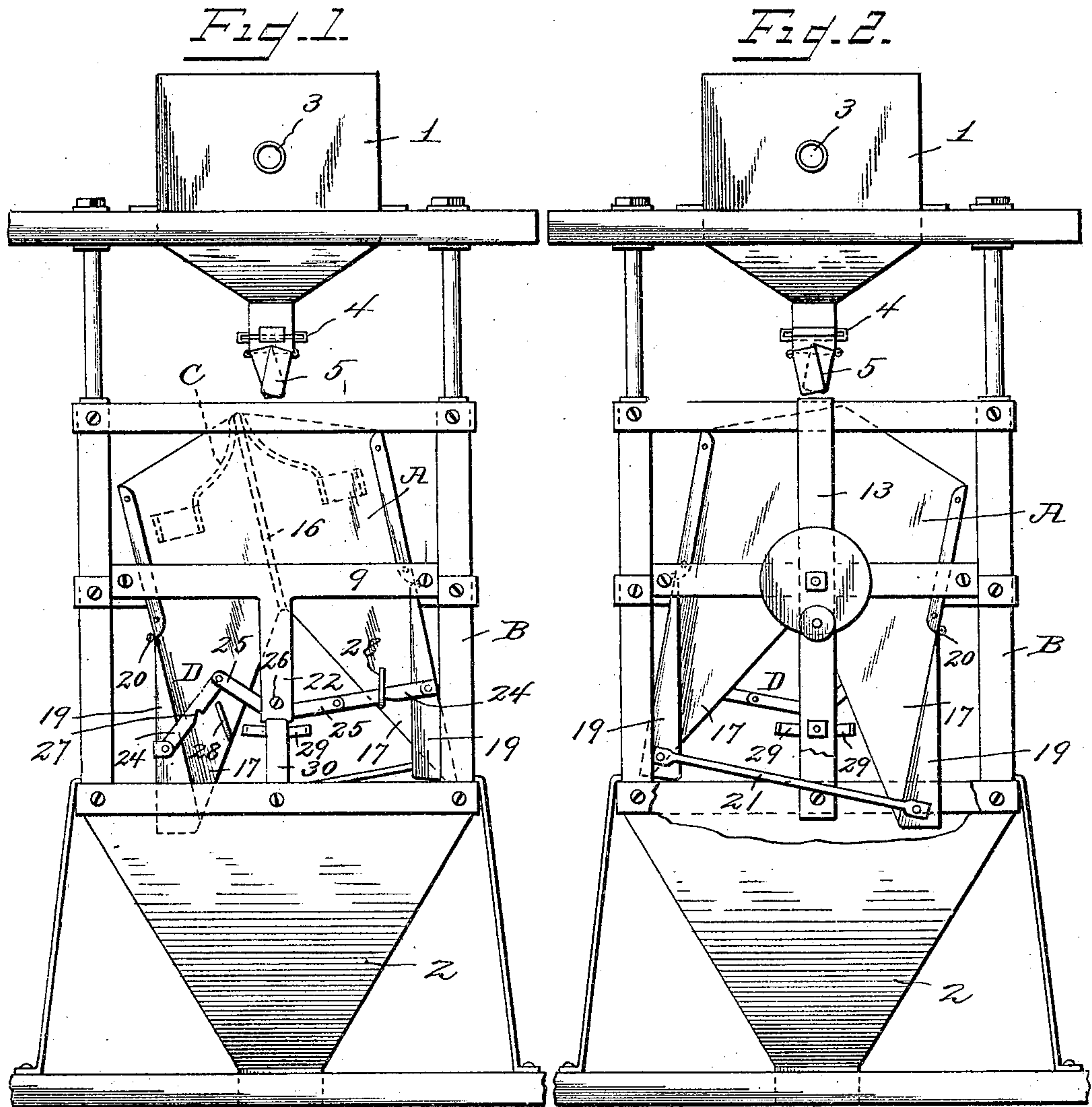


No. 819,881.

PATENTED MAY 8, 1906.

