(No Model.)

F. W. WALL.

ROLLER SKATE.

No. 321,466. Patented July 7, 1885.

Fig. 1.

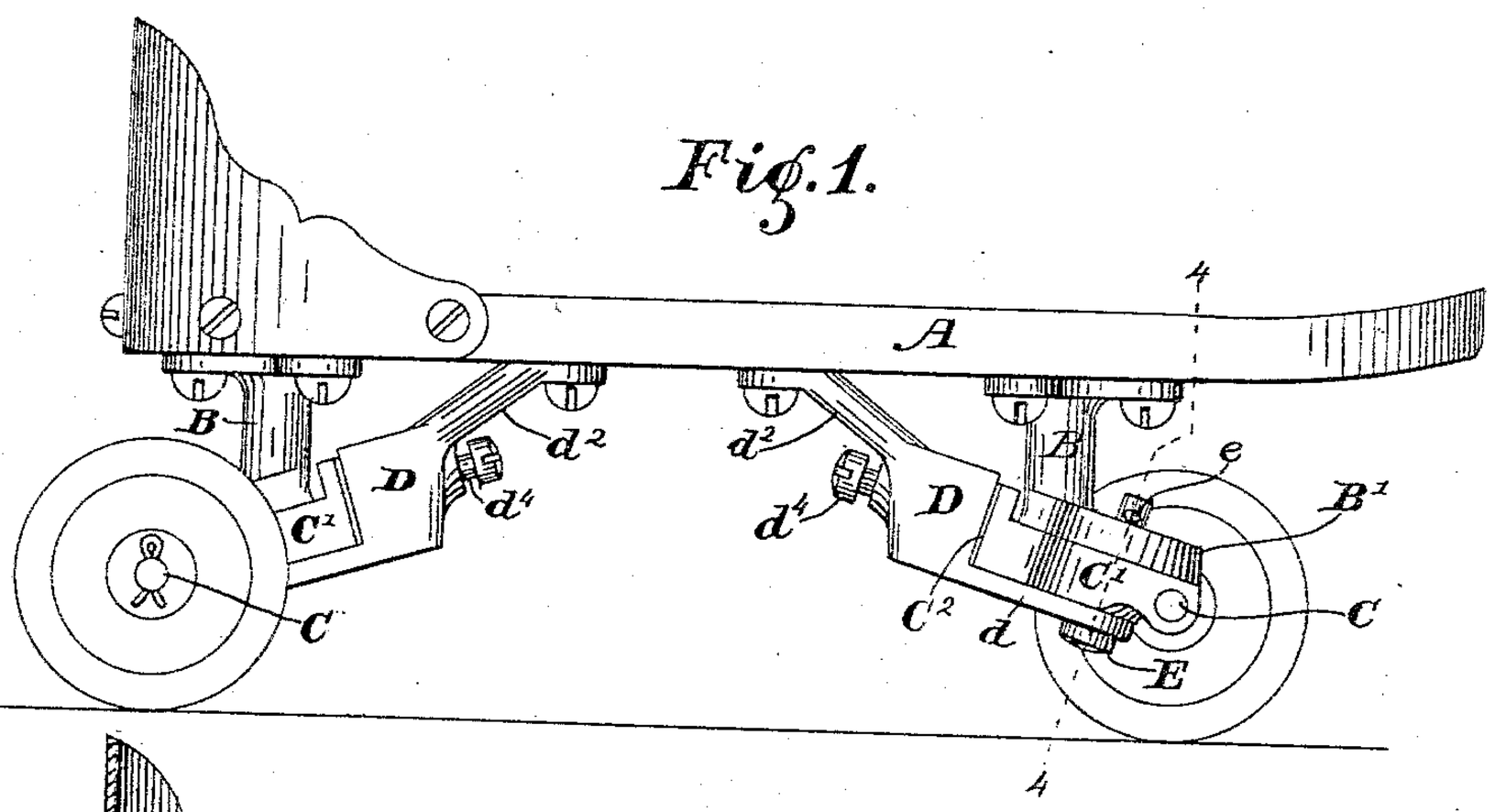


Fig. 2.

