

(No Model.)

M. SHOLES.  
ROLLER SKATE.

No. 328,072.

Patented Oct. 13, 1885.

Fig. 1.

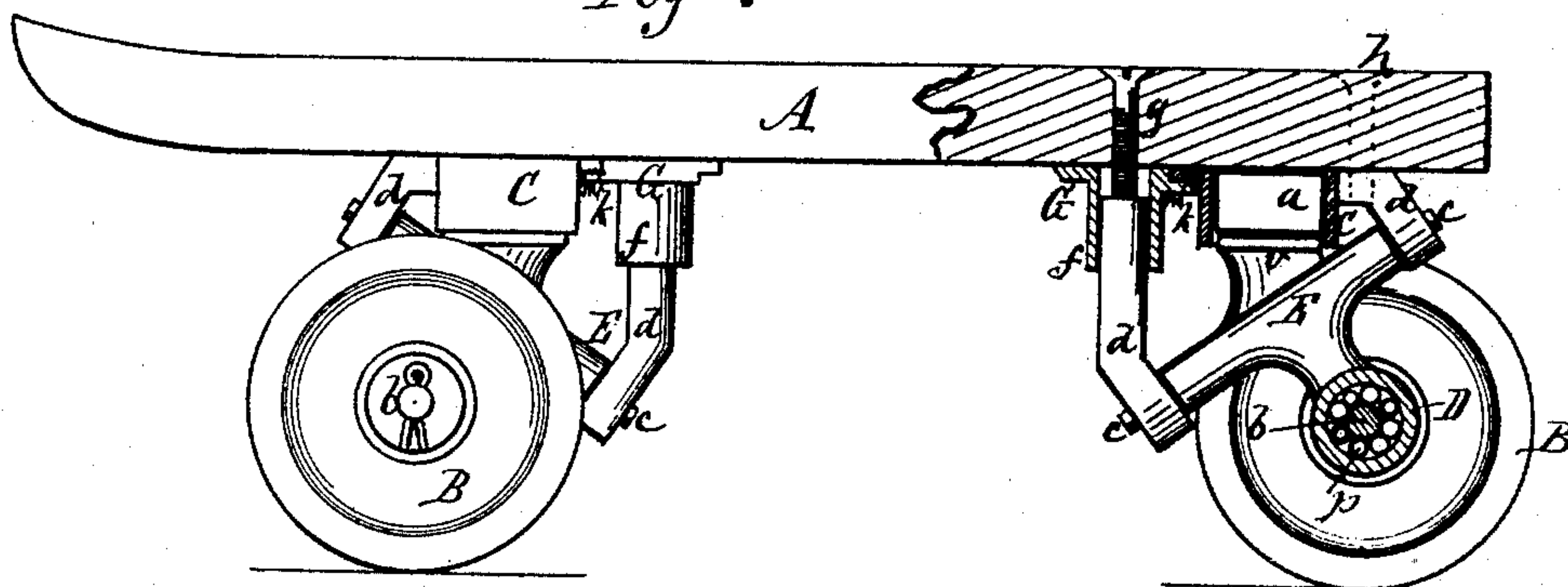


Fig. 2.

