W. C. BRAMWELL.

Weighing Mechanism for Carding Machines.

No. 196,424. **Patented Oct. 23, 1877.**

Fig. 1.

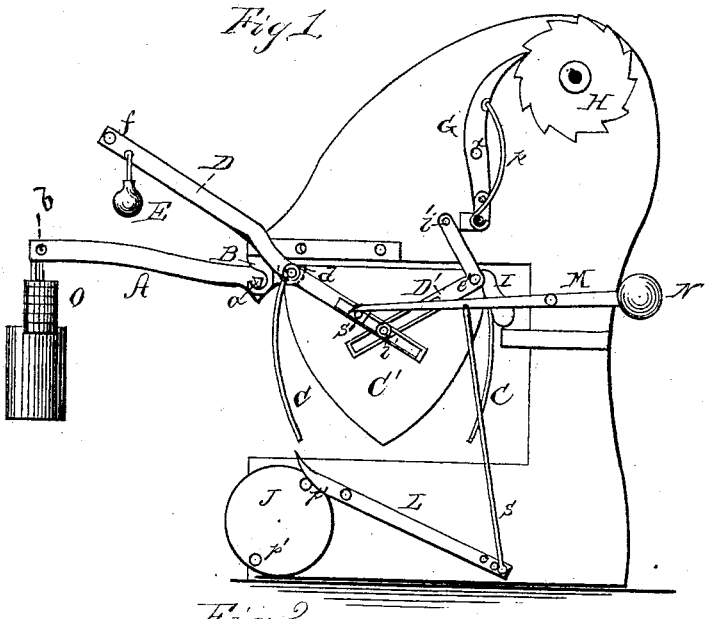


Fig. 2.

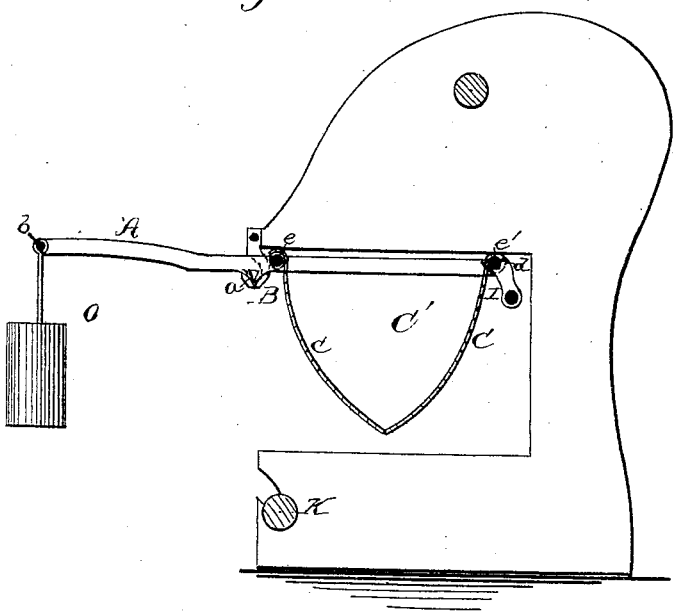
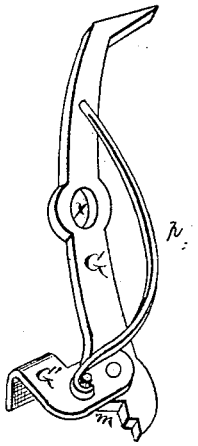


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM C. BRAMWELL, OF TERRE HAUTE, INDIANA, ASSIGNOR TO HIMSELF AND EDWIN ELLIS.

IMPROVEMENT IN WEIGHING MECHANISMS FOR CARDING-MACHINES.

Specification forming part of Letters Patent No. **196,424**, dated October 23, 1877; application filed May 25, 1877.

To all whom it may concern:

Be it known that I, WM. C. BRAMWELL, of Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Weighing Mechanisms for Carding-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to scales and feeders for carding-machines, and is intended as an improvement upon Letters Patent No. 180,533, dated August 1, 1876; and the nature of my invention consists in the construction and arrangement of devices, as will be hereinafter more fully set forth, and pointed out in the claims.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation, Fig. 2 a vertical section, and Fig. 3 a detail view, of my invention.

The scale consists of two arms, A A, which work on knife-edges or pivots *a a*, in stationary hooks B B, and said arms are attached, at such distances apart as to suit the width of the carding-machine, by rods *b b*. These arms have notches *d d* in their upper edges for receiving rods or shafts *e e'*, to which curved wings C C are fixed, and these, when closed together with the end pieces C' C', attached to the arms A A, form the receptacle for containing the material. The wings C may have straight surfaces, if preferred.

