

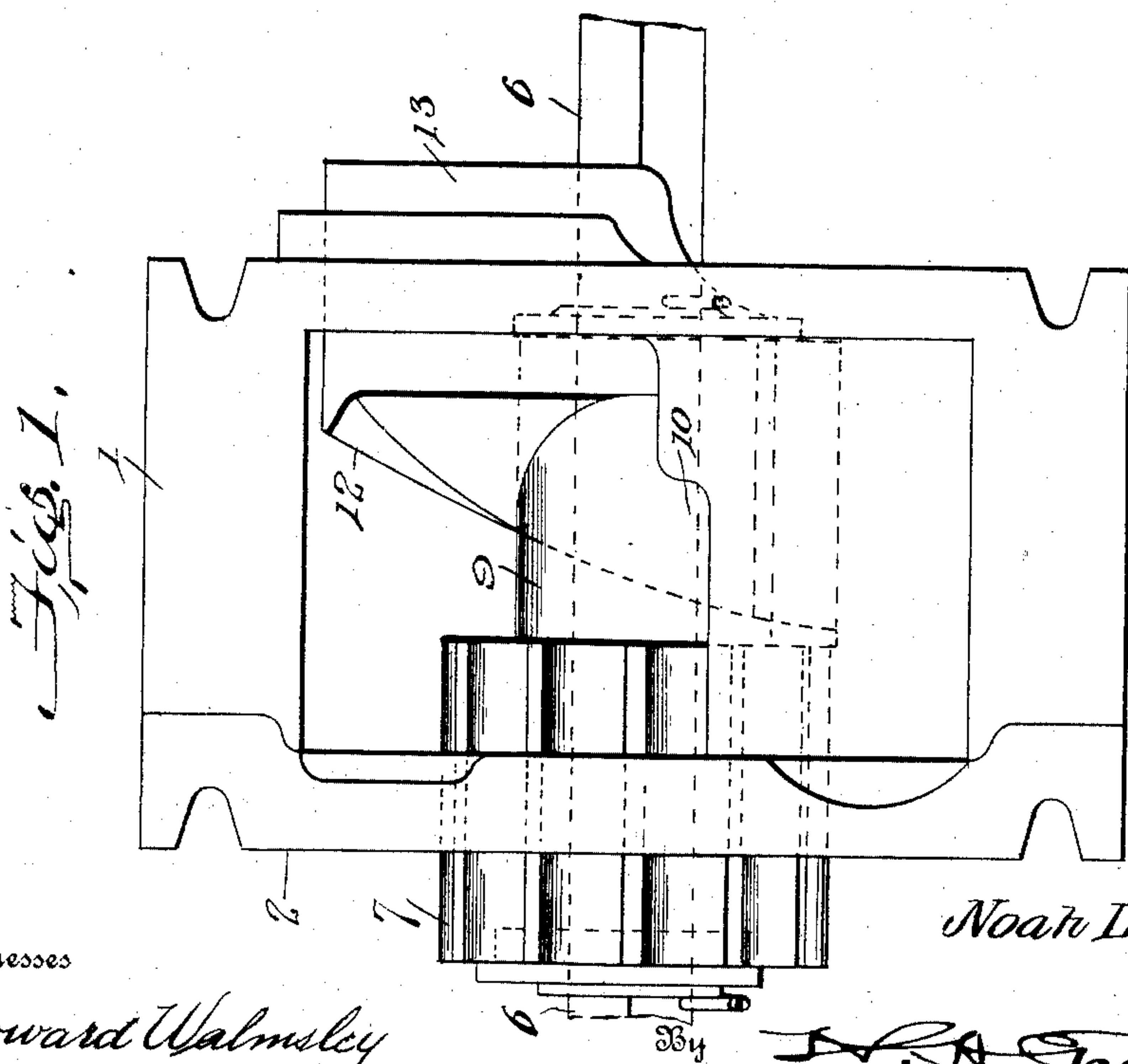
