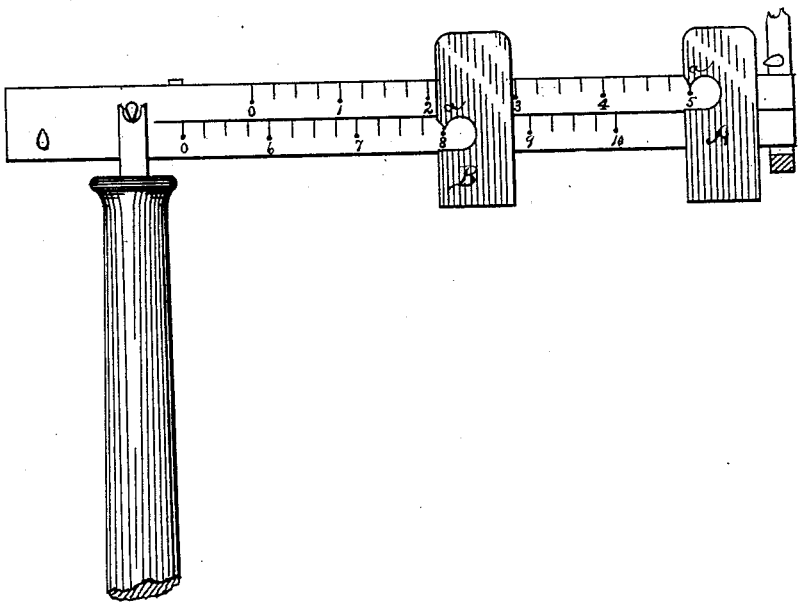
J. WEEKS.

Scale-Beams.

No. 204,177. Patented May 28, 1878.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN WEEKS, OF BUFFALO, NEW YORK.

IMPROVEMENT IN SCALE-BEAMS.

Specification forming part of Letters Patent No. **204,177**, dated May 28, 1878; application filed May 8, 1878.

To all whom it may concern:

Be it known that I, JOHN WEEKS, of Buffalo, in the county of Erie and State of New York, have made certain Improvements in Beams of Weighing-Scales, of which the following is a specification:

This improvement relates to all graduated scale-beams, and the invention is intended to do away with the multiplication of beams by notating on a single beam different lines of figures, (or other weighing characters,) each line forming a progressive series from the end of one line to the beginning of the other, and so on, and putting on this single beam as many permanent and sliding poises as there are lines of figures, each having its poise own index pointing exclusively to the line which it operates, all as hereinafter fully explained.

In the drawing the figure is a side elevation, showing the single beam, having two lines of figures thereon, the first or upper line, ending in "5," representing pounds, and progressing to the next line, which commences with the figure "6," ending in "10," that being the capacity of that beam. In a scale these figures may represent either units, hundreds, or thousands, according to the requirements or size of the scale.

On this beam are two sliding and permanently-arranged poises, A B, the right-hand one, A, (shown at the extreme end of the beam,) indicating that it weighs up to five pounds, being the extent of that line of figures. The second poise, B, is indexed at "8," which would be the sum of the weight indicated by the poises. The position of the poises, when not in use, are the extreme left on the beam. Each poise has its own index, *a*, and arranged so as to point only to the figures of its own line. The first poise, A, is always moved first until its own line of figures is exhausted, and the poise is then left at the extreme right end; then the second poise is moved, and, in case the weight exceeds that line of figures, a third line and a third poise will be used, and so on up to any amount desired; though, of course, a two-line and two-poise scale will only be made to weigh so much, a three-line scale so much more, and so on.

In constructing scales with graduated beams, large amounts cannot be weighed accurately down to the lowest denomination without extending the length of the beam, so as to make it inconveniently long and too heavy to be sensitive for small amounts, and it has been customary, therefore, to employ separate beams, one or more for the heavy and one for the light weights, which must be added together to ascertain the aggregate amount; but this improvement obviates the necessity for these separate beams by placing two or more poises upon one beam, with an index upon each poise pointing to a distinct line of figures, the numbers of which form a progressive series from one line of figures to the other.

By using several poises and corresponding lines of figures on a single beam, I get the advantage of a beam as many times as long as the one now used as there are lines of figures on the beam, and thus either increasing the capacity without increasing its length or increasing the subdivisions into more minute denominations.

My improvement does not relate to the progressive series of marking the figures from one beam to another, as described in my Patent No. 97,253, issued November 23, 1869, but is designed to reduce the number of beams by increasing the power of one beam, thus rendering it more simple, cheap of construction, lighter, and consequently more sensitive.

Another advantage of this single-beam construction over the compound beam is, that with the latter parties using the scales with several beams thereon are apt to weigh wrongly by moving the poise on the beam nearest to them without first sliding down the poise on the first beam. My single beam renders wrong weighing impossible, as the first poise has to be moved first, and the weight cannot be indicated until the several poises are properly set.

I claim—

1. A single beam for platform or other graduated beam-scales, having thereon different lines of figures, forming a progressive series from one line to the other, so as to oper-

ate as one continuous line or scale, substantially as specified.

2. In a weighing-scale, two or more sliding poises moving on a single beam, each poise with an index pointing to a separate line of figures on the single beam, substantially as hereinbefore specified.

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

JOHN WEEKS.

Witnesses:
J. R. DRAKE,
T. H. PARSONS.

1,000 words.