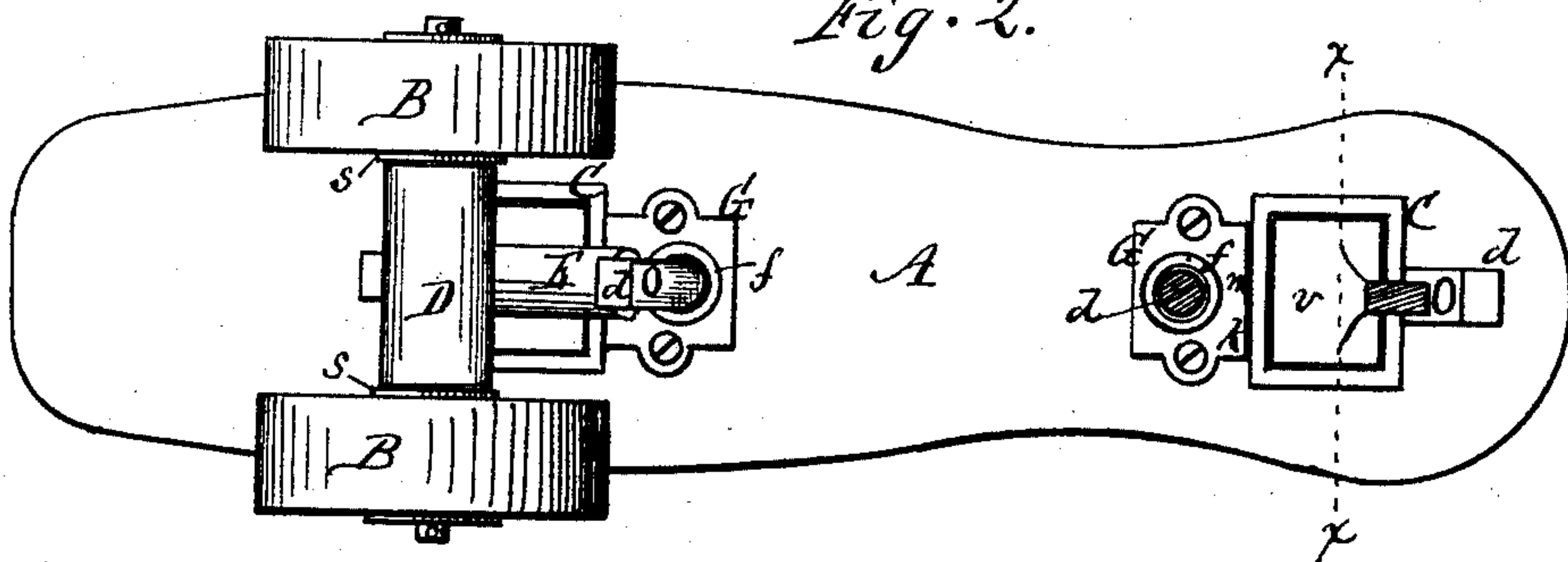


Fig. 3.

