B. MORISON.

Druggist's Balance.

No. 129.

Patented Feb. 16, 1837.

Fig. 1.

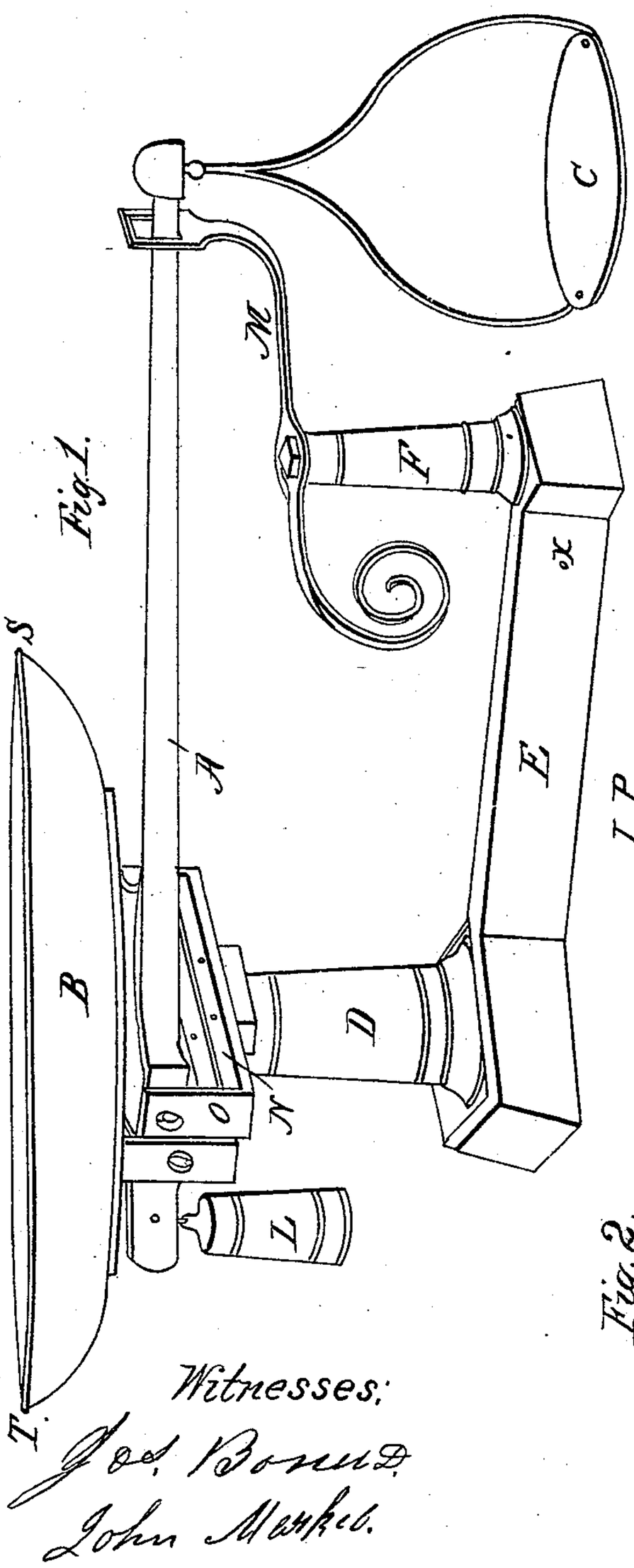

Fig. 3.

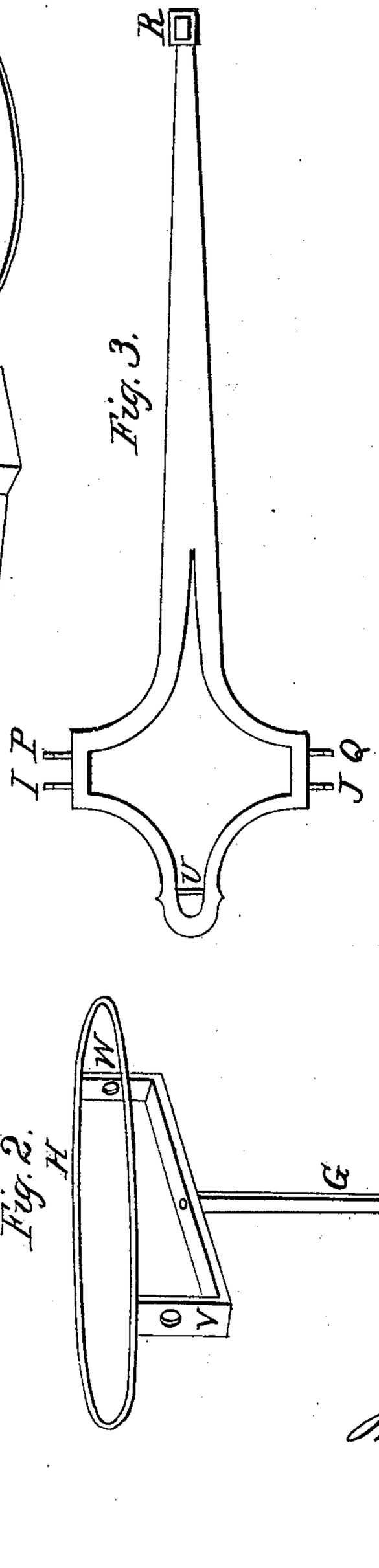

Fig. 2.

