

(No Model.)

A. L. KNIGHTEN.

RACING INDEX FOR HOME TRAINER CYCLES.

No. 534,223.

Patented Feb. 12, 1895.

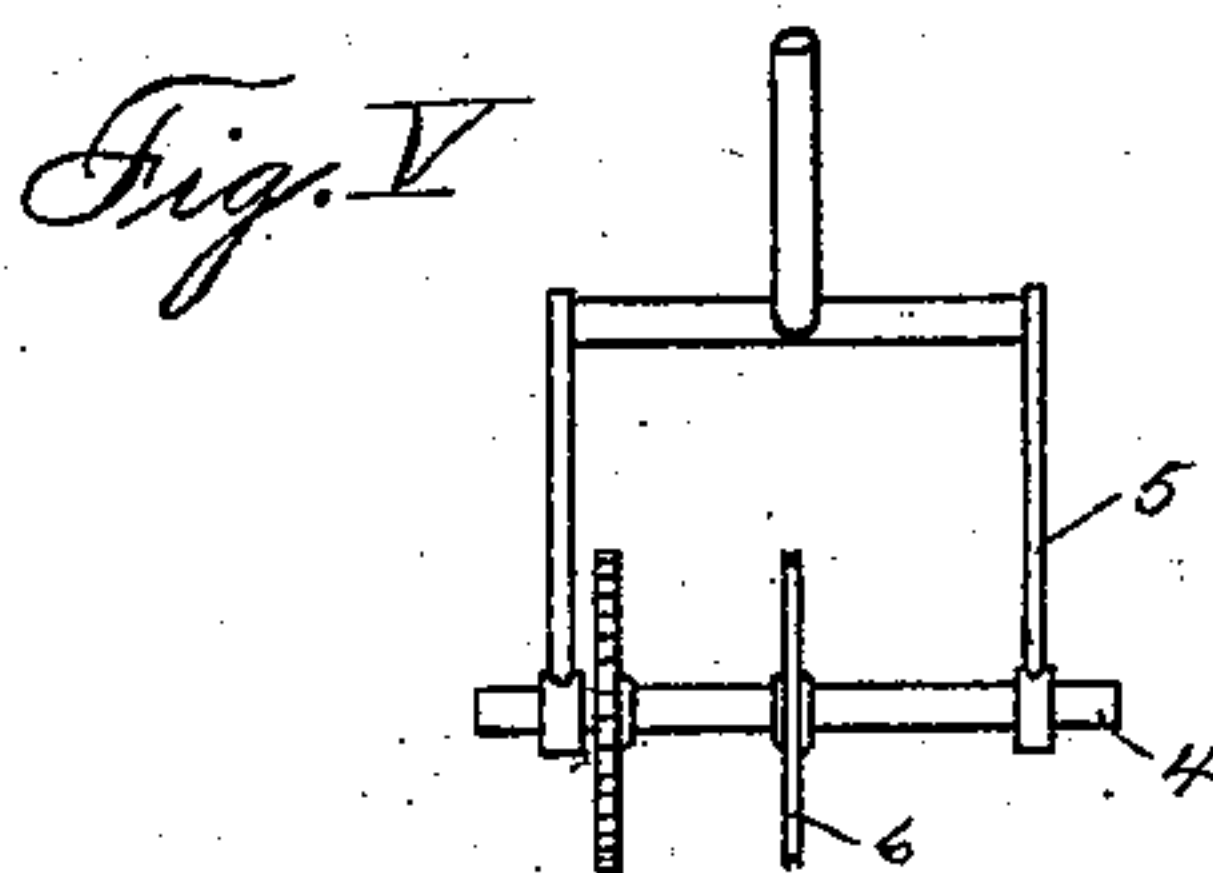
