T. TEBOW.

Scale-Beam.

No. 161,575. Patented March 30, 1875.

Fig. 1

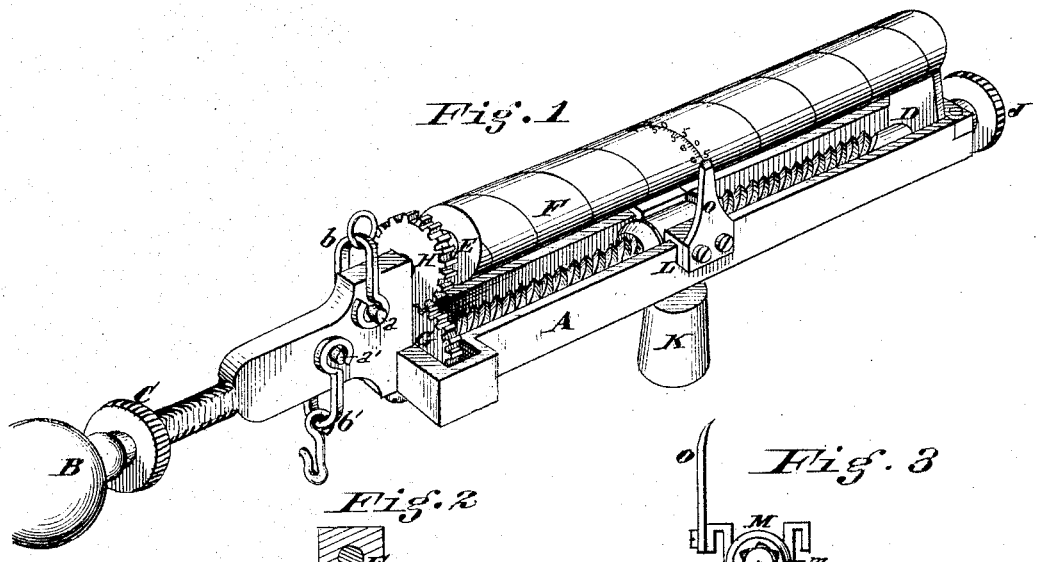


Fig. 2

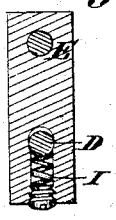
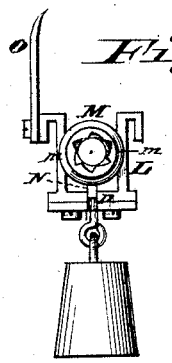


Fig. 3



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UNITED STATES PATENT OFFICE.

THEODORE TEBOW, OF LEXINGTON, KENTUCKY, ASSIGNOR TO HIMSELF AND JOHN T. MILLER, OF SAME PLACE.

IMPROVEMENT IN SCALE-BEAMS.

Specification forming part of Letters Patent No. **161,575**, dated March 30, 1875; application filed December 5, 1874.

To all whom it may concern:

Be it known that I, THEODORE TEBOW, of Lexington, Fayette county, State of Kentucky, have invented an Improvement in Scale-Beams, of which the following is a specification:

My invention has for its object the production of a scale-beam which, while it shall not be of more than ordinary length, will admit of a great range without change of weights, to avoid the necessity of the operator having to examine the indications on the detachable weights in addition to the indications on the beam, which leads to confusion and mistake. My invention consists of a combination of beam, sliding weight, adjusted by a screw, and carrying a pointer, and a revolving drum actuated by the screw-shaft, and bearing in a spiral line upon its face the figures indicating the weight of the articles suspended from the beam.

Figure 1 is a perspective view of a scale-beam embodying my invention. Fig. 2 is a cross-section through the shafts of the screw and drum. Fig. 3 is a cross-section through the sliding box actuated by the screw.

A is the beam, which is fitted with the customary knife-edged bearings *a a'*, and hooks *b b'*, for the proper suspension of the beam and the articles to be weighed, respectively. The outer end of the beam is screw-threaded and fitted with the adjustable weight B and lock-nut C, which is a well-known construction designed to enable the operator to exactly balance the beam before weighing. In suitable bearings in the beam I journal or mount two shafts, D E, one of which has a rapid screw-thread cut upon it, as shown, and the other is fitted with a cylindrical barrel or drum, F. The shafts are geared together so as to revolve simultaneously by means of gear-wheels G H, and in order that there may be no backlash or lost motion in these gear-wheels, I make the lower one, at the gearing end, vertically adjustable, as shown in Fig. 2, and fit in its bearing a spiral spring, I, which forces the teeth of the lower wheel snugly into the teeth of the upper one. The screw-shaft D is rotated for the adjustment of the beam-weight by handle or wheel J. The beam-weight K is permanently attached to the slide L, which is carried on the parallel ways of the beam, and in the slide L a nut, M, is fitted, whose circular flanges *m* embrace the slide without permitting the weight upon the slide to rest also upon the nut. The nut is screw-threaded interiorly to fit the screw-shaft D, and as there is no weight upon it, owing to its being separated from the slide, it is not liable to serious wear. To keep the nut M from revolving in the slide L, I project from the nut a tongue or lug, N, which enters a corresponding notch, *n*, in the slide. The slide L carries an indicator point or finger, O, which rests continuously in the operation of the scales upon a spiral line on the drum. This spiral line has graduations upon it and figures indicating the weight of articles from zero upward, and owing to the extreme length of the spiral line, when compared with the motion of the slide L, the scale has capacity for great weights upon the hook *b'* without changing the beam-weight K, necessitating however the employment of a beam-weight, K, of greater weight than is employed when additional detachable weights are depended upon.

I claim—

1. The combination of beam A, screw-shaft D, sliding weight L M O, gearing G H, and indicating-drum F, operating substantially in the manner and for the purpose specified.

2. In combination with the shafts D E and gearing G H, the spring I, substantially as and for the purpose specified.

3. In combination with the slide L *n* and screw-shaft D, the nut M having flanges *m*, and tongue N, operating substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

THEODORE TEBOW.

Witnesses:

FRANK MILLWARD,

EDGAR J. GROSS.