

(No Model.)

W. P. BROWN.

ROLLER SKATE.

No. 330,093.

Patented Nov. 10, 1885.

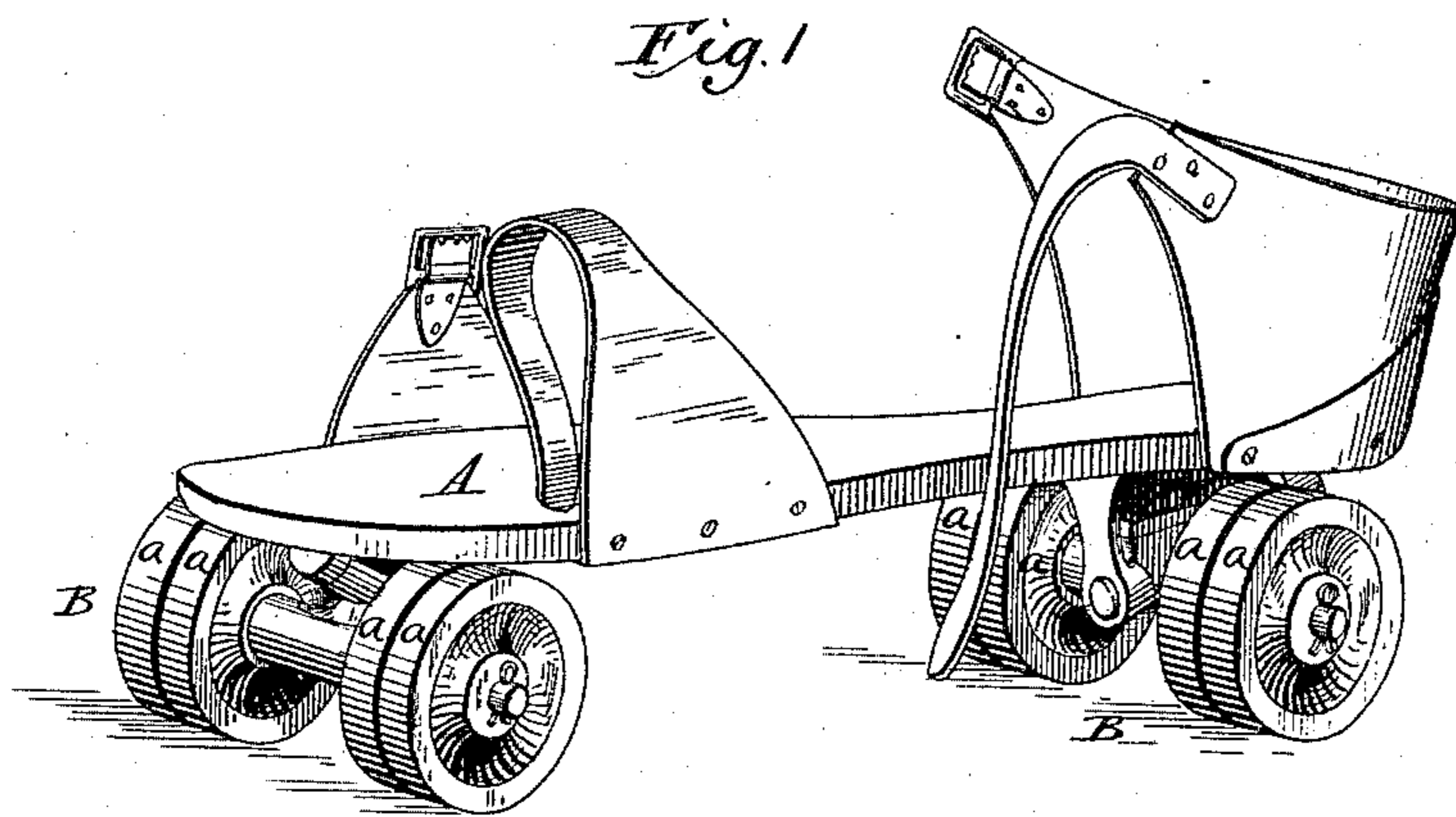


Fig. 2.