H. HAGER.
AUTOMATIC WEIGHING SCALE.
APPLICATION FILED DEC. 13, 1905

2 SHEETS—SHEET 1.



WITNESSES

Harry L. Amer.
E. E. Masson

INVENTOR

Harry Hager.
by *Jay D. Miller* Attorney

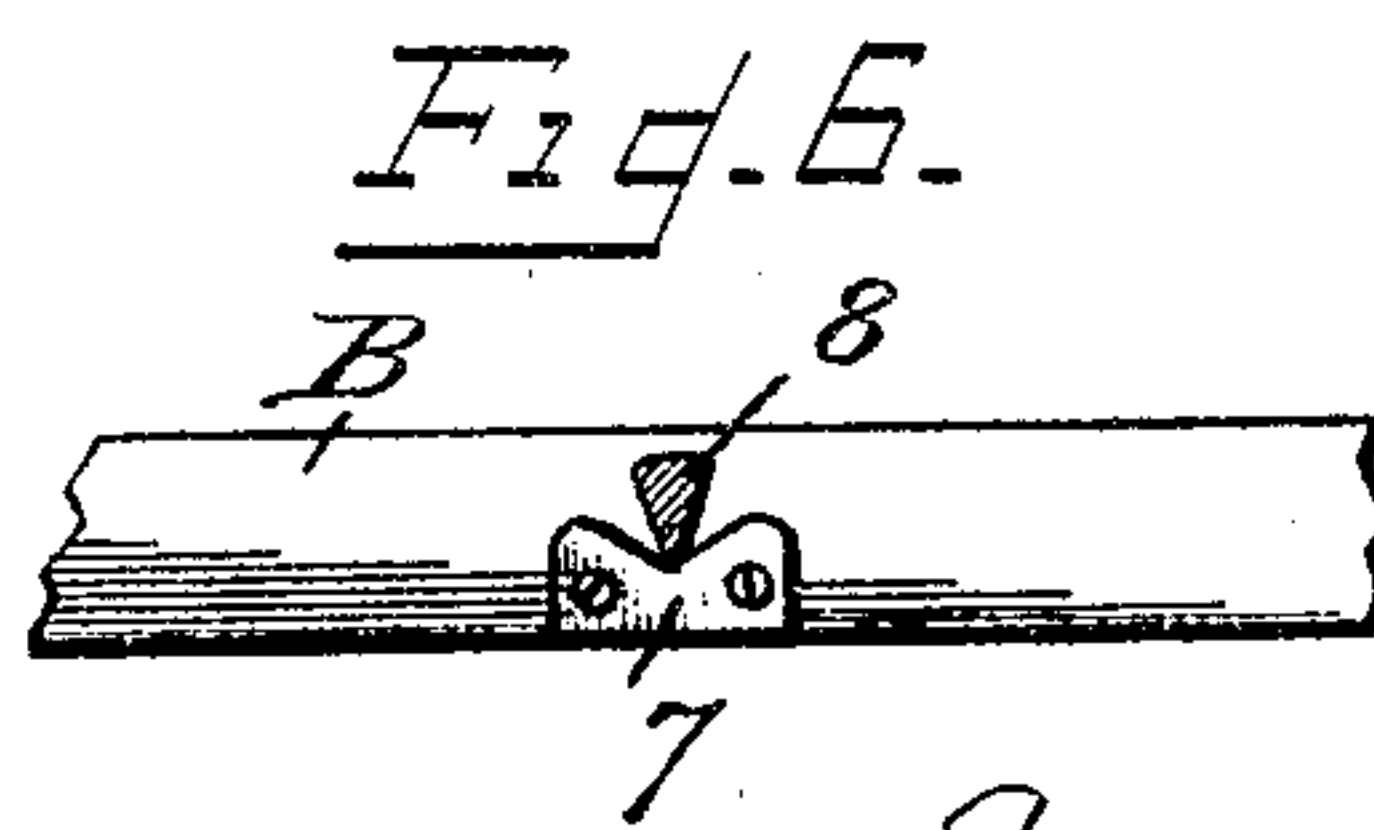
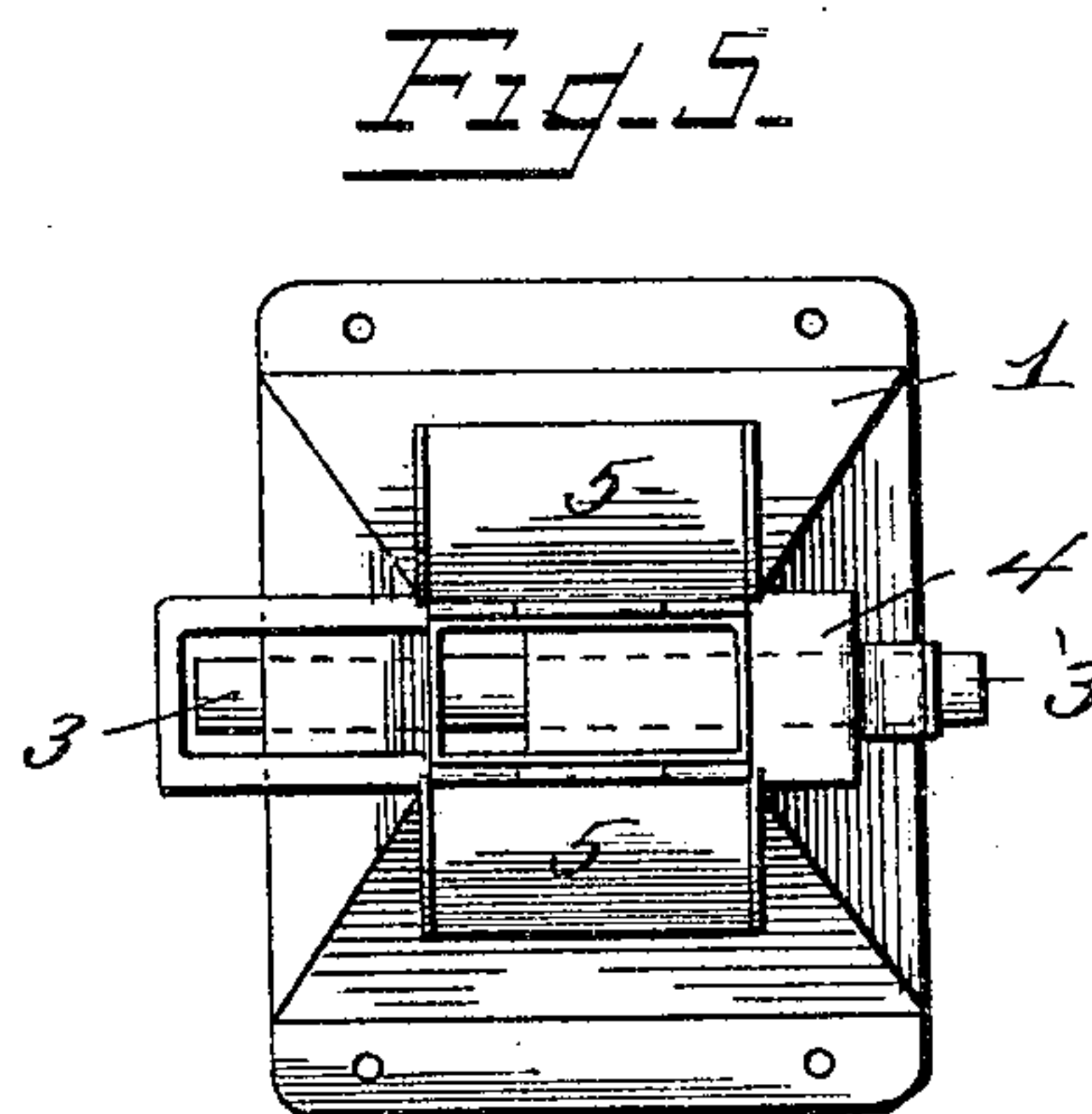
