

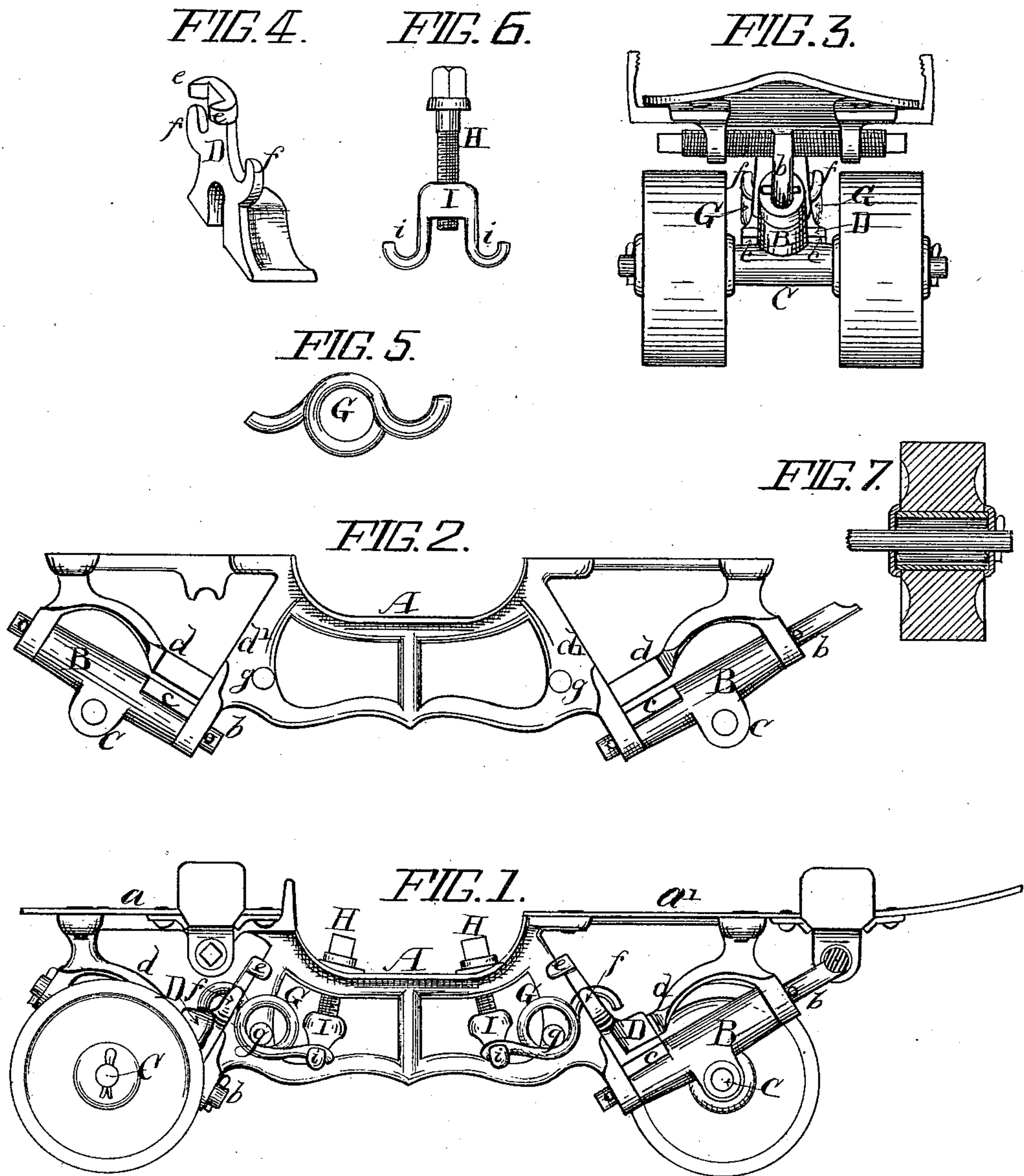
(No Model.)

A. E. FRANCIS.

ROLLER SKATE.

No. 336,308.

Patented Feb. 16, 1886.



WITNESS.

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UNITED STATES PATENT OFFICE.

ALLAN E. FRANCIS, OF CLEVELAND, OHIO.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 336,308, dated February 16, 1886.

Application filed April 15, 1885. Serial No. 162,375. (No model.)

To all whom it may concern:

Be it known that I, ALLAN E. FRANCIS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Roller-Skates, of which the following is a specification.

This invention relates to roller-skates; and it consists in providing the skate with adjustable metal springs, which control the turning of the axles, whereby the tension of said springs may be increased or diminished, as may be required, to adapt the skate to light or heavy persons.

The invention also has for its object to employ a metal spring, instead of the rubber springs now in use, which are not durable and liable to get out of order.

My invention consists of the mechanism, as hereinafter fully described and claimed.

In the drawings, Figure 1 is a side elevation of my new skate. Fig. 2 is a detached view of the frame which supports the running parts. Fig. 3 is a front end view of the skate. Fig. 4 is a detached view of the sliding piece connected with the axle and connected with the spring. Fig. 5 is a detached view of the spring. Fig. 6 is a detached view of the adjusting-screw with its hooked nut, which engages with the springs. Fig. 7 is a vertical section of a roller, showing anti-friction rolls.

A, in Figs. 1 and 2, is a metal frame, to which are attached a heel-plate, *a*, and a toe-plate, *a'*. These are separate plates, leaving an open space under the hollow of the foot, and the frame between said plates is curved downward. Each end of said frame forms the brackets for the axle-sleeves B, which are set in diagonal lines and turn on pintles *b*.

C are the axles.

D D are sliding pieces, having their lower ends bifurcated to straddle the arms *d d* of the frame A. Said pieces lie on the slanting side of arms *d' d'*, and their lower ends bear against lugs *c c* on the sides of the sleeves B. Their upper ends have lugs *e e*, which lie on sides of the said arms *d*. They also have hooks *f f* on each side, which engage with the ends of the springs.

G G are coil-springs, placed on lugs *g g* on the sides of the frame A, having one of their ends resting in the hooks *f* of the pieces D.

H H are screws put through holes in the frame A, and having square heads for adapting them to be turned by a key-wrench. They are provided with nuts I, having hooks *i i*, which hold the opposite ends of the springs G. The purpose of these springs is to regulate the turning of the axles while skating, the object of the screws being to increase or lessen the tension of the springs by tightening them up more or less.

The heel-plate and toe-plate are both provided with clamping devices for holding the skate to the foot of the skater. The rollers are also provided with anti-friction rolls in their hubs.

Having described my invention, I claim as follows:

1. The sliding blocks D, having their lower ends bifurcated and provided with the hook *f f* and lugs *e e*, in combination with the brackets and springs G G, and adapted to be pushed by the lugs *c c* on the axle-sleeves B, as and for the purpose specified.

2. The coil-springs G G, in combination with the brackets of the frame A, having the lugs *g g*, and the sliding blocks D, substantially as and for the purpose specified.

3. The adjusting-screws H H, provided with hooked nuts I, in combination with the coil-springs G G, and the frame A, the sliding block D, and vibrating axle B, substantially as and for the purpose specified.

4. In combination with the frame A, provided with the brackets adapted to hold the axle sleeves B on their pintles *b*, and provided with the heel-plate *a* and toe-plate *a'*, the springs G G, sliding blocks D, and adjusting-screws H H, having hooked nuts I, all constructed substantially as specified.

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Witnesses:

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