Feb. 18, 1930. J. R. EMMERT 1,747,505

LATCHING MECHANISM FOR BARBER CHAIRS

Filed Jan. 17, 1929

Fig. 1

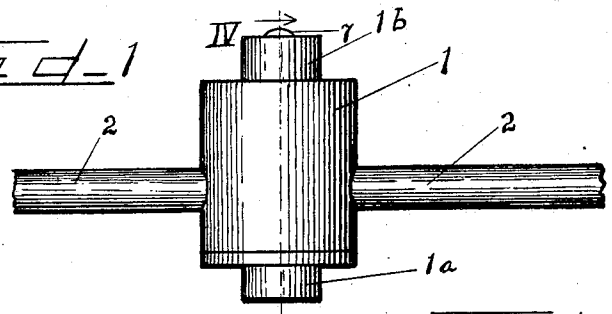


Fig. 2

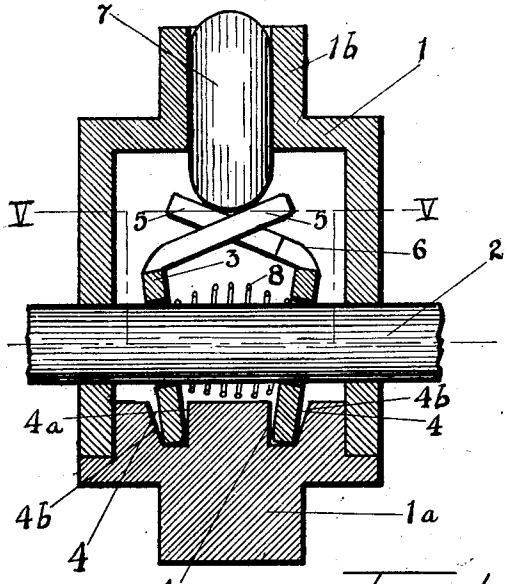


Fig. 3

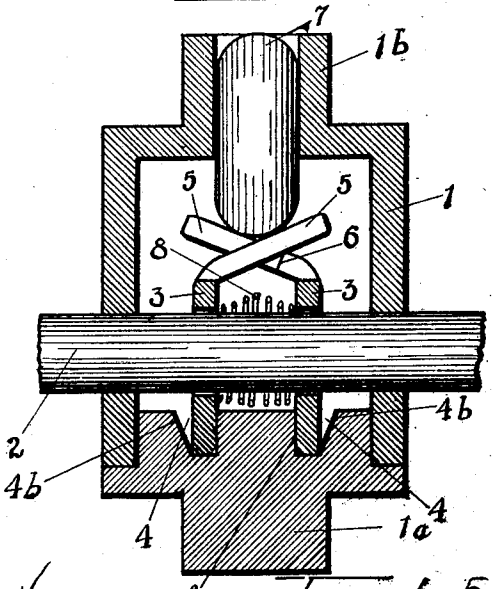


Fig. 4

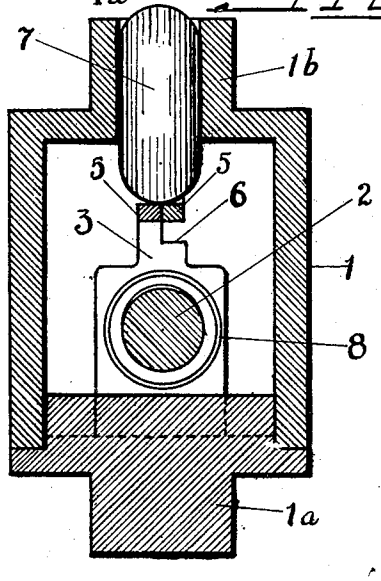
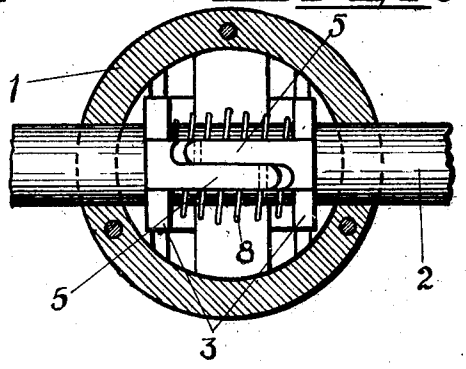


Fig. 5



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Patented Feb. 18, 1930 1,747,505

UNITED STATES PATENT OFFICE

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LATCHING MECHANISM FOR BARBER CHAIRS

Application filed January 17, 1929. Serial No. 333,200.

This invention relates to a latching mechanism for barber chairs but susceptible for other uses.