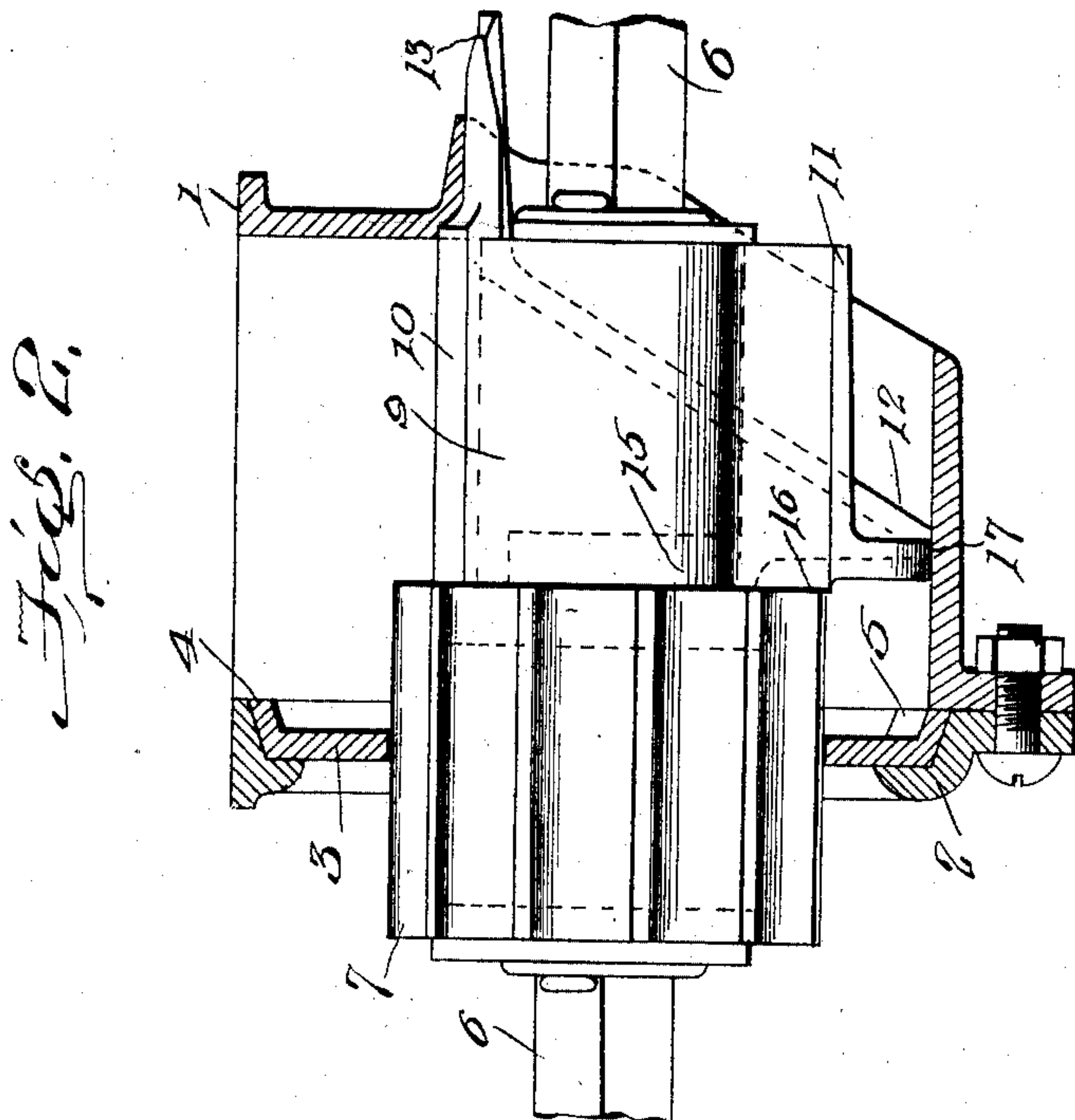
No. 864,739.