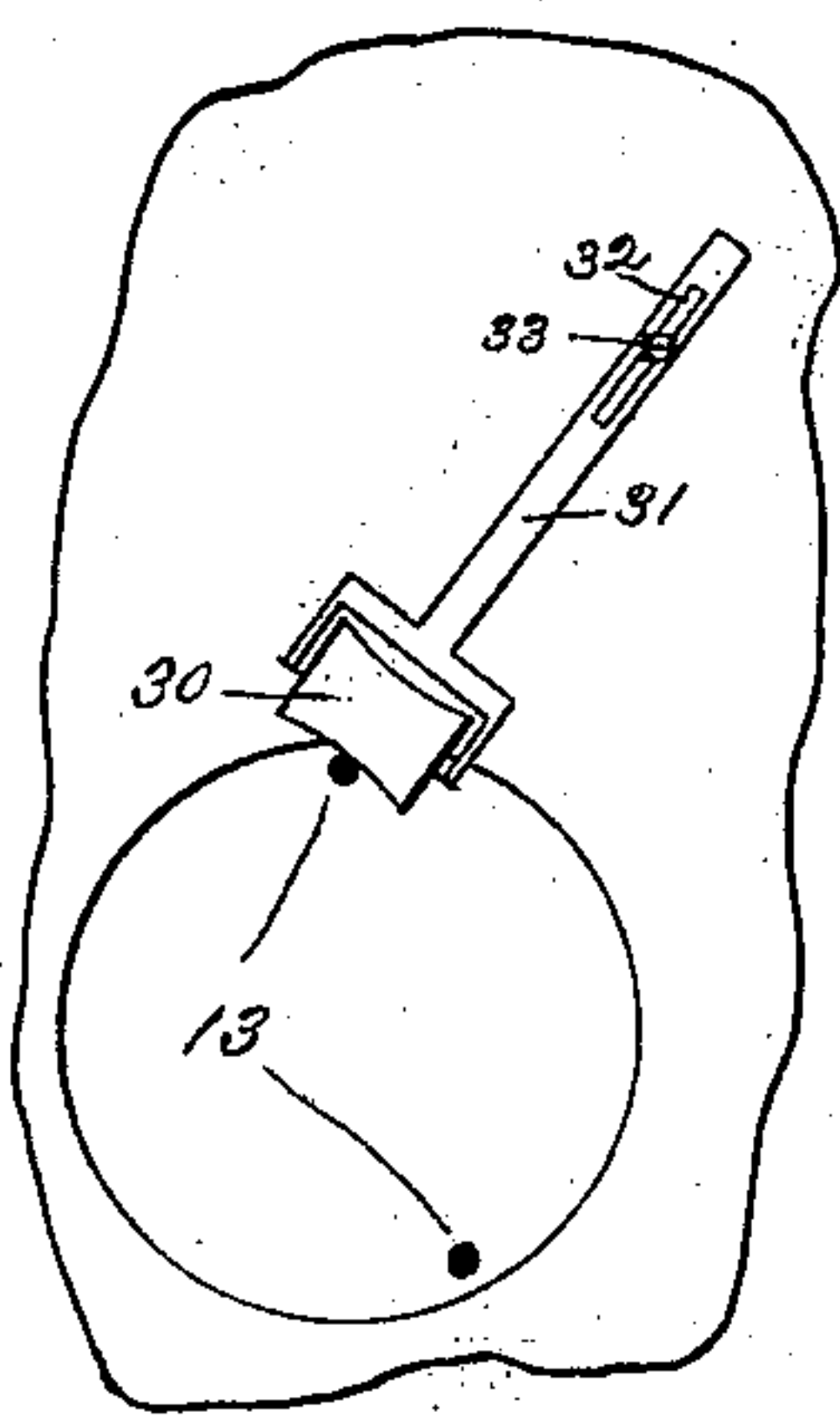
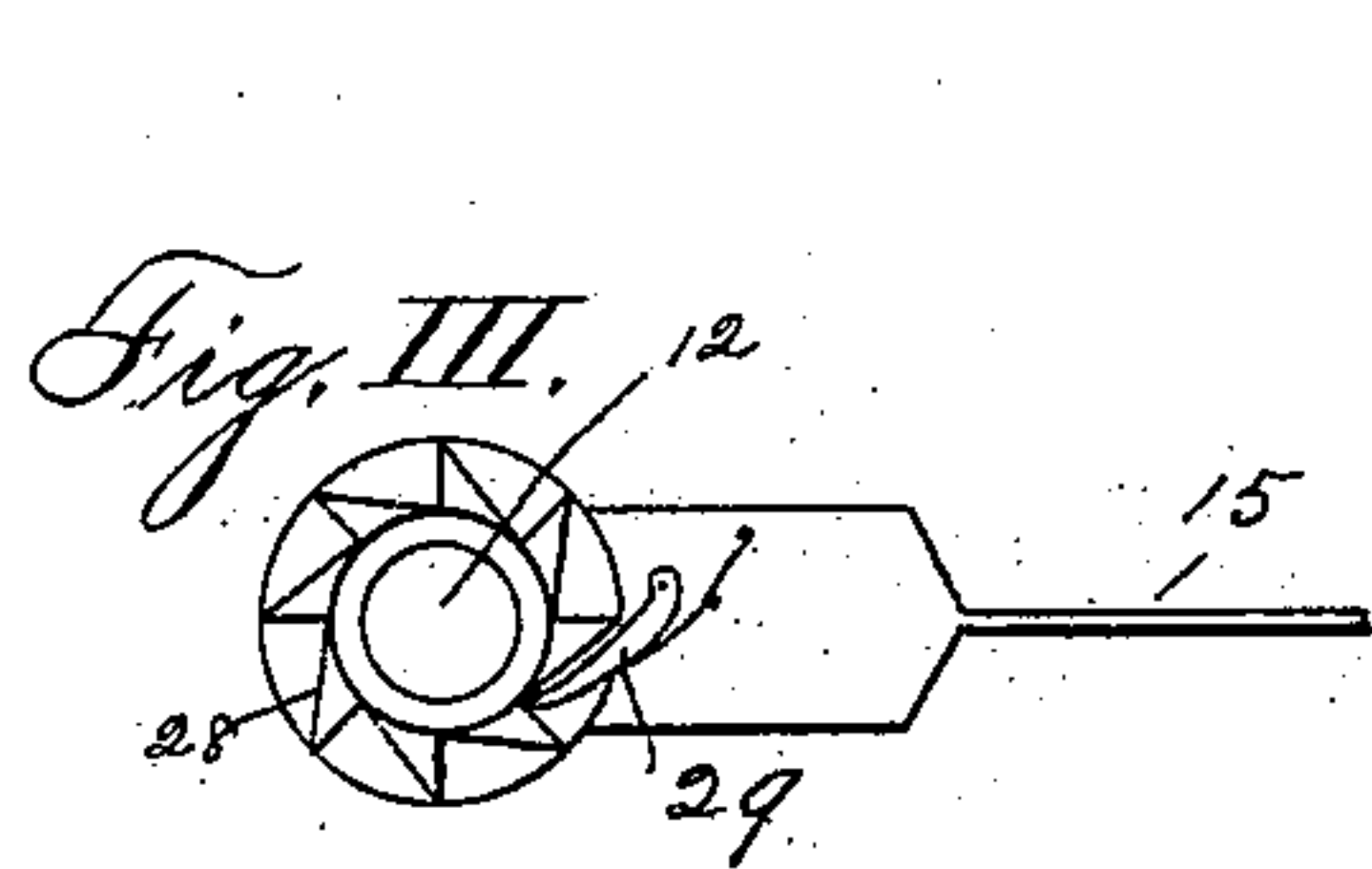