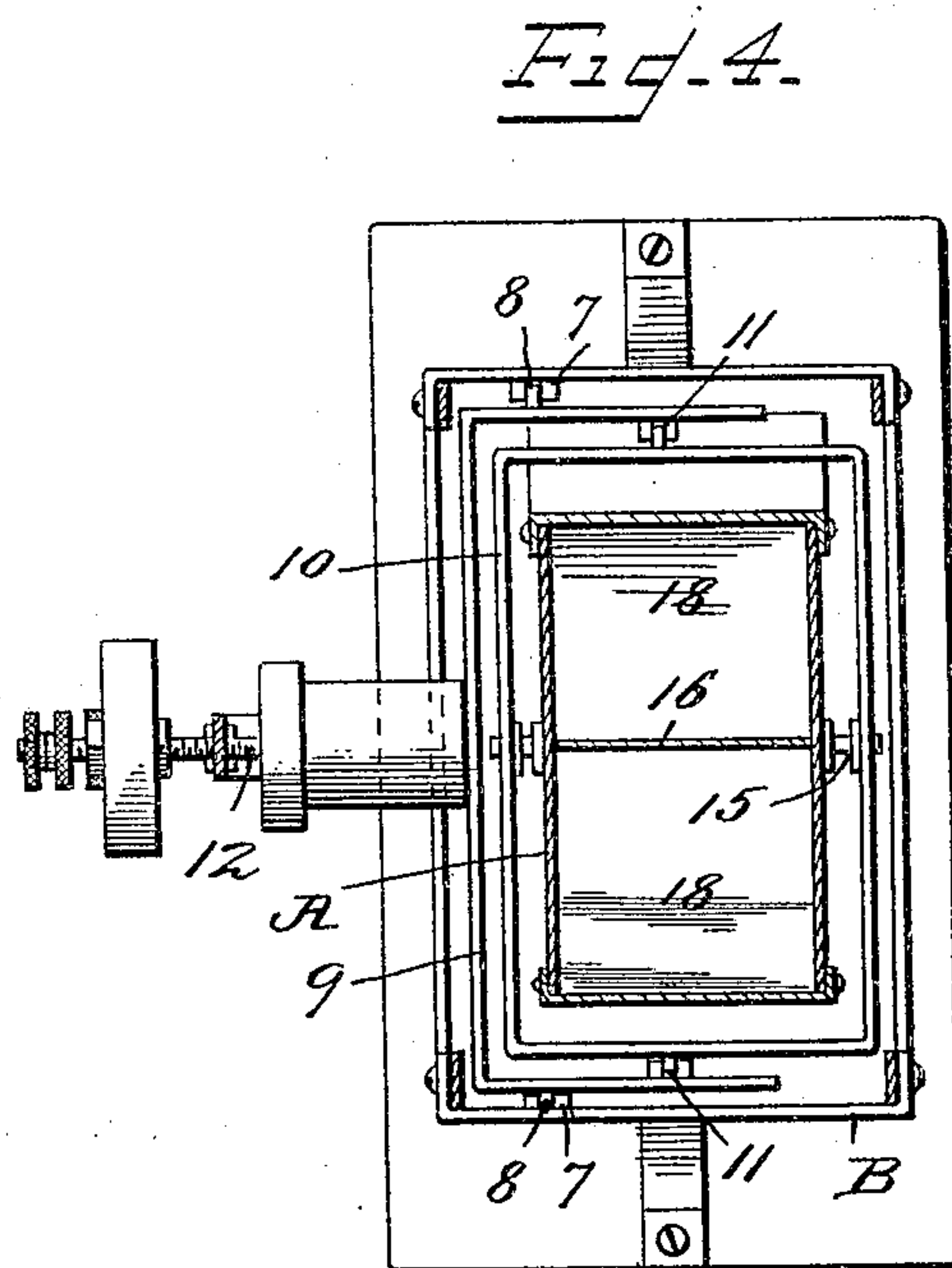
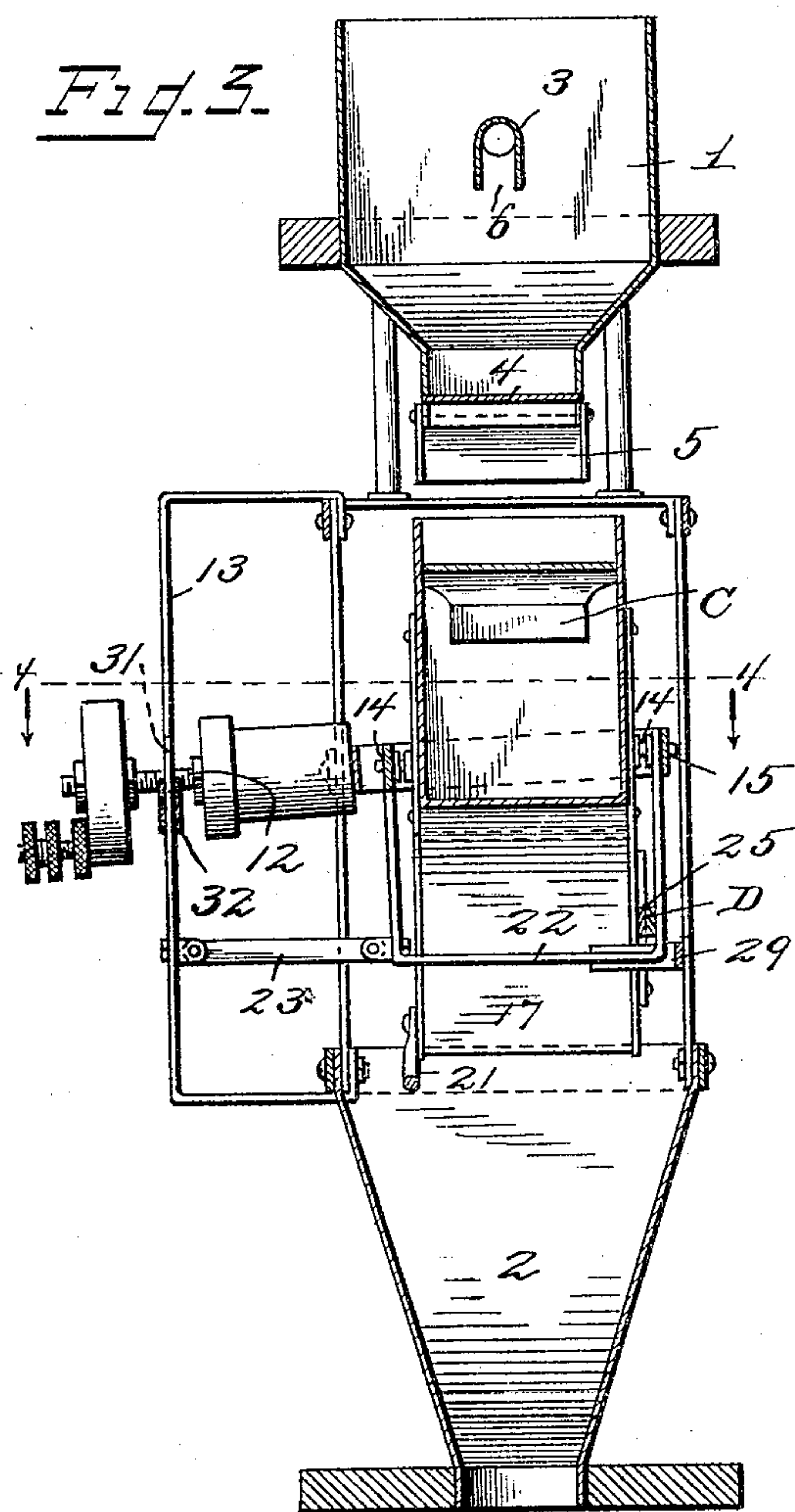
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2 SHEETS—SHEET 2.



