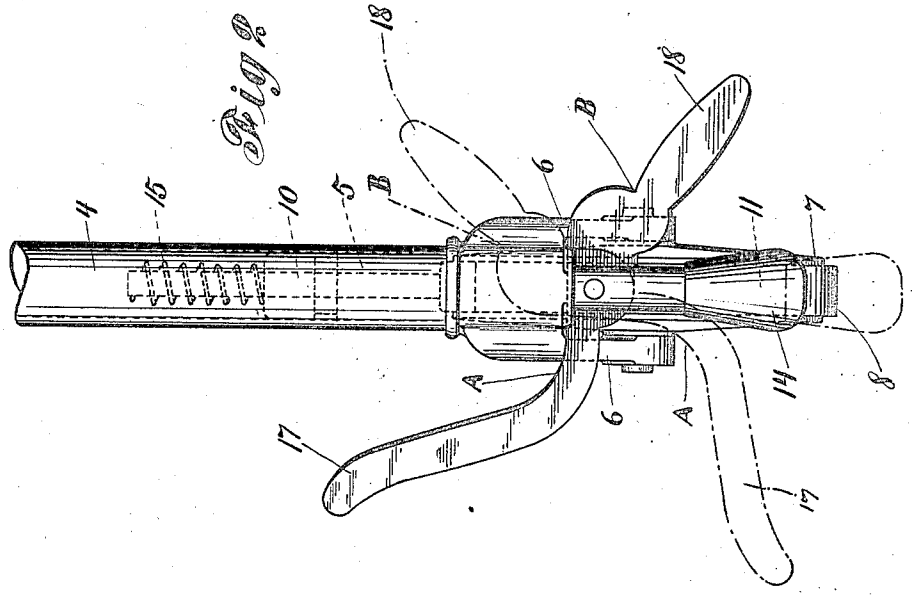
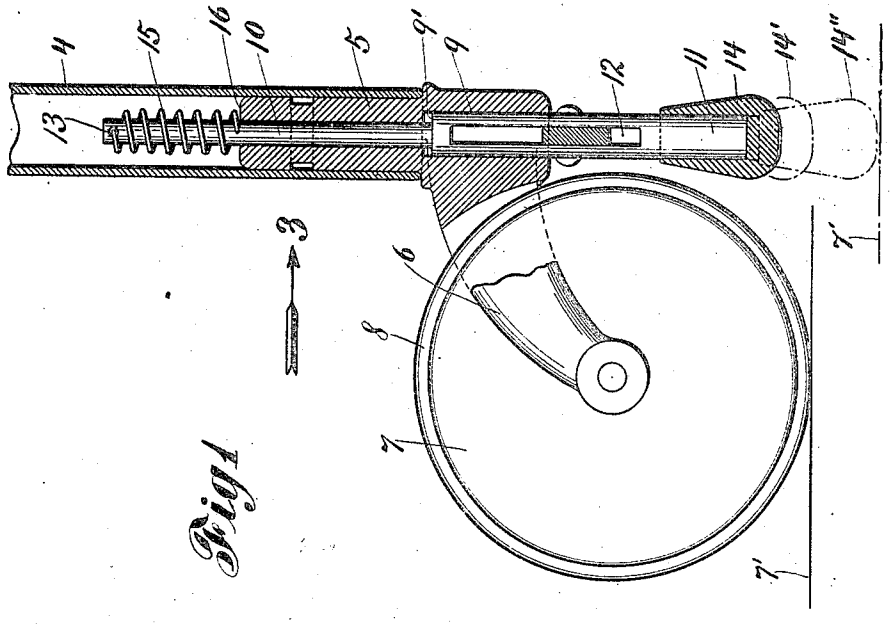
D. K. HALL.

CASTER FOR BEDS, OPERATING TABLES, AND THE LIKE.

APPLICATION FILED DEC. 26, 1913.

1,133,798. Patented Mar. 30, 1915





Witnesses:
Alda L. Miller
Helen V. Fitzpatrick

Dwight K. Hall Inventor
By his Attorney
Frank D. Kent

UNITED STATES PATENT OFFICE.

DWIGHT K. HALL, OF GOSHEN, NEW YORK, ASSIGNOR TO FRANK A. HALL, OF MONTCLAIR, NEW JERSEY.

CASTER FOR BEDS, OPERATING-TABLES, AND THE LIKE.

1,133,798. Specification of Letters Patent. Patented Mar. 30, 1915.

Application filed December 26, 1913. Serial No. 808,758.

