

(No Model.)

2 Sheets—Sheet 1.

G. D. BAIRD.

GRAIN WEIGHER AND REGISTER.

No. 295,095.

Patented Mar. 11, 1884.

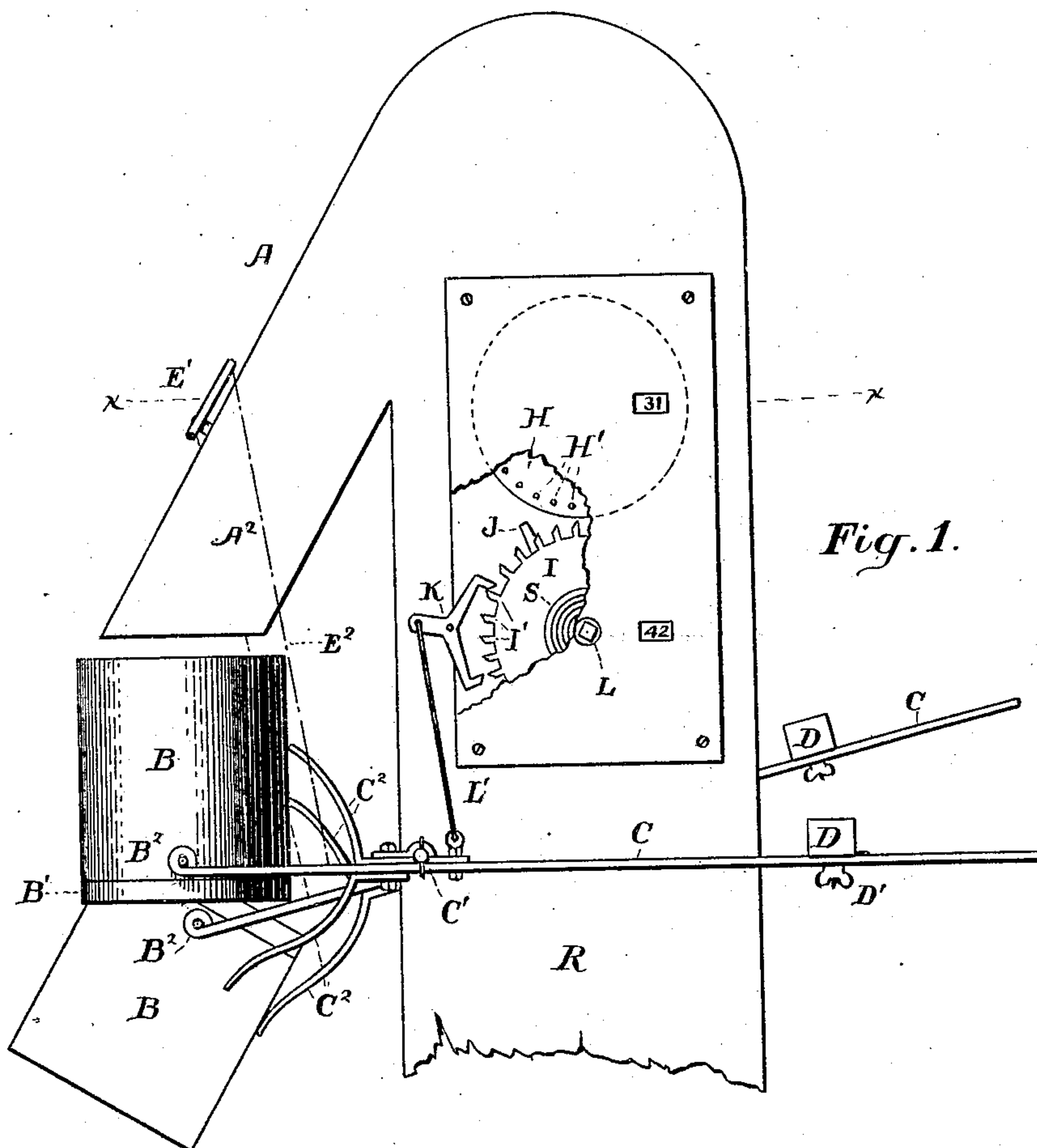


Fig. 1.