WITNESSES

Harry L. Amer.
E. E. Masson

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UNITED STATES PATENT OFFICE.

HARRY HAGER, OF CHICAGO, ILLINOIS.

AUTOMATIC WEIGHING-SCALE.

No. 819,881.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed December 13, 1905. Serial No. 291,547.

To all whom it may concern:

Be it known that I, HARRY HAGER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Automatic Weighing-Scales, of which the following is a specification.

My invention relates to apparatus for automatically weighing grain, and especially grain of varying specific gravity—such as coffee, spices, and the like; and it has more particular relation to the type of machine shown and described in Letters Patent Nos. 765,920 and 765,921, granted to me July 26, 1904, wherein auxiliary feeding devices are dispensed with.

The nature, characteristic features, and scope of the invention will be more clearly understood from the following description, taken in connection with the accompanying drawings, forming a part hereof, wherein—

Figure 1 is a side elevational view. Fig. 2 is a similar view seen from the opposite side. Fig. 3 is a central vertical sectional view. Fig. 4 is a section on line 4 4 of Fig. 3. Fig. 5 is a bottom view of the hopper, and Fig. 6 is a detail of one of the knife-bearings.

My improvements may be embodied in a single or multiple bucket device, but by preference are employed in connection with a twin-bucket apparatus.

1 represents the upper or receiving hopper, and 2 the bottom or discharge hopper. Said hoppers are supported and mounted with relation to the scale and bucket A in a frame B. The hopper 1 is provided with an air-vent 3, a cut-off 4, and with a suitable stream-regulator 5. The vent 3 consists of a tube ranging transversely of the hopper and served with a slot 6, which opens downwardly, and it will be understood that the number of tubes or vents employed is controlled by the capacity of the hopper. The main frame or support B is provided at opposite ends and at one side of its center with grooved or V-shaped parts 7 to accommodate the knife-edge bearings 8 of what may be termed the "beam-frame" 9. The frame 9 carries the bucket-frame 10, which is served with like bearings 11. (See Fig. 4.) The bearings 11 are disposed axially of the bucket-frame. The beam-frame 9 carries the beam 12, which is guided and is also capable of the necessary vertical play in a slotted bar 13, projecting from the main frame.

