

P. B. TYLER,
Making Furniture Casters.

No. 15,902.

Patented Oct. 14, 1856.

Fig: 1.

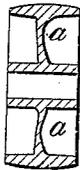


Fig: 2.

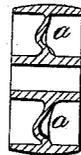


Fig: 3.



Fig: 4.

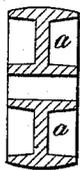


Fig: 5.

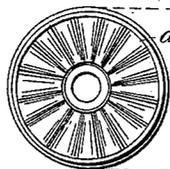
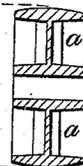


Fig: 6.



UNITED STATES PATENT OFFICE.

P. B. TYLER, OF SPRINGFIELD, MASSACHUSETTS.

FINISHING CASTER-WHEELS FOR FURNITURE.

Specification of Letters Patent No. 15,902, dated October 14, 1856.

To all whom it may concern:

Be it known that I, PHILOS B. TYLER, of Springfield, in the county of Hampden, State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Casters for Furniture and Like Purposes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, in which the different parts are shown.

My improvement consists in the mode in which I finish up my caster wheels, so as to produce a perfect and smooth surface on the disk supporting the rim and connecting it with the hub, while it insures a sufficiency of metal therein with the minimum weight for the proper formation of the hub and plate and condensing the same, all as will hereafter more fully appear.

In the modes heretofore practiced in making caster rollers of brass or other expensive metals, the surface on each side within the rim was turned off; and to do this the roller had to be chucked in some way twice, once for each side; and further, the turning was necessarily required to be done with great accuracy; but the most perfect manipulator often cut through in finishing up or left an irregular disk joining the rim and hub as is shown and illustrated in Figures 1, and 2; and if the casting was at all imperfect, the whole was weakened and spoiled. By my mode of finishing I smooth the interior as perfectly as is done by turning, while I effect the more important results of condensing and thereby solidifying and strengthening the connecting disk (*a*) which I insure to always be of sufficient thickness and perfectly perpendicular to the axis on which it rotates as seen in section Fig. 4. I also by the same operation form, smooth, and condense the hub, rendering it more compact and durable. These results are all produced by stamping the rough casting between two dies, as is done with rolled metal in coining money and such like operations, but with such machinery as I find most convenient. The effect of the compression of the disk (*a*) is to swell out the center of the

roller and aid the formation thereof into the convex form, on which I already have a patent.

Instead of stamping the disk (*a*) up flat I can, by corrugating my dies, make that corrugated, so as to give it more stiffness with the minimum amount of metal. This it would be impossible to do by the present method of turning.

It will be obvious and evident to all mechanics that stamping between dies the two surfaces of a piece of metal is not new and I lay no claim to such an operation or to corrugating the disk of a wheel, which is old; but the smoothing the surface of a caster wheel or roller, on the plate or disk connecting the hub and rim, and condensing the metal in the operation instead of removing it has never before been done to my knowledge. Its advantages are obvious. It prevents spoiling any of the castings by imperfect manipulation; it greatly strengthens the disk (*a*), hardening it and making it stiffer, and insures an equal thickness in all its parts, or a proportional thickness as desired; the disk can be smoothly finished when corrugated, as easily as if it were a plane surface, and the expedition and cheapness with which the operation is performed greatly reduce the labor and cost of the manufacture of the article.

I do not claim the process of stamping or swaging as they are well known devices and are used for various purposes such as making railroad wheels of wrought metal and other articles; but

What I claim as my invention and for which I desire Letters Patent is—

Finishing caster rollers and like articles made of cast metal by stamping them in dies substantially in the manner and for the purposes described whereby in finishing, the disk is hardened and its thickness determined with exactness insuring the maximum amount of strength with the smallest weight of material.

PHILOS B. TYLER.

Witnesses:

J. G. GREENOUGH,
FREDK. G. BURNHAM.