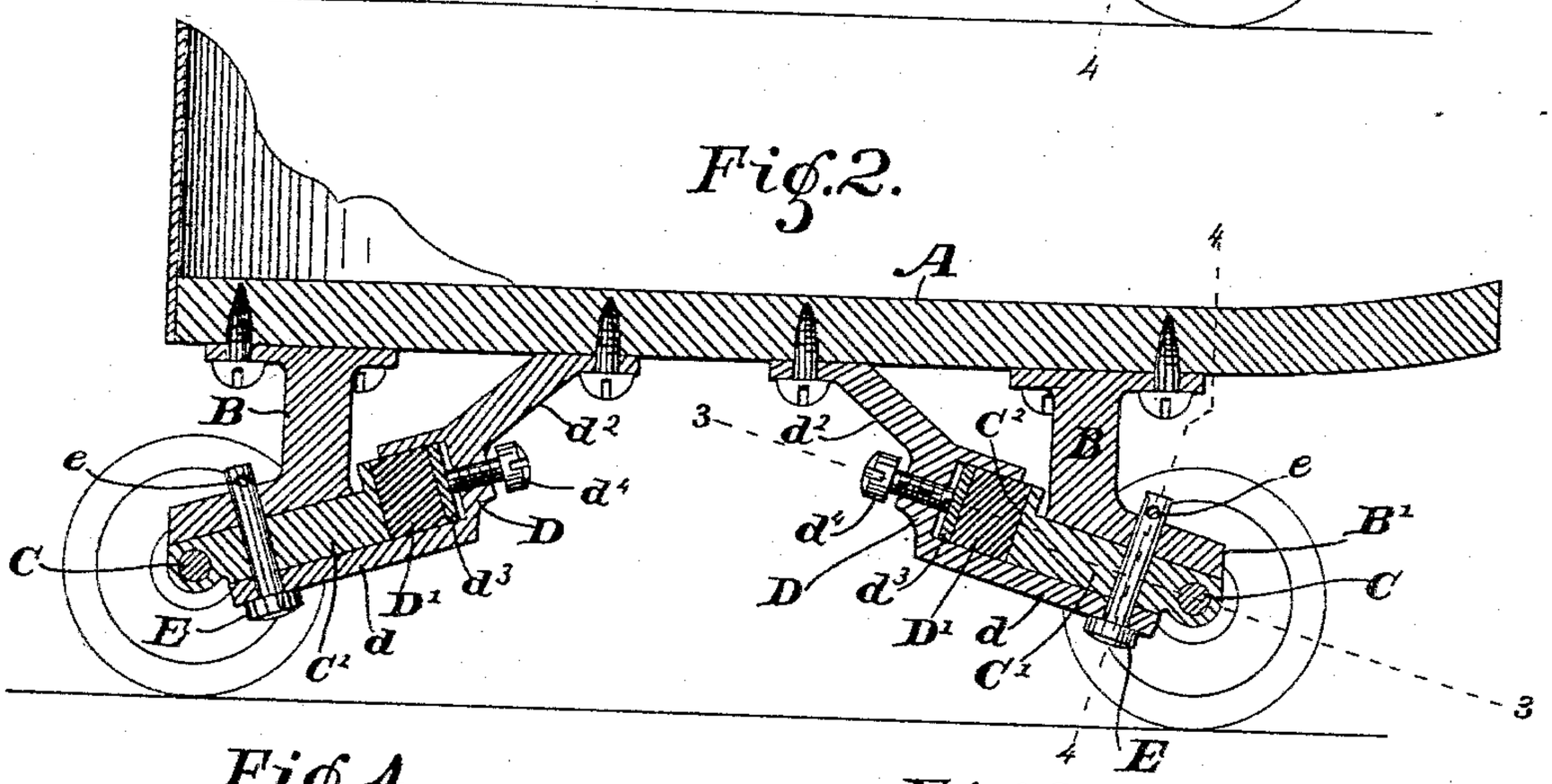


Fig. 4.