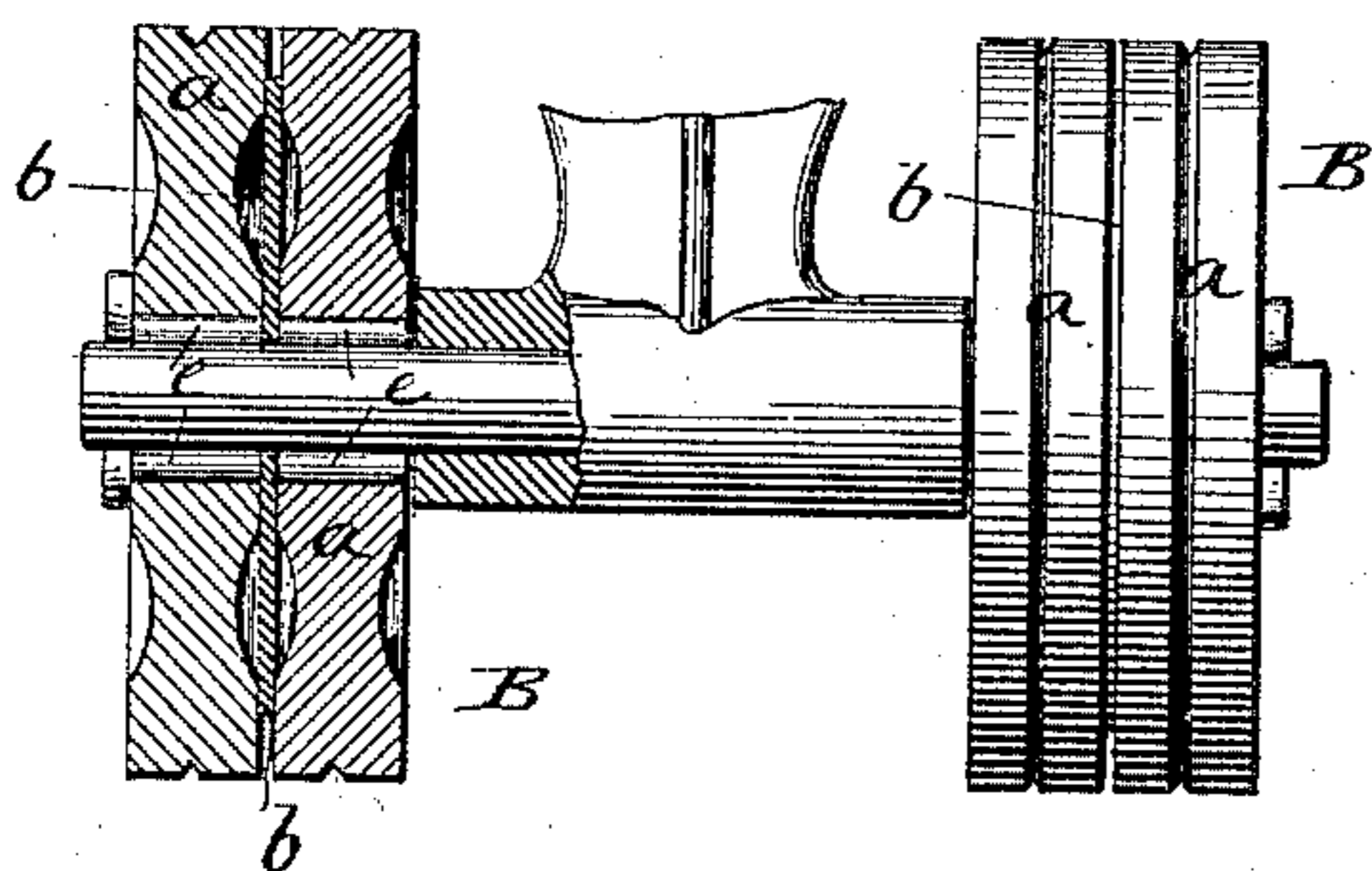


Fig. 3

