

(No Model.)

J. SPRINKLE.
GRAIN WEIGHING MACHINE.

No. 476,427.

Patented June 7, 1892.

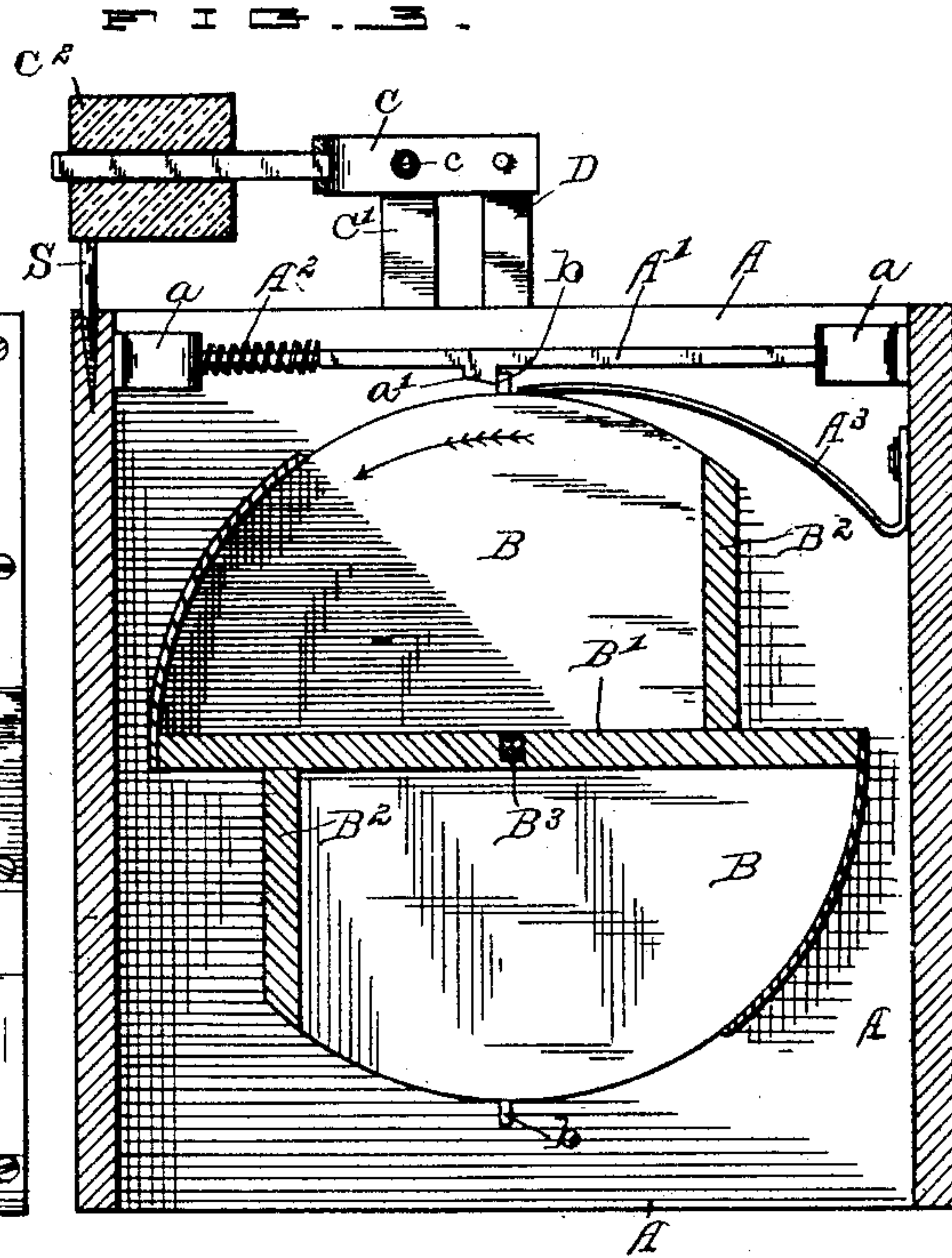
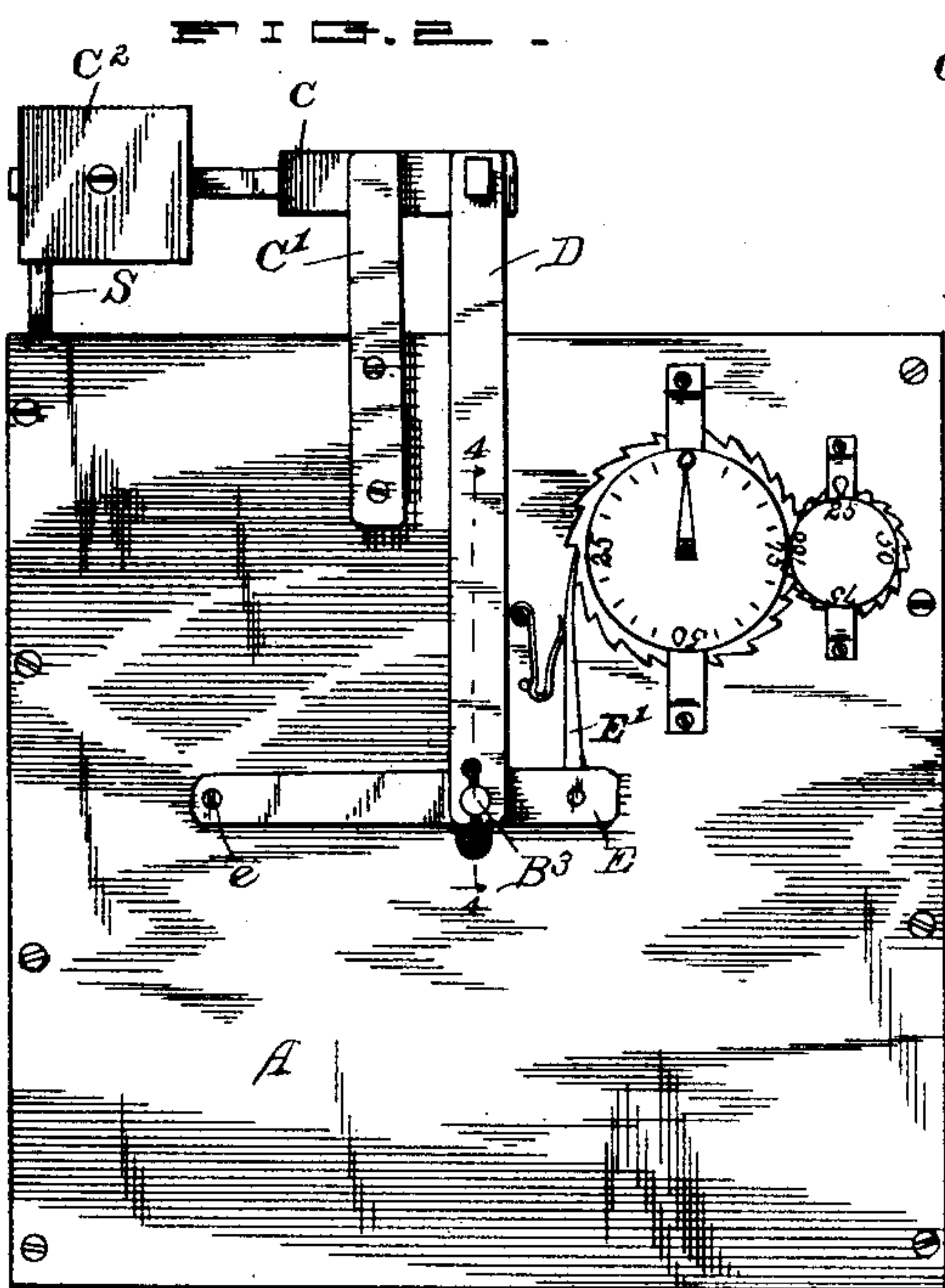
