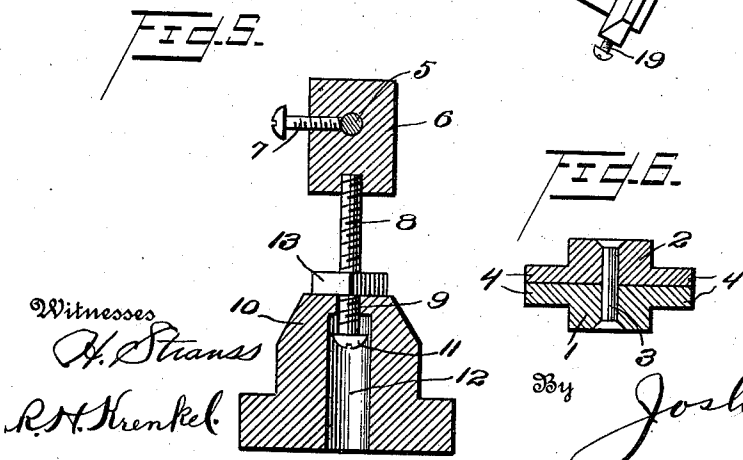
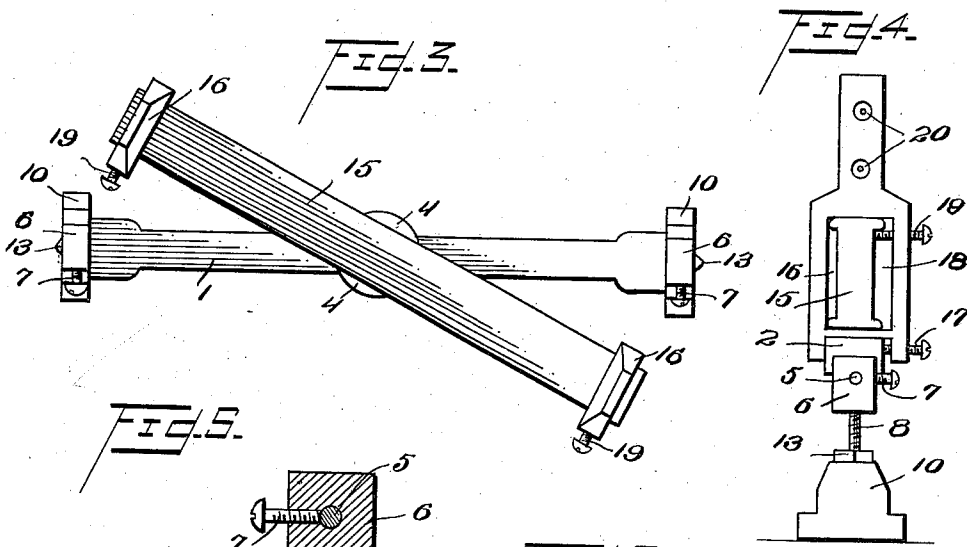
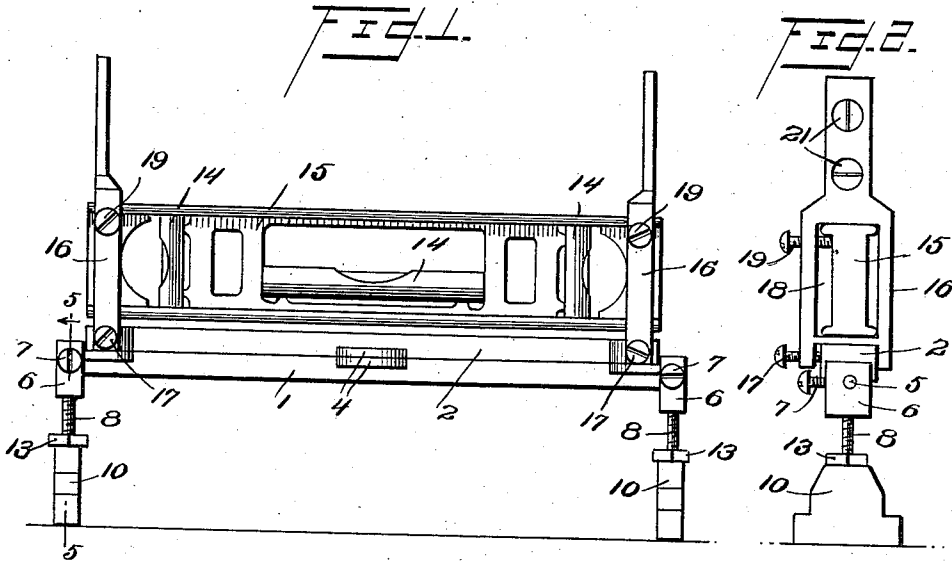


J. K. PARK.
LEVELING INSTRUMENT.
APPLICATION FILED APR. 10, 1911.

1,013,893.

