

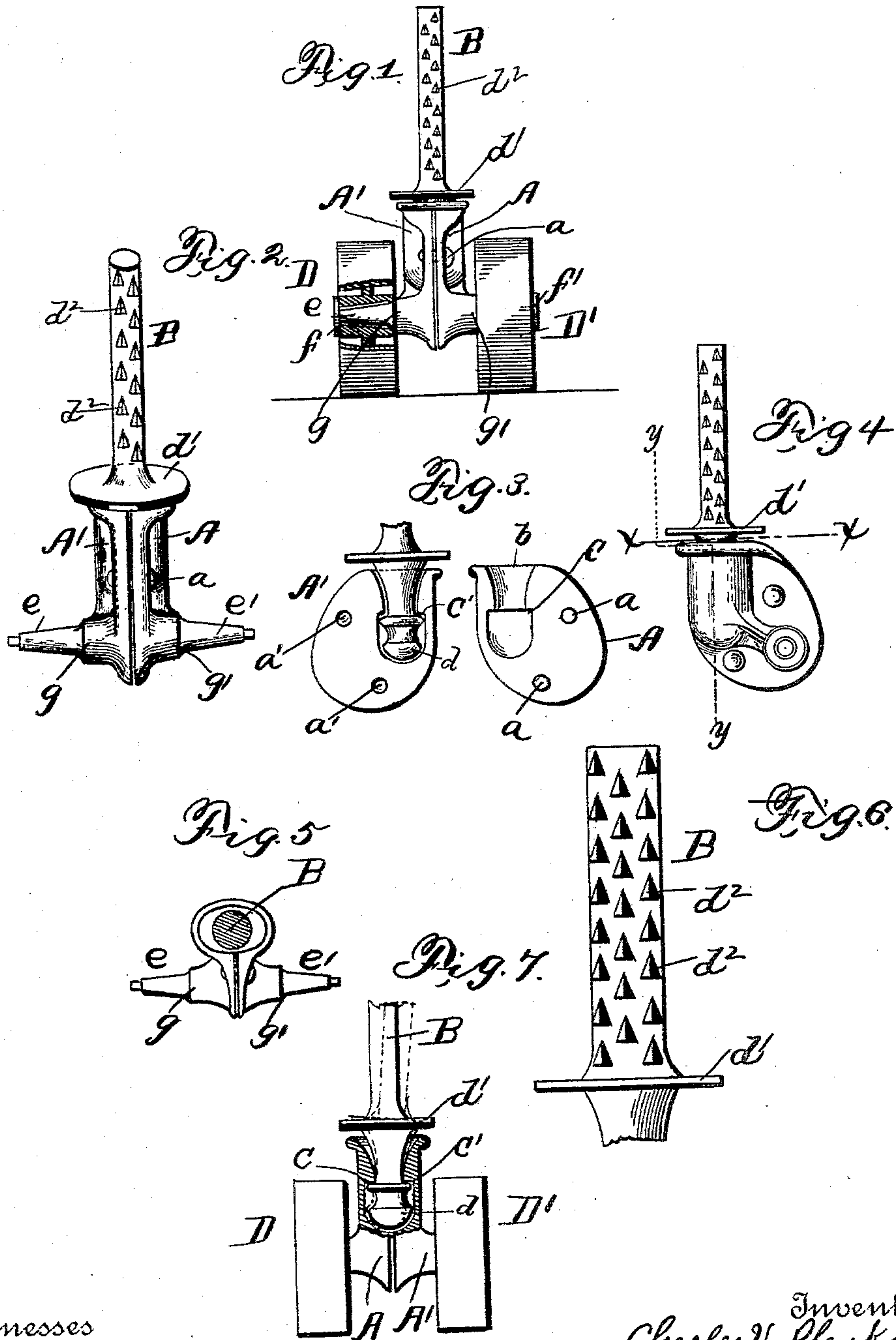
(No Model.)

C. V. PLEUKHARP.

CASTER.

No. 359,888.

Patented Mar. 22, 1887.



Witnesses

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UNITED STATES PATENT OFFICE.

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CASTER.

SPECIFICATION forming part of Letters Patent No. 359,888, dated March 22, 1887.

Application filed November 13, 1886. Serial No. 218,792. (No model.)

To all whom it may concern:

Be it known that I, CHARLES V. PLEUKHARP, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Two-Wheel Oscillating Casters; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to two-wheel oscillating casters, and has for its object, first, to simplify the construction and reduce the cost of manufacture; second, to devise a construction requiring no machine-work of any description or use of extra rivets or bolts for securing the parts together; third, to produce a device in which there is no waste of material occasioned by filing, drilling, or boring; fourth, to reduce the number of parts to a minimum, and have them so shaped that they can be readily cast and put together without any subsequent operation, except to upset the ends of the rivet-lugs formed with one part of the frame after passing them through corresponding openings formed in the other part of the frame, and to upset the ends of the axles when the wheels are in position; and, fifth, to construct the wheel-frame in two parts, each part having an axle arm or spindle, and having the line of separation correspond with the line of division or parting of the mold, whereby the castings are smooth and uniform and will fit snugly together, and the recess or socket which receives the lower end of the shank is made part way in each, thus requiring no coring or inserting of parts, the work being plain and straightforward.

