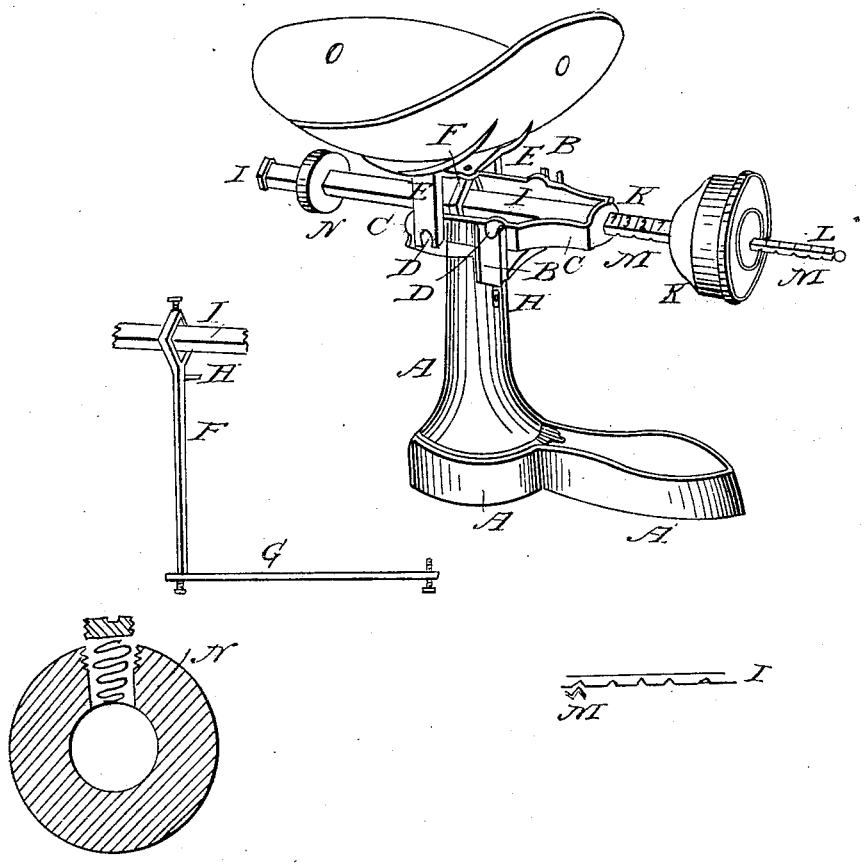
J. BALL.

Balance Scales.

No. 1,131. Patented April 20, 1839.



Witnesses:
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UNITED STATES PATENT OFFICE.

JONATHAN BALL, OF BUFFALO, NEW YORK.

METHOD OF CONSTRUCTING SCALES FOR WEIGHING.

Specification of Letters Patent No. 1,131, dated April 20, 1839.

To all whom it may concern:

Be it known that I, JONATHAN BALL, of the city of Buffalo, county of Erie, and State of New York, have invented a new and useful Improvement in Scales for Weighing Purposes; and I do hereby declare the following to be an exact description of it.

The nature of my invention consists in forming a pedestal with a foot piece of sufficient size to stand firmly and of any convenient height for a scale to rest upon. This may be of iron or other metal and is hollow. See letter A in the accompanying drawing. At the top of this pedestal I form a projection extending forward of the same one or more inches and six or more inches in length horizontally extending equal distances each way, at the ends of which are perpendicular rests or fulcrums one or more inches in height suitably formed for the pivots of the scale to rest upon them, letter B. A small balance frame five or six inches in length and nearly as wide as the distance between the rests B is formed with a hole in the front and rear ends letter C. Two pivots are inserted into each side of the frame. The knife edge of the forward ones rest upon the fulcrums B, letter C.

I construct a frame of suitable form to set any conveniently shaped bowl or dish upon with two projections downward of the same form of the fulcrums B inverted which rest upon the knife edge of the rear pivots in the balance frame, letter E. I form a straight piece with a hole near the top which is secured into the center of the bottom of the frame E and extends downward through the hollow of the pedestal A nearly to the bottom, letter F. A small strip of metal is attached at one end to the lower end of the piece F and extends forward horizontally in the bottom of the foot of the pedestal to a pin or joint in the forward end which holds the piece F in a perpendicular position, letter G. I put a strong pin into the side of the piece F which passes through a hole or mortise in the pedestal, which mortise is large enough to allow the pin and piece F to move as far as I wish with the scale to vibrate up and down, letter H. I form a tube ten or more inches in length and three-fourths of an inch in diameter, either square or round, of brass or other metal, which I pass through the holes in the frame C and piece F, the forward end of which is even with the forward end of the frame and is firmly attached to it but passes through the hole in the piece F without touching it, letter I. I form a bar the eighth of an inch less than the inside of the tube with a knob of two or more pounds weight on the forward end. The bar is ten or more inches in length and is graduated by notches on the under side into exact even pounds and when crowded or shoved into the tube forms a perfect balance of the scale. The top side of the bar is marked and numbered to correspond with the notches, letter K. I form a hole through the center of the knob and bar eight inches or more in depth, into which I insert a smaller bar, which I graduate and mark into ounces and half ounces in the same manner as I have described the large bar, letter L. I insert a steel edge into the bottom of the front end of each tube which projects up to receive the notches in the bars, letter M. I form what I term a tare weight consisting of a piece of metal weighing half a pound or more with a mortise through its center which I fit onto the rear end of the tube loosely but is held from slipping without being forced by means of a spiral spring which I apply by making a hole half an inch in diameter from the outer edge of the weight down to the tube. I put one end of the spring onto the tube through this hole, which is pressed against the tube by means of a screw which fits the outer end of the hole. This weight is to be placed at the rear end of the tube when the scale is balanced and to take the tare required is to be slipped toward the dish or bowl until the balance is perfected, letter N. I place a dish onto the frame E of such form as is convenient for the use intended, letter O.

What I claim as my invention and wish to secure by Letters Patent is—

The manner in which I have constructed and combined the balance frame and movable graduated bars as above described together with such variations as may accord with the principle upon which they act and be substantially the same in effect.

JONATHAN BALL.

Witnesses:
JAMES HOPSON,
WM. H. SPARKS.