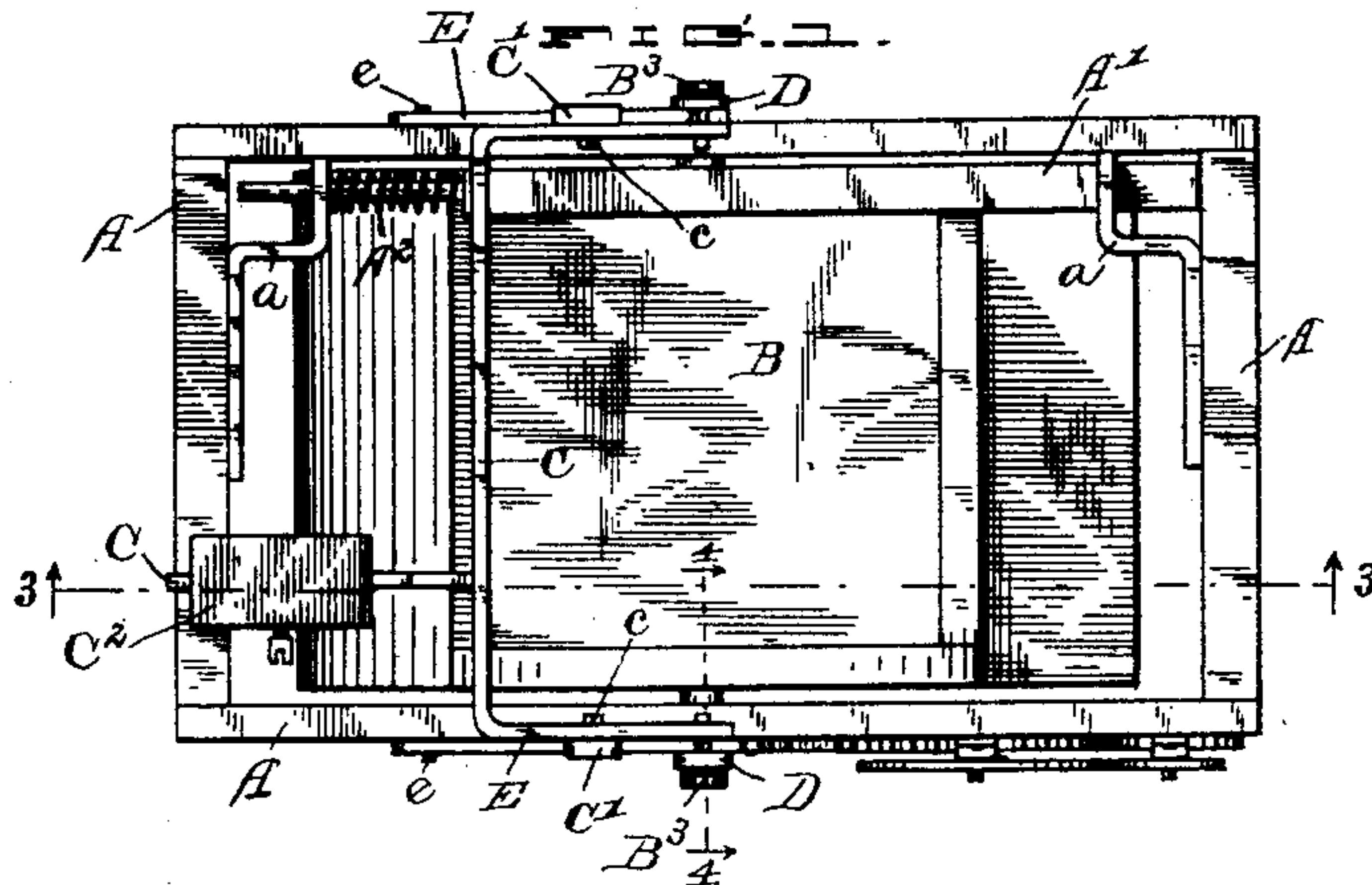
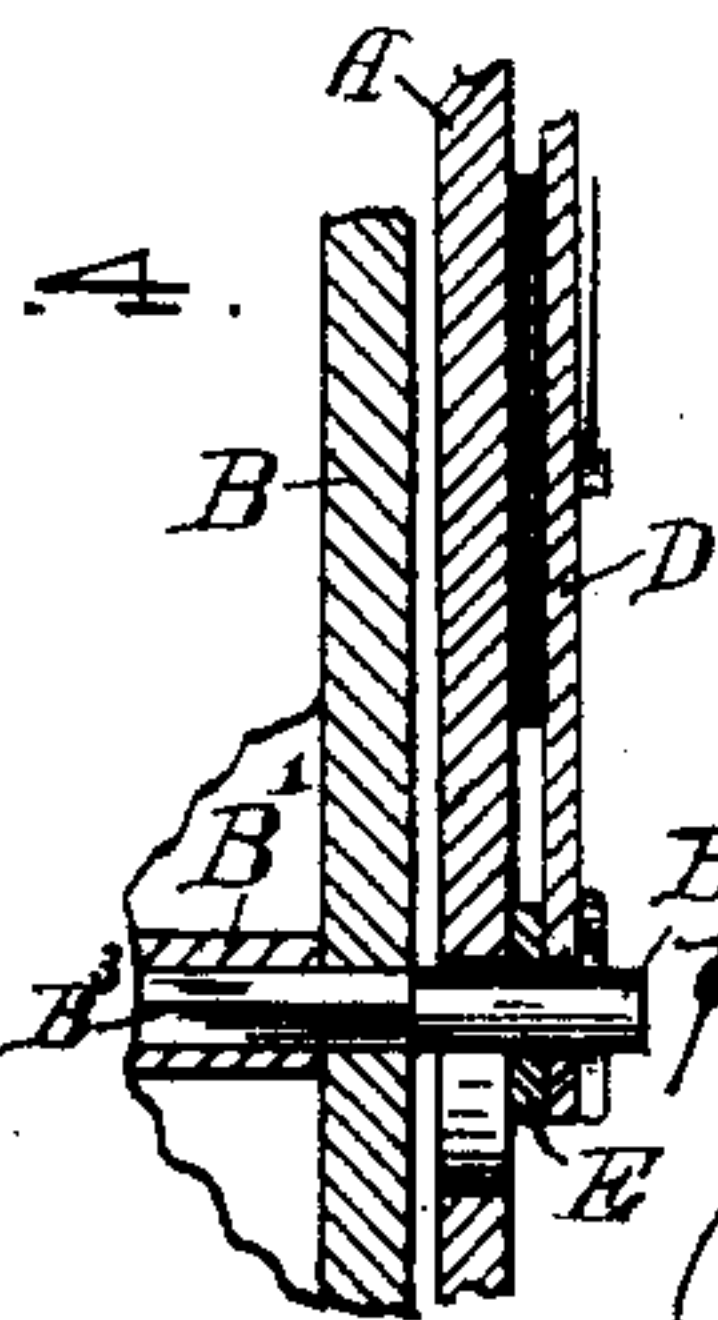