The improvement consists in the novel features more fully hereinafter set forth, claimed, and shown in the annexed drawings, in which—

Figure 1 is a rear view, parts broken away, of a two-wheel caster embodying my improvements. Fig. 2 is a front perspective view of the same with the wheel removed. Fig. 3 is a plan view of the parts of the caster-frame separated. Fig. 4 is a side view of the caster-frame and shank. Fig. 5 is a sectional view

on the line *x x* of Fig. 4. Fig. 6 is a detail view, on an enlarged scale, of the upper portion of the shank or stem. Fig. 7 is a sectional view on the line *y y* Fig. 4.

The wheel-frame is made in two parts, A and A'. Each part being the counterpart of the other, a description of one part will suffice for the other. The only difference between the parts is, the part A has rivet-lugs *a*, and the part A' has corresponding openings, *a'*, for the rivet-lugs to pass through, when the parts will be held together by upsetting the ends of said rivet-lugs on that side of the part A' opposite to that through which said lugs entered.

Referring to part A, it will be seen that the recess *b*, formed therein and extending through its upper edge, is enlarged at its lower end, forming the shoulders *c* and *c'*, from which point it (the recess) flares or increases in width and depth. The inclination of the bottom of the recess is greater than the inclination of the sides, so that when the parts are together the socket formed will be elliptical in outline at its base, having its greatest diameter parallel with the axis of the caster-wheels. The minor axis of the socket is about equal to or slightly larger than the diameter of the lower portion of the shank or stem B at a given plane. By this construction the caster-frame is free to have an oscillatory movement in the direction of the axis of the caster-wheels D D', to permit the wheels accommodating themselves to any unevenness of the floor, and at all times to rest squarely thereon. That portion of the socket located below the shoulders *c* and *c'* is approximately spherical or globular, and receives the rounded end *d* of the shank or stem, forming a universal connection between the wheel-frame and said stem. That portion of the socket above said shoulders *c* and *c'* flares, the inclination being greatest in the direction of the axis of the caster-wheels, as and for the purpose above noted.

The spindles *e* and *e'*, comprising the axle and integral with the parts of the wheel-frame, are conically formed. Their outer ends are reduced to receive washers *f* and *f'*, between which and the shoulders *g* and *g'*, near the inner ends, the caster-wheels D and D' are held. The washers are held in place by upsetting the reduced ends of the spindles. By having the

spindles made conical the following advantages result: first, the parts are more easily cast; second, the caster-wheels can be more readily molded with the hub-bore therein; and, third, the greatest strength and bulk of metal is located at the point where the strain and wear are highest.

The shank or stem B is provided with a flange or rest, d' , a short distance above the end of the wheel-frame, adapted to bear against the end of the bed-post or other article to which the caster may be applied, and limit the upward movement of the shank. That portion above the rest is provided with spurs d'' , set staggering. The spurs are arranged preferably in vertical rows and are spaced apart, and the spurs of one row are arranged opposite the spaces between the spurs of the adjacent row. They are so formed that each spur increases in width and thickness from the end nearer the end of the stem and terminates abruptly, forming a square shoulder at the opposite end. By this construction of spur the fibers of the wood are gradually pushed to each side as the spur advances, and springing back close against the square shoulder, thus making the reverse or retrograde movement of said spur more difficult than its advance or progressive movement.

The staggering arrangement of the spurs materially assists in returning the displaced fibers to their normal position, because the advance spur, pushing the fibers to one side, and the succeeding spur, which is located to one side of the path of said advance spur, performing the same operation, pushes the fibers previously displaced back into their original position, and, in addition, forces other fibers in the same direction, which fibers, pressing upon the fibers displaced, hold them in their returned position close against the square shoulder of the advance spur in a manner readily comprehended.

In practice the several parts are cast and annealed. The shank, with its spurs, rest, and rounded end, are in one piece, and each of the parts A and A', with their respective spindles and recesses, is formed of one piece. To set the caster up, the lower end of the shank is fitted in the recess of one of the parts of the wheel-frame and the other part is placed in position upon the first part in such a manner that the rivet-lugs pass through the rivet-receiving openings. The ends of the rivet-lugs are upset and the parts are held together and present the appearance shown in Figs. 2 and 4. The caster-wheels are next placed in position upon their respective spindles, and held thereto by the washers and by upsetting the ends of said spindles.

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

1. The herein-described two-part caster-frame having a shank-receiving socket formed part way in each, said socket being enlarged at its inner end, forming a shoulder, and flaring at its outer end, which flared portion increases more rapidly in the direction of the axis of the rolling support, substantially as and for the purpose specified.

2. The combination, with the shank having an enlarged end, of the two-part caster-frame having a socket formed between them, which is enlarged at its inner end to receive the enlarged end of the shank, substantially as described, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES V. PLEUKHARP.

Witnesses:

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