PATENTED AUG. 27, 1907.

N. L. HECKMAN.
GRAIN DISTRIBUTER.

APPLICATION FILED APR. 11, 1906. RENEWED APR. 19, 1907.

2 SHEETS—SHEET 1.



Witnesses

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Irvine Miller

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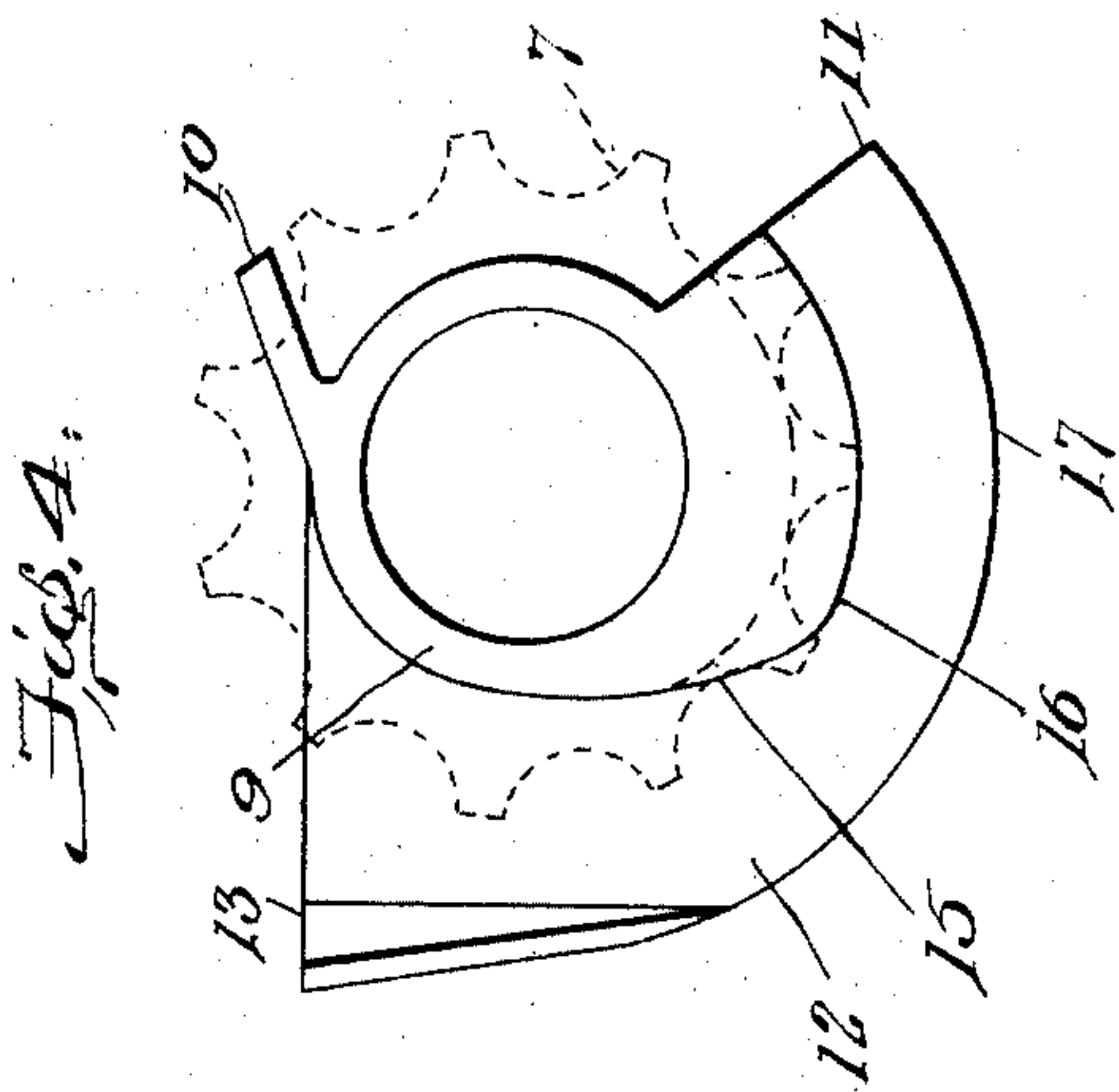


Fig. 6.

