(No Model.)

L. B. DENTON.

CASTER.

No. 525,806. Patented Sept. 11, 1894.

Fig. 1.

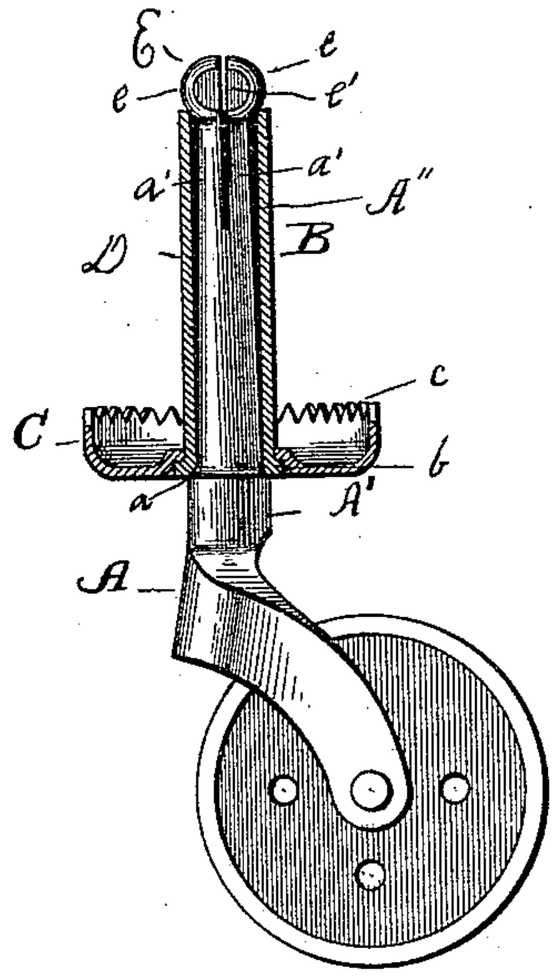
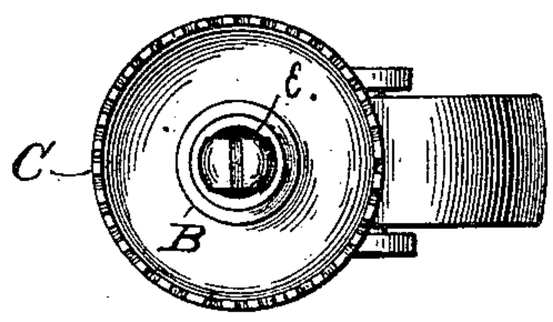


Fig. 2.



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UNITED STATES PATENT OFFICE.

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CASTER.

SPECIFICATION forming part of Letters Patent No. 525,806, dated September 11, 1894.

Application filed July 18, 1893. Serial No. 480,816. (No model.)

To all whom it may concern:

Be it known that I, LEMI B. DENTON, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Caster Attachments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in caster attachments for use in connection with tables, beds, chairs and the like, and it consists in an improved form of caster particularly distinguished by the form of the head of the spindle which is used, which will be hereinafter fully described and particularly pointed out in the claim.

The object of my invention is to provide a caster attachment which can be readily and easily attached to and detached from articles of furniture, which will be strong, durable and inexpensive, and which will be so constructed as to render it impossible for the caster to drop out while the piece of furniture to which it is attached is being moved from one place to another.

Heretofore casters have been made which make use of a cylindrical socket, which is inserted into the legs of the article of furniture to which it is desired to attach the caster; and the caster itself has been formed with a more or less cylindrical spindle, which is inserted into the socket and there held. Among the means which have been devised for holding the spindle in place is that of forming the end of the spindle with a bulbous head, and slitting the end of the spindle a short distance down, thus securing a spring pressure of the semi-bulbous heads against the sides of the socket; or in case the spindle is long enough to permit the semi-bulbous heads to be inserted beyond the end of the socket, to cause the said heads to spring outward and strike against the end of the socket. Both of these constructions have been found to be objectionable because of the insecurity of the holding effect thus produced, and because, to secure any holding effect at all, it is necessary to slit the head of the spindle two or three times, and thus to materially weaken the same and diminish its durability.