Witnesses:

Jos. Bonsall

John Marked.

Inventor.

B Morison

UNITED STATES PATENT OFFICE.

B. MORISON, OF MILTON, PENNSYLVANIA.

IMPROVEMENT IN THE BALANCE FOR WEIGHING.

Specification forming part of Letters Patent No. **129**, dated February 16, 1837.

To all whom it may concern:

Be it known that I, B. MORISON, of Milton, in the county of Northumberland and State of Pennsylvania, have invented a new and Improved Balance for Weighing; and I do hereby declare that the following is a full and exact description thereof.

My invention or improvement consists of a rest or stand D E F N O M, Figure 1, a beam or lever A, two dishes B and C, a small weight or pea L, to balance the dish C, and what may be called a "parallel principle."

To enable others skilled in the art to make and use my invention or improvement, I will proceed to describe more particularly its construction and operation.

The parallel principle consists of a perpendicular rod G, Fig. 2, secured to a ring H, (in which the dish B sets,) resting upon the two points of suspension I J, Fig. 3, by means of a hole in each side, as at V W, Fig. 2, and extending through the larger pillar D, Fig. 1, nearly to the bottom of the rest or stand, and of another rod K, Fig. 2, placed in a horizontal position, which will be parallel with the lever and connecting with the lower end of the perpendicular rod G, which passes loosely through a hole made in the end of the same and kept from dropping off by means of a small pin fastened tightly in the rod G, just below the place at which the two rods connect with each other, the other end of the horizontal rod K extending along in the bottom of the stand at E, Fig. 1, nearly to the base of the smaller pillar F, and there secured by a pin X, passing loosely through the end of the rod K, and tightly through the bottom of the stand. The pillar D and also the base of the stand is made hollow, so as to allow the rods G and K to move up and down sufficiently and without touching at the sides of the same. On the top of the pillar D a piece of iron N is fastened, (forming part of the stand,) bent up at each end sufficiently, and wide enough to allow the lever to rest between by means of its fulcrum P Q, Fig. 3, in two holes or eyes made at the sides of the same, as at O. The lever A is made with one point of suspension, say, about sixteen times farther from the fulcrum than the other, (the shortest side being the one on which the disk B is suspended,) so that by placing about sixteen pounds of an article on the dish B, one pound placed on the dish C will balance the lever, it being perfectly balanced previously to putting anything into either. The dish C is suspended, so as to vibrate freely from a fixed point, in a mortise of the lever represented at R, Fig. 3. The part M of the rest or stand is so placed as to allow the dish C to vibrate without touching it, its object being to prevent the end of the lever from rising too high or falling too low, as the less motion the lever has the more accurately it will weigh, providing it has sufficient room to allow its motion to be easily perceived when moved or used.

The stand should be made of iron and sufficiently heavy to cause it to rest or set firmly upon the counter or floor.

The hole Y in the horizontal rod K should be made in the form of an oblong square or oval with the boundary edges sharp, so that when a weight is placed on the side S of the dish B the perpendicular rod G will touch only at the opposite side of the hole, and vice versa.

The height of either end of the rod K may be ascertained after the other parts of the balance are finished by shifting a weight from one side to the other of the dish B, and accordingly raising or lowering either end of the rod until found to be correct. As a general rule, the horizontal rod K should be parallel with the three points or edges of bearing of the lever, these points being in a right line with each other. All the points or edges of bearing should be made very exactly of hardened steel and nicely polished.

The dish B is made to lift off of the ring, as occasion may require, and the whole height of the balance regulated according to the service it is to be applied to.

The length of the fulcrum-points P Q, as also of the suspension-points I J, must be in proportion to the size of the dish B, and the dish in such proportion to the size and weight of the rest or stand as will not be likely to upset when filled. Weights must be used of a weight proportionate to the difference between the distances of the two points of suspension (in a straight line) from the fulcrum-point.

When the balance is intended for very large articles, the dish C is to be dispensed with and one or more sliding peas substituted, which are to be moved in suitable and equally-divided notches to be cut upon the top of the lever, in which case the height of the stand may be much diminished.

The above-described balance is intended for the convenience of druggists, grocers, and others in weighing bottles, kegs, boxes, and bulky articles generally.

What I claim as my own invention, and desire to secure by Letters Patent, is—

1. The application of the parallel principle to a beam or lever of the above description for the purpose of weighing.

2. The extending the horizontal rod K from the perpendicular rod G beyond a perpendicular line (to be drawn from the fulcrum to the base) to more than twice the distance which may be between these two points in a horizontal line—viz., between the two points I and P or J and Q.

B. MORISON.

Witnesses:
JOS. BOUND,
JOHN MARKEL.