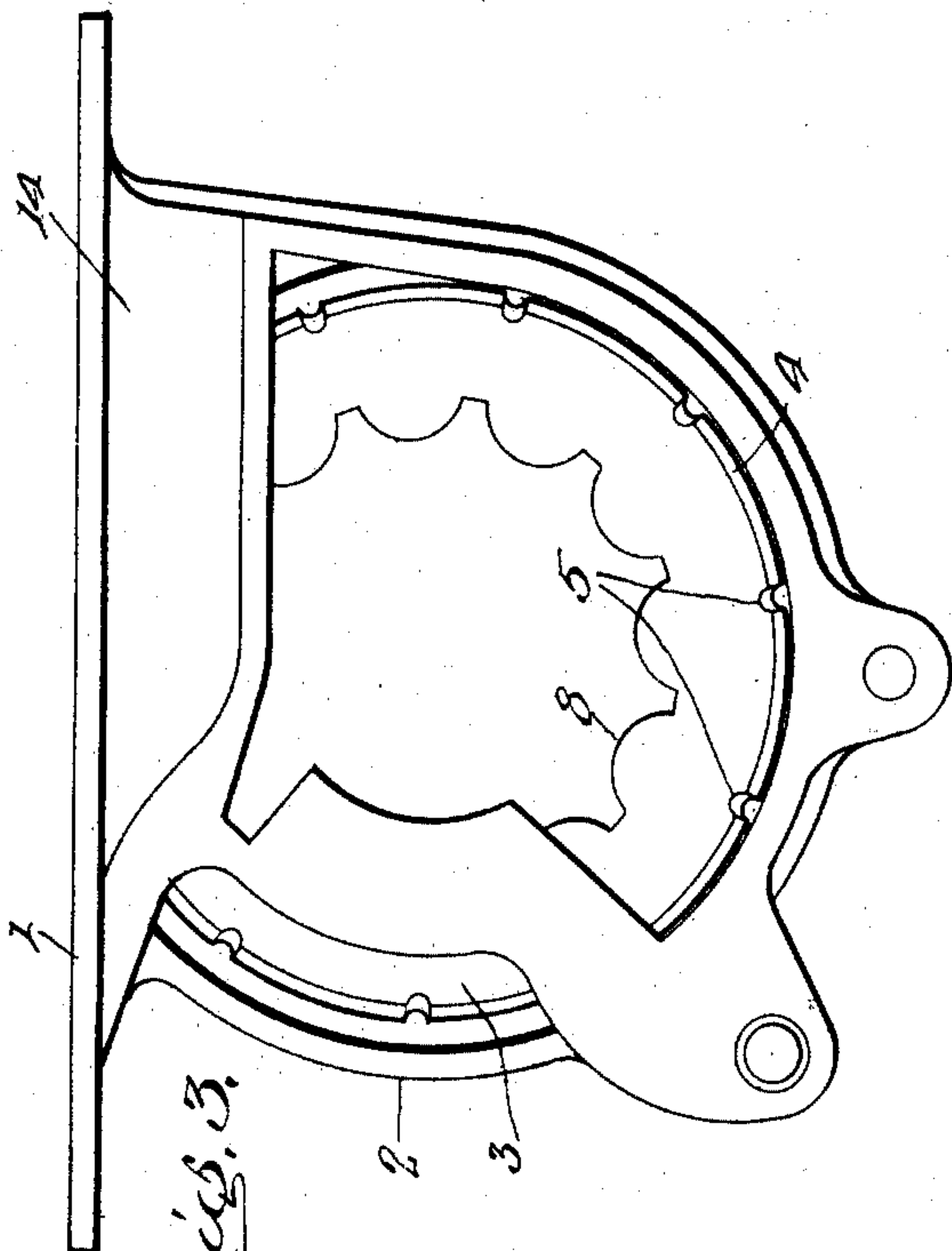