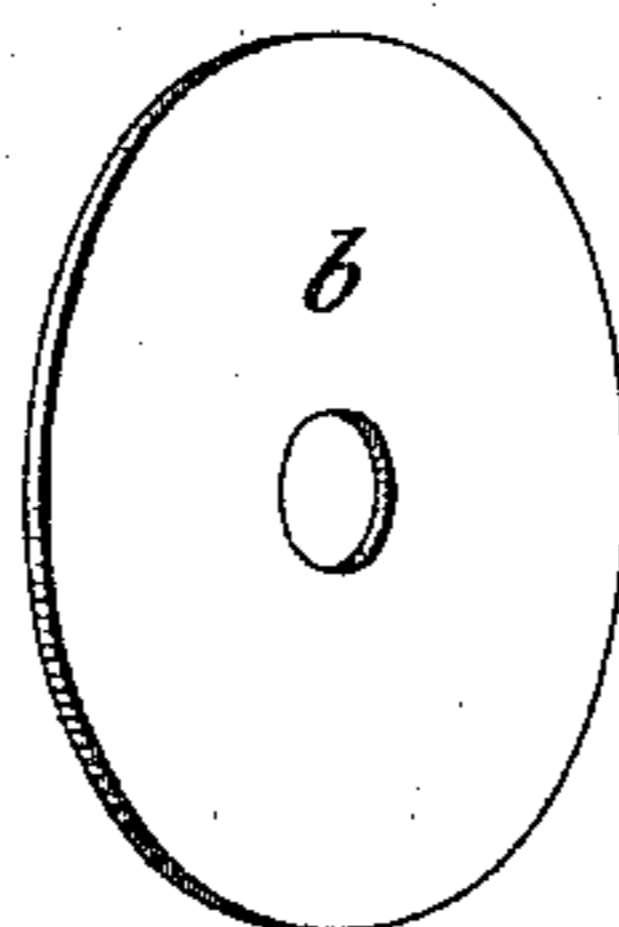


Fig. 4

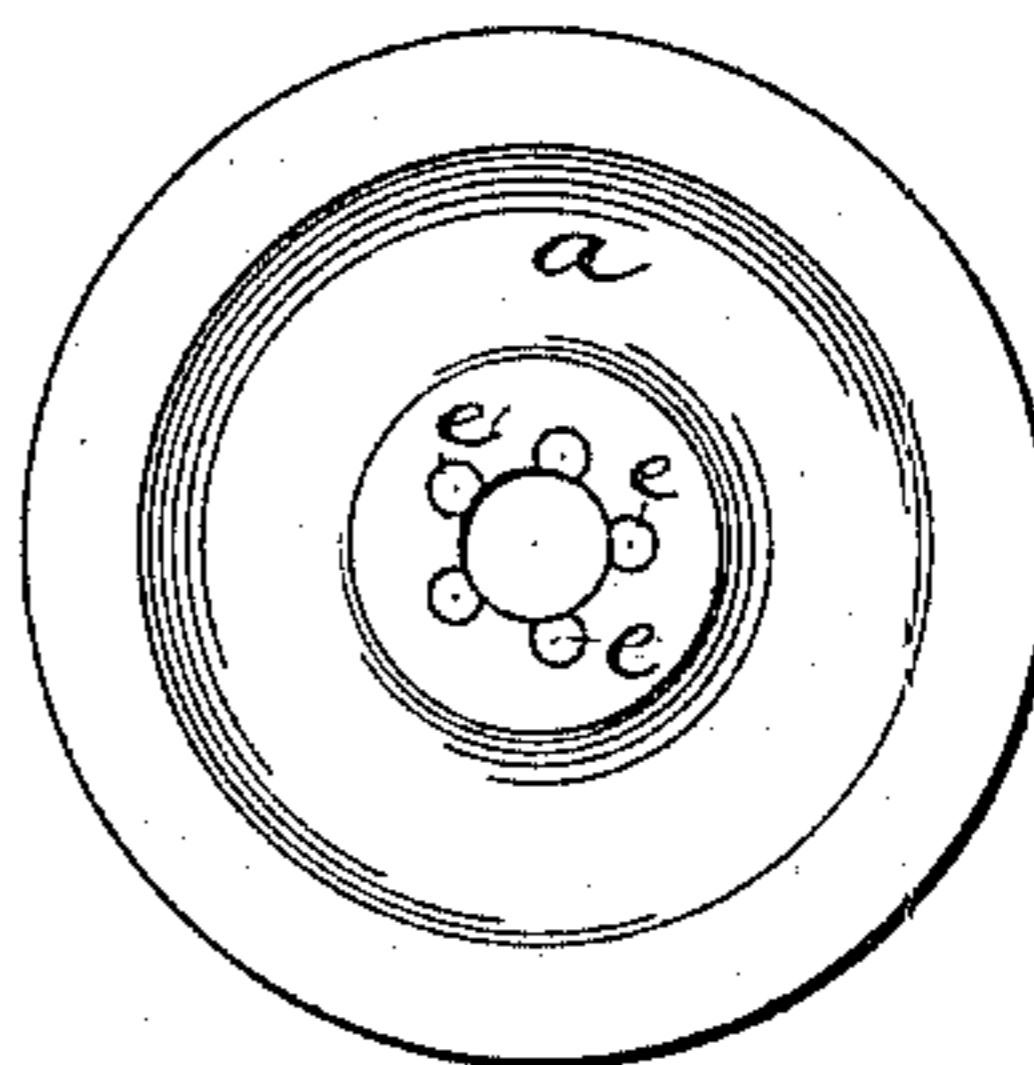