To all whom it may concern:

Be it known that I, DWIGHT KIMBALL HALL, a citizen of the United States of America, and resident of Goshen, in the county of Orange and State of New York, whose post-office address is Goshen, Orange county, New York, have invented certain new and useful Improvements in Casters for Beds, Operating-Tables, and the like, of which the following is a specification.

This invention relates to casters for beds, operating tables and the like, and its novelty consists in the construction and adaptation of the parts as will be hereinafter pointed out.

One of the objects thereof is to provide a device of this class characterized by simplicity, rigidity and reliability of construction, ease of operation, flexibility of manipulation, and the presence of a minimum number of parts.

Other objects and aims of the invention, more or less broad than those stated above, together with the advantages inherent, will be in part obvious and in part specifically referred to in the course of the following description of the elements, combinations, arrangements of parts, and applications of principles constituting the invention; and the scope of protection contemplated will appear from the claims.

Referring now to the accompanying drawing, which is to be taken as a part of this specification, and wherein there is shown one of the various possible embodiments of this invention: Figure 1 is a view in elevation, partly broken away and partly in section, showing said embodiment associated with the leg of a bed, table or the like and also showing said embodiment in one adjustment; and Fig. 2 is a view in elevation, with the parts shown in Fig. 1, looking in the direction of the arrow 3, and showing in dot-and-dash lines the positions which certain of the parts assume when in another adjustment.

Before describing the said embodiment, it should be understood that one of the same may be associated with the legs of a bed, table or the like. One of these legs is shown in the drawing at 4, and is here seen to be preferably partially or wholly tubular so that it may coöperate with the present embodiment in the manner hereinafter described.

Referring now to the details of construction of said embodiment, these include a main frame, which in the present instance comprises a shank 5 integral with a bifurcated offset arm 6. Carried by said arm, as shown, is a wheel or caster 7 which may have upon its periphery a tire 8 formed of rubber or other suitable material. Shank 5 is axially bored throughout its length, and is counterbored adjacent arm 6 as is best shown in Fig. 1. The bore and counterbore just mentioned accommodate a rod-like member which includes a main portion 9, a reduced upper extension 10, a foot portion 11 at its lower end, a transverse slot 12, and a transverse aperture 13 at its upper end. This rod-like member may be termed the foot or support of the device, since the same acts when adjusted as hereinafter described to perform the functions of a supporting foot for the bed, table or the like. Foot 11 may carry a buffer or tip 14, formed of rubber or any other suitable material.

An expansile spring 15 is coiled about that portion of extension 10 which projects above shank 5, and in such a way that one terminus of the spring bears against the top 16 of the shank, while the other terminus of the spring engages the aperture 13. It will be seen that where main portion 9 merges into the reduced extension 10, there is established an annular shoulder 9′, and that there is a similar annular shoulder within shank 5 adjacent the upper terminus of the counterbore. It will be clear that the two shoulders just mentioned will coöperate to prevent the expansile action of spring 15 elevating to too great an extent the foot 11.

Pivotally mounted within slot 12 is a double-acting cam member which includes a cam surface (shown in elevation in Fig. 2 as extending between the points A and B), the arm 17, and the arm 18.

Having thus described this embodiment of this invention, the operation thereof, which should largely be obvious, may now be understood. For the purpose of the present description of the operation of the embodiment, let us assume that the four legs of a hospital bed are each equipped with one of the devices herein illustrated. Normally, when each wheel 7 rests upon the floor 7′, the parts are in the full-line positions shown. In these positions, each arm 17 is elevated and each arm 18 is depressed