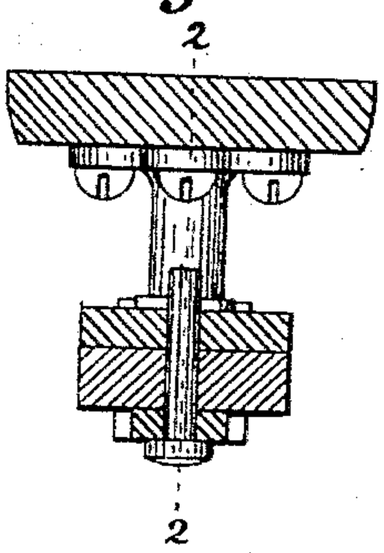
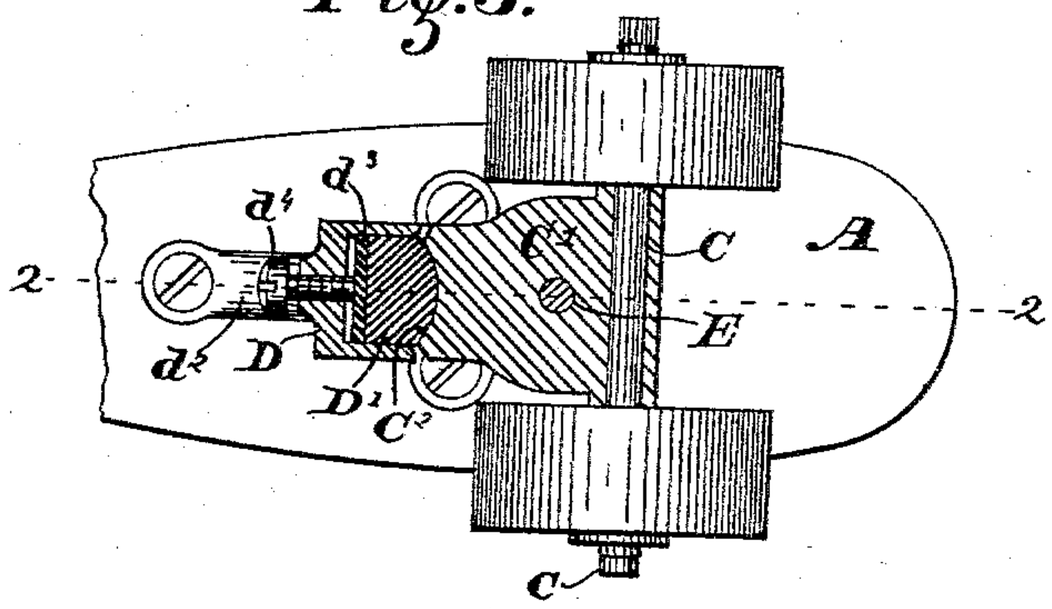


Fig. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

FREDERIC W. WALL, OF CONNERSVILLE, INDIANA, ASSIGNOR OF ONE-HALF TO JAMES NELSON HUSTON, OF SAME PLACE.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 321,466, dated July 7, 1885.

Application filed March 10, 1885. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC W. WALL, of the city of Connersville, county of Fayette and State of Indiana, have invented certain new and useful Improvements in Roller-Skates, of which the following is a specification.

My said invention consists in an improved construction of the mechanism for mounting the rolls of roller-skates, whereby a skate is produced which gives a solid and firm support to the user, and one capable of turning very short curves when desired, as will be hereinafter more fully described.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a side elevation of a skate embodying my invention, one of the rolls being removed to show my improved mechanism; Fig. 2, a longitudinal vertical section through the same on the dotted line 2 2; Fig. 3, a detail horizontal sectional view looking upwardly from the dotted line 3 3, and Fig. 4 a detail sectional view looking toward the left from the dotted line 4 4.

In said drawings the portions marked A represent the foot-board of the skate; B, hangers secured thereto; C, the axle; D, a spring-box in which the rubber spring is mounted, and E the pivot-pin which secures the parts together. The foot-board A is any ordinary or suitable foot-board, and needs no special description. The hangers B are secured to the under side of the board by screws, or in any other suitable manner. Each has a bearing-plate, B′, formed on its lower end. The face of said bearing-plate is inclined, as shown, so that the rolls may be easily and readily turned by the cant of the foot, in the usual manner. A pivot-hole is formed in the center of said bearing-plate at right angles with the face thereof, through which the pivot or pin which secures the parts together, and on which the axle-block swings, is inserted.

