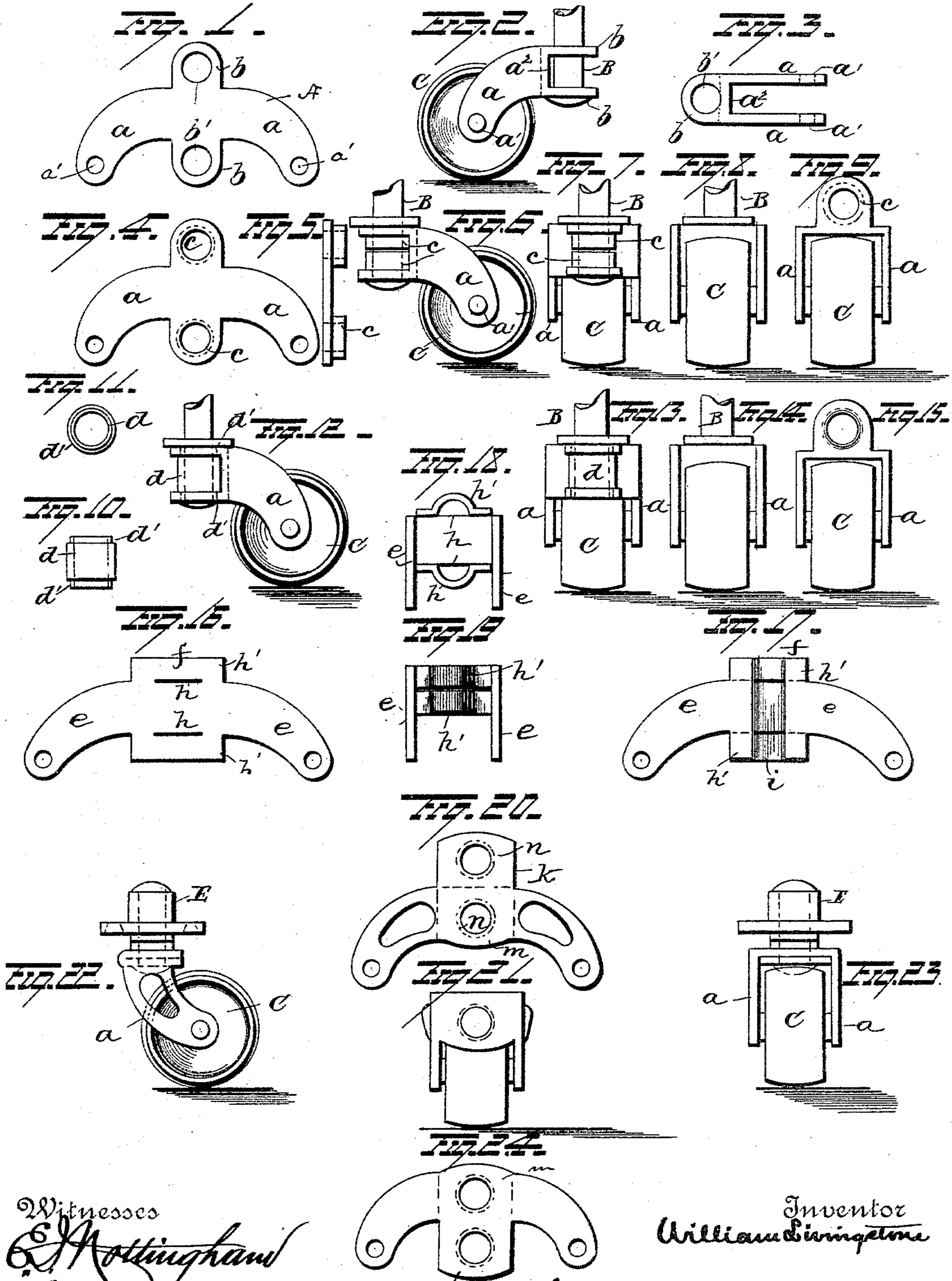


(No Model.)

W. LIVINGSTONE.
CASTER.

No. 411,747.

Patented Sept. 24, 1889.



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CASTER.

SPECIFICATION forming part of Letters Patent No. 411,747, dated September 24, 1889.

Application filed September 18, 1888. Serial No. 285,671. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LIVINGSTONE, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in 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.

My invention relates to an improvement in casters, and more particularly to the swivel-bracket frame or wheel-support of such devices, the object of my invention being to provide a neat substantial caster the swivel-bracket of which is adapted to be cut from sheet metal and bent into form by proper dies and machinery, thus permitting rapid manufacture, exact duplication of parts, and consequent cheapness of production.

With these objects in view my invention consists in the construction of parts and their combination, as will be hereinafter described, and pointed out in the claims.

Referring to the drawings, Figure 1 represents the cut sheet-metal blank of the preferred form of swivel-bracket frame. Fig. 2 is a side elevation of the swivel-bracket bent from plate shown in Fig. 1. Fig. 3 is a top plan view of the bracket-frame shown in Fig. 2. Fig. 4 is a face view of modified form of plate for sheet-metal bracket-frame. Fig. 5 is an edge view of plate shown in Fig. 4. Fig. 6 is a side elevation of the form shown in Fig. 4. Figs 7, 8, and 9 are end elevations and a top view of the caster shown in Fig. 6. Figs. 10 and 11 are views of an elongated bearing adapted to be used in combination with the bracket-frame shown in Figs. 1, 2, and 3. Figs. 12, 13, and 14 are side and end elevations of the caster having a bearing combined with its sheet-metal swivel-frame. Fig. 15 is a plan view of the caster shown in Fig. 12. Fig. 16 is a form of bracket-plate that is a modification of those previously shown. Figs. 17, 18, and 19 are views of another form of bracket-frame for a caster that is bent from a plate shaped as shown in Fig. 16. Figs. 20, 21, 22, 23, and 24 are views of another modification of a bracket-frame cut and bent from sheet metal.

