

(No Model.)

R. E. McCLELLAND.
WEIGHT PAN FOR BALANCES.

No. 480,027.

Patented Aug. 2, 1892.

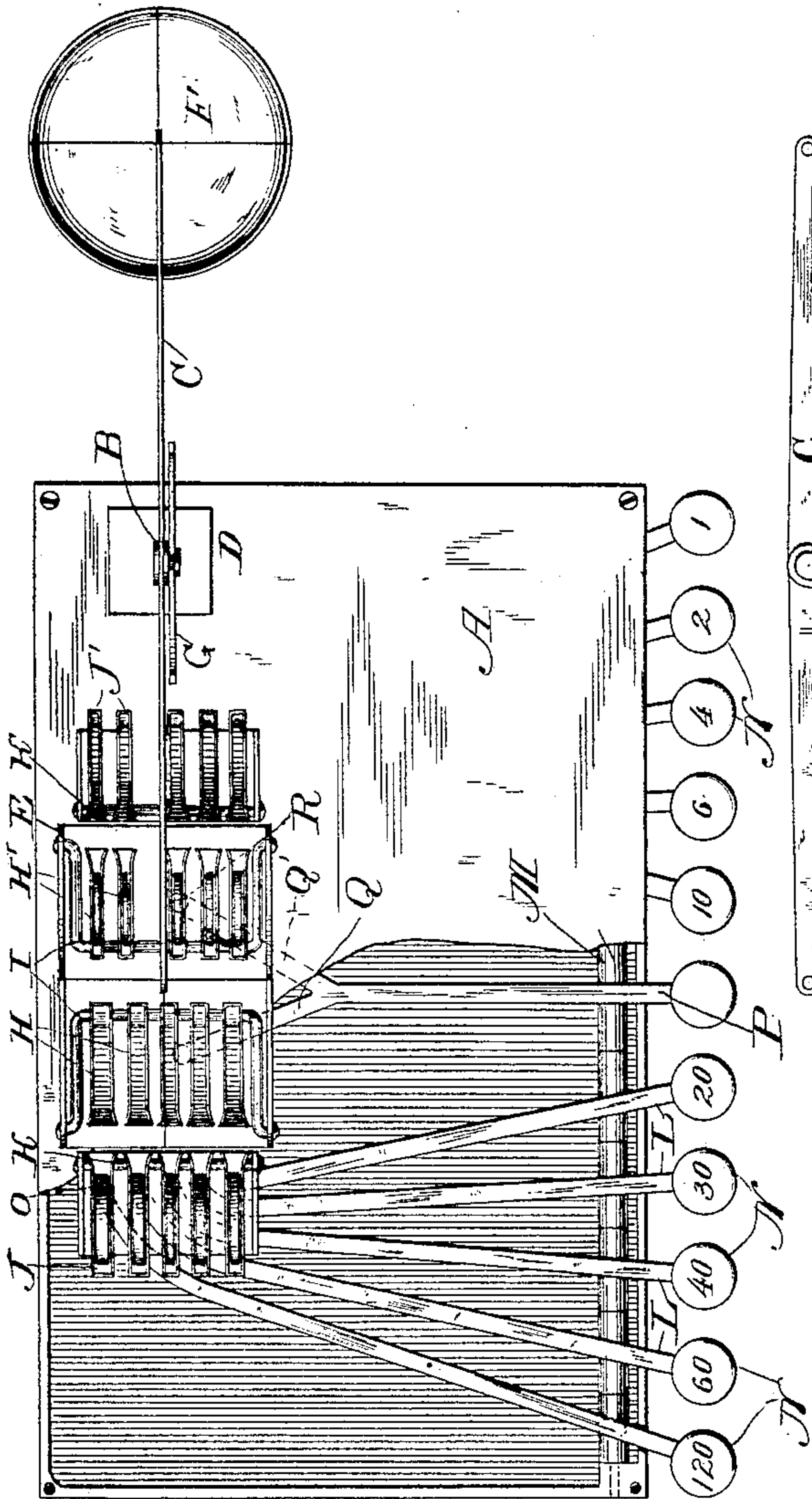


Fig. 1.

