(Model.)

J. TOLER.

FURNITURE CASTER.

No. 389,341. Patented Sept. 11, 1888.

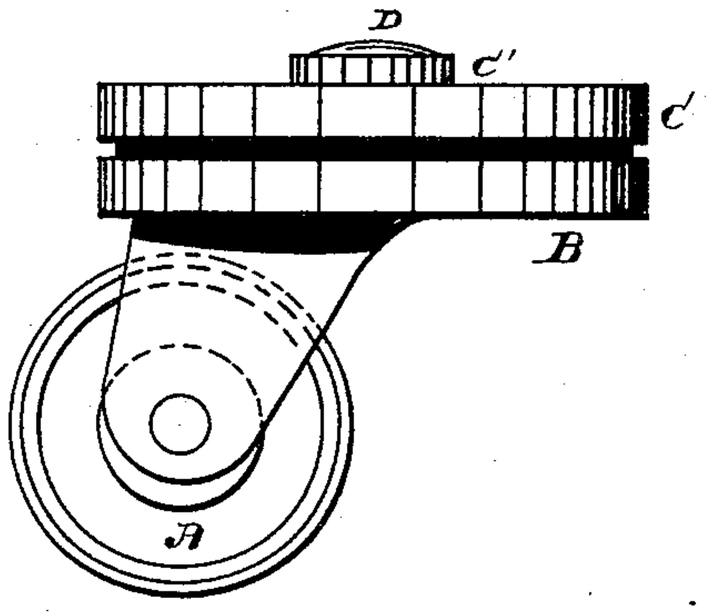

Fig. 1.

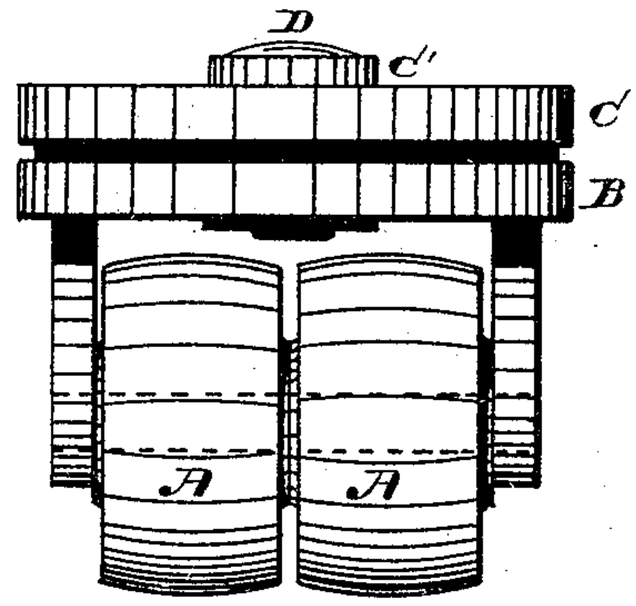

Fig. 2

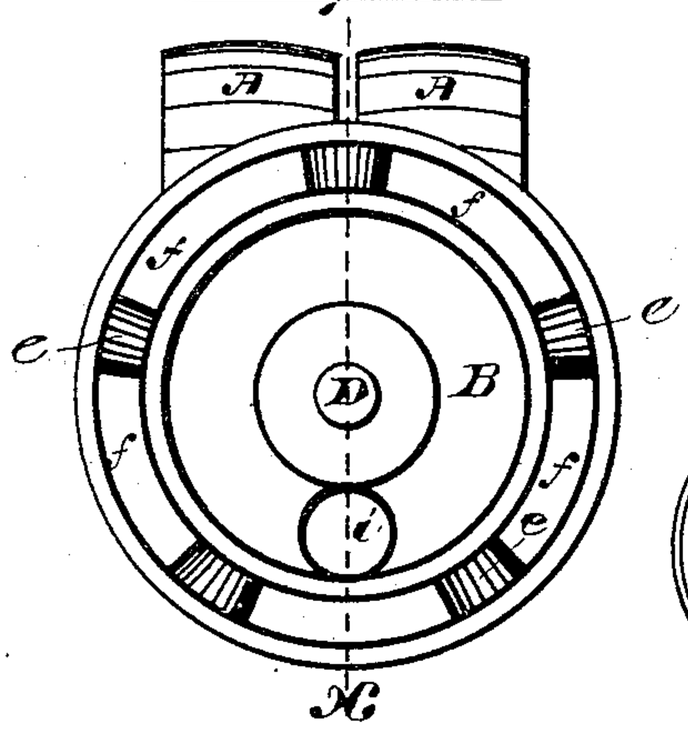

Fig. 3.

Fig. 4.

Fig. 8.

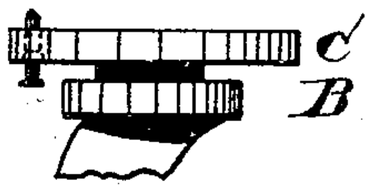

Fig. 7.