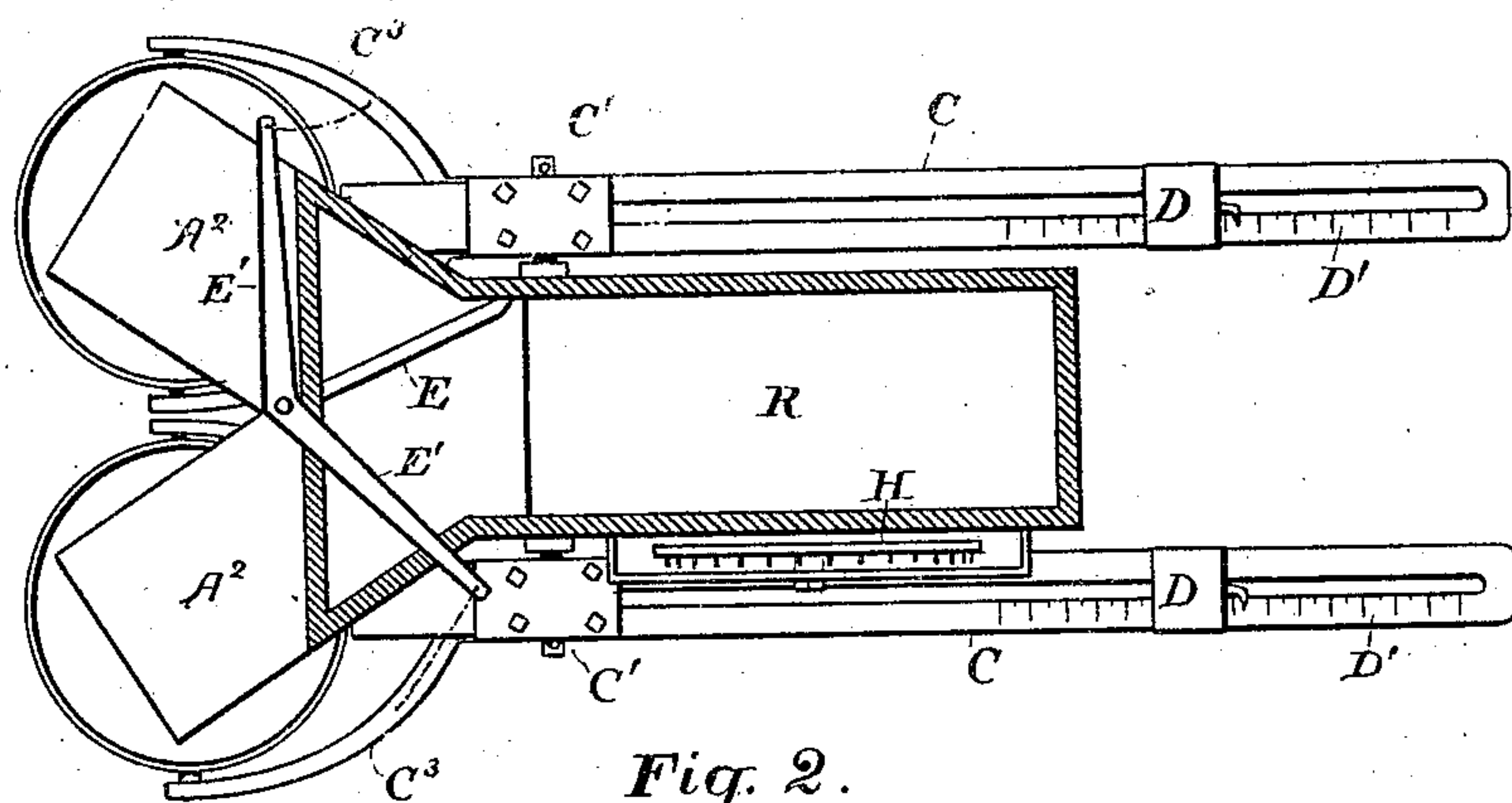


Fig. 2.

Witnesses,

H. W. W. W.

Rich<sup>d</sup>. A. Goldsborough.

Inventor,

George D. Baird.

per A. B. Upham,  
Atty. in fact.

