(Model.)

C. A. BERTSCH.

FURNITURE CASTER.

No. 370,369. Patented Sept. 27, 1887.

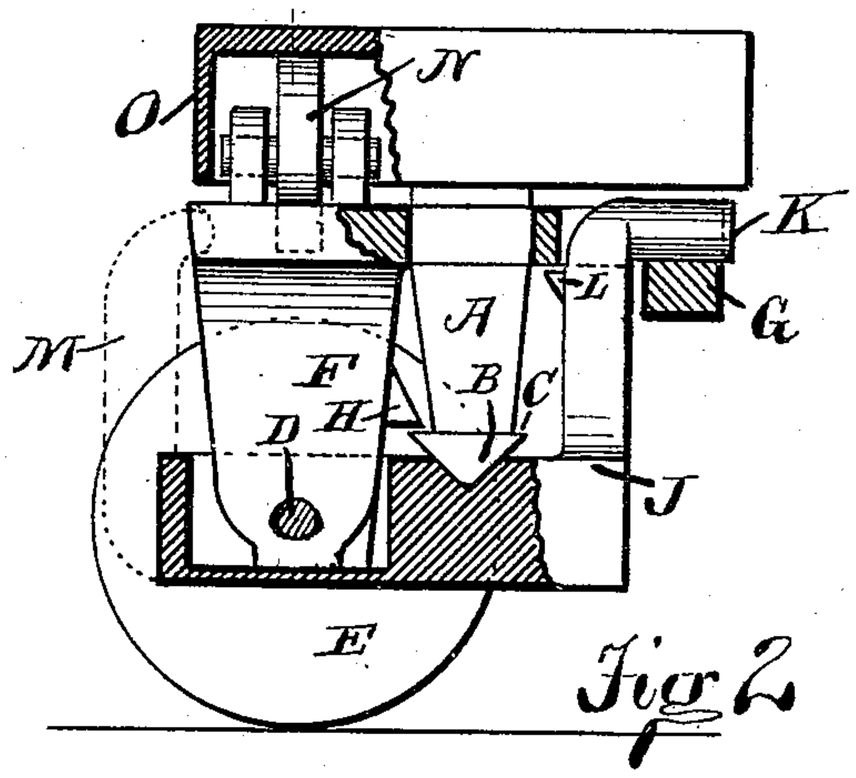

Fig 2.

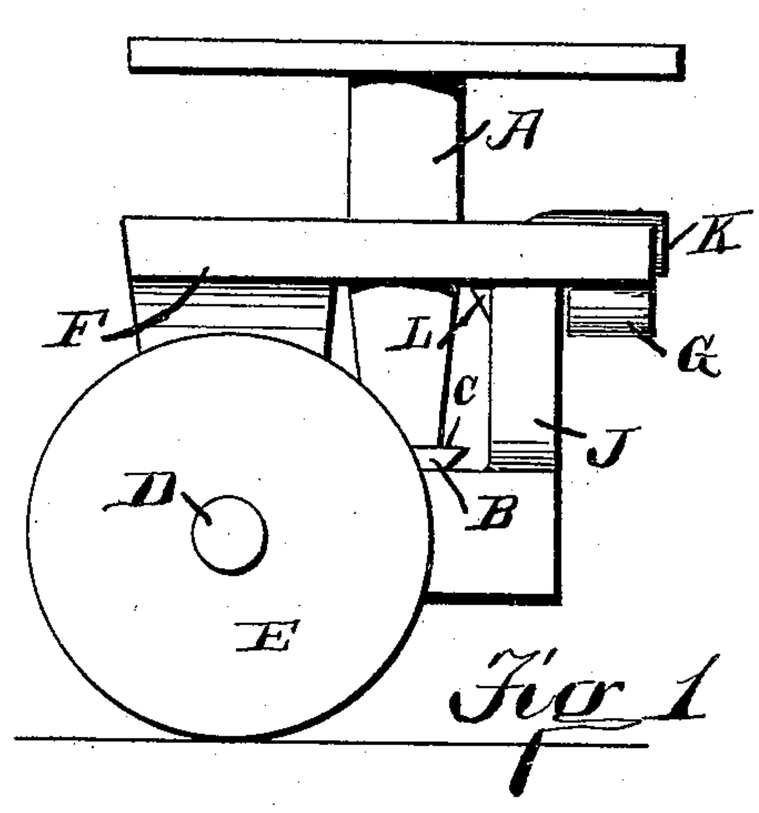

Fig 1.