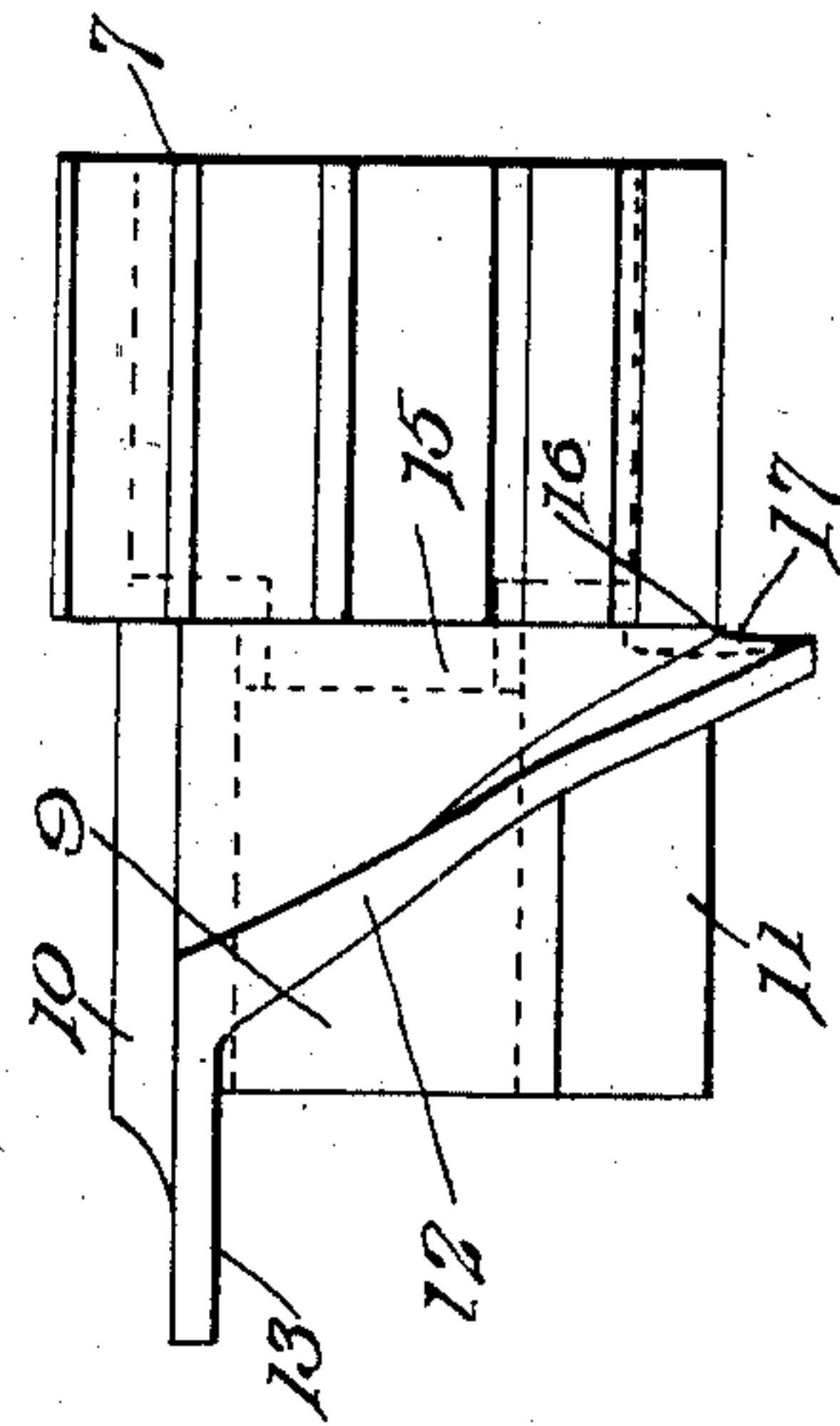
