(No Model.)

E. G. HOFFMANN.

FURNITURE CASTER.

No. 461,181. Patented Oct. 13, 1891.

Fig. 1.

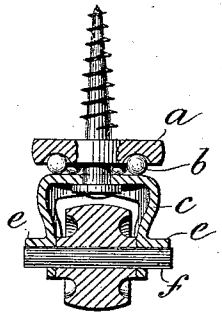


Fig. 2.

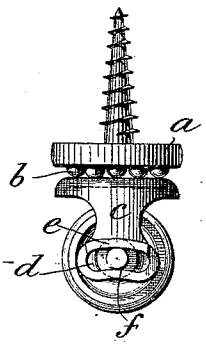


Fig. 3.

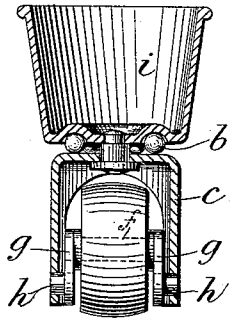
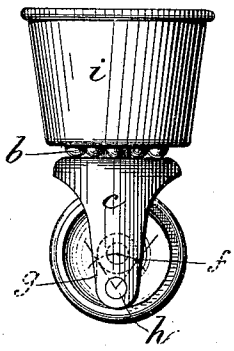


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

ERNEST GUSTAV HOFFMANN, OF NEW SOUTHGATE, ENGLAND.

FURNITURE-CASTER.

SPECIFICATION forming part of Letters Patent No. 461,181, dated October 13, 1891.

Application filed May 19, 1891. Serial No. 393,270. (No model.)

To all whom it may concern:

Be it known that I, ERNEST GUSTAV HOFFMANN, a subject of the German Emperor, residing at New Southgate, in the county of Middlesex, England, have invented certain new and useful Improvements in Furniture-Casters, of which the following is a specification.

My invention relates to improvements in furniture-casters and to the manufacture of same.

The caster is somewhat similar to an ordinary one in that it has a portion or base which is affixed to the article of furniture and a portion pivoted thereto carrying a roller. Between these two portions I place balls or the like for the purpose of reducing the friction between the parts, and for this I form channels in one or both of the parts for the balls to work in. The spindle of the roller is carried in a slot in the forked portion (which is straight) instead of in a fixed bearing, so that it can roll from its center in either direction in order to obtain the rake necessary for readily producing the swivel action. The slot in the forked portion or "horn" is curved or angular, so that the roller will be brought to the center of same by the weight of the article of furniture when at rest. In place of carrying the spindle of the roller in slots it may be carried by pivoted arms or cranks or by similar means which will allow it to be thrown out of its center and returned thereto.

In the manufacture of my improved caster I stamp the parts from sheet-brass or other suitable metal and subsequently shape them by suitable punches, dies, and the like.

To clearly explain the nature of my invention, I will describe it with reference to the accompanying drawings, in which—

Figure 1 is a front view in section of my improved caster. Fig. 2 is a side elevation. Fig. 3 is a front view in section of a caster provided with an alternative arrangement for carrying the roller, and Fig. 4 is a side elevation of same.

In Fig. 1 the caster has the usual base *a*, carrying a screw for attaching it to the article of furniture, said base *a* having an annular groove or race formed on the under side of same for receiving the anti-friction balls *b*, which also bear on the upper surface of the horn portion *c*. This horn portion is provided on either side with curved slots *d*, as shown, which carry the spindle *f* of the roller, the metal of said slot being stamped out in the process of manufacture and turned up to form an increased bearing portion or ear *e* for the spindle. In this way the horn portion may be of comparatively thin metal, which it could not well be if the spindle *f* had its bearing only on the edges of a cut slot. To strengthen same the horn is bent and hollowed, as shown, during the pressing. The slot *d*, it will be seen, is curved, so that the spindle *f* will be brought back by the weight of the article directly under the vertical pressure exerted upon it, which is not the case with the usual curved horn of the ordinary roller-caster, the tendency of the weight on which is to break them off from the vertical spindle on which they turn. The balls *b* also, as will be seen, form an increased bearing-surface, which is of assistance in taking some of the pressure from the vertical spindle connecting the base *a* and the horn *c*. The slot *d* may be angular or of inverted-V shape, instead of curved, though it is not so desirable.

In Figs. 3 and 4 I pivot cranks *g g* to the arms of the horn at the points *h h*, said cranks carrying the spindle *f* of the roller at their other ends. This accomplishes the same result as the curved slot, as the crank will fall back into its vertical position and bring the spindle of the roller directly beneath the vertical pressure as soon as the article of furniture has ceased to be moved. In these figures a stamped or drawn cup portion *i* is shown instead of the base *a* and screw, said cup portion having the groove or race for the balls.

I would have it understood that I do not claim the use of balls placed between the base and the horn of roller-casters. Neither do I claim, broadly, the stamping of the parts nor the slotting of the bearing of the roller-spindle, all of which I am aware have been suggested; but

What I claim is—

1. In combination with the base of a caster and the horn or forked portion pivoted thereto, having central bearings, the roller loosely held in said bearings to have lateral movement, but adapted to automatically return to

a position beneath the center of the base when vertical pressure is applied to the caster, substantially as described.

2. In combination, the base, the horn pivoted thereto, curved or angular slots in the arms of the horn, and a roller journaled in said slots and adapted to remain midway thereof under vertical pressure, substantially as described.

3. In combination with the base, the horn portion stamped from the sheet metal, having curved or angular slots in its arms, said slots being formed by punching out the material of the arms and bending the same upward to form increased bearing for the roller-spindle, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of the two subscribing witnesses.

ERNEST GUSTAV HOFFMANN.

Witnesses:
ALLEN JONES,
JOSEPH LAKE.