

T. DOLL.
FURNITURE CASTER.
APPLICATION FILED JULY 6, 1911.

1,009,388.

Patented Nov. 21, 1911

Fig. 1.

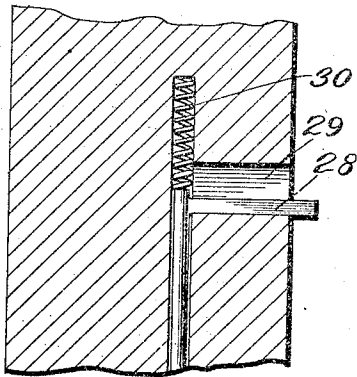


Fig. 2.

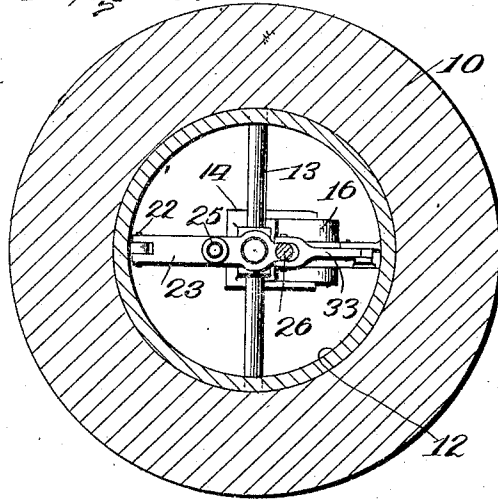
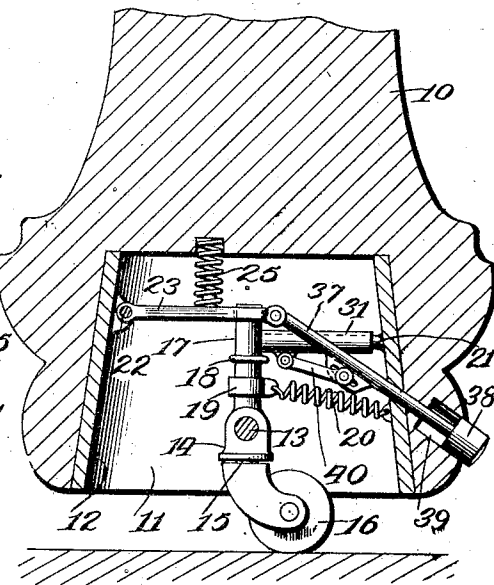
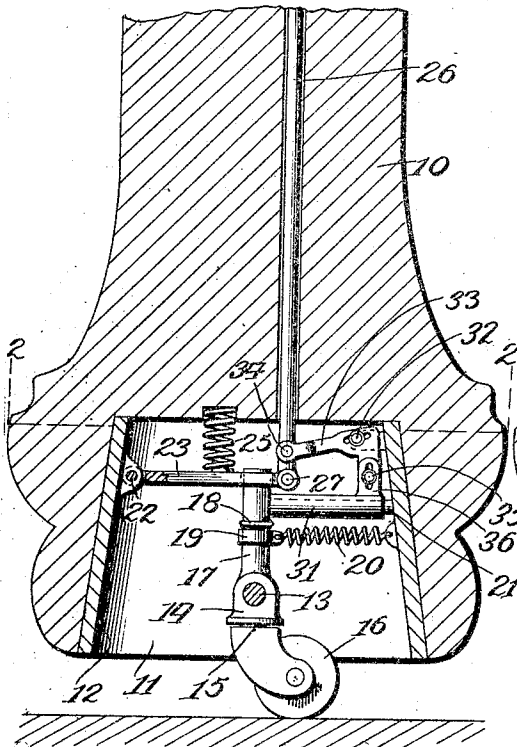


Fig. 3.



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UNITED STATES PATENT OFFICE.

THEODORE DOLL, OF NORA SPRINGS, IOWA.

FURNITURE-CASTER.

1,009,388.

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To all whom it may concern:

Be it known that I, THEODORE DOLL, citizen of the United States, residing at Nora Springs, in the county of Floyd and State of Iowa, have invented certain new and useful Improvements in Furniture-Casters, of which the following is a specification.

This invention relates to improvements in furniture casters of the class wherein provision is made for withdrawing the caster when not in use, and has for one of its objects to simplify and improve the construction and increase the efficiency and utility of devices of this character.

