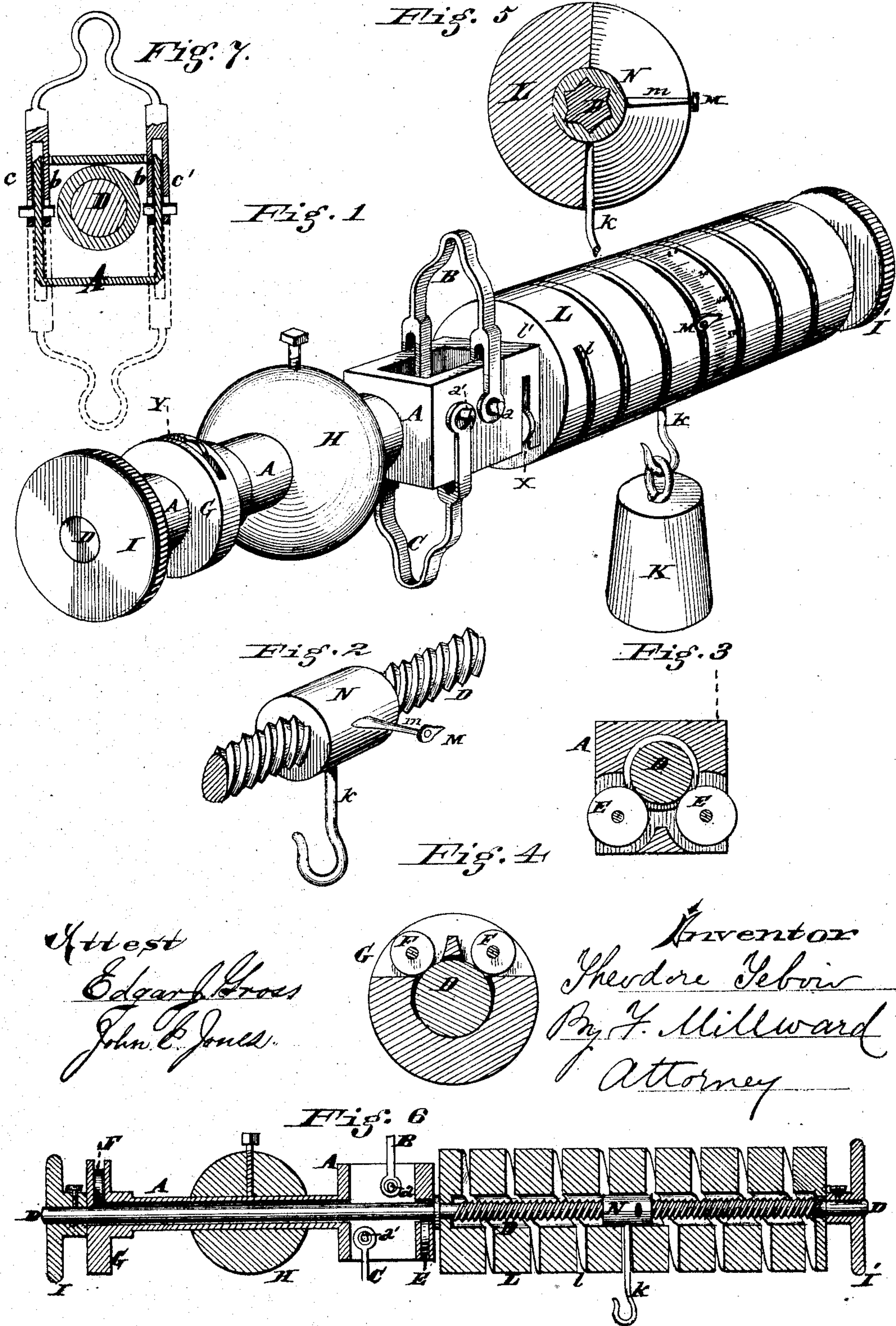


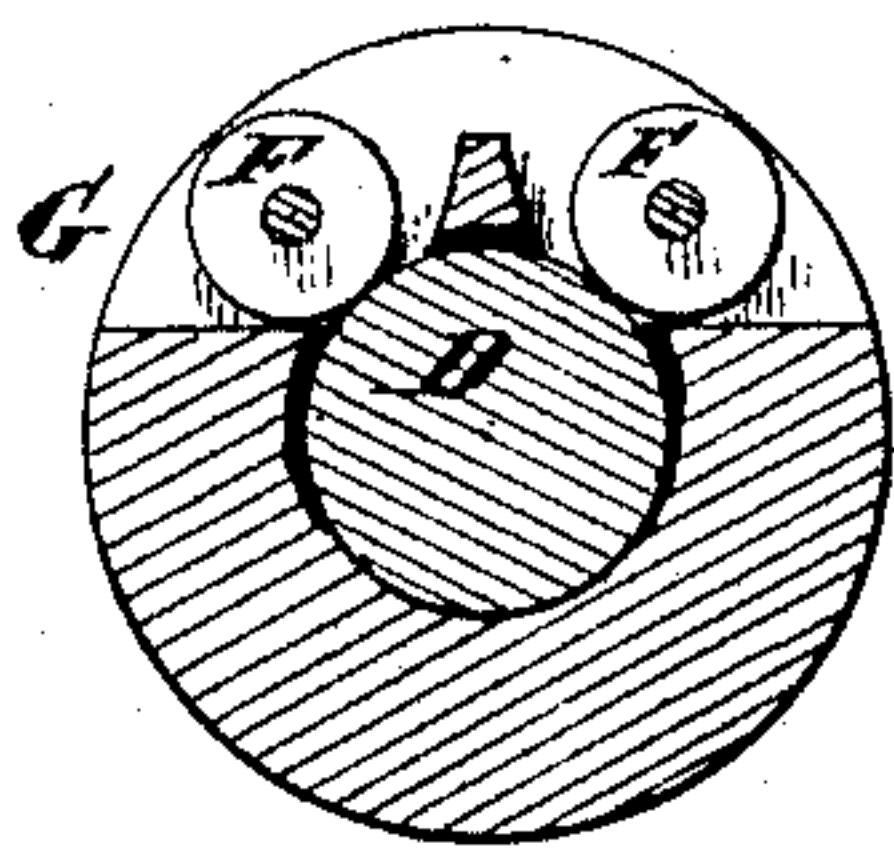
T. TEBOW.  
Scale-Beam.

No. 161,576.

\* Patented March 30, 1875.



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# UNITED STATES PATENT OFFICE.

THEODORE TEBOW, OF LEXINGTON, KENTUCKY.

## IMPROVEMENT IN SCALE-BEAMS.

Specification forming part of Letters Patent No. **161,576**, dated March 30, 1875; application filed January 22, 1875.

*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 is designed as an improvement upon the scale-beam with rotating drum having a spiral line of graduations, for which an application for patent was filed by me December 5, 1874; and consists in such an arrangement of the spiral drum and the screw which moves the traversing weight, and peculiar construction of those parts and of the supporting-frame, that the screw is located within the drum, the latter having a spiral slot, through which the suspending-rod of the weight passes, and also the arm of the indicating-finger, which connects with the graduations on the edge of the spiral slot.

Figure 1 is a perspective view of my improved scale-beam. Fig. 2 is a perspective view of the screw and box which support the weight and indicator. Fig. 3 is a cross-section of the frame, screw-spindle, and supporting-rollers at the point X. Fig. 4 is a cross-section of the frame, screw-spindle, and supporting-rollers at the point Y. Figs. 5 and 6 are sections illustrating a modification in form of drum.

The frame A is provided with the customary V-shaped fulcrums *a a'* for the suspending-yoke B and weight-yoke C, which sustain the weight or load to be indicated. This frame A has an aperture throughout its whole length for the passage of the screw-spindle D, which is supported in the frame, at X, on idlers or friction-rollers E, and is held from moving upward in the frame at Y by friction-rollers F in the circular projection G of the frame A. A sliding adjustable weight, H, upon the beam suffices to balance the beam. The screw-spindle has rigidly attached to its ends milled heads or hand-wheels I I', by which the operator is enabled to rotate it for the adjustment of the balance-weight K with its indicator. The graduated drum L is also secured to the screw at both ends, and rotates with it. The drum has a spiral slot, *l*, cut in it, through which the hook-rod *k* of the balance-weight K extends, and also the arm *m* of the registering or indicating finger M, both of these being attached to the screw-