In accomplishing the above stated object of my invention I make use, in accordance with the prior art, of a cylindrical socket, and mount the caster wheel upon a bifurcated hanger, from the top of which projects a spindle of a length a little greater than the socket which I use, having a bulbous head slitted down from its end a short distance; but I obviate the difficulty which has hitherto been present of providing means for holding the spindle in place, which will render it impossible for the caster to drop out while the piece of furniture to which it is attached is being moved from one place to another, by flattening the bulbous head on a plane at right angles to the plane of the slit. The increased spring power gained by thus forming the bulbous head will be hereinafter fully considered, but it may here be briefly stated, that it arises from the fact that on account of the form of the head of the spindle, it is not necessary to limit the size of the bulbous head by the diameter of the spindle socket, but by the diameter of the head on the plane transverse to the plane of bifurcation.

My invention is fully represented in the drawings which accompany and form a part of this application, in which the same reference letters refer to the same or corresponding parts, and in which—

Figure 1 is a side elevation of my caster attachment, the socket carrying the spindle and the supporting ferrule being shown in section. Fig. 2 is a top plan view of my caster attachment, showing the divided head of the spindle, the flattened sides of the separate parts of the same, and the supporting upturned flange with serrated edge.

Referring to the drawings, and first to Fig. 1, A represents the bifurcated hanger which carries the caster wheel, part of which is formed into an upwardly extending spindle. A′, the body of the spindle which is above the hanger proper, is provided with the shoulder *a*, against which the lower end of the socket B rests.

A″ is the upper end of the spindle, and as shown it is slightly tapering until it termi-

nates with the bulbous head E. This upper end of the spindle is slitted vertically for a portion of its length, forming the semi-bulbous heads *e e* and the branches *a' a'*. Transverse to the plane of bifurcation, the semi-bulbous heads are flattened, forming the flattened sides *e'* and *e'*. As it is in thus forming the head of the spindle that my invention resides, I will now describe specifically the reason therefor, and the effects thereof, first mentioning that the cylindrical socket B, (which is of any required length and diameter, is open at both ends, and has formed on its lower end the flange *b*, which supports the upturned flange C, having a serrated edge,) is inserted into the leg of the article of furniture to which it is desired to attach the caster.

As will be seen in the drawings, the spindle is somewhat longer than the cylindrical socket B, the greater length being equal to the length of the bulbous head of the said spindle. The aperture in the leg or standard of the article of furniture must also be made somewhat longer or deeper than the length of the socket B, so that the head E of the spindle may have free movement. When the caster is to be attached to the piece of furniture, the spindle is inserted in the socket B, until the bulbous head of the same passes the upper or inner end of said socket, which will be indicated by a snapping sound. The increased spring holding effect thus obtained may best be understood by referring to the present construction of caster, and then by comparing with such construction my improved construction.

According to the present construction of caster, in which the end of the spindle is made bulbous, and is slitted vertically two or more times, it is impossible to insert into the cylindrical socket a head larger than the inner diameter of said socket. If, therefore, the semi-bulbous heads are formed without the flattened sides, the diameter of the upper end of the spindle is determined by the diameter of the same on the plane of bifurcation. The spring effect obtained by such bifurcation would be very small, and it would be necessary to have the upper end of said spindle fit very closely to the socket into which it is to be inserted, in order that the caster may be held in position when finally in place. If, however, the semi-bulbous heads be flattened on a plane transverse to the plane of bifurcation, as is the case in my construction, the diameter of the head on the plane of bifurcation may be disregarded, and care need only be taken to make the diameter on the plane of the flattened sides sufficiently less than the inner diameter of the socket to insure an easy entrance of the spindle. The diameter of the bulbous head may be chosen so large that it will be necessary to spring together the two bifurcated portions of the same in order to secure its insertion into the socket. The holding effect thus obtained is very positive. The head of the spindle, divided and flattened as described, springing out and resting upon the upper end of the socket, forms a sufficient bearing to hold the caster wheel in place while the article of furniture to which it is attached is raised, or is being taken from one place to another. The spindle itself has a free movement, and can be readily and easily inserted into and detached from the leg of the article of furniture.

It is to be noted that in the construction thus described,—and this is an important feature of my invention,—the spindle is not materially weakened, nor is the resiliency of its separate branches affected.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a caster-attachment, the combination with the socket, of a spindle having an enlarged head, flattened upon two opposite sides, and slitted vertically at right angles to said flattened sides, substantially as described.

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

LEMI B. DENTON.

Witnesses:
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