Fig. 5.

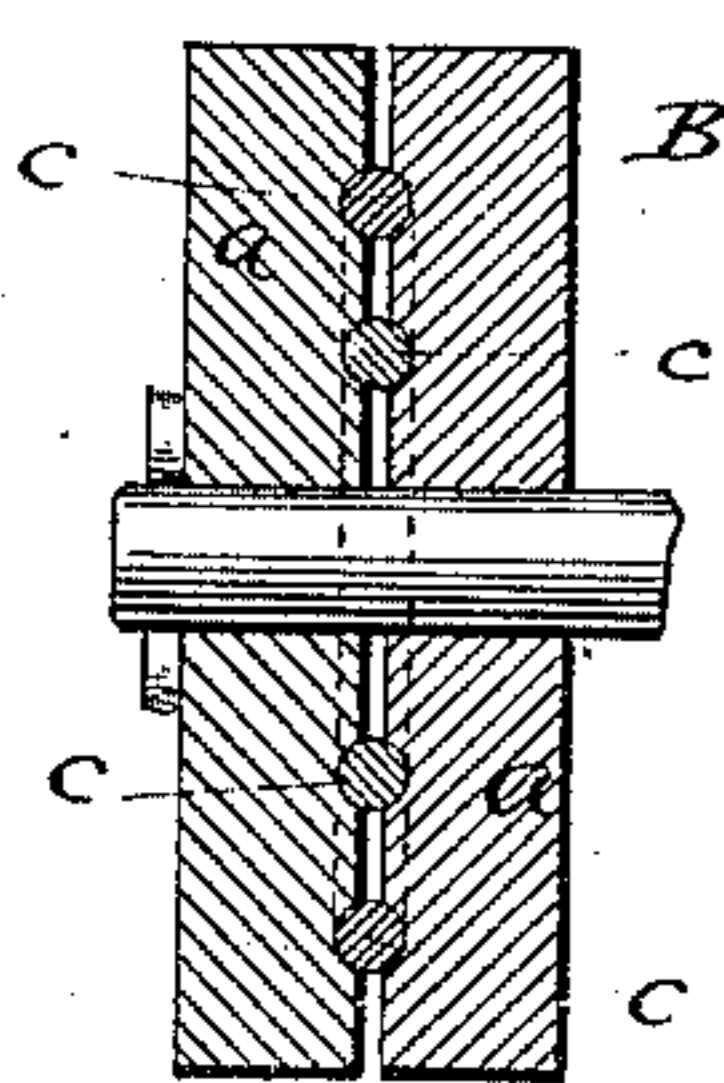


Fig. 6.