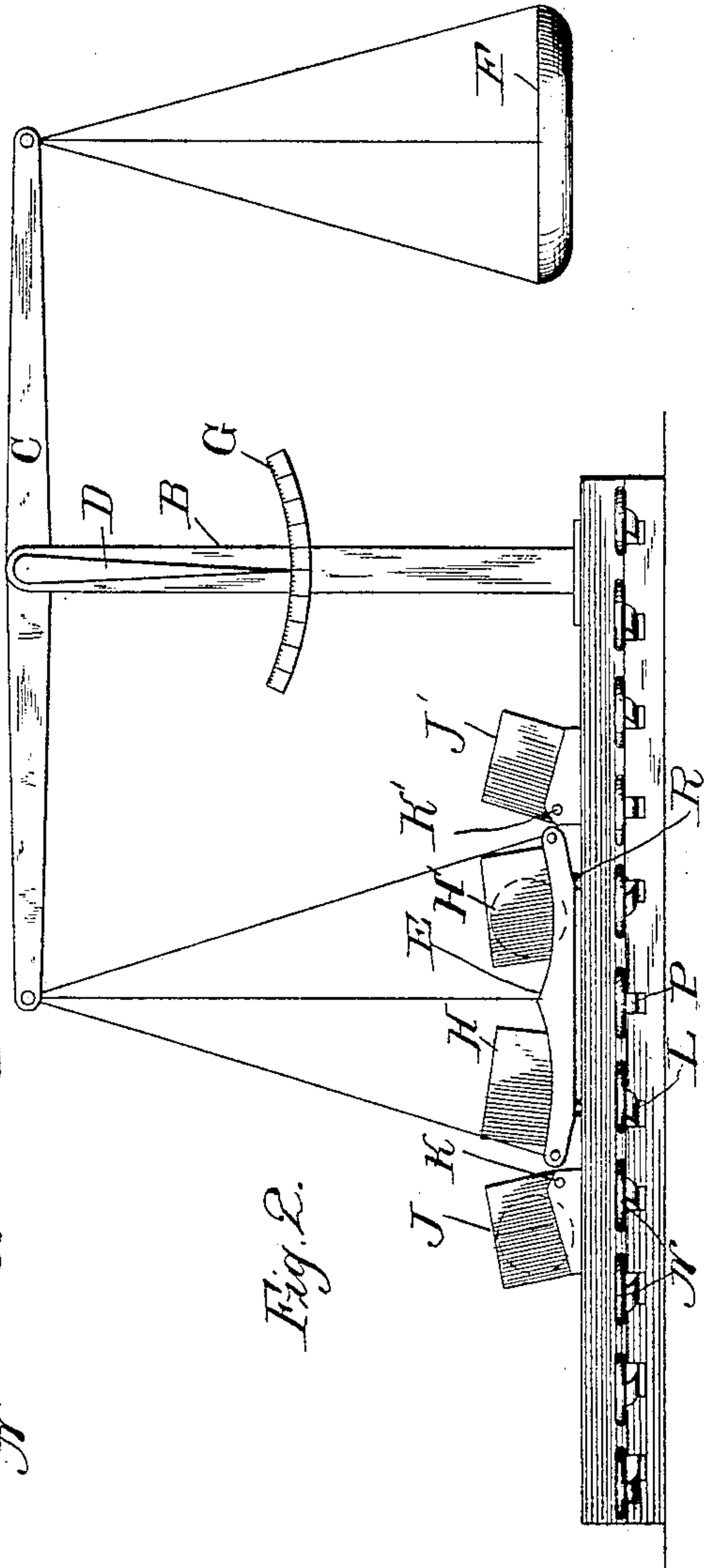


Fig. 2.

