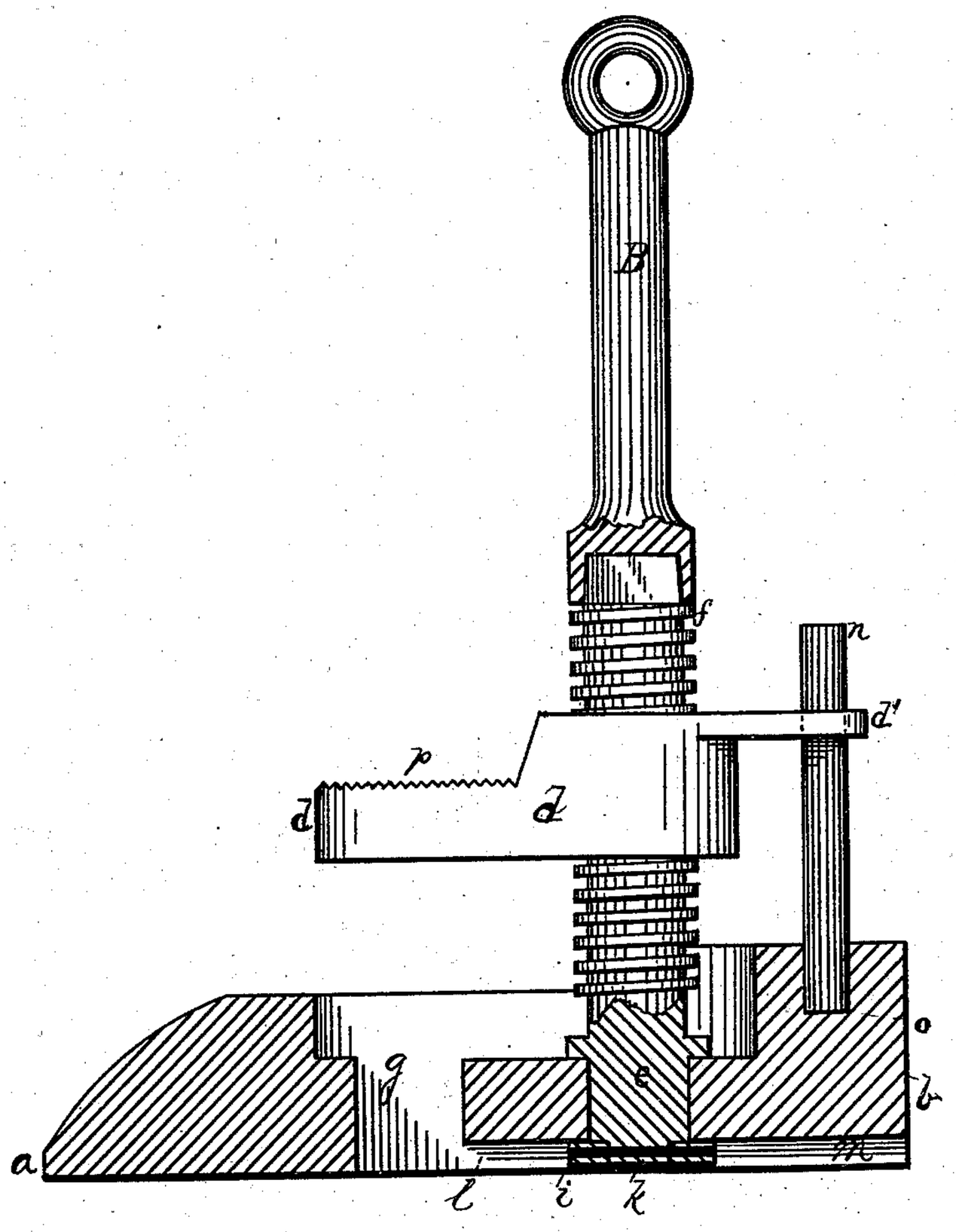
G. SCHWARTZ.

DEVICES FOR RAISING AND LEVELING RAILROAD TRACKS.

No. 187,421. Patented Feb. 13, 1877.



Witnesses:

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UNITED STATES PATENT OFFICE.

GUSTAV SCHWARTZ, OF BUDAPESTH, AUSTRIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JACOB THEIN, OF BUFFALO, NEW YORK.