The rod *e* has attached to it, outside of the scale, a lever, D, having a counter-weight, E, and stop-pin *f* near the outer end. The inner end is slotted, and carries an adjustable pin, *i*, which works loosely in the slotted end of another lever, D', which is attached to the rear shaft *e'*, carrying the other curved wing. This lever D' is L-shaped, and has at its upper end a pin, *i'*, or friction-roll. All these parts move move with the scale, and form a part of it.

G is a regulating-lever, which works on a pivot, *x*. Its upper end is brought to a point, and its lower end has a notch, *m*, and also carries a movable piece, G', covering said notch. This movable piece is held down by a spring, *p*. This lever G is held out of the perpendicular by the pin *i'* on the scale-lever D', only, however, when the scale is in the act of receiving material. As soon as the scale has received its quota it descends until the pin *i'* arrives opposite the notch *m*, when the lever G, being relieved, changes its position instantly, thus allowing the upper end to engage with one of the teeth of a wheel, H, attached to the delivery-apron roll. The wheel H is provided on its periphery with a series of teeth, and is substituted for a single pin and lever, as shown in my former patent, above referred to, and acts on a clutch, substantially the same as therein shown, the only difference being a wheel with a series of teeth, instead of a short lever with one tooth or pin only. Having more points of contact, the delivery of material is more promptly cut off through the action of the lever G than when only one point of contact presented itself.

The scale having received a supply and moved downward until the pin *i'* has entered the notch *m* in the lever G, it is arrested from further movement by the stop I. The parts all remain in this position until the time arrives for discharging the scale, which will be longer or shorter, depending on the length of time it may have taken the scale to receive its supply, which latter necessarily varies in proportion to the amount of stock or material deposited within the scale in a given time.

The discharging is done by a wheel, J, which is attached to the shaft of the feed-roll K, and has two pins, *p' p'*, that act on a lever, L, and, through a connecting-rod, *s*, on a lever, M, which has a counter-weight, N, and this keeps all the parts out of contact with the scale, unless acted upon otherwise. When, however, one of the pins, *p'*, acts on the lever L, it is depressed, also depressing the front end of the lever M, and in its course this comes in contact with a pin, *s'*, attached to the lever D, and through it also acting on the lever D', carrying with them the wings C C, thus dropping the material beneath. While this is being done

the pin i' has raised the movable piece G′ of the lever G, and, escaping from beneath, allowed the spring p to return to its former position, where it now serves as a check on the return of the pin i' from again entering the notch m in the lever G. By this means the pin i' presses against the piece G′ as the wings of the scale are in the act of closing, and thus forces the upper end of the lever G out of contact with the wheel H, which releases the clutch above mentioned, and recommences the delivery of a fresh supply to the scale, which has now resumed its original position.

The curved shape of the lever L, as shown, where it is acted upon by the pins p' p' in the wheel J, is such that, by the slow motion of the feed-roll K, the scale is caused to return easily and quietly, without shock or jar.

At O is seen a series of changeable weights, by which the amount of material weighed can be changed as desired.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A weighing-scale for fibrous or other material, having two curved wings, which, together with suitable end pieces, form a receptacle for containing the substance to be weighed, and which are, at uniform intervals of time, caused to open apart and deposit the material by mechanism, substantially as described, disconnected from and independent of the scale, said intervals of time being wholly unaffected by the time it may take the scale to become balanced, substantially as herein described.

2. In combination with a scale, substantially as described, for weighing fibrous or other material, a pin, i, or its equivalent, having contact only with and operating the mechanism for arresting the supply of material to the scale, substantially as herein set forth.

3. In combination with a scale for weighing fibrous or other material, having a pin, i, or its equivalent, a notched lever or dog, G, for arresting the delivery mechanism, and governed in its action by the balancing of the scale yet unconnected with the latter, or any part thereof, so as not to retard the sensitiveness of the balance, substantially as herein set forth.

4. In combination with a scale for weighing fibrous or other material, having a pin, i, or its equivalent, and a notched dog or lever, G, a check-piece, G′, pivoted to said lever or dog, for preventing the return of the pin i, or its equivalent, only at such times as the scale has received a supply and become balanced, substantially as herein set forth.

5. In connection with a weighing apparatus, as herein described, a discharging-lever, M, acted upon by means of the rod s, curved lever L, and the pins p' p' on the wheel J, at regular intervals of time, regardless of the time of balancing the scale, and wholly isolated from the weighing mechanism, except at the time of discharge, substantially as herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM C. BRAMWELL.

Witnesses:

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JAMES ELLIS.