Another object of the invention is to provide a device of this character wherein the actuating mechanism is concealed from view so that the attachment does not present any different appearance from an ordinary caster.

Another object of the invention is to provide a device of this character wherein the caster is automatically disposed in operative position by merely lifting the article of furniture.

With these and other objects in view, the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claims.

The improved device may be applied to any of the various articles of furniture upon which casters are employed, such as tables, chairs, desks, couches, pianos, organs, bedsteads and the like, and it is not desired therefore to limit the invention to any specific article of furniture to which it may be applied, or to any specific form of the caster.

For the purpose of illustration the improved device is shown applied to a conventional table leg, and in the drawings thus employed: Figure 1 is a sectional elevation of a conventional table leg with the improvement applied; Fig. 2 is a section on the line 2-2 of Fig. 1; Fig. 3 is a view similar to Fig. 1 illustrating a modification in the construction.

The table leg is represented conventionally at 10 and is provided with a relatively large cavity indicated at 11 in its lower end, the cavity being preferably lined with a metal casing 12. The casing 12 will be preferably employed as the strength of the device is thereby materially increased, but it

will be understood that the casing is not an essential feature of the invention. When the casing is employed the operating mechanism and the caster supports will be attached to the casing, and in the drawings are shown thus arranged.

Extending transversely within the casing 12 is a shaft 13 upon which the caster frame 14 of approved design, is mounted to rotate vertically, and provided with the usual caster wheel 16 the caster being swiveled at 15. Projecting upwardly from the caster frame is a shank 17 having a stop collar 18 intermediate its ends and surrounded by a sliding collar or sleeve 19 between the stop collar and the shaft 13. A spring 20 is connected to the sliding sleeve 19 at one end and with the other end connected to the casing 12, and projecting from the casing 12 is a rod 21 against which the spring 20 holds the shank 17 normally in its vertical position as shown in full lines in Fig. 1. Mounted to swing at 22 to the casing 12 is an arm 23 having an aperture through which the upper end of the shank 17 projects when the arm is in its downward position, the arm being maintained yieldably in its downward position by a relatively heavy spring 25.

The table leg 10 is provided with a longitudinal bore through which a rod 26 extends and is pivoted at its lower end at 27 to the arm 23 and is provided at its upper end with a lateral extension 28 which extends through a vertical slot 29 in the leg 10. The outer end of the extension 28 projects to a sufficient extent beyond the outer surface of the leg to enable it to be employed as a means for forcing the rod 26 upwardly. A spring 30 is arranged to bear downward upon the rod 26 and maintain it in its downward position and thus assist the spring 25. Surrounding the stop rod 21 is a sleeve 31 slidable upon the rod and bearing at its inner end constantly against the shank 17 of the caster wheel frame. Pivoted at 32, is an elbow lever 33, the latter pivoted at 34 at one end to the rod 26 and pivoted at 35 at its other end to a lug or projection 36 extending from the sleeve 31. The elbow lever is formed with a slot where the pivot 32 passes through, while the lug 36 is likewise slotted to permit the necessary "play" or lost motion between the parts. By this simple arrangement it will be obvious that

when the shank 17 is arranged in its upward position and engaged by the arm 23, the caster will be maintained in its downward or projected position and thus support the table upon the caster, the casters thus operating in the ordinary manner when the article of furniture is moved from place to place. When it is desired to withdraw the casters the operator moves the rod 26 by means of the projection 28 thus elevating the arm 23 free from the upper end of the shank 17 and thus release the latter. This same upward movement of the rod 26 actuates the elbow lever 33 and forces the sleeve 31 inwardly against the shank 17 and throws the latter over beyond the center of gravity and against the resistance of the spring 20, which movement will cause the weight of the table to throw the caster upwardly into its inoperative position and entirely within the casing 12 and enable the table to bear directly upon the floor, the casters thus becoming inoperative. Each of the casters will be actuated in the same manner, as will be understood. When it is desired to restore the casters to operative position it is only necessary to elevate the article of furniture slightly, when the reaction of the spring 20 will immediately throw the shanks 17 into their vertical position and engage them again with the arms 23 and thus automatically "set" the casters in their operative position.