IMPROVEMENT IN DEVICES FOR RAISING AND LEVELING RAILROAD-TRACKS.

Specification forming part of Letters Patent No. **187,421**, dated February 13, 1877; application filed November 22, 1876.

To all whom it may concern:

Be it known that I, GUSTAV SCHWARTZ, of Budapesth, Hungary, Austrian Empire, (assignor of one-half to JACOB THEIN, of Buffalo, county of Erie, and State of New York,) have invented certain Improvements in Devices for Raising and Leveling Railroad-Tracks, of which the following is a specification:

This invention is for use on railroad-lines, to level the track when or wherever it becomes depressed from wear, washing out, or other causes; and the invention consists in a metal device that can easily be carried about and handled by one man, consisting of a bottom shoe with a penetrating-point, and a rail or track lifter, operated by a screw and handle, all as hereinafter fully explained.

In the drawing the figure is a side elevation, partly in section.

First, a cast-iron base or shoe, *a b*, into which is fitted tightly a screw-spindle, *e f*, made of steel. Upon this is screwed a lifting-plate, *d*, made of wrought-iron, which is operated by working the spindle *e f*, which fits exactly in the shoe A. The lifting-plate *d* is, on its upper surface at *p*, roughened, to prevent the slipping off of the rail or sleeper that may have to be raised. At *d'* there is a guide-pin, *n o*, made of steel or wrought-iron, which prevents the lifting-plate *d* from turning. The screw-spindle *e f* has at its lower end a ring or head, *k*, which bears the weight and strain of the track to be lifted, together with the spindle, and therefore will be made of steel, the same as the spindle. It is to increase the capacity of resistance of the spindle in its female screw. In order to fasten the spindle in the base *a b*, the ring *k* is put at its lower end, and firmly attached to it by a pin, *i*, the slot *l m* making it easy to insert or take out the pin. The opening *g* serves as an escape for sand or gravel which may have fallen into the hollow space of the shoe.

The key *B* is put on the spindle *e f* at *f*, and is turned by an iron hand-spike or lever-handle, which is inserted in the eye of the key. The key thus puts in motion the screw, and the lifting-plate *d d'* is raised.

The usual method of raising sunken tracks, rails, sleepers, &c., is by applying large iron crow-bars, weighing about eighty pounds, using them simply as levers, and this requires three to four men, who must hold up the lifted rail or track until the remainder of the gang have rammed sufficient material under it to level it. It is evident that the three or four men serving the lever cannot hold it with sufficient steadiness and strength to keep it at the proper elevation. Consequently several liftings are often needed. This clumsy manipulation, which costs greatly in time and money, is completely done away with by the above-described instrument.

The lifting apparatus is simply put under the rail, which is to be raised and screwed up to the proper level. The instrument is kept there until the track is properly filled in, and the track thereby leveled. This can all be done by one man—the raising of the track and filling it in. The machine is then withdrawn, ready for use in another part of the track. In comparison with other similar instruments it has the advantage, when placed under a sleeper, of raising the whole track at once; furthermore, it is of light weight—only about fifty pounds. This makes it easy to handle. For leveling switches, crossings, &c., all these advantages place this instrument above all others constructed for the same purpose, as others are only applicable for raising single rails, whereby the lifted rail generally draws the nails out of the sleepers, which latter have to be raised separately by levers, because the instrument cannot be put under the sleeper, or the great height of the instrument makes them impracticable, and require a great deal of attention, so that a passing locomotive may not touch it, thereby causing an accident. They have, therefore, to be put aside in time. Two of such instruments are required at the same time if a height of four inches is to be attained in leveling, or both rails have to be lifted at once by the old method.

From the above it is evident that, for raising a track by the application of my lifting apparatus, only a few minutes are needed, and no constant attention is required. This great saving of time and money, together with its entire accuracy in leveling, are very important advantages in its use on railway-lines.

I claim—

The railroad-track-leveling device, consisting of the shoe with the point *a*, the opening *g*, the slot *l m*, the screw *e f*, with the head *k*, the lifting-plate *d d'*, the key B, and the guide-pin *n o*, all substantially as hereinbefore specified.

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

G. SCHWARTZ.

Witnesses:

PAUL BURGER,

NIMMERVOLLEN.