A, Fig. 1, is a blank of sheet metal cut into form by dies. The limbs *a* are extended from a median line and curved as shown, their ends being rounded on the edges and perforated, so that when these limbs are bent to assume parallel planes, as shown in Fig. 3, said perforations *a'* will lie in the same axial line to receive the pintles of the caster-roller. When the limbs *a* are bent at right angles a proper distance apart, an integral spacing-plate *a²* is afforded, and the ears or extensions *b* of this spacing-plate, that project oppositely from its edges, as shown in Fig. 1, are perforated, as at *b'*, which holes are of equal diameter. The ears *b* are turned over and away from the limbs *a*, or on the opposite side of the spacing-plate *a²*, so as to lie parallel to each other, the holes *b'* being adapted to receive the vertical pintle B. (See Fig. 2.)

The advantages claimed for this plan of construction of a bracket-frame for the caster consists in the simplicity of its form and availability for economic production from sheet metal in quantity by machinery, the form given it affording the strength of the integral spacing-plate *a²* to withstand weight thrown on the pintle B.

In the form of caster just shown the pintle is adapted to be secured fast to the article it supports by driving it in a hole of proper size and the bracket-frame, with an attached caster-wheel C, be allowed to swivel on its points of connection with said pintle.

In Fig. 4 a blank of sheet metal nearly similar in form to that shown in Fig. 1 is exhibited. The essential feature of difference consists in the formation of integral tubular rims or flanges *c*, that are stamped from the material and produce elongated bearings, which when the plate is bent to form a bracket-frame are in alignment with each other, with their free ends adjacent, as shown in Fig. 6, thus providing a more extended bearing or support for the pintle B to counteract incidental wear of the frame where it is revolutely connected to the pintle.

The plate or blank from which the caster shown in Fig. 12 is constructed is identical in form with Fig. 1 and similarly bent into shape. In this case, to render the connection

between the ears of the bracket-frame more substantial, and also to provide an extended bearing for the pintle, as is effected in Fig. 4, the tubular bearing *d* (shown in Figs. 10 and 11) is introduced in the perforations of the ears *b*, in which said bearing is affixed, thus affording an elongated bearing for the pintle B.

In Fig. 16 a blank of sheet metal for the production of a bracket-frame is shown, which is varied somewhat in form from those already described, but involves features of construction substantially the same. It consists of a plate of sheet metal having two limbs *e* of equal dimensions and similar form, preferably curved edgewise, as shown, projected on opposite sides of a square piece *f*, with which they are integral. At proper points the square plate *f* is slitted, as at *h*, Fig. 16, these slits being in line with the edges of the limbs *e* where they join the square plate *f*.

In formation of the bracket-frame from the blank just described the limbs *e* are bent to lie in parallel planes and adjacent to each other, they being held spaced apart by the plate *f*. The wings *h'* of the plate *f*, that project beyond the edges of the limbs *e*, are now bent to form a bracket-plate by first producing a semicircular depression in the plate *f*, as shown at *i* in Fig. 17, then folding over toward each other both of the wings *h'*, which will produce a bracket-frame having a circular orifice, which is adapted to receive the pintle of the caster, the frame being revolvably supported by its swivel connection with the pintle just described.

In Figs. 20 and 24 two forms of blanks for a sheet-metal caster bracket-frame are shown. These consist of a plate of metal having the limbs shown in Figs. 1 and 16, but also provided with a single wing *k*, that may project from the outer edge, as represented in Fig. 20, or on the inner edge, as seen in Fig. 24. Said wings are perforated centrally, and at proper points the portion *m*, bounded by dotted lines, has similar-sized holes made through it, the hole in the wing and one in the plate aligning with each other when the former is folded down upon the latter. In order to provide a good surface-bearing for the pintle D, which in this case is rigidly secured to the bracket-frame, so as to revolve within the socket-plate E, there are integral collars *n* stamped to project from the same side of the blank and form a projecting rim for the hole

in the spacing-plate *m* and wing *k*, so that when the wing is folded down on the spacing-plate the collars *n* will afford a longer bearing for the pintle D, that is inserted and riveted in them.

In Figs. 21, 22, and 23 are shown a side and two end views of the completed caster, of which the bracket-frame formed from the plate just described is a main portion.

In all the different modifications shown it will be apparent that the same generic feature of bending the limbs of a sheet-metal blank and affording support for a pintle by perforation of ears or wings is embodied, and that from the form of construction given the preferred form and modifications of the same a strong, shapely, and durable bracket-frame for a caster is afforded, which can be cut and struck into form by machinery in quantity, and consequently at a low initial cost.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A bracket-frame blank formed of sheet metal and provided with two laterally-projecting arms adapted to form the supporting-limbs of a caster, and also provided with two perforated ears adapted to form the upper and lower bearings for a pintle, substantially as set forth.

2. In a caster, a sheet-metal bracket-frame having its limbs bent parallel and provided with perforated bent ears or wings adapted to receive and support a pintle, substantially as set forth.

3. In a caster, the combination, with a sheet-metal plate having perforated ears formed integral therewith, of a tubular bearing located between the ears, substantially as set forth.

4. In a caster, the combination, with a pintle and a bracket-frame having perforated ears and provided with tubular extensions that lie between these ears, and also provided with parallel limbs integral with the ears, of a caster-wheel mounted to rotate between the limbs of the bracket-frame, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM LIVINGSTONE.

Witnesses:

HOWARD L. WEBSTER,
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