as shown in Fig. 2. Each foot 11 is thus maintained in elevation above the floor 7', as shown in full lines. The bed now rests on wheels 7 and is free to be moved on its wheels in the usual manner. It will be noted that each shank 5 is free to turn within the tubular leg 4 with which it is associated, so that the bed is freely dirigible. It should also be noted in passing that irrespective of the various directions in which each wheel 7 may be offset from the leg 4 associated therewith, the axis of each of the legs will always be in line with its foot 11, whether the latter be in its elevated position (as shown in full lines) or in its floor-contacting position (as shown in dotted lines at 14''). Now, supposing that the bed has been moved to the place where it is to be employed, and it is then desired to lift the wheels from the floor; the operator merely presses downwardly with his foot upon the arm 17 of each device present, and thus swings each cam-surface A—B to the location illustrated by the dotted line of Fig. 2. It will be seen that the point B, which is at the end of a substantially straight-line portion of the cam surface, acts as a stop to come into abutment with slot 12, thereby to limit the degree to which its arm 17 can be depressed. This operation of cam surface A—B first lowers foot 11 until tip 14 descends into contact with floor 7' (as indicated at 14''), and next, since foot 11 can not descend farther, elevates the wheel 7 a distance above the floor necessary to allow said cam surface to be finally established as shown in dotted lines in Fig. 2. The amount of this elevation of wheel 7 is obviously equal to the perpendicular distance between the full line and the dotted line of the floor 7' indicated in Fig. 1, for if the full line floor 7' were removed beneath a tip 14, said tip would descend below the floor level to the location shown in dotted lines at 14''. When it is desired to reset the wheels on the floor, assuming the parts to be in the dotted-line position of Fig. 2, the operator places his foot upon each arm 18 and pushes it downward, whereupon cam surface A—B, shown in dotted lines, is returned to the position shown in full lines in Fig. 2. Attention is called to the fact that when the cam member associated with each leg is adjusted to the dotted location shown in Fig. 2, all stresses are directed longitudinally of main portion 9, and all strains are longitudinally received thereby; resulting in an important coupling of simplicity and minimum dimensions with great rigidity and strength.

Inasmuch as many changes could be made in the above construction, and many apparently widely different embodiments of my invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. It is also to be understood that the language used in the following claims is intended to cover all the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim:

1. In a device of the class described, in combination, a caster frame, a support movable within the frame, and means for moving one of said parts relatively of the other including a cam.

2. In a device of the class described, in combination, a caster frame, a support movable within the frame, and means for moving one of said parts relatively of the other including a double-acting cam.

3. In a device of the class described, in combination, a caster frame, a support movable within the frame, and means for moving one of said parts, relatively of the other including a cam and including an operating extension carried by the cam.

4. In a device of the class described, in combination, a caster frame, a support movable within the frame, and means for moving one of said parts relatively of the other including a cam and including a plurality of operating extensions carried by the cam.

5. In a device of the class described, in combination, a caster frame, a support movable within the frame, means for moving one of said parts relatively of the other including a cam, and spring-means tending to maintain said support predeterminedly within the frame.

6. In a device of the class described, in combination with a leg of a bed, table or the like, said leg being tubular adjacent its lower end, a shank loosely sleeved by the tubular portion of said leg and having a vertical or longitudinal bore, a member offset from said shank, a wheel revolubly mounted in said member, a rod-like support reciprocably accommodated within said bore, and operating means for said support.

7. In a device of the class described, in combination with a leg of a bed, table or the like, said leg being tubular adjacent its lower end, a shank loosely sleeved by the tubular portion of said leg and having a vertical or longitudinal bore, a member offset from said shank, a wheel revolubly mounted in said member, a rod-like support reciprocably accommodated within said bore, operating means for said support, and spring-means tending to raise said support.

8. In a device of the class described, in combination with a leg of a bed, table or the like, said leg being tubular adjacent its

lower end, a shank loosely sleeved by the tubular portion of said leg and having a vertical or longitudinal bore which is counterbored adjacent the lower portion of said shank, a bifurcated member offset from said shank, a wheel revolubly mounted in said member whereby the periphery of said wheel is always offset from the axis of said leg, a rod-like member including a main portion and a reduced upwardly extending prolongation of the main portion, said rod-like member being reciprocably accommodated within said shank whereby said main portion of said member is vertically slidable within the counterbore and whereby said reduced upwardly extending prolongation is slidably accommodated within said bore and projects above said shank, an expansile spring coiled about said projecting prolongation of said member and restrained between the free end of said member and the upper portion of said shank, said main portion of said member carrying a transverse slot, a double-acting cam pivotally mounted within said slot and movable to two positions, said cam including a plurality of offset extensions one of which is adapted to operate the cam when the latter is in one position, and the other of which extensions is adapted to operate the cam when the latter is in another position.

9. In a device of the class described, in combination, a caster frame, a support movable within the frame, means for moving one of said parts relatively to the other, and spring means tending to maintain said support in a predetermined position within the frame.

10. In a device of the class described, in combination, a caster frame including a shank, a support slidable in the shank and extending at each end thereof, a spring bearing between the support and the shank and tending to cause movement of said support within the shank in one direction, and means for causing movement of the support within the shank in the other direction.

In witness whereof I have hereunto signed my name in the presence of two witnesses.

DWIGHT K. HALL.

In the presence of—
GEO. J. STRONG,
EDWIN J. DIKEMAN.