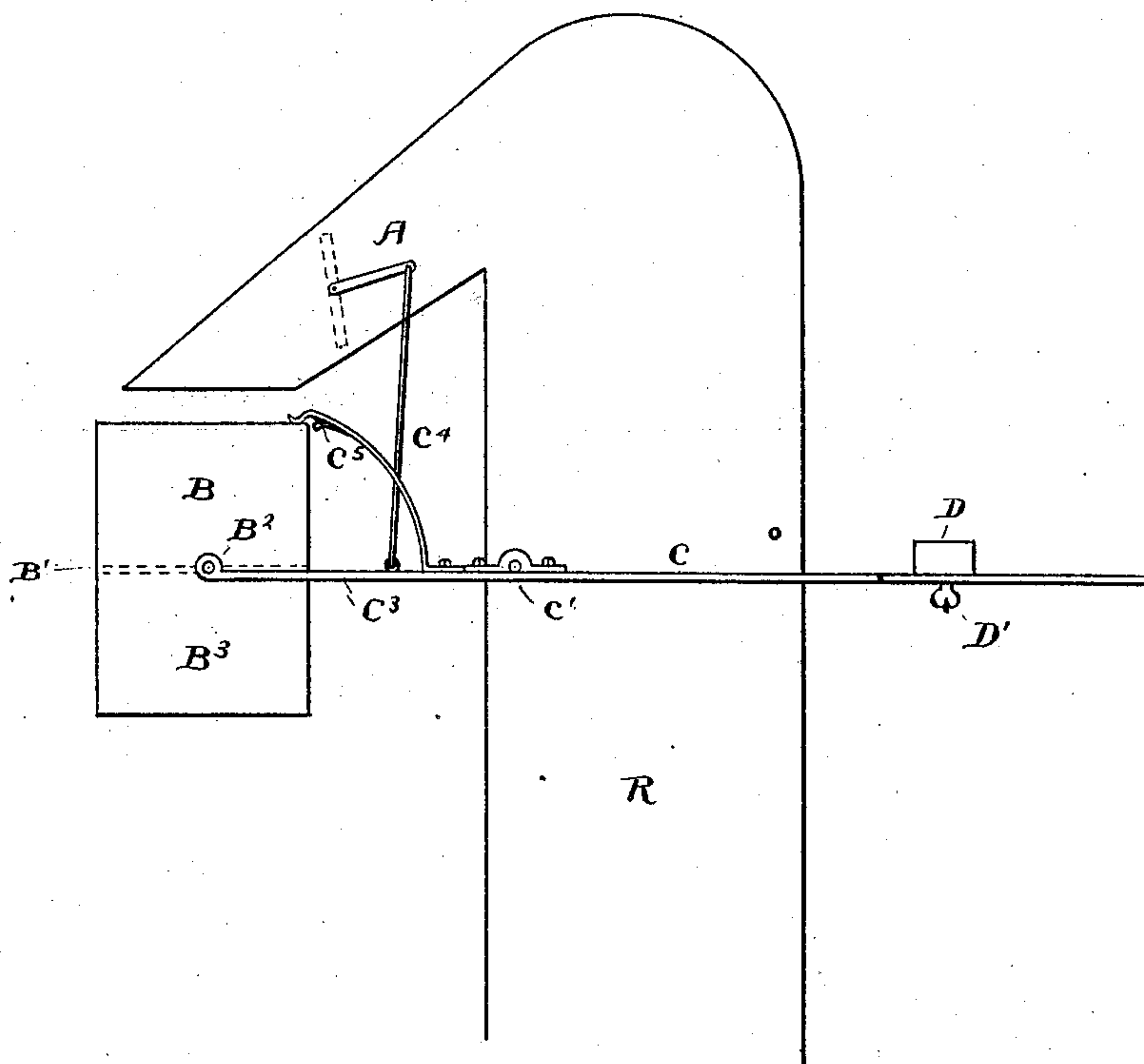
(No Model.)

2 Sheets—Sheet 2.

G. D. BAIRD.  
GRAIN WEIGHER AND REGISTER.

No. 295,095.

Patented Mar. 11, 1884.



*Fig. 3.*

*Witnesses,*

*H. M. Wells,*

*Richard A. Goldsborough.*

*Inventor,*

*George D. Baird,*

*per A. B. Upham,*  
*His Attorney.*



# UNITED STATES PATENT OFFICE.

GEORGE D. BAIRD, OF WASHINGTON, ILLINOIS.

## GRAIN WEIGHER AND REGISTER.

SPECIFICATION forming part of Letters Patent No. 295,095, dated March 11, 1884.

Application filed August 6, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE D. BAIRD, of Washington, in the county of Tazewell, in the State of Illinois, have invented an Improved Grain Weigher and Register; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a side elevation; Fig. 2, a plan section through  $xx$ ; Fig. 3, a modification.

The object of this invention is the construction of a device that shall automatically weigh and register the weight of all kinds of grain.

My invention consists, essentially, of a grain-spout and valve therein, an interterminally-pivoted lever having a tilting bucket at one end and a movable weight at the other end, and a register for recording the number of times said bucket is filled and emptied.

