

(No Model.)

E. H. BARNEY.

ROLLER SKATE.

No. 312,952.

Patented Feb. 24, 1885.

fig 1

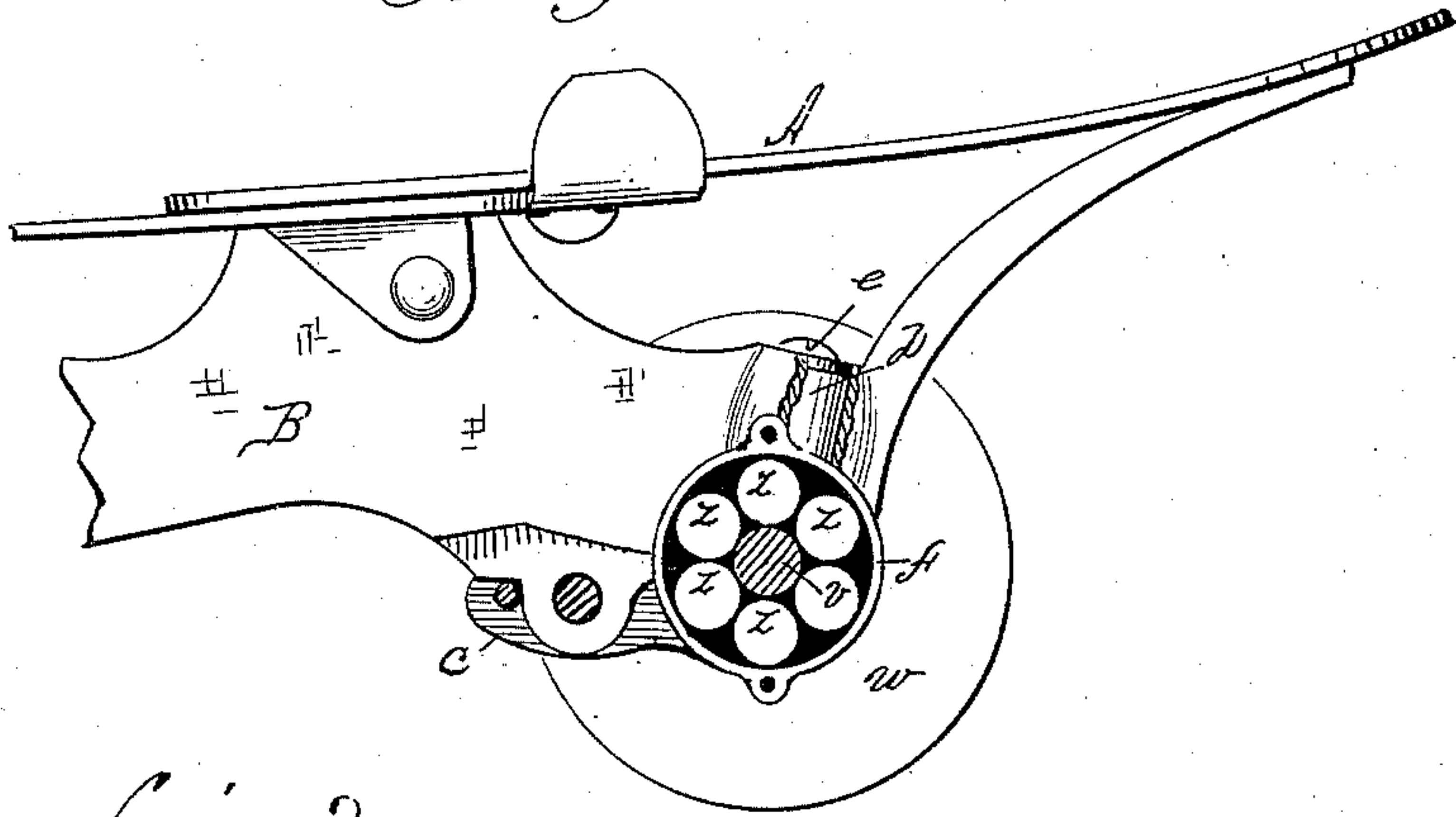


fig 2

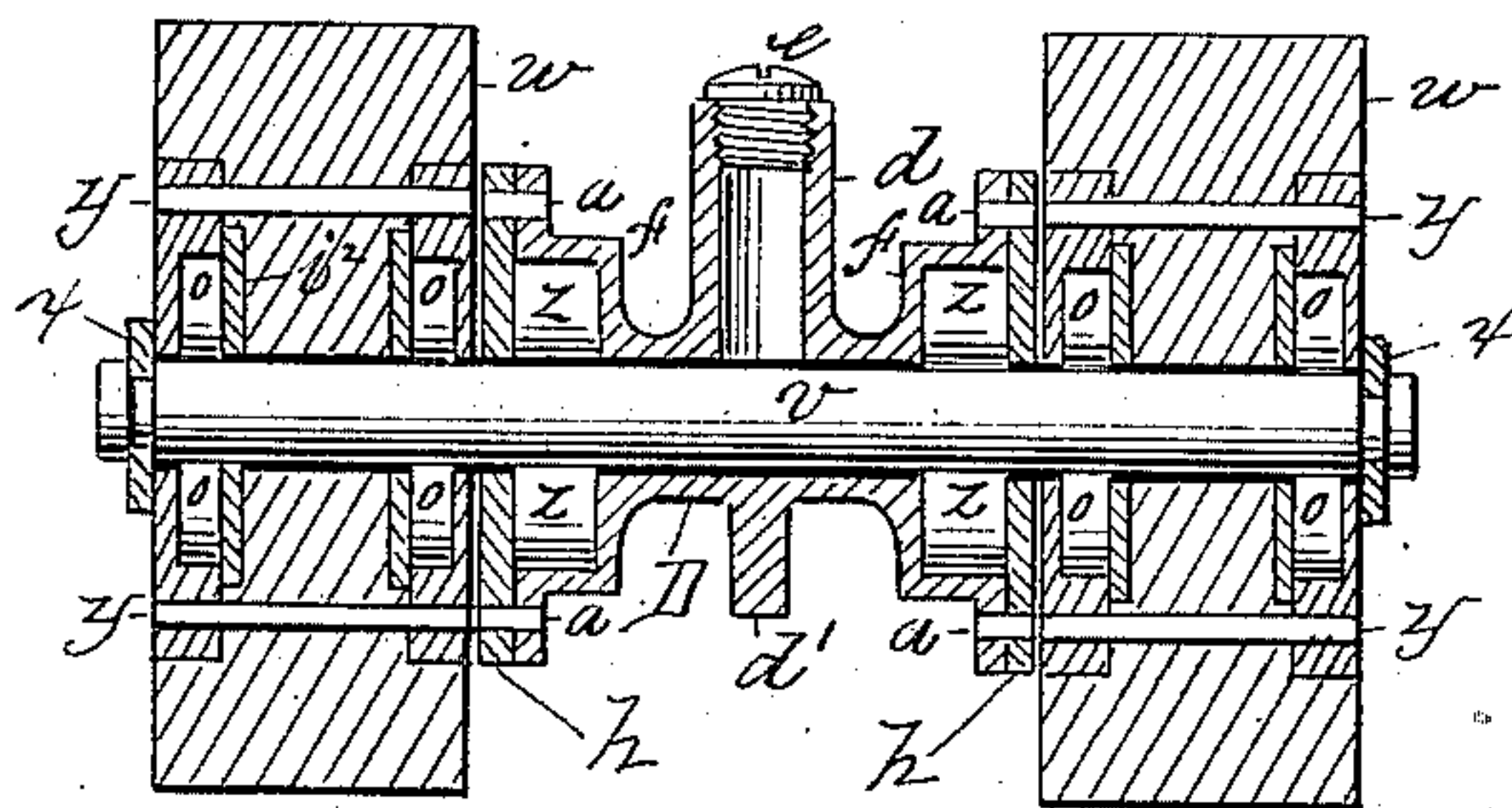


