

C. H. PERKINS.
Traction Wheels.

No. 138,578.

Patented May 6, 1873.

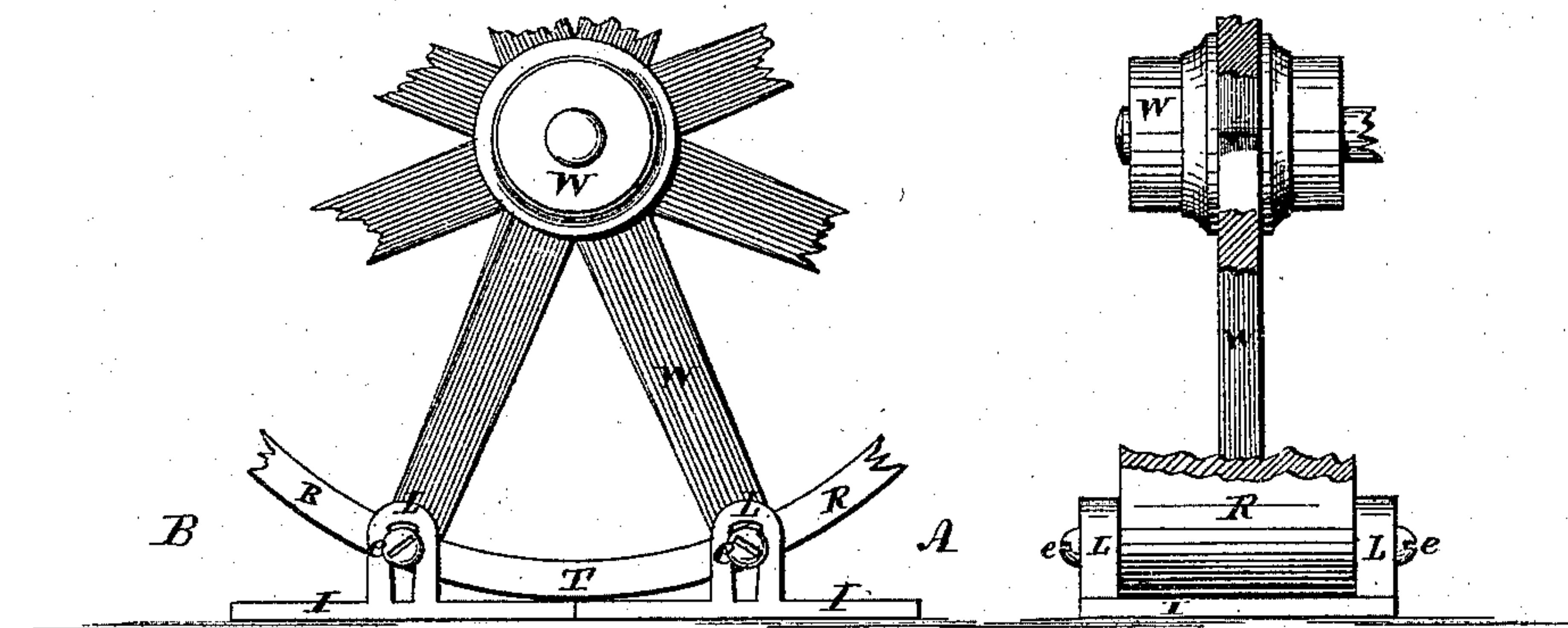


FIG. 1.

FIG. 2.