In the drawings, A is the spout, which is here shown to be bifurcated for the purpose of supplying two tilting buckets, and thereby having the operation of my machine continuous. The valve E, pivoted at the conjunction of said bifurcated parts  $A^2 A^2$ , has handles  $E' E'$ , by which it may be turned to send all the grain through either one or the other of the outlets  $A^2 A^2$ .

R represents an elevator by which the grain is raised up into the spout A high enough to enable the buckets B B to dump the grain directly into a wagon or other receptacle alongside. The levers C C are pivoted at  $C' C'$  to the elevator R, and at their ends  $C^3 C^3$ , forked for the purpose, are pivoted the tilting buckets B B. The other ends of the levers C C are furnished with weights D D and marks, which, when said weights D D are placed thereat, shall show the weight of grain contained in said buckets B B, arranged for different quantities and different kinds. The lever C, I usually form of bar-iron doubled at the weight ends, and leave a narrow space between the two parts of each, through which to pass a set-screw,  $D'$ , that fastens the weight at its different desired points. Stiff springs  $C^2 C^2$  are fastened above and below the levers C, to prevent the buckets

B B from tipping too far in either direction. I weight the bottoms of the buckets B B sufficiently to return them to and keep them in an upright position. Cords  $E^2 E^2$  so connect the ends of the handle  $E'$  to the levers C C that a downward movement of the bucket end of either lever turns the valve E to its side of the elevator R, and thereby all the grain into the other bucket. In using this weighing part of the machine, the grain is elevated up over into the spout A, and flows down through the same and out of the bifurcated spout  $A^2$ , which is open, into the bucket beneath. Just so soon as the weight D is overbalanced thereby the bucket descends until the center of gravity of the grain therein is beyond the supporting-pivot  $C^3$ . The bucket then immediately overturns and its contents empty into the receptacle beneath; but in the meantime the downward motion of the bucket B had turned the flow of grain therefrom into the other bucket, which would begin to fill just before the former had overturned. By the time this overturned bucket had discharged its contents, and, being freed therefrom, had righted itself, the other is filled, and in the same way empties and rights itself. In this way the motion of the weigher is continuous and the flow through the spout A uninterrupted.

My register is operated by means of the coiled spring S, which tends to revolve the escape-wheel I. The pallets K, by which the wheel I is allowed to turn one tooth at a time, are oscillated by the lever C, jointed thereto by the connecting-rod  $I'$ . The wheel I has a loose axle, L, coiled spring S, ratchet-wheel, and pawl similar to the mainspring-wheel of ordinary clocks. By these arrangements each complete motion of the lever C allows the spring-impelled wheel I to move the distance of one tooth. Upon the side of said wheel I are inscribed, concentric therewith, the numbers from one to one hundred, with the teeth  $I'$  to correspond, one to each number. When, therefore, each bucket B is made to contain half a bushel of grain, the wheel registers correctly, since the pallets K are oscillated by one of the levers C; but to adapt each bucket for an entire bushel I connect the pallets to both levers C C, or furnish the wheel I with only half as



many teeth I'. The wheel H registers the number of revolutions of the wheel I through the axially-projecting pins H', and the lug J, projecting from the wheel I, with as many numbers as there are pins. With ten pins my register records up to one thousand. With one hundred pins the same records up to ten thousand.

What I claim as my invention, and for which I desire Letters Patent, is as follows, to wit:

1. The pivoted and weighted lever C, having springs C<sup>2</sup> C<sup>2</sup>, and the pivoted and weighted bucket B, in combination with the spout A, having valve I, and means whereby the movements of said lever C shall open and close said valve, for the purpose set forth.

2. The weighted and pivoted lever C and the pivoted bucket B, in combination with the connecting-rod L', pallets K, and wheel I, having spring S, substantially as and for the purpose specified.

3. The pivoted levers C, having weights D and springs C<sup>2</sup> C<sup>2</sup>, and the buckets B, having pivoted supports B<sup>2</sup> and weighted bottoms B', in combination with the bifurcated spout A, having valve E, handle E', and cords E<sup>2</sup>, substantially as and for the purpose set forth.

4. The pivoted and weighted lever C, having springs C<sup>2</sup>, and the pivoted bucket B, having means whereby it shall return to its vertical position after being emptied, in combination with a spout and valve therein having means by which the movements of said lever shall open and close the same, for the purpose set forth.

In testimony that I claim the foregoing invention I have hereunto set my hand this 10th day of May, 1883.

GEORGE D. BAIRD.

Witnesses:

CHAS. A. CRANE,  
J. R. CRANE.