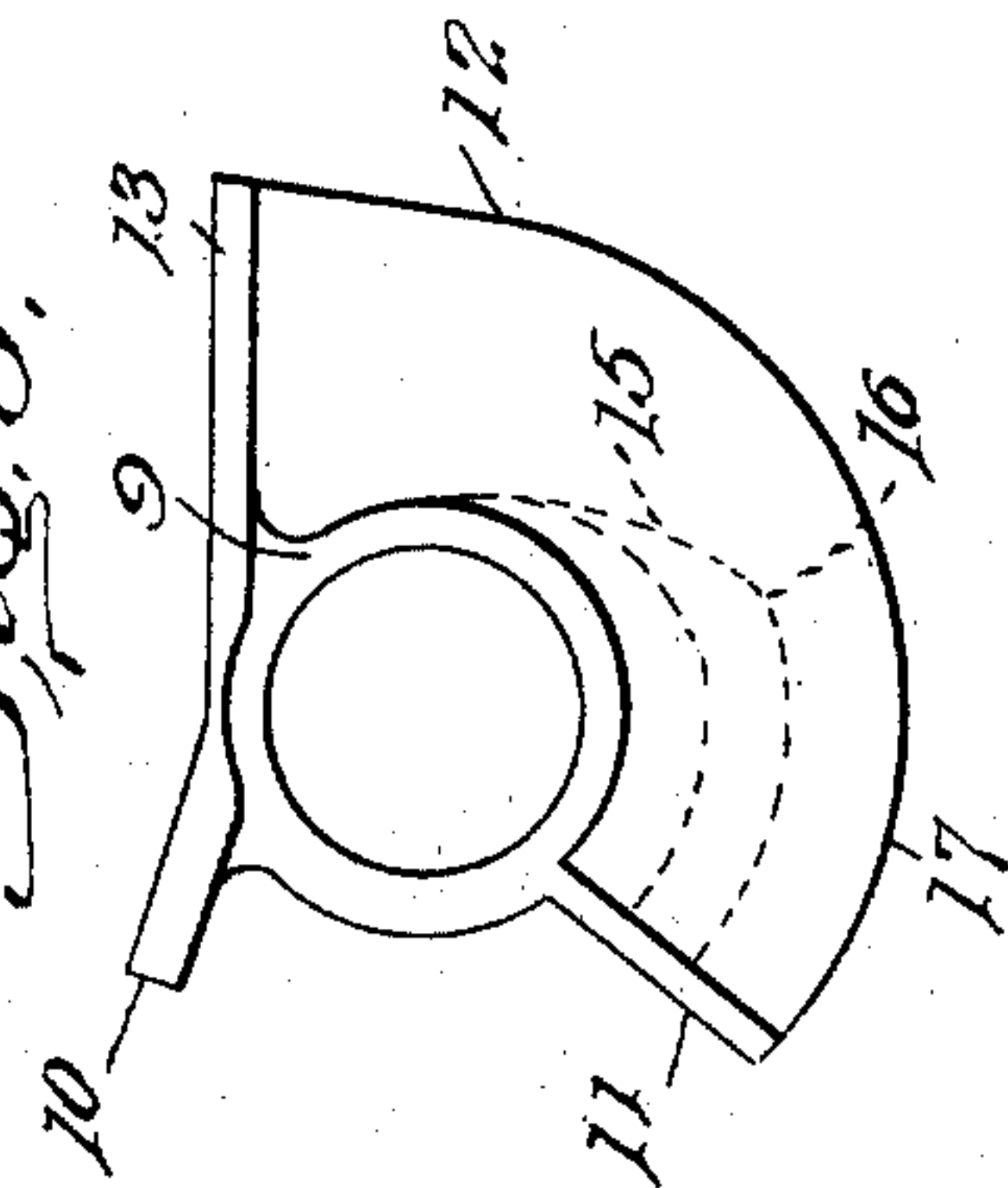