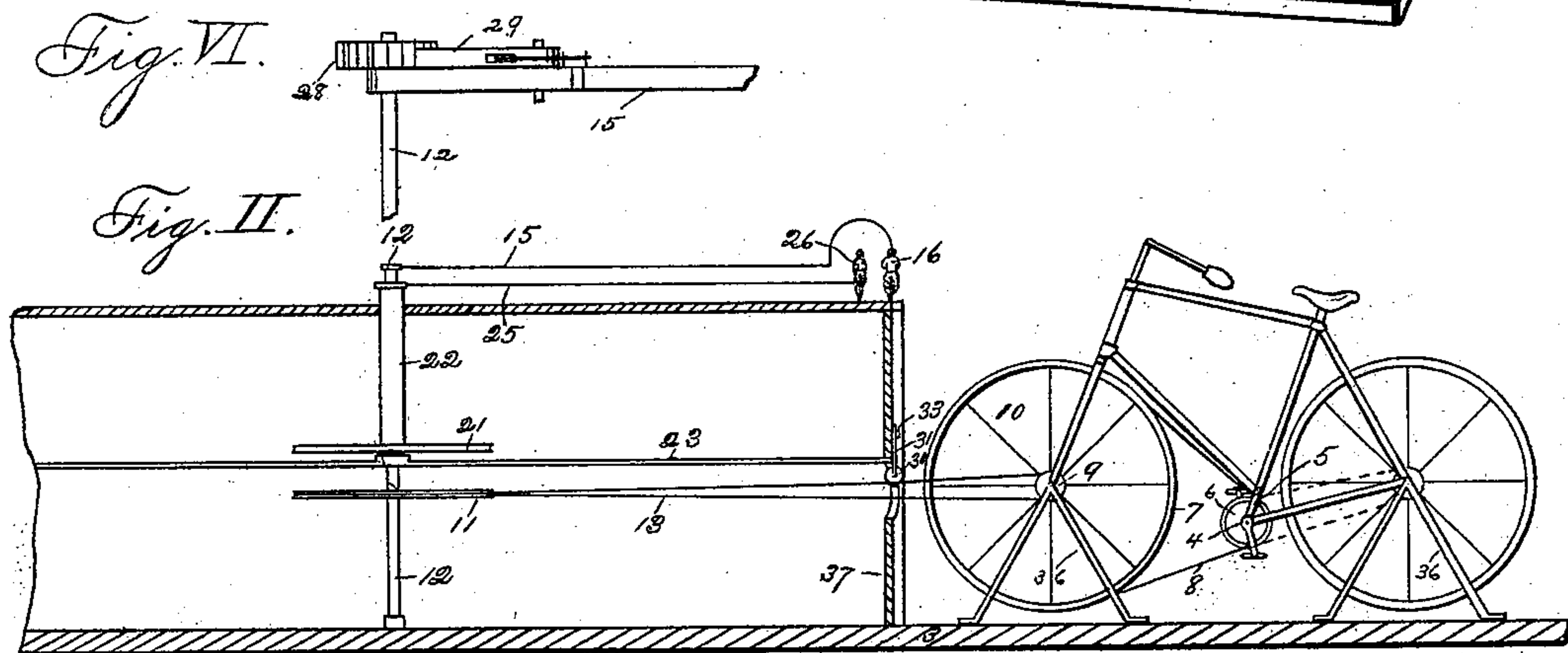
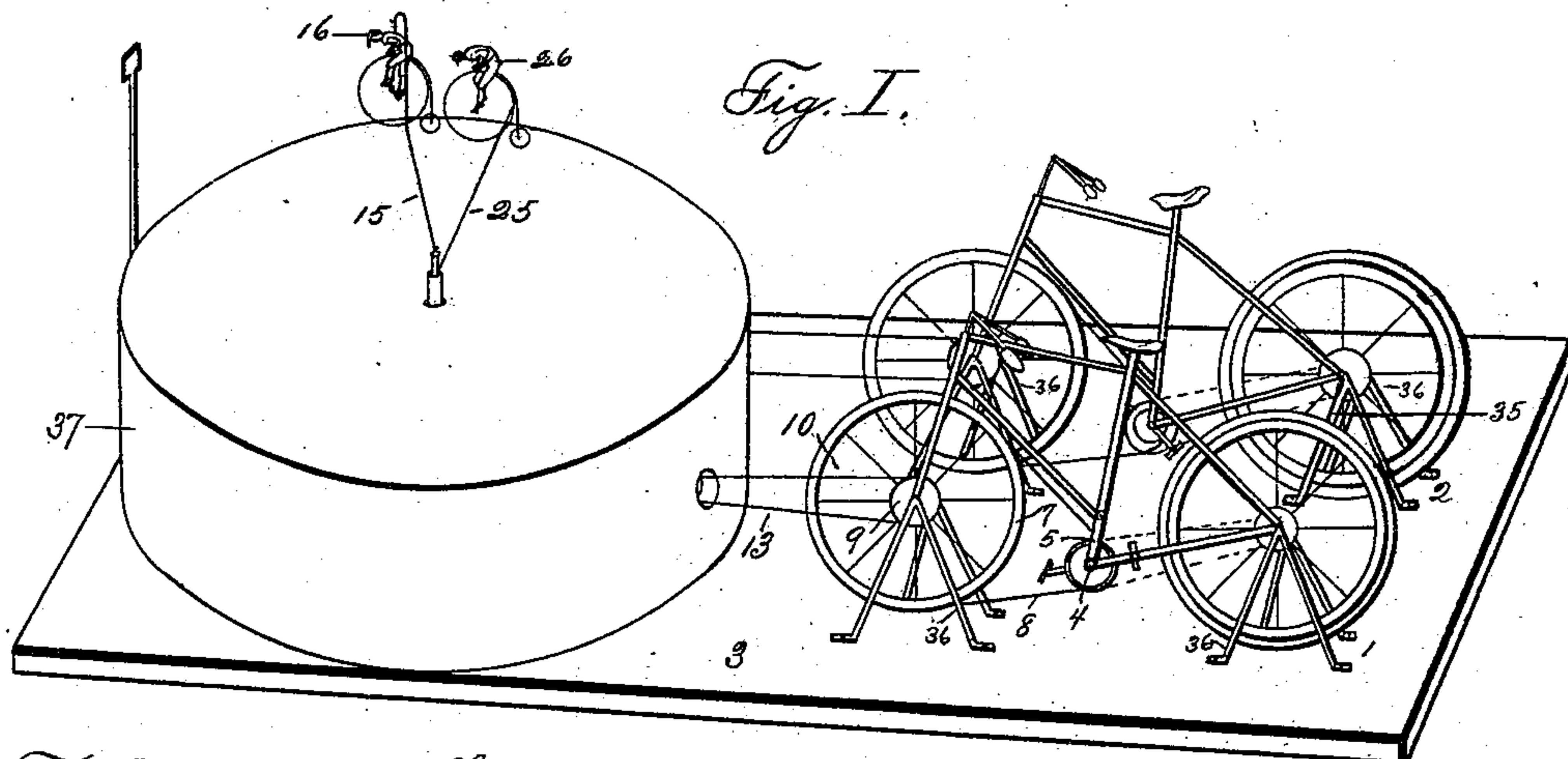