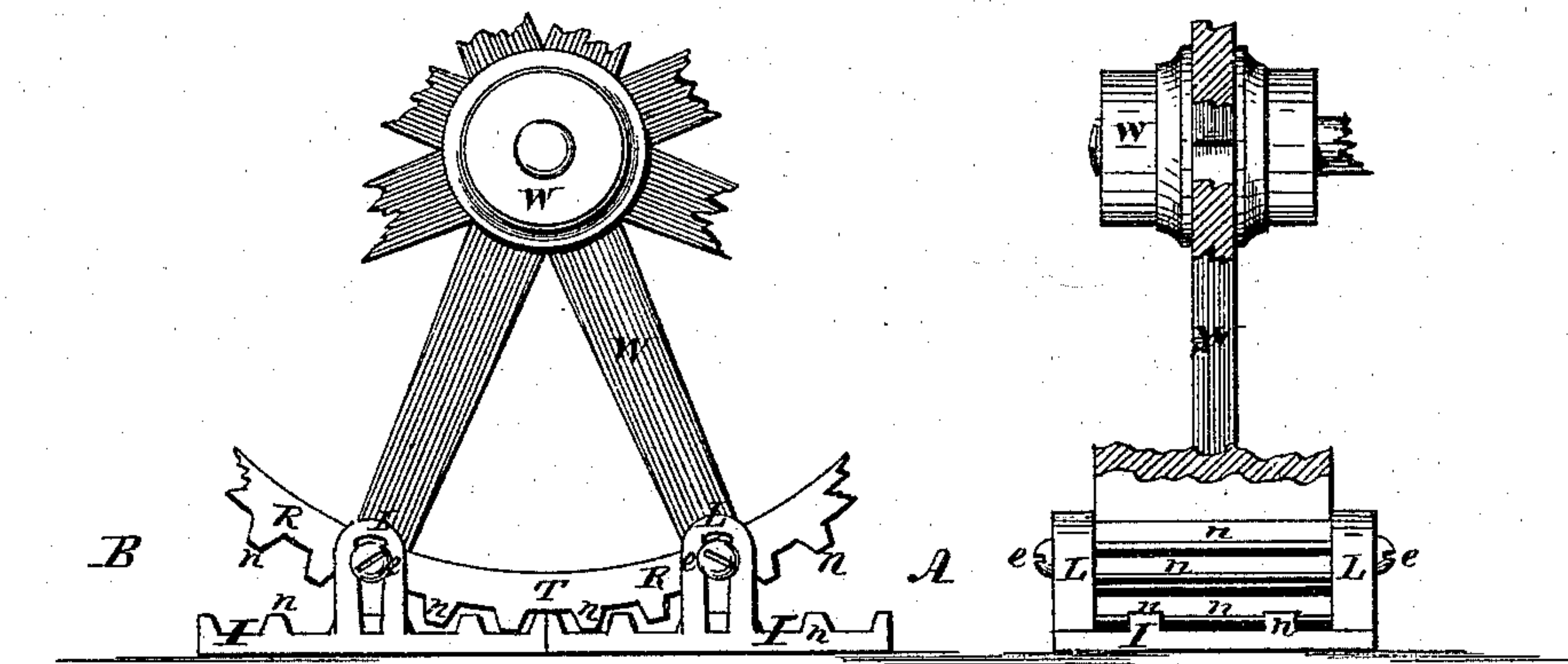


FIG. 3.

FIG. 4.

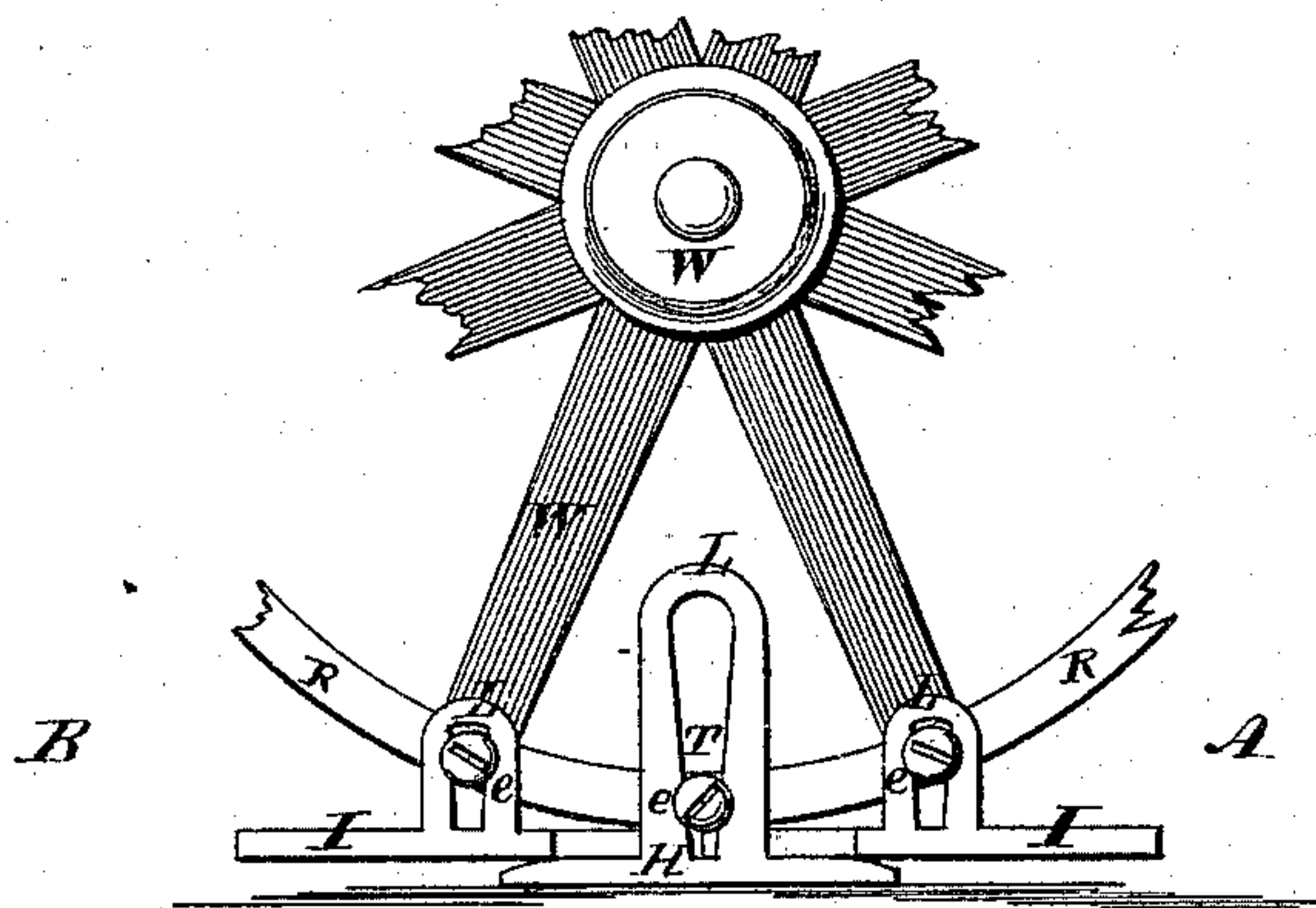


FIG. 5.