fig 3

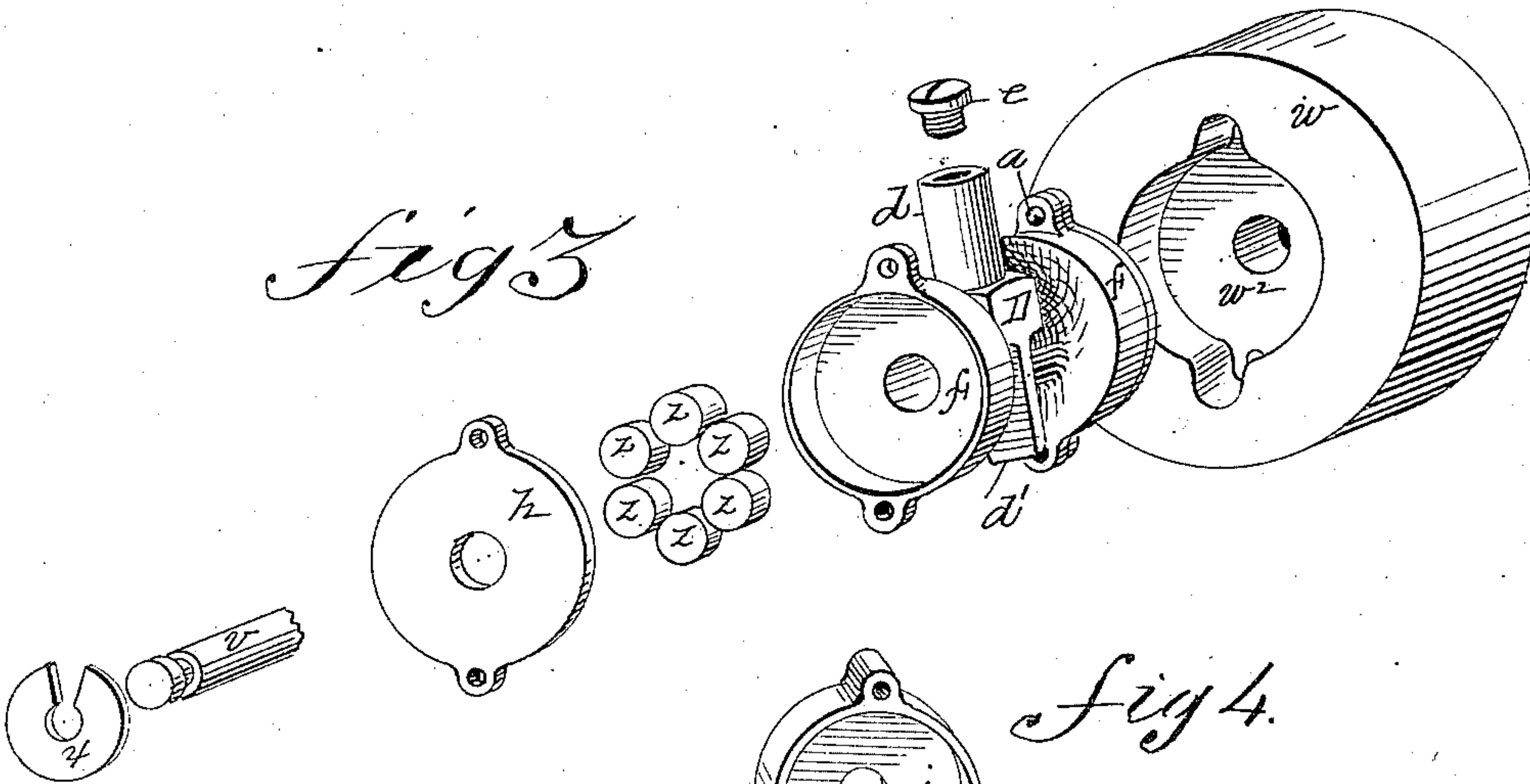
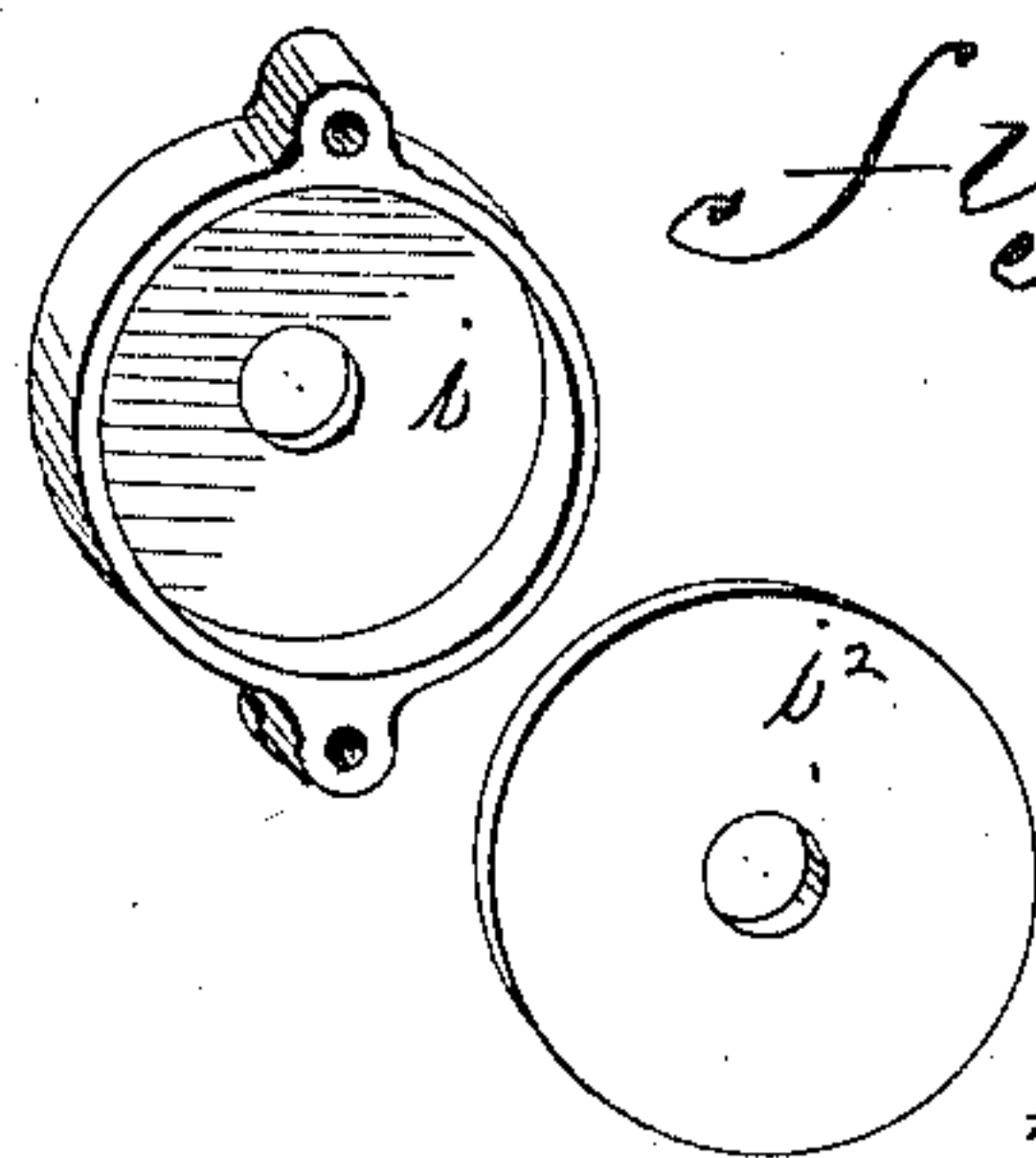