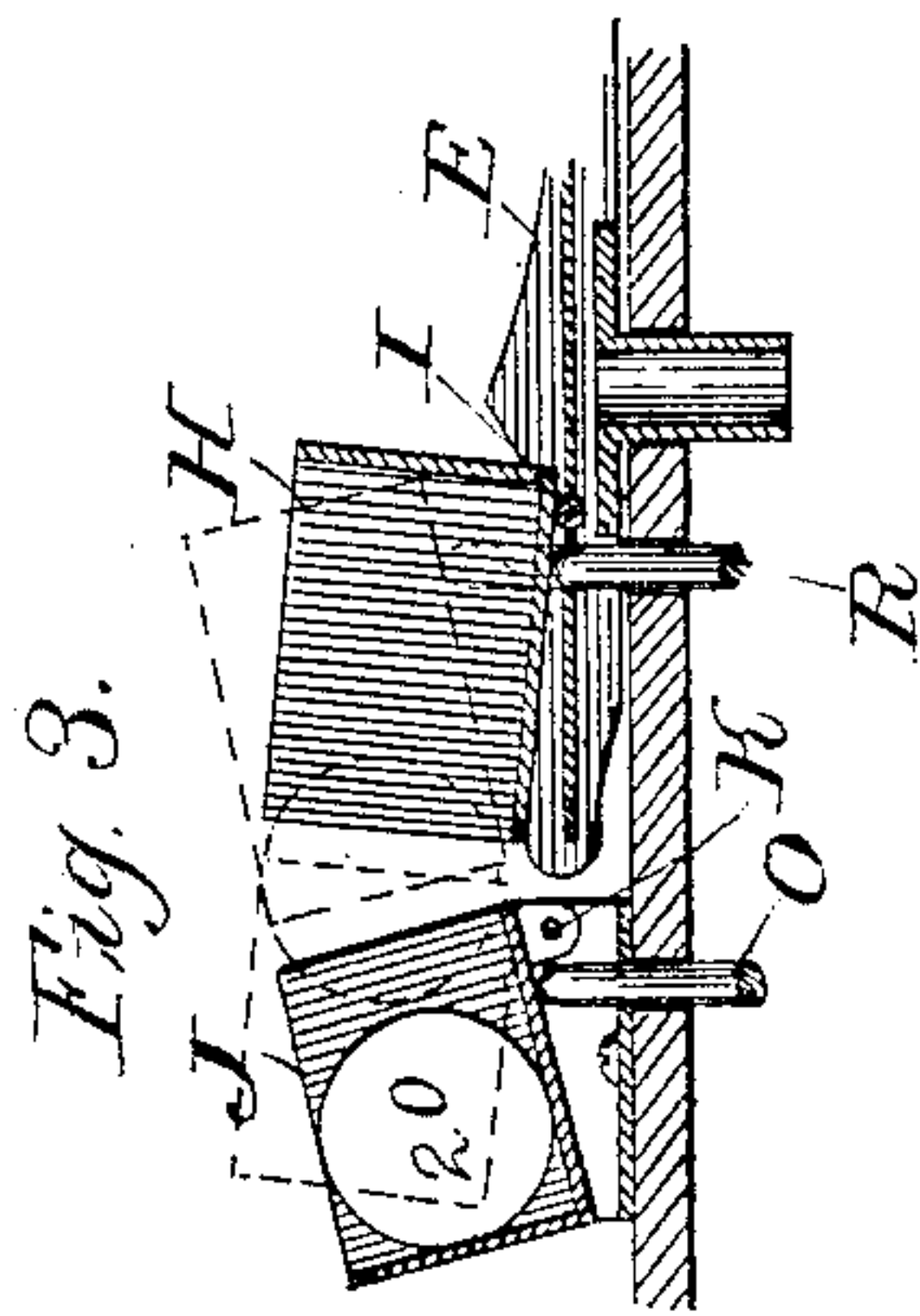


Fig. 3.

Witnesses

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WEIGHT-PAN FOR BALANCES.

SPECIFICATION forming part of Letters Patent No. 480,027, dated August 2, 1892.

Application filed January 26, 1892. Serial No. 419,345. (No model.)

To all whom it may concern:

Be it known that I, ROBERT E. McCLELLAND, a citizen of the United States, residing at Williamsville, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Druggists' Scales; and I do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to various new and useful improvements in druggists' scales, and more particularly to an improved mechanism for automatically depositing any desired weight or weights in the scale-pan and for automatically removing said weight or weights when desired.

The principal novelties in my present invention consist of one more series of cups or receptacles pivotally mounted on the scale-pan and connected together. It is preferable to make use of two or more series of such cups or receptacles arranged parallel with each other and normally held in an inclined position. Pivoted on the outside of the scale-beam, so as to face the mouths of said cups or receptacles, are corresponding cups, which receive and contain the necessary weights. These latter cups or receptacles are also normally inclined and are independent of each other. Each of these latter cups or receptacles is provided with a lever adapted to be pressed by the finger, which bears under the cup or receptacle and by which the angle or inclination of the latter may be changed, so that a desired weight may be rolled out of the mouth of the cup or receptacle into the adjacent cup on the scale-pan. The cups or receptacles on the scale-pan are also adapted to be simultaneously operated, so that their angle or inclination will be changed by means of a single lever adapted to be operated by the finger. By changing the angle or inclination of these cups on the scale-pan the weights which may be therein will be allowed to roll out of the mouth thereof into the proper cup at the side.