Patented Jan. 9, 1912.



Witnesses
H. Strauss
R. H. Krenkel

Inventor
John K. Park
Joshua R. T. Folsom
Attorney

UNITED STATES PATENT OFFICE.

JOHN K. PARK, OF ATLANTIC CITY, NEW JERSEY.

LEVELING INSTRUMENT.

1,013,893.

Specification of Letters Patent.

Patented Jan. 9, 1912.

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To all whom it may concern:

Be it known that I, JOHN K. PARK, a citizen of the United States, residing at Atlantic City, in the county of Atlantic and State of New Jersey, have invented certain new and useful Improvements in Leveling Instruments, of which the following is a specification.

My invention relates to improvements in measuring instruments, more particularly to an improved level and plumb, the object of the invention being to provide improved mechanism of this character which may be readily used to determine verticals and horizontals in close proximity or at a distance, and in which device an ordinary stock spirit level is employed, and may be detached and used as desired.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1, is a view in side elevation illustrating my improvements. Fig. 2, is an end view. Fig. 3, is a plan view. Fig. 4, is an end view opposite to Fig. 2. Fig. 5, is an enlarged view in section on the line 5—5 of Fig. 1, and Fig. 6, is an enlarged view in cross section through the pivotal connection between bars 1 and 2.

1, represents a normal horizontal bar to which a bar 2 is pivotally connected. The bar 2 is disposed above bar 1, and said bars are secured together by means of a rivet 3 shown in Fig. 6. The central portions of these bars are enlarged as shown at 4 to form an extended bearing when the bars are turned relative to each other.

Bar 1 is provided at its ends with trunnions 5, which are disposed in bearing blocks 6, and held against rotary movement by set screws 7. These blocks 6 are secured to the upper ends of screws 8, the latter projecting up through openings 9 in base blocks 10, and having heads 11 at their lower ends, movable in enlarged openings 12 in said bases. A set nut 13 is located on each screw 8, and bears against the upper end of the base 10, so that by adjusting these nuts 13, bars 1 and 2 may be adjusted to obtain an exact horizontal, which is determined by a spirit level 14 supported on bar 2. This spirit level 14 is of ordinary make

in common use on the market, and embodies three separate levels 14, two vertical and one horizontal, all held in a metal casting 15, which is of general I-beam shape as shown in Figs. 2 and 4. To securely hold the casting 15 in position, forked uprights 16 are provided which are secured on the bar 2 by means of set screws 17, and are provided with openings 18 to receive casting 15, which is secured in said openings by set screws 19. The forked uprights 16 above referred to also constitute upwardly projecting posts at opposite ends of the instrument, and they are disposed parallel to each other, and are provided with openings. One post is provided with two sight openings 20, and the other post with two wire crossed openings 21, one of said wires being disposed vertically and the other horizontally, so that by sighting through the openings 20 and 21, verticals and horizontals may be determined regardless of the distance.

In operation, the first and most important step is to position the instrument horizontally, regardless of the surface on which the base blocks 10 rest. To do this, it may be necessary to adjust nuts 13, or to turn bar 1 in blocks 6. The horizontal spirit level 14 will determine when the instrument is perfectly level. Bar 2 is then swung to the position desired, and by sighting through the openings 20 and 21, verticals and horizontals may be determined. If desired, the casting 15 may be removed, and used as an ordinary level or plumb, and may be returned to its place as occasion may require.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations, as fairly fall within the spirit and scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. An instrument of the character described, comprising base blocks, screws projecting through the base blocks, nuts on said screws for adjusting said screws vertically, bearing blocks secured on the upper ends of said screws, a supporting bar having rotary mounting in said blocks, means

for locking the supporting bar against turning in the blocks, a pivot bar pivotally secured to said supporting bar, a level on said pivot bar, and sight posts on said pivot bar, substantially as described.

2. An instrument of the character described, comprising base blocks, screws projecting through the base blocks, nuts on said screws for adjusting said screws vertically, bearing blocks secured on the upper ends of said screws, a supporting bar, trunnions on the ends of said supporting bar mounted in the bearing blocks, set screws

engaging said trunnions and locking said bar against rotary movement, a pivot bar pivotally secured centrally to said supporting bar, a spirit level on said pivoted bar, and sight posts on said pivoted bar, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN K. PARK.

Witnesses:

FRANK C. HARRIS,
B. J. BURCH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."