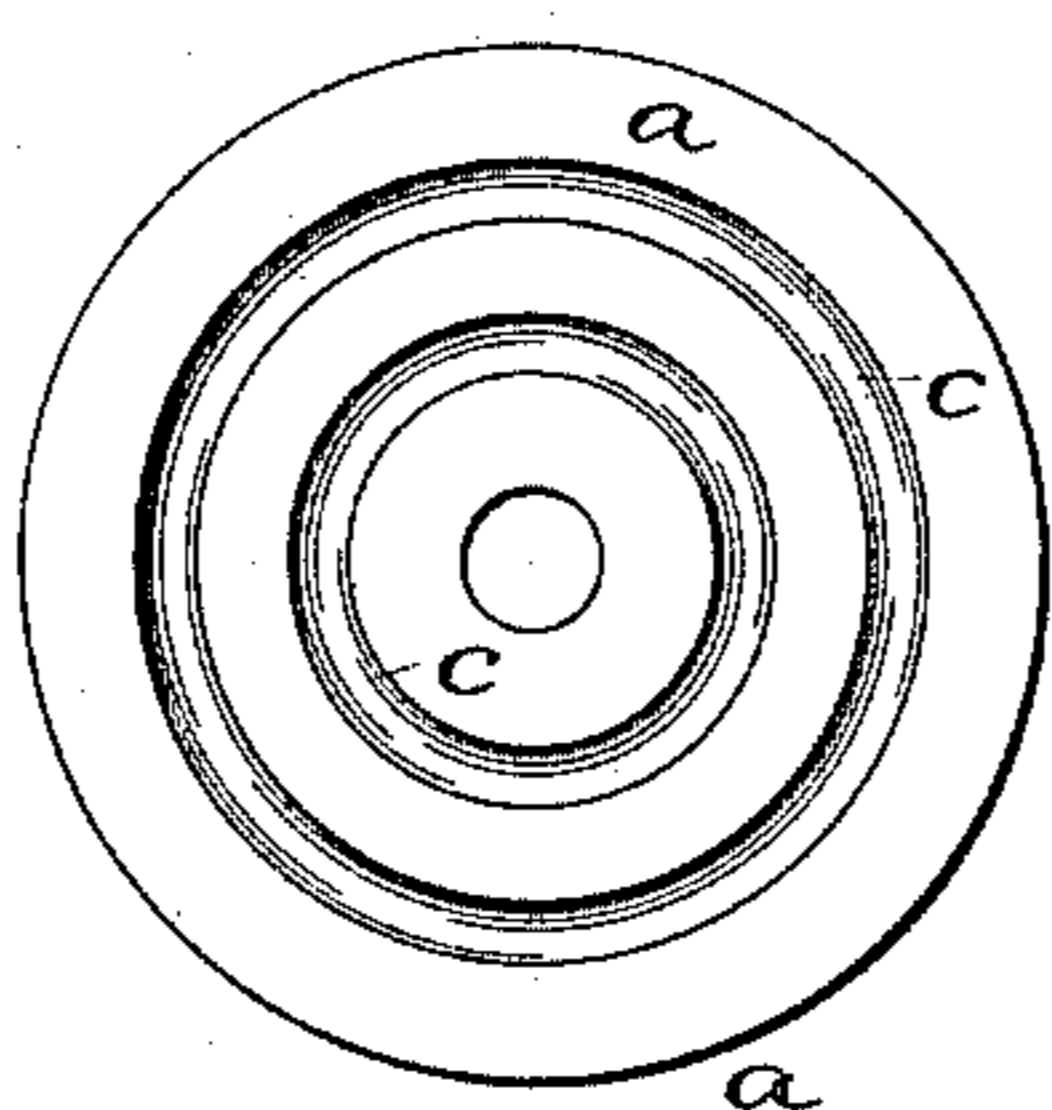


Fig. 7