A is a twin bucket mounted with relation

to the feed and discharge hoppers and arranged to oscillate therebetween so as to enable its compartments to be alternately filled and discharged. As illustrated in the drawings, the bucket A is served with trunnions 14, accommodated in bearings 15 of the bucket-frame, the bearings 15 being disposed at right angles to the bearings 11. The bucket A is provided with a distributing pan or saddle C, straddling its division-wall 16, such as shown in my patents above referred to; but it differs from the patented structure in that the bucket has a separate discharge member or chute for each compartment. The outlets or chutes 17 of the bucket-compartments 18 are provided with valves or gates 19, hinged as at 20. At one side of the bucket the gates are connected by a rod 21, which controls the relative positions of the gates. The gates are connected at the opposite side of the bucket by a duplex system of levers D.

22 is a U-shape frame extending downward from the bucket-frame and having its cross-bar passed under the bucket and between the outlets thereof. A link 23 connects this frame with the slotted bar or beam supporter 13 and prevents undue wobbling of the bucket-frame. The mechanisms D consist of end levers 24, having pivotal connection with the gates 19 and with levers 25, pivoted, as at 26, to the frame 22. The end levers 24 are notched, as at 27, and operate in conjunction with stops or fingers 28, which alternately engage the respective notches and maintain said engagement until released by the weight of a filled bucket. The release or disengagement of the levers is effected by a pair of tripping-arms 29, secured to an upright 30 on the main frame. It will be manifest that the points to which the bucket may be elevated or depressed will be regulated by the length of the slot 31 in the bar 13, which accommodates the beam. Said slot is provided with a buffer 32, of felt or other suitable material.

It will be obvious to those skilled in the art to which the invention appertains that modifications may be made in details without departing from the spirit and scope of same. Hence I do not limit myself to the precise construction and arrangement of parts hereinbefore described; but,

Having described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus such as stated, the combination of a main frame, a beam-frame supported by knife-edge bearings in the main frame, a bucket-frame correspondingly supported in the beam-frame, a twin bucket arranged to oscillate therein and having separate outlets for each compartment, hinged valve-gates mounted with relation to said outlets, a rod connecting said gates at one side of the bucket, a system of levers connecting the gates at the other side, and arms secured to the main frame for tripping said levers, substantially as described.

2. In an apparatus such as stated, the combination of a suitable support, of a twin bucket arranged to oscillate therein and having separate outlets for each compartment, a supply-hopper above the bucket equipped with an air-vent, a cut-off and a stream-regulating device, a funnel below the bucket, hinged valve-gates mounted with relation to said outlets, a rod connecting the gates at one side of the bucket, a system of levers connecting the gates at the other side, and arms secured to the support for tripping said levers, substantially as described.

3. In an apparatus such as stated, the combination of a main frame, a beam-frame supported by knife-edge bearings in the main frame, a bucket-frame correspondingly supported in the beam-frame, a twin bucket arranged to oscillate therein and having separate outlets for each compartment, a supply-hopper above the bucket, a distributing pan or saddle intermediate said hopper and bucket, hinged valve-gates mounted with relation to said outlets, a rod connecting said gates at one side of the bucket, a system of levers connecting the gates at the other side, and arms secured to the main frame for tripping said levers, substantially as described.

4. In an apparatus such as stated, the combination with a suitable support, of a twin bucket arranged to oscillate therein and having separate outlets for each compartment, hinged valve-gates mounted with relation to said outlets, a rod connecting said gates at one side of the bucket, a system of levers connecting the gates at the other side, and arms secured to the support for tripping said levers, substantially as described.

5. In an apparatus such as stated, the combination with a suitable support of a twin bucket arranged to oscillate therein and having separate outlets for each compartment, hinged valve-gates mounted with relation to said outlets, a rod connecting said gates at one side of the bucket, a system of levers connecting the gates at the other side, whereof two are notched, fingers or stops on the bucket to engage said notches, and means for tripping said levers, substantially as described.

6. In an apparatus such as stated, the combination of a main frame, a beam-frame supported by knife-edge bearings in the main frame, a bucket-frame correspondingly supported in the beam-frame, and having a downwardly - extended U-shaped auxiliary frame, a slotted bar secured to the main frame and arranged to accommodate the beam, a link connecting said bar with the auxiliary frame, and a bucket mounted in trunnions in the bucket-frame, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY HAGER.

Witnesses:

ALBERT GEORGE HUBBARD,
RUFUS S. CAMPBELL.