Fig. IV.

WITNESSES:

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ARTHUR LIONEL KNIGHTEN, OF OAKHAM, ENGLAND.

RACING-INDEX FOR HOME-TRAINER CYCLES.

SPECIFICATION forming part of Letters Patent No. 534,223, dated February 12, 1895.

Application filed August 7, 1894. Serial No. 519,713. (No model.) Patented in England March 16, 1893, No. 5,718.

To all whom it may concern:

Be it known that I, ARTHUR LIONEL KNIGHTEN, a subject of the Queen of Great Britain, residing at Oakham, in the county of Rutland, England, have invented certain new and useful Improvements in Racing-Indexes for Home-Trainer Cycles, (for which I have obtained Letters Patent in Great Britain, No. 5,718, bearing date March 16, 1893;) and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention consists of a model cycle track of about five feet or other convenient diameter, on which are two or more model cyclists. Underneath the track, preferably inclosed in a box is suitable machinery worked by two or more cyclists on stationary or home trainer cycles, mounted on a platform in front of the track.

The idea of the invention is, to form a game or sport by which persons can contest against each other on home trainer cycles; a model on the track representing each contestant and the faster either person pedals his home trainer cycle the faster will the model representing him, travel on the model track.

In order that my invention may be well understood I append drawings which show the general form and arrangement of the parts of my invention; but modifications may be made therein without departing from the spirit of my invention.

Figure I, is a general view of the track, model cyclists on same, and two home trainer cycles, constructed according to my invention. Fig. II, is a view in elevation of part of the machinery connecting the home trainer cycles to the model cyclists. Figs. III, IV, V and VI are enlarged detail views of parts of the invention, Fig. VI being a profile of Fig. III.

Numerals refer to parts of the several drawings similarly numbered.

The home trainer cycles 1, 2, (of which there may be any convenient number) may be the well known "safety" or any other form of

cycle. Each cycle is supported on the platform 3, by brackets 36, 36 so that both wheels are raised from the platform and are free to rotate. Any deflection of the front wheel from the plane of the machine is prevented by any convenient means. The crank axle 4 is mounted on a bridge bracket 5, and carries a suitable pulley 6 on its center. The rim 7, of the front wheel 10 is not fitted with a tire but is concave in transverse section. An endless band 8, of leather or other suitable material runs on the pulley 6, and rim 7. Another pulley 9, is fixed to one side of the front wheel 10, and this is geared to the horizontal pulley 11, fixed on the vertical axis 12, by another band 13. The axis 12 is mounted in suitable bearings in the center of the track. Its upper end projects above the surface of the track, and is provided with an arm 15, to the other end of which, is attached the model cyclist 16. The limbs of the model cyclists are preferably jointed at the hips and knees, and the feet are attached to the pedals, so that as the arm carries the model round the track, the wheels rotate and the limbs move as if the model cyclist was driving the model machine.