Fig. 5.



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UNITED STATES PATENT OFFICE.

NOAH L. HECKMAN, OF SPRINGFIELD, OHIO.

GRAIN-DISTRIBUTER.

No. 864,739

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed April 11, 1906, Serial No. 311,050. Renewed April 19, 1907. Serial No. 369,166.

To all whom it may concern:

Be it known that I, NOAH L. HECKMAN, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented
5 certain new and useful Improvements in Grain-Distributers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to grain distributers, and is
10 in the nature of an improvement upon the construction set forth in an application filed by me, jointly with John W. Smith, Feb. 13, 1904, Ser. No. 193,374, and allowed Feb. 1, 1906.

The type of distributor to which the invention relates is that which employs a seed cup into which
15 projects a fluted seed wheel or roll, movable lengthwise of its axis, in conjunction with a cut-off at one side thereof and moving longitudinally in unison therewith, the speed of the fluted wheel being constant, and the feed being controlled by the extent to which the fluted wheel projects into the cup. In
20 conjunction with the fluted seed wheel there is employed a rosette wheel, mounted in one of the side walls of the cup, provided with a feeding flange extending into the cup and having feeding ribs on its
25 internal surface, the fluted wheel being movable longitudinally through the rosette wheel. A non-rotating sleeve is mounted adjacent to and moves longitudinally with the fluted wheel, and carries
30 what is practically a portion of the side wall of the cup opposite that in which the rosette wheel is located, said portion being inclined downward and inward toward the inner end of the fluted wheel, so as to direct the grain to the fluted wheel, and prevent the
35 formation of a pocket. In said joint application referred to, this non-rotating sleeve is cylindric in form and of smaller diameter than the fluted wheel, this latter feature being desirable for the reason that it does not unduly restrict the receiving mouth of the
40 seed cup, and also permits the fluted wheel to extend beyond the sleeve at the upper portion thereof, thereby giving the grain freer access to the fluted wheel as it enters the cup and insuring a better flow of grain. With this construction, however, the fluted wheel
45 projects radially beyond the non-rotating sleeve at all points where it abuts against the same, so that the downwardly and inwardly inclined movable side wall of the cup, as it converges toward the inner end of the fluted wheel, forms a groove or pocket between
50 its inner surface and the inner end wall of the fluted wheel, in which groove or pocket grain may lodge or clog, and in which large grain or seeds may become pinched or broken. If sufficient space be left between the inclined movable wall and the end of the fluted
55 wheel to avoid this, an open space is formed through

which the grain may flow unregulated, thus destroying the accuracy of the feed.

It is the object of my present invention to overcome this objection, to which end the non-rotating
sleeve has its lower inner portion or end, between 60 the inclined movable wall and fluted wheel, gradually increased in diameter until it becomes of the full diameter of the fluted wheel in advance of the point where the inclined wall approaches most closely
65 the end of the fluted wheel, said lower inner portion of the sleeve from that point to the point of discharge of the grain being of the same diameter as the fluted wheel. By reason of this construction, the inner end wall of the fluted wheel is covered by the
70 sleeve in such a way that no pocket can be formed between said end and the inclined wall, and said inclined wall may be brought up practically to the plane of the end of said inner end of the fluted wheel, thus avoiding the leaving of any space at the inner
75 end of the fluted wheel through which grain may escape unregulated.

In the accompanying drawings, Figure 1 is a plan view of a structure embodying my invention in one form; Fig. 2 is a rear elevation of the same, the body of the cup and the rosette wheel being shown in central
80 vertical section; Fig. 3 is a side elevation showing the interior of the cup with the fluted wheel cut off and other parts removed therefrom; Fig. 4 is an elevation of the inner end of the non-rotating sleeve which carries the cut-offs and the movable wall of the cup, detached, the position of the fluted wheel being indicated
85 in dotted lines; Fig. 5 is an elevation, on a reduced scale, of the opposite end of the parts shown in Fig. 4; and Fig. 6 is a front elevation of the fluted wheel and non-rotating sleeve and attached parts, with the body
90 of the cup removed.