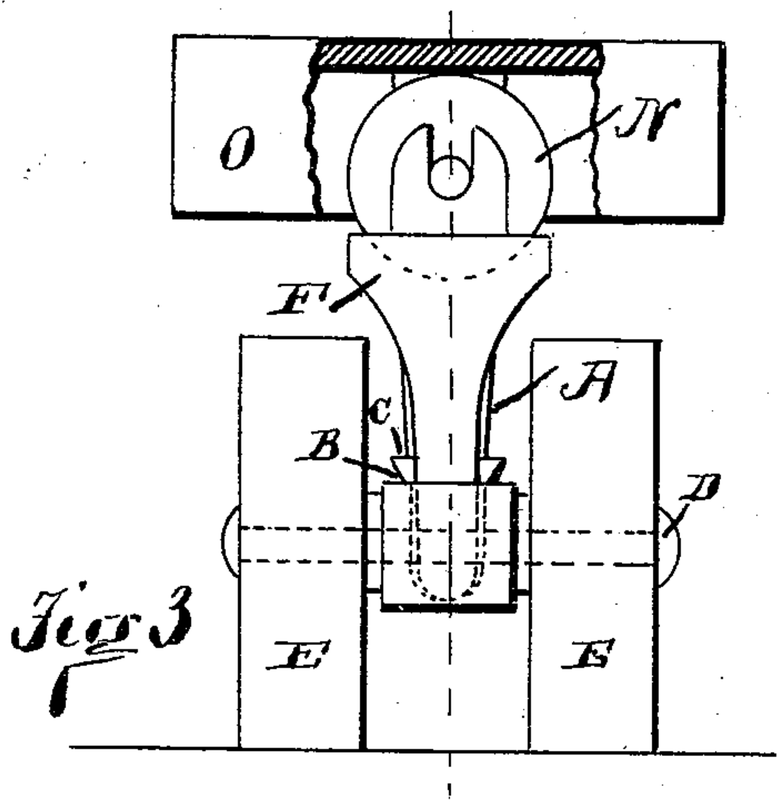

Fig 3

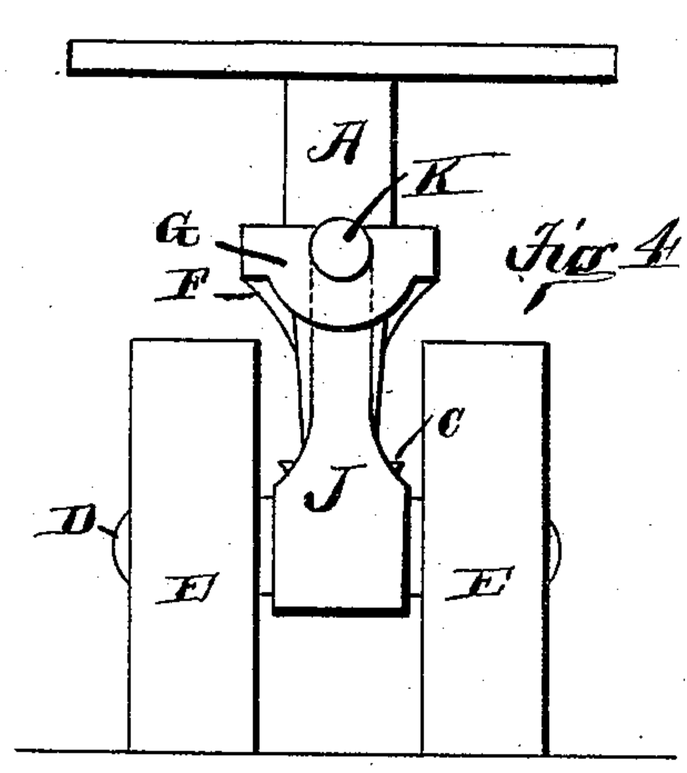

Fig 4

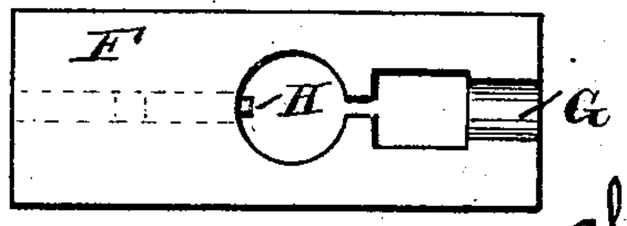

Fig 5

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UNITED STATES PATENT OFFICE.

CHARLES A. BERTSCH, OF CAMBRIDGE CITY, INDIANA.

FURNITURE-CASTER.

SPECIFICATION forming part of Letters Patent No. 370,369, dated September 27, 1887.

Application filed November 8, 1886. Serial No. 218,238. (Model.)

To all whom it may concern:

Be it known that I, CHARLES A. BERTSCH, of Cambridge City, Wayne county, Indiana, have invented certain new and useful Improvements in Furniture-Casters, of which the following is a specification.

This invention pertains to improvements in the construction of that class of furniture-casters provided with two floor-wheels upon an axis arranged to oscillate with reference to the furniture, in order to accommodate the caster to inequalities of floor-surface. In general appearance the mode of operation of my caster is in many respects analogous to the Thompson caster, as shown in United States Letters Patent No. 306,551, dated October 14, 1884, to which reference is hereby made. The movements of the two casters are, however, dissimilar.

My improvements will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of a caster, illustrating my improvements; Fig. 2, a side elevation of the same with one wheel removed and portions of the hanger and housing shown in vertical section, this view illustrating, also, a peculiar anti-friction arrangement and a modified form of hanger, the latter being shown at M in dotted line; Fig. 3, a rear view of a caster, showing, also, the anti-friction-wheel arrangement; Fig. 4, a front view of the caster, and Fig. 5 a plan of the housing.