It is an object of this invention to provide a simple mechanism of the character stated in combination with a plunger for operating the latching mechanism for unlatching the element that is latched thereby.

The invention comprises the novel structure and combination of parts hereinafter described and more particularly pointed out and defined in the appended claims.

In the accompanying drawings which illustrate a preferred form of this invention and in which similar reference numerals refer to similar features in the different views:

Figure 1 is an elevational view of a housing in which an element is latched according to this invention.

Figure 2 is a longitudinal section in a vertical plane through said housing illustrating the latching mechanism in its operative position.

Figure 3 is a view similar to Figure 2 illustrating the operating plunger in its lowest position and the latches in their inoperative position.

Figure 4 is an enlarged sectional view taken upon the line IV—IV of Figure 1.

Figure 5 is a sectional view taken upon the line V—V of Figure 2, illustrating the latches in top plan view.

In connection with the illustration of this invention, there is shown a cylindrical housing 1 which has an opened neck portion 1^b and a removable plug 1^a at the opposite end. The housing is radially apertured to provide bearings for a shaft 2 which extends through the housing. A pair of cooperating latches 3 surround the shaft 2 within the housing 1. Each latch consists of a metal plate having an aperture for receiving the shaft 2 and having an upper inclined portion. Each plate projects below its shaft and the projecting portion of each latch is seated in a groove 4 which is located in the plug 1^a. In referring to Figures 2 and 3, it will be observed that the inner walls of grooves 4 are vertical. The outer walls of the grooves are outwardly inclined walls whereby the latches may assume an outwardly inclined position as shown in Figure 2 for frictionally engaging the shaft 2 and anchoring the same against longitudinal movement. The upper inclined portions of the latches 3 are in the form of narrow arms 5 which cross each other as shown in Figures 2 and 3. These arms 5 are provided with limiting shoulders 6. The shoulder on one arm is adapted to be engaged by the other arm when the same are in unlatching position as shown in Figure 3, whereby the shaft 2 may be moved longitudinally through the housing 1. It will be noted that these shoulders 6 limit the movement of the latches towards each other and prevent the same from passing toward each other beyond a vertical plane and thus prevent frictional engagement in a reverse direction.

The open neck 1^b of the housing slidably retains a plunger 7 which has a rounded lower end which is adapted for fitting the angle that is formed between the two cross arms 5 of the latch plates 3. When the plunger 7 is depressed as shown in Figure 3, it will move the two latch plates 3 from the inclined latching position shown in Figure 2 to a true vertical unlatching position as shown in Figure 3. When the pressure upon the plunger 7 is released, the two latch plates 3 will be automatically separated and move to the inclined position shown in Figure 2 by means of a coiled spring 8 which is located around the shaft 2 and between the two latch plates.

From the foregoing disclosure and description, it will be apparent that a very simple and efficient latching mechanism has been provided for readily controlling the sliding movement of an element. In addition, the latching mechanism is always reliable in that it will always lock the shaft against movement in inclined position and release the shaft from any frictional engagement in vertical position. This is due to the fact that the two latch members cannot be inclined toward each other to exercise a frictional breaking action upon the shaft on account of the shoulders 6 upon the arms 5 of the latching mechanism.

1 am aware that many changes may be made, and numerous details of construction

may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted hereon, otherwise than necessitated by the prior art.

I claim as my invention:

1. A latching mechanism comprising a housing, an element slidable in said housing, said housing having a pair of grooves, a pair of latch plates mounted upon said element and extending into said grooves, said latch plates having portions that cross each other, a spring between said latch plates and a plunger mounted in said housing for engaging the crossed portions of said latch plates.

2. The combination with a slidable element to be latched, of a pair of latch members slidably mounted upon said element, means for anchoring one of the ends of each latch member, said latch members having portions that cross each other and a slidable plug for engaging the crossed portions of said latching members.

3. The combination with a slidable element, of means for latching said slidable element against movement comprising a pair of latch members mounted upon said element, yielding means tending to separate said latch members, said latch members having oppositely directed inclined arms that cross each other, each inclined arm having a shoulder for coaction with the other inclined arm and a slidable plunger for engaging the crossed arms of said latch members.

4. In a latching mechanism, a housing, a slidable element extending through said housing, a pair of latching members mounted upon said element and having their terminals extending therebeyond, means for anchoring said terminals for angular movement, the other terminals of said latching members consisting of reduced parts crossing each other, each reduced part having a shoulder for engaging the other reduced part, said housing having a bearing and a plunger slidably mounted in said bearing for engaging the crossed parts of said latching members.

In testimony whereof I have hereunto subscribed my name at Chicago, Cook County, Illinois.

JOHN R. EMMERT.