In the said drawings, 1 indicates the seed cup, which has one of its side walls, indicated at 2, detachably connected therewith, and recessed to receive the usual
95 rosette or rose washer 3, having the feed rim 4 and feed ribs 5.

6 indicates the feed shaft, having secured thereon so as to rotate therewith the fluted seed wheel or roll 7, which passes through the correspondingly shaped aperture 8 of the rosette in the usual way, the feed shaft
100 and seed wheel being longitudinally movable together through said rosette, so as to be projected to a greater or less extent into the interior of the seed cup.

9 indicates a non-rotating sleeve, mounted on the feed shaft 6 adjacent to the inner end of the seed wheel
105 7, and moving longitudinally with said seed wheel and shaft. This sleeve carries the upper cut-off or gate 10, and lower cut-off or gate 11, which control respectively the front portion of the receiving mouth of the cup and the discharge mouth thereof. Said non-rotating sleeve 110

also carries the downwardly and inwardly inclined movable portion 12 of the wall of the seed cup, as well as the cut-off plate 13 which prevents the escape of the seed between said movable portion and the fixed portion 14 of said seed cup wall.

It will be observed that the upper part of the non-rotating sleeve 9 is of less diameter than the fluted wheel, thereby providing a large receiving mouth for the passage in the cup through which the grain descends, and at the same time causing the fluted roll to project above said sleeve at its upper portion, so as to give free access of the grain to the fluted roll and bring this latter into full contact with the grain lying above it in such a way as to insure a free flow of grain into the cup. The inner end of the non-rotating sleeve is, however, so formed, as shown more particularly in Fig. 4, that the portion thereof lying between the movable wall 12 and the inner end of the fluted wheel gradually increases in diameter from its horizontal central plane downward, as indicated at 15, until its diameter becomes at least equal or substantially equal to that of the fluted wheel. This occurs at a point, indicated by the reference numeral 16, in advance of the point where the movable wall 15 most closely approaches the inner end of the fluted wheel, which point is indicated by the reference numeral 17. From the point 16 the inner end portion of the sleeve 9 continues to be of the same diameter as the fluted wheel to the point of discharge of the grain, while the movable wall 12 lies substantially in the plane of said end of the fluted wheel from the point 17 to the point of discharge, being substantially flush with the end of the sleeve throughout this portion of its extent.

From a consideration of the foregoing construction, it will be understood that the grain is moved outward as it descends through the cup by the portion 15 of the wall of the sleeve which is of gradually increasing diameter,

so that, when the grain in its descent has reached a point where the inclined wall 12 begins to closely approach the end of the fluted roll, it has passed outward beyond the end of the fluted roll, which end is covered by the sleeve in such a way that the grain cannot be pocketed or squeezed between the wall 12 and the end of the fluted roll. This also avoids the necessity of leaving an open space between the lower portion of the wall 12 and the end of the fluted roll, and enables this latter to be brought up to substantially the plane of said end, thus preventing the uncontrolled escape of any portion of the grain.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

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

A grain distributor comprising a seed cup having a rosette wheel mounted in one of its walls, a fluted seed wheel movable longitudinally through said rosette wheel so as to extend to a variable extent into the cup, a non-rotating sleeve moving longitudinally with said fluted wheel, against the inner end of which it abuts, said sleeve being provided with cut-offs, the lower portion of the opposite side wall of the cup being inclined downward and inward toward the inner end of the fluted wheel and being carried by and movable along with the sleeve, that part of said sleeve which lies between said inclined wall and fluted wheel having its upper portion of less diameter than said fluted wheel, and its lower portion gradually increasing to the diameter of said fluted wheel at a point in advance of the point of convergence of said wall and wheel, substantially as described.

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

NOAH L. HECKMAN.

Witnesses:

E. D. HAGAN,
HARRIET HAMMAKER.