fig 4.



WITNESSES:

J. D. Garfield
Wm. H. Chapin

INVENTOR

Ernest H. Barney

BY

Harry A. Chapin
ATTORNEY

UNITED STATES PATENT OFFICE.

EVERETT H. BARNEY, OF SPRINGFIELD, MASSACHUSETTS.

ROLLER-SKATE.

SPECIFICATION forming part of Letters Patent No. 312,952, dated February 24, 1885.

Application filed January 5, 1885. (No model.)

To all whom it may concern:

Be it known that I, EVERETT H. BARNEY, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Roller-Skates, of which the following is a specification.

This invention relates to improvements in roller-skates, the object being to provide improved axle-bearings in the journal-box and in the wheels of such skates, whereby the friction of the running parts thereof is greatly reduced, and to provide an improved construction of roller-journal box, whereby by permitting the skate-frame to set low, near to the axle, the height of the skate is less than those heretofore made having similar bearings.

In the drawings forming part of this specification, Figure 1 is a side elevation, partly in section, of the forward end of a roller-skate embodying my improvements. Fig. 2 is a longitudinal section of the journal-box and wheels, showing the axle therein. Figs. 3 and 4 illustrate detail parts.

In the drawings, A is a part of the sole-plate of the skate, and B a part of the frame thereof. D is the journal-box, and *c* is a spring secured to the frame and having one end bearing against the stud *d'* on the lower side of the journal-box; and *v* is the axle, having the wheels *w* secured thereon by the split washers *x*.

The construction and operation of the spring *c* with the frame A and the journal-box, together with the manner of securing the wheels *w* on the axle *v* by means of the split washers *x*, are all set forth in my patents dated October 3, 1882, and February 12, 1884, to which reference may be had.