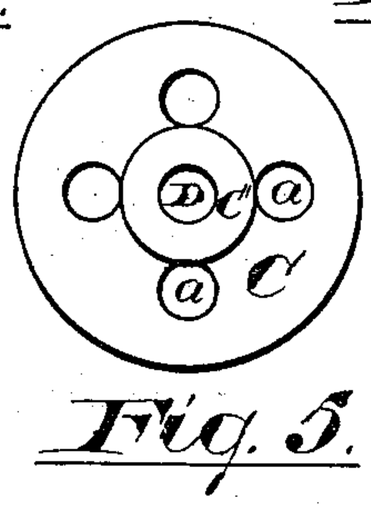

Fig. 6.

Fig. 5.

Witnesses.
E. L. Sherman
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UNITED STATES PATENT OFFICE.

JOHN TOLER, OF NEWARK, NEW JERSEY.

FURNITURE-CASTER.

SPECIFICATION forming part of Letters Patent No. 389,341, dated September 11, 1888.

Application filed May 21, 1888. Serial No. 274,609. (Model.)

To all whom it may concern:

Be it known that I, JOHN TOLER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Furniture-Casters; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of casters constructed of a fixed frame and revolving wheel-table with small rollers interposed between them to diminish friction; and it has for its object to secure more equal bearing and less friction than with this class of casters heretofore made, and one that can be constructed more simply and at less cost; and the invention consists in the combinations and arrangements of parts, substantially as will be hereinafter set forth, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference represent similar parts in the various figures, Figure 1 is a side elevation of a caster embodying my improvements. Fig. 2 is a front elevation of the same. Fig. 3 is a plan view of the caster with the bearing-plate removed. Fig. 4 is a sectional view through line *x*. Fig. 5 is a reduced plan view of the bearing-plate. Fig. 6 is an elevation of one of the segments seen in Fig. 3. Fig. 7 is a reduced side elevation showing a modification in the construction and arrangement of the bearing-plate, and Fig. 8 is a modified form of the segment.

In said drawings, A A represent ordinary caster-wheels, pivoted to a revolving bracket-plate, B.

C is a bearing-plate or screw-plate with shoulder C′, provided with screw-holes *a a*, Fig. 5.

D is a pivot pin or spindle rigidly secured to bracket-plate B, and arranged to turn in the socket in bearing-plate C. This pivot-pin has a shoulder to bear against plate C in such manner that the bearing and bracket plates will be held together and allow the bracket-plate and spindle to revolve.

c c represent an annular rectangular groove on the under side of the plate C and near its edge; and *d d* represent a corresponding annular rectangular groove on the upper side of plate B and near its edge, as shown in Fig. 4.

e e, Figs. 3 and 4, are friction rollers or wheels vertically arranged and moving in the grooves above referred to, and held in an upright position by the sides of the grooves.

f f are segments located and moving in said grooves, and so arranged that one of said segments should be located between each two of the rollers. These segments move in the annular grooves in conjunction with the friction-rollers, and are designed for and serve the purpose of keeping the rollers or wheels continuously separated and distant from each other the length of the separator, and these segments can be made of any desired length according to the number of rollers or wheels intended to be used in the grooves. These segments are of a less height than the diameter of the rollers or wheels, so that the bearing-plate will not rest on them when in position.

In Fig. 8 I have shown a modified form of these segments wherein the ends are forked, as at *g*, so as to present the ends of the fork to a rounded ball, *h*, which can be used in place of wheels, if desired.

In plate B an opening, *i*, is made to allow the admission of a screw-driver to the screw-holes in plate C. In Fig. 7 I have shown another mode of securing the casters to the article of furniture. The bearing-plate is made larger than the bracket-plate, so as to form a flange large enough to allow screw-holes outside of the outer edge of the bracket-plate.

When a caster of my improved construction is applied to an article of furniture, piano, or anything desired, the weight is evenly divided over the whole of the bearing-plate, because the rollers or wheels upon which the bearing-plate rests are always the same distance apart and each receive an equal amount or proportion of the superincumbent weight. Moreover, by this construction and arrangement of the bearing wheels or rollers the strain upon the spindle is reduced to a very small degree.

For pianos and all heavy articles I prefer to use casters with two wheels, as shown in the drawings, as they aid in equalizing the pressure upon the caster.

I am aware that anti-friction rollers or disks

have been employed in casters running in annular grooves; but such devices are objectionable, as the rollers or disks crowd together and run against each other, increasing in this way the friction.

I am also aware that anti-friction balls have been used in a caster with a skeleton frame to keep them in position, and this skeleton frame revolved with the caster and also greatly increased the friction and resistance.

Having thus described the invention, what I claim as new is—

As an improved article of manufacture, a furniture-caster consisting of one or more caster-wheels, a revolving bracket-plate, a bearing-plate, annular grooves in said bracket and bearing plates, rollers vertically arranged between said bracket and bearing plates and running in said grooves, segmental separators arranged between said rollers and adapted to slide in said grooves, and means for securing the bearing-plate to the article of furniture, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of May, 1888.

JOHN TOLER.

Witnesses:
OLIVER DRAKE,
E. L. SHUMAN.