In the drawings, A indicates the stem of the caster, intended to be secured to the furniture in any usual manner, the illustration showing the usual attaching-flange; B, a step-bearing at the foot of the stem; C, an upwardly-facing shoulder upon the stem; D, the axle of the floor-wheels; F, the housing, the same encircling the stem and fitted for rotation thereon, and having a thin rear portion extending down between the two floor-wheels, where it loosely engages the axle; G, a horizontal bearing for a portion of the hanger, formed in a top frontal projection of the housing; H, a lug projecting forwardly from the rear portion of the housing over the shoulder upon the stem; J, the hanger, the same consisting of a horizontal part engaging the axle between the floor-wheels, and having thereat a mortise to freely receive the foot of the housing, and projecting forwardly between the wheels, and thence upward in front of the stem, the horizontal portion of the hanger furnishing a bearing for the foot-step of the stem; K, a horizontal journal formed at the upper forward part of the hanger and engaging the bearing G of the housing, said housing at this bearing having an opening to the rear of the bearing, through which the hanger-journal may be hooked into engagement with the bearing, similarly to the Thompson caster L, a lug projecting rearwardly from the upwardly-reaching portion of the hanger, this lug engaging the under side of the upper portion of the housing to the rear of the opening just referred to; M, (seen in dotted line in Fig. 2,) a rear upper extension of the hanger, its upper end bearing against the rear face of the housing, this extension being adapted to serve as an equivalent for the upper front projection of the housing, the same as in the modified Thompson caster referred to in his patent; N, (shown only in Figs. 2 and 3,) an anti-friction wheel disposed in an ordinary manner in the housing directly above and between the two floor-wheels, the journals of this anti-friction wheel resting in upwardly-open bearings in a manner well known in connection with furniture-casters; and O, a flange reaching downward from the attaching-flange of the stem outside the anti-friction wheel.