FIG. 4.

WITNESSES.

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JOHN SPRINKLE, OF WALTON, INDIANA.

GRAIN-WEIGHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 476,427, dated June 7, 1892.

Application filed September 29, 1891. Serial No. 407,121. (No model.)

To all whom it may concern:

Be it known that I, JOHN SPRINKLE, a citizen of the United States, residing at Walton, in the county of Cass and State of Indiana, have invented certain new and useful Improvements in Grain-Weighing Machines, of which the following is a specification.

My said invention consists in certain details of construction and arrangements of parts of that class of weighing devices which are employed in the automatic weighing of grain and such like articles, whereby the construction is simplified and the operation improved, all as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a top or plan view of a weighing-machine embodying my said improvements; Fig. 2, a side elevation of the same; Fig. 3, a longitudinal vertical sectional view looking upwardly from the dotted line 3 3 in Fig. 1, and Fig. 4 a detail sectional view on the dotted line 4 4 in Fig. 2.

In said drawings the portions marked A represent the outside casing of the machine; B, a rotary cylinder embodying two hoppers; C, a bifurcated scale-beam; D, links connecting the scale-beam with the shaft of the hopper-cylinder, and E arms pivoted to the casing A at one end and which serve the purpose of guiding the links D, and one of which carries a pawl, which operates a registering mechanism.

The casing A is generally rectangular in form and surrounds the hopper-cylinder B.