In my said patent of 1884 the journal-box post *d* is shown perforated to provide for oiling the axle through the post, as shown herein in Fig. 2 of the drawings; but to make said post substantially a vacuum oil-reservoir, so that the oil therein will be delivered to the axle *v* very slowly, and only so fast as demanded, and without waste, the post *d* is provided with the screw-plug *e*, which is screwed tightly into it after the cavity in the post has been supplied with oil. When the skate is

used, the oil will gradually escape from its reservoir, and following the axle will reach all of the parts upon which the latter bears, properly lubricating them. The ends of the journal-box D adjoining the inner sides of the wheels *w* are provided with roller-sockets *f*, for the reception of a series of parallel rollers, *z*, their relative operative positions being shown in Figs. 1 and 3. The said journal-box is made of much less diameter between the socket-cases *f* and the post *d* than is that of said cases, in order to let the lower edge of the frame B of the skate set as near the axle *v* as possible, and thus reduce the height of the skate and the weight of the journal-box. Said rollers *z* surround the axle *v*, the latter bearing upon the parallel surfaces of the rollers, and the latter rolling in turn on the inner surface of the rim surrounding said socket *f* when the axle turns. Said rollers are made of steel and hardened, and hence the axle rotates thereupon with very little friction. The rollers *z* are secured within the sockets *f* by the caps *h*, the latter and the sockets being provided with suitable ears, through which pins *a*, or screws, pass, fastening the caps to the sockets. Each side of the wheel *w* is provided with a recess, *w'*, surrounding the axle-hole through it, said recess being adapted to receive first the flat metallic disk *i'*, and the metallic roller-cup *i*, the open side of the latter against said disk, the cup having ears thereon, through which pins *y*, or screws, pass, reaching from side to side of the wheel, and securing the roller-cups firmly in the sides of the latter in the positions shown in Fig. 2. The wheel *w* is made of wood to secure lightness, and, obviously, may be used upon axles running in journal-boxes not provided with the rollers *z*. When the periphery of the wheels *w* becomes too much worn for further use, the roller-fittings—that is to say, the cups *i*, disks *i'*, and rollers *o*—of each wheel may be transferred to a new wheel, and be further used until worn out. In the said cup *i* in the wheel is placed a series of parallel rollers, *o*, similar to said rollers *z*, but shorter, so that in practice the aggregate length of the two series of rollers in one wheel equals about the length of one of the rollers in the socket in the end

of the journal-box, and Fig. 2 shows the arrangement of the rollers in both ends of the journal-box; the rollers in each side of the two wheels, and the latter secured on the axle by the split washers *x* engaging in the grooves around the axle.

In the combined journal-box and wheel roller-bearing construction herein shown and described provision is made for the employment of a free axle within the journal-box bearings, and for free wheels having roller-bearings therein to run on the free axle, and thereby the minimum amount of friction is encountered, and the skate runs with the greatest ease.

What I claim as my invention—

1. In a roller-skate, the journal-box D, having a roller-socket at each end thereof, and provided with the post *d*, a series of parallel rollers arranged around the axle in said socket, and a cap covering the latter, in combination with the axle *v*, substantially as set forth.

2. In a roller-skate, the journal-box D, having thereon the post *d*, and having a roller-socket at each end thereof, the axle *v*, a series of parallel rollers arranged around the axle in said socket, and a cap covering the latter, in combination with the wheels *w*, each of which has two roller-cups secured thereto, having arranged therein around the axle two

separate series of parallel rollers, substantially as set forth.

3. In combination, the journal-box D, having the perforated post *d*, the screw-plug *e*, and the axle *v*, substantially as set forth.

4. A journal for roller-skates, having a central passage for the axle, and provided with sockets in the ends thereof for the reception of rollers and the post *d*, and having those portions thereof between the post and the adjoining sides of the socket-cases *f* of less diameter than the latter, substantially as set forth.

5. The wheel *w*, having on opposite sides thereof the recess *w*², of greater diameter than the axle-passage through it, the metallic disk *i*², the roller-cup *i*, having perforated ears on its border, and the screws *y*, passing through the wheel and said ears, and the rollers *o*, combined and operating substantially as set forth.

6. The wheel *w*, having on opposite sides thereof the recess *w*², of greater diameter than the axle-passage through it, the roller-cup *i*, having perforated ears on its border, and the screws *y*, passing through the wheel and said ears, and the rollers *o*, combined and operating substantially as set forth.

EVERETT H. BARNEY.

Witnesses:

WM. H. CHAPIN,
H. A. CHAPIN.