WITNESSES.

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IMPROVEMENT IN TRACTION-WHEELS.

Specification forming part of Letters Patent No. **138,578**, dated May 6, 1873; application filed February 20, 1873.

To all whom it may concern:

Be it known that I, CHARLES H. PERKINS, of the city and county of Providence and State of Rhode Island, have invented certain new and useful Improvements in the Driving-Gear of Traction-Engines, &c., of which the following is a specification, referring to the accompanying drawing making part of the same, in which—

Figure 1 is a side elevation of a section of a traction-engine wheel with my improvement. Fig. 2 is a front elevation of the same section. Fig. 3 is a side elevation of a section of said wheel, embracing another feature of improvement in the same. Fig. 4 is a front elevation of the same section. Fig. 5 is a side elevation of a section of said wheel, showing a modification and improvement of the plan shown in Figs. 1 and 2.

Similar letters mark like parts in all the figures.

My invention relates to the combination of a portable self-laying track for the wheels of traction-engines, &c.; and consists in arranging upon the rim of the wheel a series of sections constituting a suitable track, and in such a manner that, by the rotative movement of the wheel, the sections are successively laid at a tangent in front of its tread, and afterward, when the wheel has passed over them, successively taken up at the rear of the wheel, and carried over it to be laid in front again, the object being to afford a broader and more tractive and permanent surface for the face of the wheel, and to prevent the wheel from burying itself in the earth by its own surface-action in revolving. The rotation of the driving-wheel's face with the surface of the earth over which the engine is required to travel is calculated to hollow out and remove the earth beneath the tread of the wheel, and bury the wheel-rim without making any progress. In like manner the character of the soil or its condition from recent cultivation is calculated to let the wheels of a traction-engine cut into it so deeply as to render its efforts to draw a load or operate mechanism for plowing or other purposes of a similar character unavailable and useless, however well devised and successful the ma-

chinery may otherwise be; and my invention is calculated to remedy these difficulties of the traction-wheel, and make its power available on all kinds and conditions of soils where its service is desirable or likely to be required for drawing loads, cultivation, or other useful purposes.

The drawing illustrates three several features of improvement in wheels for traction-engines or machinery, which I will proceed to describe.

The wheel W, in Figs. 1, 2, &c., has a series of flat plates, I, of wood or metal, forming sections of a plane surface on which, when laid together in front of it, the wheel W can rotate as on a rail track, and draw a load or plow or perform other similar useful service. These plates are attached by ears or projections L, and, by means of screws or bolts e, to each side of the rim R of the wheel with sufficient latitude of motion to lay each plate or section flatly on the ground in advance of the tread of the wheel, to permit the wheel to tread thereon as on a track, and afterward to take up the section or plate at the rear B of the tread T when it has performed its service and carry it, with its part of the wheel-rim, over forward, to be again, in its order, laid for the track of the wheel in its regular progress.

If necessary, the traction of the two surfaces, the wheel and its track, may be insured by furnishing the same with cogs or projections n, which will enable the two surfaces to act in concert, as shown in Figs. 3 and 4. Also, in cases where the ground to be traveled over is a sandy highway, or a swampy tract, or a well-broken field of plowing, in which the wheel-rim itself, and also the simple plane-track I I, shown in Figs. 1 and 2, is likely to be ineffectual for the steady progress of the machine, the said track may be constructed with a tie or bridge, H, between and supporting two contiguous sections, I I, from beneath, as shown in Fig. 5; and said bridge may be broader than the surface of the sections, so that both the bridge first and afterward the sections of the track shall serve to sustain the wheel-rim from sinking into the soil, and the more effectually so because the bridge "breaks joints" with the two abutting sections I, and preventing the

same, by the under support it affords, from tilting and sinking directly beneath the tread T of the wheel, as would, under some circumstances, be the effect on such ground without the tie or bridge.

Having described my invention, I claim—

1. The sectional wheel-track for traction-engines, &c., in which the several sections are combined with the wheel W, as described, and by the rotation of the wheel laid tangentially in front of the same for a track, and afterward taken up in the rear and carried forward over

the wheel to be laid in front of it again, substantially as set forth.

2. In a traction-wheel, the cogs or projections *n* interposed between the surfaces of the wheel and track, substantially as shown and described.

3. In a traction-wheel, the tie or bridge H, in combination with the sectional wheel-track, substantially as shown and specified.

Witnesses:

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