixed to it will rotate in the bearings in the latches, which forces the latch ends to move toward the axis of the shaft. As the "throw" of the cams is about ¼ inch, the maximum movement possible for each latch is ¼ inch; but actually a movement of each latch about ⅛ inch is usually all that is necessary to pull the casket parts together and compress the seals sufficiently. Rotation of the shaft is stopped in either direction by a cross-pin 60 fixed to the shaft

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at its inner end and extending radially outwardly and engaging either of two stop pins 61, 62 fixed to a support plate 44. This is desirable to prevent an operator unfamiliar with the mechanism from unlatching and hence unsealing the casket by excessive movement of the shafts.

It is clear from the foregoing that by a single movement, a partial turn of a shaft, easily controlled by a crank, a double action takes place at two joints, thus locking and sealing a lid to a molding and a molding to a casket body. The seals are of a nature to provide more than ordinary security, as they are double seals, intermeshing, laterally compressed, plastic bodies which cannot oxidize or deteriorate.

The above described mechanism has one drawback, namely, that each set of latches must be operated individually, and when there are eight assemblies, four in front and four in the rear, eight latching operations must be performed to lock and seal the casket at all points.

In the form of Figs. 1-5, the four latching mechanisms 65 at the front are all operated simultaneously by turning a single longitudinally extending shaft 66 journaled at its ends in bearings 67, 68 provided in the molding 30 and having a hexagonal end to permit turning by a hand crank (not shown) operated from outside the casket. Likewise the four similar latching assemblies 69 at the rear of the casket are operated from a single longitudinal shaft 70. The upper latch 71 does not have the angular shape necessary for the upper latch 49 (Fig. 6) but the lower latch 72 is about the same as latch 50. The latches, cams and stops operate in the same manner as in the form of Figs. 6 and 7.

The described mechanism is readily adaptable for use with a "half view" casket, having a hinged lid extending for one half the length of the casket, the foot end of which is closed by a top wall permanently secured to the casket body. Such a casket will necessarily have a gasket extending transversely to make a seal with the end wall of the hinged lid.

All the parts named in the specification may take several forms and may be otherwise arranged to meet the conditions imposed by the design of the casket and I do not wish to be limited by the foregoing description, which is purely illustrative.

What I claim is:

1. In a casket having a body, an open molding removably supported on the top edges of the body, and a lid removably supported on said molding to close the opening therein; plastic sealing means fixed to the top edges of said body; a second plastic sealing means fixed to the under edges of the molding and contacting the first-named plastic sealing means; a third plastic sealing means fixed to the upper edges of the molding; a fourth plastic sealing means fixed to the under edges of said lid and contacting said third plastic sealing means; all four of said sealing means being compressible vertically; and latch means located inside the casket but operable from outside the casket to simultaneously latch the lid to the molding and the molding to the casket body; said latch means including pairs of swingable latches each of which is carried inside said molding, and keepers fixed to the lid and body respectively and engaged individually by the latches to draw the lid down upon the molding and the molding down upon the body, with all of said sealing means compressed to make a secure seal for the casket.

2. In a casket having at least three parts that are to be locked together, namely, a body, a molding removably supported on the upper edges of the body, and a lid removably supported on the upper edges of said molding; a plastic seal interposed between the body and the molding; another plastic seal interposed between the lid and the molding; and a plurality of simultaneously operable latching mechanisms for closing and locking said three parts of the casket; each of said latching mechanisms including a pair of swingable latches operatively mounted on said molding, a pair of keepers fixed respectively to

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the body at the upper edge and to the underside of the lid, and operator-actuated means to swing each pair of latches to engage respectively said two keepers, so that by a single movement of the latches all three parts, viz., the body, the molding and the lid, are locked and sealed.

3. The invention defined in claim 2, wherein the swingable latches are supported on a shaft located between said keepers and rotatably mounted on said molding; one end of said shaft extending outside the molding and having means by which the shaft may be turned on its axis; the latches after engaging the keepers locking the lid on the molding and simultaneously locking the molding on the casket body.

