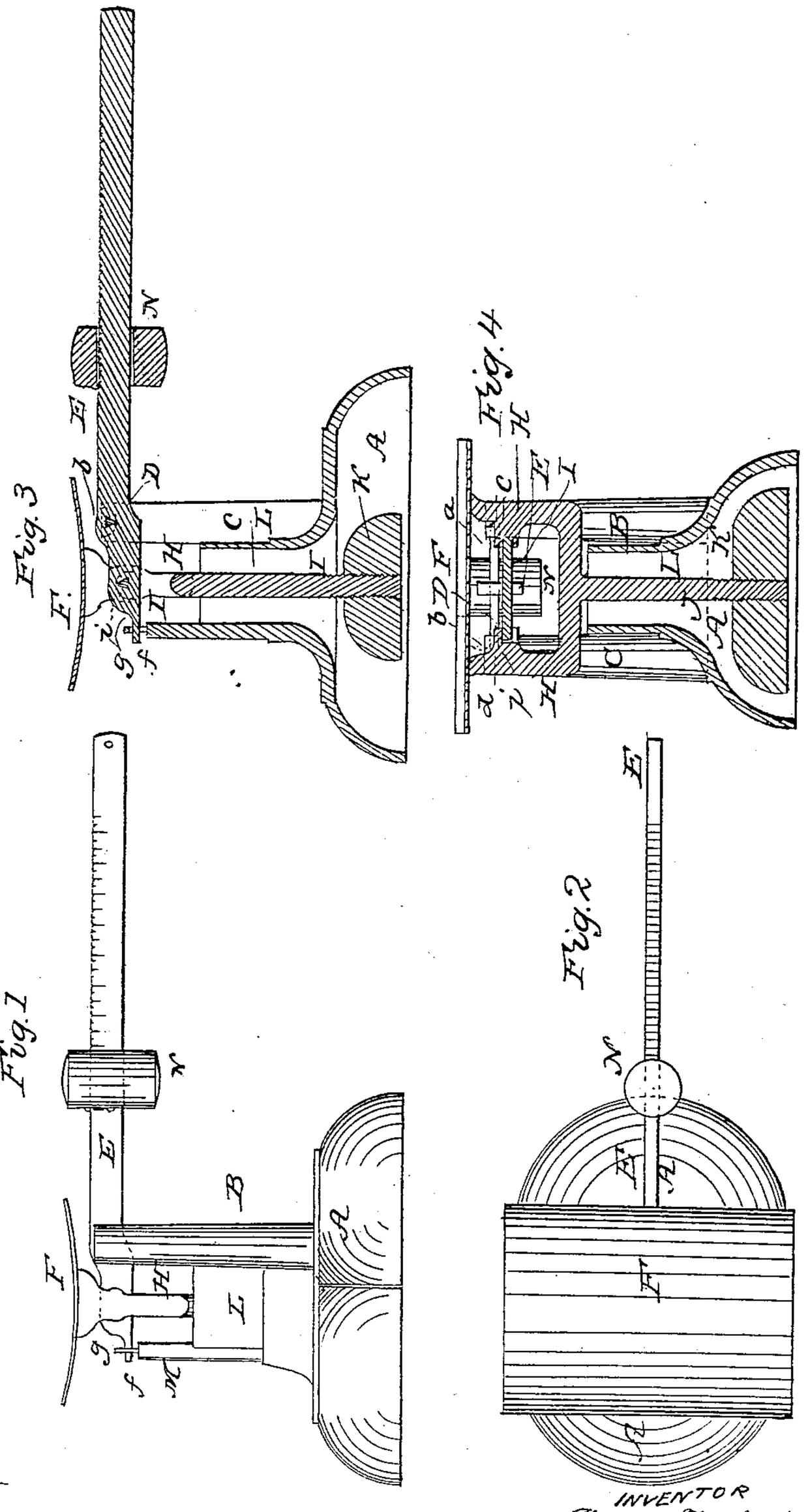
# T. FAIRBANKS.

## Balance Scales.

No. 26,026. Patented Nov. 8, 1859.




WITNESSES
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# UNITED STATES PATENT OFFICE.