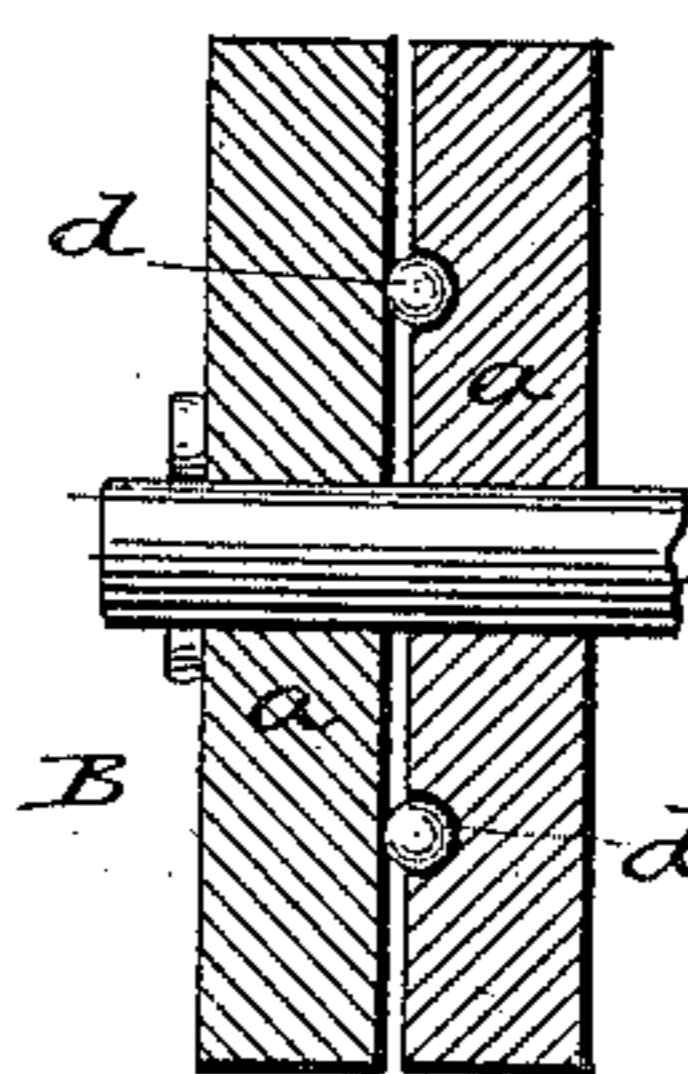
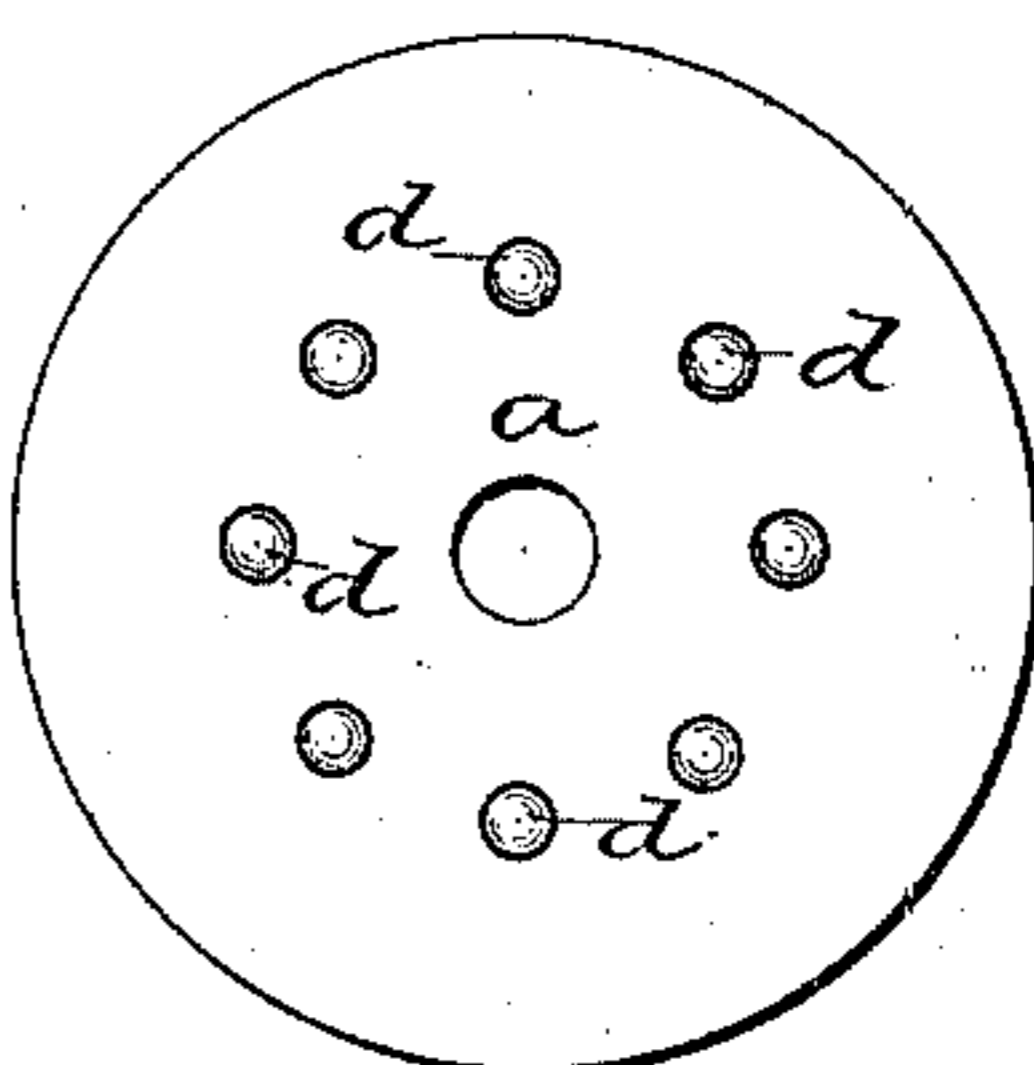