4. The invention defined in claim 2, wherein each pair of swingable latches are supported on a shaft rotatably mounted on the molding and extend in substantially opposite directions from said shaft; a pair of cams are fixed to said shaft and are interposed between the shaft and bearing surfaces provided on said latches; and frictional clutch means are carried on said shaft and bear against said latches to yieldingly secure each latch to said shaft, said clutch means slipping to permit the cams to move relative to the latch bearing surfaces when the latches have engaged the keepers and cannot swing.

5. The invention defined in claim 4, wherein the outer ends of the latches have hooks for engaging and holding onto the keepers after engagement; the inner ends of the latches having the aforesaid bearing surfaces which are circular and surround said cams, the cams being eccentrics and having their "throw" on opposite sides of the shaft about 180° apart.

6. In a casket, the combination of a casket body; a molding supported on top of the casket body; a lid supported on top of and closing the molding; a shaft; shaft-supporting means fixed upon the molding; means on the shaft whereby it may be turned on its axis by manual power; a pair of latch members carried by said shaft and extending outwardly therefrom in generally opposite directions; a pair of keepers engageable by said latches, respectively, one keeper being fixed to the casket, the other keeper being fixed to the lid; a pair of eccentric cams fixed to said shaft, the eccentricity of said cams being 180° apart; each latch member having a circular opening providing a bearing surface that surrounds and may freely turn on the periphery of one of said eccentric cams; yielding resilient means carried on said shaft and exerting frictional pressure on said latch members so that the latch members will move with the turning shaft unless prevented by contact with the fixed keepers; and co-operating means on the shaft and shaft-supporting means to stop turning of said shaft after a predetermined angular movement in either direction.

7. The invention defined in claim 6, wherein the means on the shaft permitting manual turning consists of a hexagonal socket in the shaft end into which a crank with a hexagonal end may be fitted; and the yielding resilient means consists of a pair of spring washers mounted on the shaft and frictionally holding the latches, a set collar fixed to the shaft imposing adjustable lateral pressure on said spring washers.

8. The invention defined in claim 6, wherein the co-operating means consists of a pair of pins fixed to the shaft and extending radially outwardly therefrom in substantially opposite directions, and a pair of stop pins fixed to the shaft-supporting means and projecting outwardly therefrom in such positions as to be engageable by the respective shaft-fixed pins when the shaft is turned in opposite directions.

9. The invention defined in claim 6, wherein said yielding resilient means consists of a pair of spring washers mounted on the shaft and frictionally holding the latches one of the washers directly engaging one latch, the other washer directly engaging the other latch, the two latches being close together; a set collar fixed to the shaft in adjustable positions and directly engaging the

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first mentioned washer to thrust it against the first mentioned latch; the shaft being journaled in a support fixed to said molding; the second mentioned washer being interposed between said support and the second mentioned latch; and said co-operating means consists of a pair of pins fixed to the shaft and extending radially outwardly therefrom in substantially opposite directions, and a pair of stop pins fixed to the shaft-supporting means and projecting outwardly therefrom in such positions as to be engageable by the respective shaft-fixed pins when the shaft is turned in opposite directions.

10. In a casket having a body, a molding removably supported on the upper edges of the body, and a lid removably supported on the upper edges of said molding; plastic sealing means interposed between the lid and the molding; other plastic sealing means interposed between the body and the molding; a plurality of operator-actuated latching mechanisms constructed and arranged to draw down and lock the lid to the molding and the molding to the body, said drawing down compressing both said plastic sealing means to make a tight seal for the casket; each of said latching mechanisms including a pair of keepers secured to the lid and casket body, respectively, a rotary

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shaft, a pair of keeper-engaging latches mounted on the shaft and extending in opposite directions from the shaft axis, and a pair of cams fixed to the shaft so that the throw of the cams is opposite, one latch of the pair being mounted on one cam, the other latch of the pair being mounted on the other cam, the latch mountings being such as to permit the cams to turn inside the latches, and yielding clutch means arranged to force the latches to turn with the shaft until the latches engage said keepers, whereupon the clutch means slip.

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