For a better comprehension of my present invention attention is directed to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a top view of my device, showing a portion of the casing broken away. Fig. 2 is an end elevation of Fig. 1, and Fig. 3 is an enlarged section of a pair of cups or receptacles.

In all of the several views like parts are designated by identical letters of reference.

My device consists, first, of a hollow rectangular casing A, supporting a standard B, upon which is mounted an ordinary scale-beam C, carrying an index-finger D and two pans E and F for holding the weights and the article to be weighed, respectively. A segment G, suitably graduated, is rigidly mounted upon one side of the standard B. This segment is adapted to serve the ordinary purpose of such devices—namely, to quickly and accurately ascertain when the balance-beam is exactly horizontal or when the pans exactly counterbalance. Mounted within this scale-pan E are two sets or series of cups or receptacles H H' of a general oblong shape and with beveled outside extremities. These cups are preferably open at the tops and outer extremities, as shown in the drawings. The inner ends of the cups of each series are secured to a metallic supporting-piece I, which is bent at each side, as shown, and which bears within the side of the scale-pan E at a point directly in line with the mouths of said cups or receptacles.

J J' are other cups or receptacles similar in every respect to the cups H H', with the exception that these are independently mounted upon and supported by a suitable shaft or axle K, passing beneath the outer ends. They normally assume the position illustrated in Fig. 2.

L L L are levers independent of each other and mounted on a shaft M within the casing A. Each lever is provided at its outer end with finger-piece N, upon which is indicated the proper weight. These levers extend underneath the cups or receptacles J J', one for each, and are provided at their inner edge with a vertical extension O, which bears upon a suitable cup or receptacle J J'. By pressing downward on any lever its inner end will be elevated, so that the angle or inclination of the cup or receptacle will be changed and the weight contained therein will roll out into the cups or receptacles H on the scale-pan E.

P is another lever, preferably placed in the center of the casing A, and is provided with branch arms Q Q' at its inner end. This lever P is pivotally mounted upon the shaft M in a manner similar to the levers L L and is provided with a finger-piece similar to the pieces N N.

Each of the branch arms Q Q' is provided at its inner extremity with a vertical extension R, (similar to the extension O,) which is adapted to bear under any one of the cups or receptacles O. When in a normal position, the extensions R do not touch the cups or receptacles H H', but remain some distance therefrom to allow the scale-beam C to oscillate up or down without being impeded in any way.

Upon pressing the finger-piece of the lever P the vertical extension at the end of each branch arm will be elevated so as to come in contact with the cups or receptacles H H', which are connected together, and by this means the angle or inclination thereof will be changed, so that any weights which may be within the cups or receptacles H H' will roll out thereof into the adjacent cups or receptacles K K'.

The weights which I prefer to employ are preferably of metal and disk-shaped, so as to readily roll down an inclined plane. The differences in weight of the weights are secured by different thicknesses with a uniform diameter.

By constructing the weights of a disk shape the specific weights can be identical by raised,

sunken, or colored numbers upon the flat faces, which would be impossible were the weights spherical or without flattened faces.

The operation of my device is substantially as follows: The article to be weighed being deposited within the pan F, the operator proceeds to deposit suitable weights upon the scale-pan E by depressing the levers L, which will tilt the cup or receptacle K, as shown in Fig. 3, (dotted lines,) and allow the weight to roll into the adjacent receptacle H upon the scale-pan. When the article to be weighed is counterbalanced by the weights, they are returned to the cups K K' by depressing the lever P, which will elevate the inner extremities of the cups or receptacles H H', as shown in dotted lines of Fig. 3, and allow the weight to roll back to the cups K K'.

Having now described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

An improved device for weighing, consisting of a scale-pan provided with two or more tilting cups or receptacles arranged in series, a suitable finger-lever for tilting all of the receptacles within a series, two or more tilting weight-holding cups or receptacles, and an independent finger-lever for tilting each of said cups or receptacles, in combination with two or more disk-shaped weights, all combined substantially as described.

ROBT. E. McCLELLAND.

In presence of—

G. G. CONNEIL.

J. W. SMITH.