Fig. 8.



WITNESSES

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WILLIAM PATTERSON BROWN, OF ZANESVILLE, OHIO.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 330,093, dated November 10, 1885.

Application filed April 1, 1885. Serial No. 160,912. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. BROWN, of Zanesville, in the State of Ohio, have invented certain Improvements in Roller-Skates, of which the following is a specification.

This invention relates more particularly to that class of roller-skates in which the rolls have a turning or swiveling action beneath the body of the plate, although the improvements are also applicable to skates having the rolls fixed in position.

The principal aims of the invention are to give the wheels or rollers greater durability, to avoid the friction commonly encountered in turning the broad-faced wheels upon the floor when traveling in curved lines, and otherwise to reduce the friction.

With these ends in view the improvement consists in a wheel or roll divided at right angles into two or more sections adapted to revolve independently with their side faces slightly separated in order to expose their separate edges to the floor, the several sections forming, however, jointly, a single wheel, as contradistinguished from distinct and widely-separate wheels on a common shaft.

The improvements further consist in combining with the sections of the divided wheel intermediate devices to reduce the friction and prevent the rocking or tipping of the sections upon the axis.

The invention further consists of a wooden wheel having its center bushed by metal wires or rods passed transversely through the same in contact with the axle, whereby a wooden and metal bearing is produced.

Referring to the accompanying drawings, Figure 1 represents a perspective view of a skate of otherwise ordinary construction provided with my improved wheels. Fig. 2 is an elevation of one of the axles and its two wheels, one wheel being represented in section through the center. Fig. 3 is a perspective view of the washer or anti-friction plate used between the two sections of the wheel. Fig. 4 is a side elevation of the wheel, showing clearly the mode of bushing the eye or bearing. Fig. 5 is a vertical cross-section through the wheel, with an anti-friction device in the form of a ring instead of a plate. Fig. 6 is an inside

face view of one of the sections of this wheel. Fig. 7 is a cross-section of the wheel with anti-friction balls introduced between its sections. Fig. 8 is an inside face view of the same.

A represents the body of the skate, and B B the wheels thereunder, there being, as usual, two wheels at each end. Each of these wheels, instead of being made, as usual, of a single or solid piece, as plainly represented in the several figures, is divided at right angles to its axis into two halves or sections, *a*, presenting the form of thin circular disks. These sections are arranged side by side in close proximity, being, however, slightly separated, in order that their inner edges may be presented separately to the floor. Between the two sections, which are free to turn independently, and which are mounted on a common axis, I introduce a device to maintain their separation, to reduce the friction between their proximate faces, and to prevent them from tipping or canting sidewise upon the axle, as they would otherwise be liable to do on account of their narrow bearings thereon and by the strong lateral strains to which they are subjected. This intermediate device may consist of a thin metal disk, such as shown at *v* Figs. 2 and 3, or of a metal ring seated in annular grooves in the inner faces of the sections, as shown at *c*, Figs. 5 and 6, or of balls seated in holes in one of the sections and bearing against the face of the opposite section, as shown at *d*, Fig. 8, or of other equivalent devices.