THADDEUS FAIRBANKS, OF ST. JOHNSBURY, VERMONT.

## LETTER-SCALE.

Specification of Letters Patent No. 26,026, dated November 8, 1859.

*To all whom it may concern:*

Be it known that I, THADDEUS FAIRBANKS, of St. Johnsbury, in the county of Caledonia and State of Vermont, have invented an Improved Scale for Weighing Letters, &c.; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1, denotes a side elevation of such scale, Fig. 2, a top view, Fig. 3, a longitudinal and vertical section, and Fig. 4, a transverse section, taken through the plate, its frame and pendulous weight.

In the drawings, A, represents the foundation or base for supporting the operative parts. From the said base part, two vertical standards, or columns, B, C, extend upward and have mortises, *a*, *b*, made respectively in their top parts, the same being for the reception of a wedge or knife shaped bar, D, whose ends, *c*, *d*, rest respectively in the said mortises. The said bar, D, passes transversely through the graduated arm, E, and serves as a fulcrum for it, such arm being provided with divisions, to mark either the whole ounces, or fractions of the same, as shown in the drawings.

At or near the rear part of the arm, E, and over the same, as shown in the drawings, a plate, F, is suspended, such plate having a rectangular frame, H, attached to its under side, as shown in Fig. 4. From the inner vertical sides of said frame, ears, or projections, *h*, *i*, extend, such being respectively recessed on their under sides for the reception of the ends of a knife edged bar, I, which extends transversely through the graduated arm, and near to its rear end, as shown in Fig. 4. By means of the said projections and bar, the plate is sustained and rendered capable of being easily vibrated. To the middle of the lower part of the said rectangular frame a rod, I′, is attached, which extends downward through a hollow column, L, (which projects upward from the base or foundation, as shown in the drawings,) and has a weight, K, screwed or firmly affixed to its lower end, such being for the purpose of preserving the plate E, in a horizontal position, whatever may be the inclination of the said graduated arm. From the rear part of the said hollow column, a standard, M, extends upward, its top surface serving as a bearing for the rear extremity of the graduated arm, to rest upon when the upper and lower faces of the said graduated arm are in horizontal planes—a loop or eye, *g*, passing around the rear extremity of the arm serving to prevent it from receiving too great an inclination, or such as would cause the poise, N, by its gravity, to slide on the arm.

A machine constructed in the above described improved manner is very convenient and useful for merchants and others; it being not only very simple in construction, but very effective in operation.

I do not claim balancing a scale pan and weighing lever by means of a pendulous weight applied to a straight arm extending downward from the central part of the pan; nor do I claim supporting a scale pan on the prongs of a bifurcated steelyard, extending a rod or arm downward from the middle of the pan and jointing such rod at its lower end to an arm parallel to the steelyard and hung at its other end on a fulcrum situated immediately under that of the steelyard; nor do I claim under this latter construction the application of a stop in front of and to the forked steelyard so as to act in concert with a stationary staple or its equivalent.

In my construction of scale, I make the weighing lever or steelyard without any bifurcation or fork, but simply as a straight bar provided with knife edges for supporting the bearing of a pendulous weight, and such weight I hang upon such knife edges, by means of a forked rod furnished with bearings to receive such knife edges. Furthermore I extend the front end of the weighing or steelyard lever into a stationary staple, *a*, arranged at the top of the post, N, as shown in the drawings, such staple being made so as to allow the said front end to play freely up and down a short distance.

By my construction I not only attain the advantages of the pendulous weight over the forked lever, but I employ the weight of the fork of the forked arm to aid in or facilitate the maintenance of the horizontality of the scale pan. I also avoid the expense of connecting the stopping projec-

tion of the steelyard to the steelyard bar or its prongs by a fork or curved bar of connection.

Consequently what I claim is—

My improved manufacture of letter scale, as made not only with its pendulous weight K, connected with the scale pan, F, by a forked arm H, H, I′, provided with bearings *h*, *i*, for receiving and resting on knife edges of a bar, I, extended from the steelyard as specified, but with a bar steelyard, E, made without any fork and extended into a stationary staple or stop, *g*, the whole being arranged in manner and to operate as specified.

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Witnesses:

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