Mounted in bearings *a* is a catch-bar A', upon which is a detent *a'*, with which stop-pins *b* on the hopper-cylinder B engage. The bar A' is preferably provided at one end with a spring A², which acts as a buffer as the hopper-cylinder revolves. A spring-pawl A³ is preferably secured to the inside of the casing, which rides over the stop-pins *b* and falls behind them as they successively pass, thus preventing any reverse movement.

The revolving hopper-cylinder B is a cylinder in general outline, divided into equal parts by a partition B' running through its center, and one end of each part being cut off by cross-boards B², set at right angles with

the dividing partition B'. The shaft B³, on which this cylinder is mounted, being centrally located, the shortening of the hoppers, as just above described, causes them to be out of balance when filled, making it their tendency to fall forward when released. The opposite ends of the two hoppers being formed in this manner, as shown in Fig. 3, both occupy the same position when at the same point of revolution, and they are thus always caused to fall in the same direction. The shaft B³ passes through slots in the casing A to the outside, where it is hung in bearings in the bottom ends of the links D.

The bifurcated scale-beam C is mounted upon knife-edges *c* in the upper ends of the standards C', which are fixedly secured to the casing A. It is provided with the usual scale-weight C², and the weight acts as a counterpoise for the hopper and its load, as usual. The links D connect the bifurcated ends of the scale-beam C to the ends of the hopper-cylinder shaft B³, and thus support said cylinder.

The arms E are connected by pivots *e* to the casing A at one end and extend and are connected to the ends of the cylinder-shaft B³. They thus, while permitting perfect freedom of action, guard against a lateral movement on the part of the hopper-cylinder. One of said arms is extended and is provided at or near the extreme end with a pawl E', which extends to and operates a registering device, which I prefer to use in connection with my invention. Said registering device is, however, of an ordinary construction, and not being of my invention needs no special description.

The operation is as follows: Grain or whatever is to be weighed is guided to the hopper which is at the time uppermost, in any ordinary or desired manner. When the hopper is filled to the predetermined amount, which is gaged by the adjustment of the scale-weight C² on its beam, the weight of the grain will overcome the weight of the scale-weight and cause the hopper-cylinder to fall to a point low enough so that the stop-pin *b* will pass below the detent *a'*, when the hoppers will revolve and the one which was uppermost will become lowermost and discharge its load, while the one which was lowermost

will become uppermost, ready to receive another load. The spring-pawl A^3 prevents the hoppers from rotating in the reverse direction to that which is desired. The spring A^2 acts as
 5 a buffer, so that the shock occasioned by the contact of the stop-pin and the detent a' is taken up and rendered harmless to the mechanism. The hoppers are formed, as shown, by dividing the cylinder equally and cutting off an end
 10 of each half. So formed they are not only very simple and inexpensive to construct, but exceedingly efficient in operation. The peculiar combination of the links D and arms E is also of great advantage in securing accurate operation and a precise result. The
 15 movement is slight, and a stop S is provided on the frame-work to support the scale-weight and prevent it from too great a movement when relieved of the load at the time of the
 20 emptying of the hopper.

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

1. The combination, in an automatic weighing-machine, of a double hopper consisting of
 25 a cylinder divided equally by a partition extending through its center and each part being reduced at one end, as shown, stop-pins

on said cylinder, a detent with which said stop-pins will come in contact, a bar carrying
 30 said detent provided with a buffer-spring, a spring-pawl for catching and holding the cylinder against a reverse movement, a shaft on which the cylinder is mounted, a bifurcated
 35 scale-beam mounted on appropriate knife-edges, links connecting said scale-beam with the shaft of said cylinder, and arms pivoted to the casing at one end and connected to the cylinder-shaft at the other, substantially as
 40 set forth.

2. The combination, in an automatic weighing-machine, of a cylinder embodying the hoppers, the scale-beam, links connecting said
 45 scale-beam to the shaft of the cylinder, and arms E, pivoted to the casing connected to the cylinder shaft or links and provided with a pawl, which engages with and operates the counting or registering mechanism, all substantially as set forth.

In witness whereof I have hereunto set my
 50 hand and seal, at Indianapolis, Indiana, this 23d day of September, A. D. 1891.

JOHN SPRINKLE. [L. S.]

Witnesses:

CHESTER BRADFORD,
 J. A. WALSH.