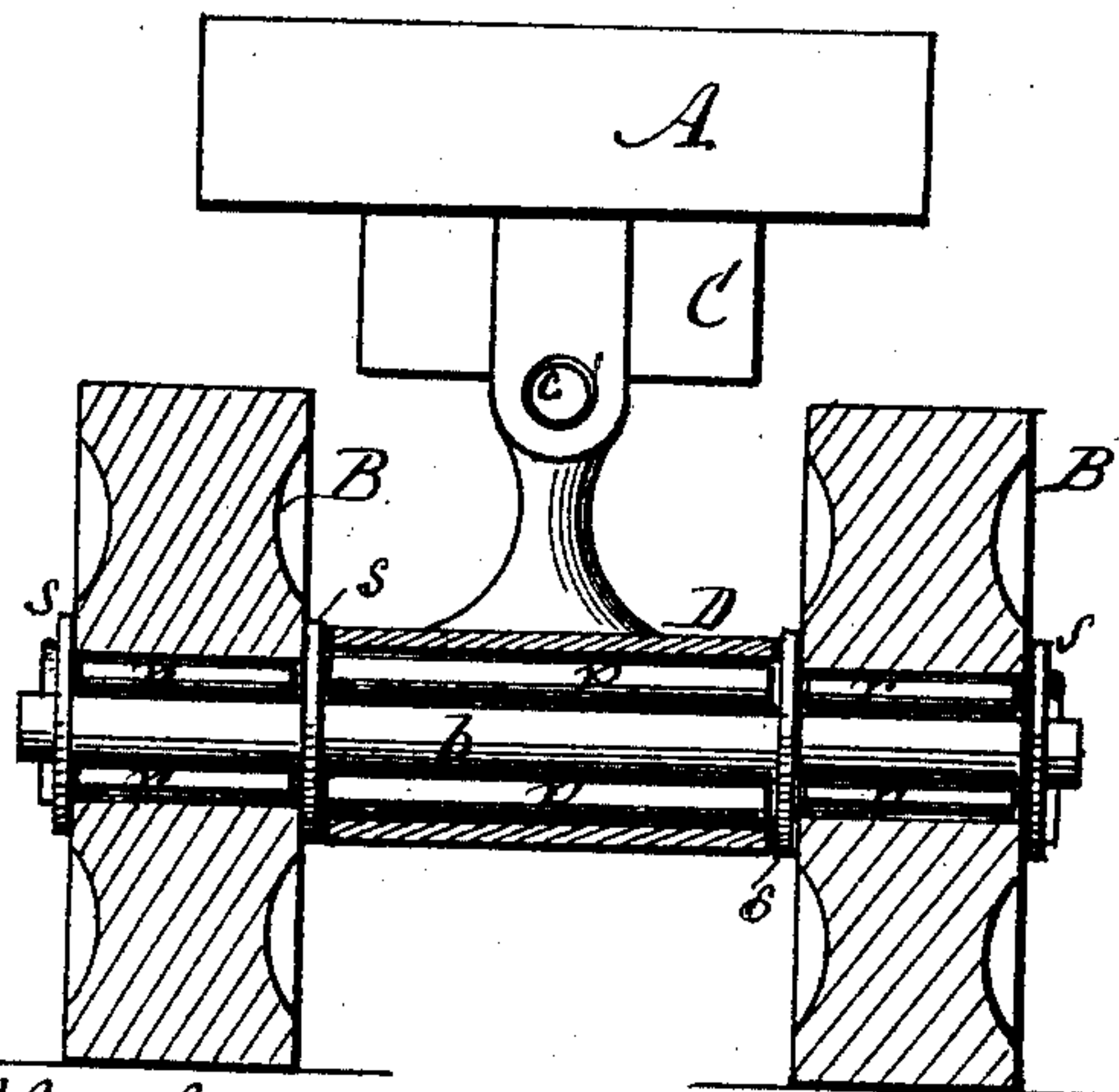
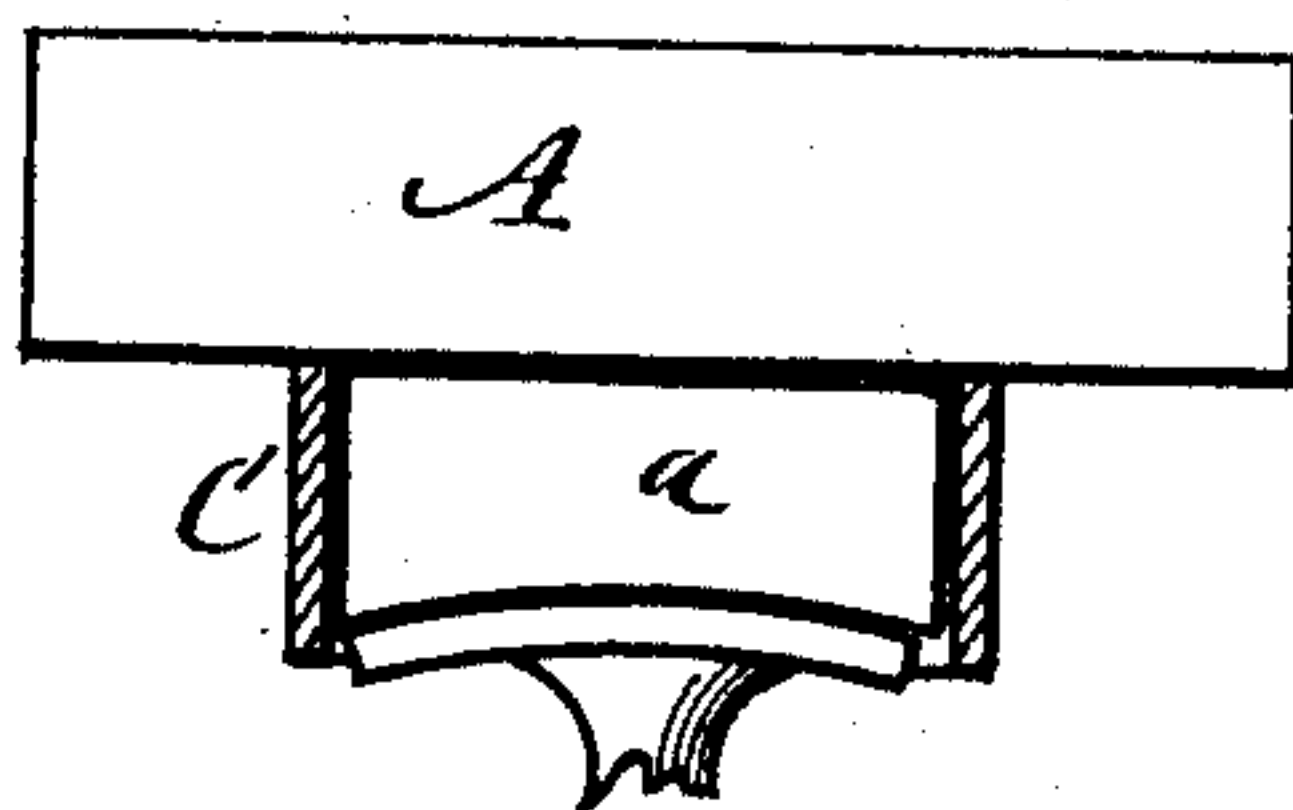


Fig. 4.



Attest.

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# UNITED STATES PATENT OFFICE.

MARION SHOLES, OF ROCHESTER, NEW YORK.

## ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 328,072, dated October 13, 1885.

Application filed November 29, 1884. Serial No. 149,195. (No model.)

*To all whom it may concern:*

Be it known that I, MARION SHOLES, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain  
5 new and useful Improvement in Skates; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

- 10 Figure 1 is an elevation, partially in section, of a skate showing my improvement. Fig. 2 is a bottom view of the same, one of the sets of rollers being removed to show the bearing connecting the rollers with the skate-body.  
15 Fig. 3 is a rear elevation, partially in section, on an enlarged scale. Fig. 4 is a cross-section in line *xx* of Fig. 2.

My improvement relates to roller-skates.