In Fig. 3, a slight modification of the construction is shown consisting in dispensing with the rod 26 and the projection 28 and employing a shorter rod 37 which is projected in a downward and outwardly inclined position and provided with a push button 38 at its outer end, the latter operating in a small cavity 39 in the table leg 10 near the bottom. The sleeve 31 is connected to the rod 37 by a pivoted link 40 so that when the rod 37 is pushed inwardly by pressure applied to the button 38, the arm 23 will be elevated in the same manner as by the device shown in Fig. 1 and at the same time the sleeve 31 is moved inwardly to throw the shank 17 over to a sufficient extent to permit the weight of the article of furniture to cause the withdrawal of the casters. The operation of the two forms is substantially the same and the results produced are precisely the same, as will be obvious.

The improved device is simple in construction, can be manufactured of any suitable material, and any suitable size, and readily adaptable, without material structural changes, to different articles of furniture, and is applicable to any of the various forms of casters now in use.

What I claim is:—

1. A device of the class described comprising a frame carrying a caster and mounted

to swing and adapted to be attached to an article of furniture, a locking device engaging said frame, a spring connected to said frame and exerting its force to maintain the same with the caster yieldably in projected position, and means for releasing said locking device.

2. A device of the class described comprising a frame carrying a caster and mounted to swing and adapted to be attached to an article of furniture, a locking device engaging said frame, means for releasing said locking device, a spring connected to said frame and exerting its force to maintain the same with its caster yieldably in projected position, and means operative by the lock-releasing means for moving said frame against the resistance of said spring.

3. A device of the class described comprising a frame carrying a caster said frame mounted to swing and adapted to be attached to an article of furniture, a locking device engaging said frame, means for releasing said locking device, a spring connected to said frame and exerting its force to maintain the same with its caster yieldably in projected position, a member movable against said frame, and connecting means between the lock-releasing means and the movable member.

4. A device of the class described comprising a frame carrying a caster and mounted to swing and adapted to be attached to an article of furniture, a shank projecting from said frame, a locking device engaging said shank, a spring connected to said frame and exerting its force to maintain the same with its caster in projected position, a stop against which said shank engages, a sleeve slidable upon said stop, means for releasing said locking device, and connecting means between the lock-releasing means and the sleeve.

5. A device of the class described comprising a frame carrying a caster and adapted to be attached to an article of furniture, a locking device arranged to engage said frame, an operating rod connected to said locking device, a member movable against said frame, and connecting means between said rod and movable member, said connecting means being arranged to move independently of the rod to permit the locking means to be released in advance of the movement of the movable member.

6. A device of the class described comprising a casing adapted to be connected to an article of furniture, a frame including a projecting shank and carrying a caster and movably connected to said casing, a locking device swinging from said casing and engaging said shank, a spring connected to said shank and operating to maintain the frame with its caster in projected position, an operating rod connected to said locking

device, a member movable against said shank, and connecting means between said rod and said movable member.

5 7. A device of the class described comprising a casing adapted to be connected to an article of furniture, a frame including a projecting shank and carrying a caster and movably connected to said casing, a locking device swinging from said casing and engaging said shank, a stop within said casing, a spring connected to said shank and operating to maintain said shank yieldably against said stop, an operating rod connected to said locking device, a member movable against said shank, and connecting means between said rod and said movable member.

8. A device of the class described comprising a casing adapted to be connected to an article of furniture, a frame including a projecting shank and carrying a caster and movably connected to said casing, a locking device swinging upon said casing and engaging said shank, a stop within said casing, a collar slidable upon said shank, a spring connected between said collar and casing and operating to hold said shank against said stop and to hold the caster in projected position, an operating rod connected to said locking device, a member

movable against said shank, and connecting means between said rod and said movable member.

9. A device of the class described comprising a casing adapted to be connected to an article of furniture, a frame including a projecting shank and carrying a caster and movably connected to said casing, a locking device swinging upon said casing and engaging said shank, an operating rod connected to said locking device, a stop within said casing, a collar slidable upon said shank, a spring connected between said collar and casing and operating to hold said shank against said stop and to hold the caster in projected position, a sleeve slidable on said stop, and connecting means between said sleeve and rod, said connecting means being arranged to move independently of the rod to permit the locking means to be released in advance of the movement of the movable member.

In testimony whereof, I affix my signature in presence of two witnesses.

THEODORE DOLL. [L. S.]

Witnesses:

KAROLINE B. DOLL,
LUELLA A. MOODY.