For the present the anti-friction wheel, and also the extension M, will be ignored, and the movements of the parts will be analyzed. In the Thompson caster, when the axle of the floor-wheels was oscillated, a sliding motion of the part corresponding in general appearance with my hanger took place upon the axle between the floor-wheels. In my device the hanger partakes of the full oscillating motion of the axle of the floor-wheels. As this oscillation takes place the housing remains stationary, the engagement of the lower portion of said housing with the axle and the mortise of the hanger being sufficiently free to permit of oscillation at the point of engagement, the foot-step bearing obviously permitting limited motion of oscillation. There is no side shifting of the hanger on the axle. The lug H prevents the upward displacement of the stem, and the lug L prevents the upward

displacement of the forward part of the hanger when the furniture is jerked rearwardly. In the Thompson caster a lug similar in function to the lug H was provided; but the principle of construction required that this lug should be in the form of a separable block. In putting the parts together the stem is inserted through its bearing in the housing, where the fit is free enough to permit the stem to be tipped enough to enable the shoulder to be hooked onto the lug H. The hanger-journal K is then hooked into its bearing, and the horizontal portion of the hanger is pushed rearwardly until the axle-holes coincide, after which the floor-wheels and axles are put in place.

In the Thompson caster the lug corresponding to my lug H was on the part which had a shifting motion with reference to the stem, and consequently a constantly-rubbing action took place between the lug and stem-shoulder as the caster went through its oscillating movement. In my device the housing and stem have only a swiveling motion with reference to each other. The foot of the housing may bear in the bottom of the mortise of the hanger, or it may bear on the axle, as desired. The weight of the furniture is downwardly upon the hanger. If an anti-friction wheel be employed, the hanger will practically be free from downward strains, the strains passing vertically downward through the housing. In such case the forward journal may be omitted from the hanger and the rear upward extension, M, substituted, the same as in the Thompson caster.

In cases where the anti-friction wheel is employed it may often happen that the proportions are such that the flange of the stem coming in contact with the anti-friction wheel will prevent the stem being tipped sufficiently to clear the lug H, so that its shoulder may be hooked under the lug. In such case I propose to construct the housing of malleable iron and cast the hole in which the stem fits somewhat open, so as to permit the proper tipping motion. After the stem is inserted, this hole may be closed up, the wall of the hole being gapped to permit such closure, as indicated in Fig. 5.

The flange O (seen in Figs. 2 and 3) serves in preventing the displacement of the anti-friction wheel in case the parts shall become so badly worn as to permit the stem to rock in the housing sufficiently to permit the anti-friction wheel to rise from its open bearing.

I claim as my invention—

1. In a furniture-caster, the combination of a stem adapted for attachment to furniture and provided with a foot-step bearing, a floor-wheel axle, two floor-wheels upon the same, a hanger engaging the axle between the floor-wheels and projecting forwardly to furnish a bearing for the foot-step of the stem, and provided with a mortise between the floor-wheels, a housing engaging the stem by a bearing of rotation and projecting downwardly between the floor-wheels into engagement with the wheel-axle in said mortise in the hanger, and adapted for movement of oscillation at said engagement, and an upward projection from the hanger engaging the upper portion of the housing by the bearing of oscillation, substantially as and for the purpose set forth.

2. In a furniture-caster, the combination of stem A, housing F, fitted to swivel thereon and provided with a front bearing, G, and with a downwardly-projecting rear portion, an axle engaging said downwardly-projecting portion of the housing and provided with two floor-wheels, and hanger J, engaging said axle between the floor-wheels and upon each side of the downwardly-projecting portion of the housing, and having at its upper forward portion journal K and lug L, substantially as and for the purpose set forth.

3. In a furniture-caster, the combination of a stem adapted for attachment to furniture and a housing engaging said stem by a bearing-hole whose wall is provided with a gap adapted to permit the closure of said bearing upon the stem, substantially as and for the purpose set forth.

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