- 20 The invention consists, first, in an improved construction of the running-gear, whereby the action of the rollers in turning curves and in inclining vertically to accommodate the action of the foot is rendered more effective; and,  
25 second, the combination, with the pipe-box that supports the loose shaft of the rollers, of friction-rolls inserted loosely in the pipe-box surrounding the shaft, and corresponding friction-rolls in the boxes of the wheels surrounding the shaft, the whole arranged to operate  
30 in the manner and for the purpose hereinafter more fully described.

- In the drawings, A shows the body of the skate, which is of ordinary construction. B  
35 B are the rollers or wheels, which are also of ordinary construction.

My improvement is as follows:

- C is a box or trough open at its top and bottom, but closed on its sides, and serving to hold the block of rubber *a* that forms the  
40 spring to the rollers. The rubber simply sets in this box against the back of the skate-body, its lower edge being exposed and receiving the bearing that holds the rollers.

- 45 D is a pipe-box, through which the shaft *b* of the rollers passes loosely.

- E is an inclined cross-head forming an axis on which the rollers rock vertically and laterally to accommodate the foot of the wearer. The cross-head stands at right angles to the  
50 pipe-box, and at its ends it has short journals *c c*, made by casting a steel rod or wire into

the cross-head. *dd* are bearings in which the journals of the cross-head rest and turn. These bearings are of unequal length, the inner one being the longest. By this means as the skate  
55 rocks on the cross-head laterally the rollers will be turned at the proper angle to describe a curve in skating. The outer bearing is cast solid with the box C; but the inner one is made separate to adjust up and down, and is  
60 arranged as follows:

G is a cap screwed on the under side of the skate-body, and provided with a tube, *f*, which projects downward. The upper end of the  
55 inner bearing *d* rests loosely in the tube and has free movement therein. A screw, *g*, passes down through the skate-body and enters the top of the bearing *d*, by which means it is held fast in position. A similar screw, *h*, passes down through the skate-body into  
70 the outer bearing *d*, and holds the box fast at that end. *k* is a flange on the inner edge of the box C, and *m* is an overlapping flange of the cap D, which covers it, and when the screw *g* is drawn up it will be seen that the box will  
75 be held fast on the inner edge. *v* is a metallic pad attached to the top of the cross-head E, and resting against the under side of the rubber spring *a*, and receiving the pressure from the skate-body. The top of the pad is  
80 convex in cross-section, by which means when the skate-body is rocked on the rollers the pressure will be uniform and even over the whole surface of the rubber, and it will not cut and wear, as in common skates where the  
85 rubber is open and exposed. The rubber by being inclosed on all sides is protected from harm, and under ordinary circumstances will wear as long as the skate itself.

The pipe-box D is made of considerably larger  
90 internal diameter than the shaft *b*, which runs through it, and in the annular space between the box and shaft are placed a number of small friction-rolls, *p p*, as closely together as possible, filling the whole space and extending  
95 from end to end of the pipe-box, as shown in the rear view, Fig. 3. In the hubs of the wheels are placed similar friction-rolls, *r r*, which fit between the shaft and the interior walls of the hub. Thus there are three dif-  
100 ferent sets of friction-rolls, all arranged in the same line, but separated from each other, one



set resting in the pipe-box and relieving the friction of the shaft as it turns independently in the box, the other two resting in the hubs of the wheels and relieving the friction of the wheels as they turn independently on the shaft. It is necessary to allow the shaft a free motion in the pipe-box to prevent its bending under the great weight that rests upon it, and the friction-rolls relieve the friction that would otherwise occur. The friction-rolls are cut in given lengths from a steel wire or rod and laid in loosely, and the several sets are separated simply by washers *s s*, placed around the shaft.

I am aware that in wheels and rollers of various kinds anti-friction rolls are used; but such broadly I disclaim, and confine myself to the special construction herein shown and described—viz., the combination of three distinct sets with the pipe-box and wheels.

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

1. In a roller-skate, the combination of the box C, open at its bottom, but closed at its sides, the rubber packing *a*, resting in the box, and the pipe-box D, provided with a cross-head, E, having a pad, *v*, convex in cross-section, resting against the bottom of the pack-

ing, as shown and described, and for the purpose specified.

2. In a roller-skate, the combination of the box C, open at its bottom, but closed at its sides, the rubber packing *a*, resting in the box, the pipe-box D, provided with a cross-head, E, having a convex pad, *v*, resting against the packing, and the cap G, provided with a tube, *f*, which receives the upper end of the bearing *d*, said bearing being secured by a screw, *g*, as shown and described, and for the purpose specified.

3. In a roller-skate, the combination, with the pipe-box D, and wheels B B, and the shaft *b*, of the three independent sets of friction-rolls *p r r*, one set being placed in the pipe-box and the other two sets in the hubs of the wheels surrounding the shaft, and the several sets being separated by washers, as shown and described, and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

MARION SHOLES.

Witnesses:

R. F. OSGOOD,  
P. A. COSTICH.