The rider drives the home trainer in the usual way, and this causes the pulleys 6, 7, 9 and 11 to rotate and the pulley 11 turns the axis 12 and the arm 15, so that the figure 16 travels round the track at a pace corresponding to the pace at which the axis 4, is rotated, and at a preferably slower pace than the home trainer cycles, governed by the various circumferences of the respective pulleys. The other home trainer cycle is constructed with similar pulleys and bands, gearing it to the horizontal pulley 21, fixed on the vertical axis 22. The axis 22, is hollow and surrounds part of the axis 12, which is provided with suitable bearings, the lower one being preferably carried by a suitable bridge 23, fixed to the framework 37. The upper end of the axis 22, projects above the surface of the track, but not so high as to interfere with the arm 15, on the axis 12, and is provided with an arm 25, to the outer end of which is attached the model cyclist 26. Other home trainer cycles may be geared to other model cyclists, in a similar way; their respective sets of pulleys being preferably all so arranged that if the home trainer cycles are

driven at the same pace, the model cyclists will all travel around the track so as to complete the circuit in the same space of time.

The top of the axle 12 (see Figs. III and VI), is provided with a ratchet 28 which is actuated by a pawl 29 on the arm 15, the latter being loosely connected to said axle, thus allowing the model cyclists to be brought quickly to the starting point at the commencement of each race. Each horizontal pulley is arranged as nearly as may be on a level with the center of the pulley with which it is geared, but as the horizontal pulleys cannot both, or all, be set at the same level it is sometimes requisite to employ rollers, 30, to guide the bands. These rollers, 30, may be mounted in forked arms 31, provided with slotted ends 32 and nuts and bolts, 33, allowing the rollers to be adjusted to various positions. The arms 31, are preferably bolted, as at 33, to the front wall or support of the track.

The track is preferably built of wood on an iron framework; the parts of which may be bolted together in any convenient manner, so that the apparatus may be taken apart and removed and refixed elsewhere, as required. The platform also is preferably of wood. Cross stays, 35, may be used to connect the rear axles, or other convenient parts of the home trainer cycles together to render them steadier; and any suitable brakes may be applied to render the working of the home trainer cycles more like actual riding on the road or racing path.

Each home trainer cycle and its indicating model may be colored the same hue, or may be provided with some other corresponding distinguishing mark, so that the spectators may readily discern from the models, the relative speed of the actual riders or contestants.

Having now described my invention, what I claim is—

1. In an index for home trainer cycles brackets 36, 36, to support the wheels of a cycle above a platform 3, a pulley 6 on the

crank axle 4, connected by a band 8 to the rim 7 of the front wheel a pulley 9 on the axle of said front wheel and a band 13, to connect the latter with the index mechanism substantially as described.

2. In an index for home trainer cycles a frame 37 supporting the vertical axle 12 of a horizontal pulley 11 geared by an endless band 13 to a pulley 9 on a cycle wheel supported above a platform by brackets 36, 36, the said axle projecting above the frame 37 and carrying a horizontal arm 15 bearing a model cyclist 16 around a track, for the purposes set forth.

3. In an index for home trainer cycles a duplicate horizontal pulley 21, geared by a band to a pulley on a duplicate cycle a hollow axle 22 about the axle 12, a bridge 23 supporting axle 22 in the frame 37 and an arm 25 bearing a model cyclist 26 around a track on said frame as herein set forth.

4. In an index for home trainer cycles the model-bearing arm loosely connected to the vertical pulley axle a ratchet on said axle and a spring pawl on said arm to engage the ratchet for the purposes set forth.

5. An index for home trainer cycles having a cycle supported above a platform by brackets 36, 36, a pedal pulley 6 geared by endless band to the rim 7 of the front wheel a pulley 9 on said front wheel geared by an endless band to a horizontal pulley 11 on an axle 12, said axle 12 being supported on a frame 37 and having a ratchet 28 on its upper end, an arm 15 bearing a model cyclist loosely secured to axle 12 and a pawl 29 on said arm to engage said ratchet as herein described.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR LIONEL KNIGHTEN.

Witnesses:

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THOMAS COXON.