threaded box N, which is kept from rotating by the gravitating action of the balance-weight K.

The spiral slot is of the same pitch, necessarily, as the screw-thread on the spindle D, so that the arm *m* and rod *k* may travel freely in the slot; and it will be seen that, as the weight K is adjusted to balance the load upon the beam, the indicating-finger M will point to the graduations on the edge of the slot, and thus indicate the weight of the load.

The screw-spindle and its drum are preserved from end movement by the face *l'* of the drum, which is in contact with that end of the frame A, and by the inner face of hand-wheel I, which is in contact with the other end of the frame A.

For the reason that the screw-spindle passes entirely through the frame A to afford length of bearing, I have to employ a different form of bails or yokes, B C, from those ordinarily used on scale-beams. I have provided yokes, as shown, with double jaws *c c' b b'*, which straddle the frame sides, and connect on each side of each jaw with V-shaped fulcrums *a a'*. The provision of these double jaws and eight fulcrums is designed to give lightness to each fulcrum and sensibility to the movement of the beam.

The drum L may be a thin shell, having thin ends to connect with the screw-shaft D, the arm *m* and rod *k* passing through the thin outer shell in groove *l*, as indicated in Fig. 1; or it may be more solid, as indicated in Figs. 5 and 6, having only a central aperture large enough for the passage of box N and the spiral slot *l*.

I claim—

1. The combination of frame A, screw-spindle D, box N, weight K, indicator M, and spirally-slotted drum L *l*, the parts being connected and the whole operating substantially in the manner and for the purpose specified.

2. In combination with the hollow frame A, the double-jawed yokes B C, and fulcrums *a a' a' a' a' a'*, constructed and operating substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

THEODORE TEBOW.

Witnesses:

F. MILLWARD,  
J. L. WARTMANN.