Centrally upon the axle C is the axle-block C′, which extends out on one side thereof, and has a pivot hole formed therein, which, when in position, registers with the hole *b* in the plate B′. The axle-block C′ extends in toward the middle portion of the skate, and has a face, C^2, formed on the inner end thereof, which is formed concave, and is adapted to fit into the open end of the spring-box D, and bear against the rubber spring inclosed therein. The spring-box D is of a size to accommodate a suitable rubber spring, D′, the side next the axle being open. The under side of the box is extended forward into a flange, *d*, and is provided with a hole, *d*′, through which the pin E is inserted. An arm, d^2, on this spring-box extends up to the under side of the foot-board, to which it is secured. The box is thus not only securely held in position, but an efficient brace is provided, which adds strength to the mechanism and holds it in place.

The spring D′, which is mounted in the box D, is preferably a piece of rubber of the required size; but of course may be any spring which is found to be suitable. Its tension is regulated by the plate d^3, which is interposed between said spring and the back side of the box and the set-screw d^4, which screws through said back side and bears against said plate. The pivot-pin E extends up through the holes in the flange *d* of the box D, the block C′ on the axle C, and the bearing-plate B′ on the lower end of the standard B, thus securing said several parts together. It also forms a pivot on which the axle-block swings when the skater is turning, the holes through the several parts being all formed at right angles with the face of the bearing-plate, permitting a free movement. Said pin is secured in place by a key, *e*, inserted through a transverse hole in its top end, as shown, or in any other suitable manner.

In turning on the skate provided with this invention the axle-block, axle, and rolls swing on the pivot E, and the concave-faced axle-block is forced around, one of the corners pressing in against the rubber spring and compressing it. When the curve has been made, the strain being removed from the spring, it expands and again forces the block out and returns the rolls to normal position. The face of the block being formed concave, the corners thereof bear against the spring at such an angle as tends to force said spring back into the corner of said box instead of pressing it out on the other side. By loosening or tightening the tension-screw d^4, a very flexible mechanism, capable of

turning very short curves, or a very rigid mechanism, can be secured.

In operation my invention affords a broad solid bearing-surface between the bearing-plate of the roller-axle and that of the standard, and thus gives a firm and steady support to the skater at all times and in all positions of the skate.

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

1. In a roller-skate, the combination of the hanger B, secured to the foot-board of said skate and having a bearing-plate, B′, formed on its lower end, the bearing-surface of which is inclined, the axle C, axle-block C′ on said axle having a concave face, C^2, formed on the inner end of said plate, box D, having the flange *d* and arm d^2, the spring D′, inclosed in said box, and the pivot-pin E, inserted through holes in said several parts, substantially as described, and for the purposes set forth.

2. In a roller-skate, the combination of the foot-board A, hangers B, secured thereto and provided with bearing-plates on its lower end, axle C, axle-blocks C′, formed on said axle, having concave face C^2, spring-box D, and spring D′, inclosed therein, substantially as set forth.

3. The combination, in a roller-skate, of the hanger B, secured to the under side of the foot-board, bearing-plate B′, formed on the lower end of said hanger and having an inclined face, axle C, axle-block C′, rigidly secured on one side of said axle and provided with a bearing-surface on its front end, and the box D, having a spring, D′, therein, said several parts being secured together by a pivot-pin, E, which passes through them at a right angle to the line of motion, substantially as set forth.

4. In a roller-skate, the combination, with the foot-board and hanger B, secured thereto, of the axle-block C′, rigidly secured to the axle C at one end and having a concave face, C^2, on its other, the spring-box D, secured in front of said concave face, its open end being adapted to receive said block, and the spring D′, inclosed in said box, one end of which bears against said concave face of the block C^2, whereby said pivot-block and the rolls are kept in proper position, substantially as set forth.

5. The combination of the foot-board, the hangers, the axle-blocks, the axle-rolls thereon, the spring-box, the spring D′, interposed between said spring-box and said axle-block, a plate, d^3, behind said spring in said spring-box, and a set-screw, d^4, passing through said box and bearing against said plate, substantially as described, and for the purposes specified.

6. The combination of the foot-board, the hangers B, having inclined-faced plates B′, the correspondingly-inclined faced axle-blocks, suitable springs, and pivot-pins passing through said plates and said axle-blocks at right angles with the faces thereof, which are in contact, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 4th day of March, A. D. 1885.

FREDERIC W. WALL. [L. S.]

In presence of—

E. W. BRADFORD,

CHARLES L. THURBER.