It is to be particularly noted that the sections of my wheels do not constitute separate independent wheels in the ordinary acceptance of the word, but that, owing to the manner in which they are constructed and combined, they constitute jointly a single wheel having substantially the same size and, generally speaking, the same mode of action as the single solid wheels in common use.

Among other advantages arising from the division of the wheel into sections may be mentioned the fact that thus constructed the wheel presents an additional number of edges to the floor, whereby it is enabled to resist more effectively the tendency to slip sidewise upon the surface; the fact that the sections may be transposed or turned side for side, so

as to bring the outer edges to the center and thus equalize the wear on the surface and avoid that tendency which commonly exists of the wheels assuming a rounded or curved form; the fact that when describing curved paths that side of the wheel which travels through the greatest arc may turn independently of the inner section, thus avoiding the frictional action upon the floor and permitting the skate to travel with greater freedom, and the fact that the central space or groove between the sections prevents the dust and dirt from accumulating in the middle of the face, as commonly occurs on solid wheels, and which accumulation has the effect of causing the wheel to slip upon the floor to a serious degree.

In practice it is found that the eyes or bearings of the rolls cut or wear away with great rapidity. To avoid this difficulty, and provide for the bushing of the rolls when worn, I construct the body of the wheels of wood or equivalent material, as usual, and insert transversely through them a series of wires or metal rods, *e*, grouped around the central hole, and each exposed at the inner edge within said hole, as shown in Figs. 2 and 4, so as to bear upon the pivot or axle. It will be observed that these pins are arranged at some distance apart, so that the intermediate portions of the wood may also bear upon the axle, whereby a combined wood and metal bearing is provided. This combination is found in practice to be highly advantageous, inasmuch as the wood serves to retain the oil or other lubricant, to take up the fine particles of metal which are worn away, and to keep the surface of the axle in a highly-polished condition, so that the wheel will run thereon with entire freedom. The metal bushing-pins are driven forcibly into the wood so as to be retained by friction. Their insertion has the effect of compressing or solidifying the wood lying between them, and thus adapting the same to better withstand the wear. In the event of the eye or opening becoming unduly worn, the metal pins may be readily driven from the wheels and replaced by others of greater diameter, thus reducing the eye or

opening to its original size, and, if desired, below that size, to compensate for wear of the axle.

I am aware that solid metal bushings have been applied to wheels of various kinds, but I believe myself to be the first to combine a wood and metal bearing, such as herein described, and in practice I find this particular construction highly advantageous.

I am aware that small collars have been used, and also that a single central ball has been used between two wheels of a roller-skate to maintain their separation. It is to be noted that the devices which I employ act between the sections of the wheel at points distant from the center, or, in other words, near the periphery, whereby the wheels are mutually sustained against the strains tending to tip them sidewise.

Having thus described my invention, what I claim is—

1. The improved skate-roll, consisting of the wooden or equivalent body, having metallic wires or rods inserted to form a bushing or bearing for the axle, substantially as described.

2. A roller-skate provided with two swiveling blocks or trucks, each truck provided with two wheels divided into sections adapted to revolve independently, as and for the purpose described.

3. In combination with a skate-roller consisting of two independently-revolving sections arranged in close proximity, an intermediate bearing or bearings located at a distance from the center, whereby the sections are adapted to support each other against lateral strain.

4. In a skate-roller, the combination of two independently-revolving sections with their faces in close proximity, annular grooves in the proximate faces, and intermediate bearings or supports seated in said grooves.

In testimony whereof I hereunto set my hand, this 14th day of March, 1885, in the presence of two attesting witnesses.

WILLIAM PATTERSON BROWN.

Witnesses:

DANIEL B. GARY,
GEORGE BROWN.