

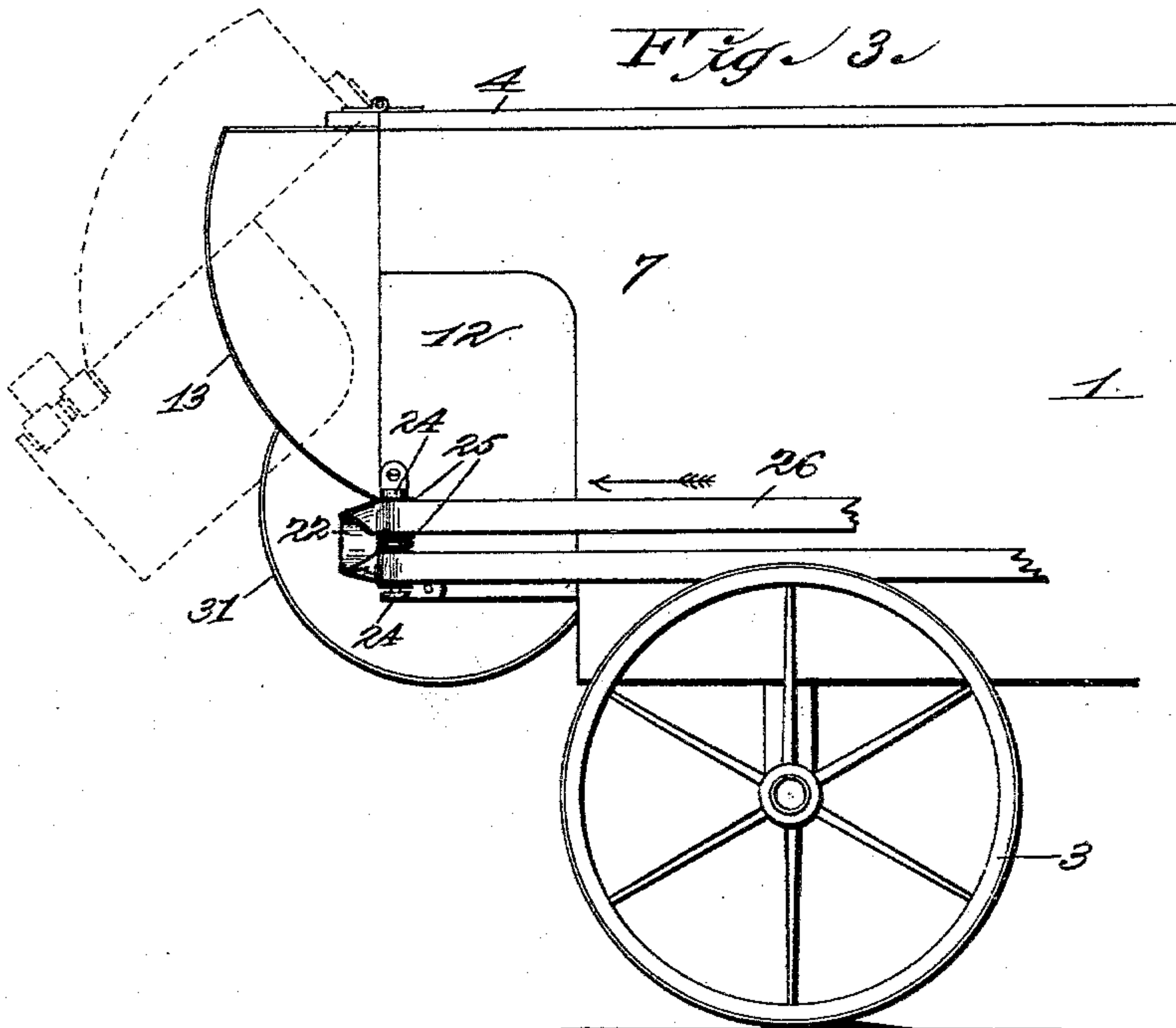
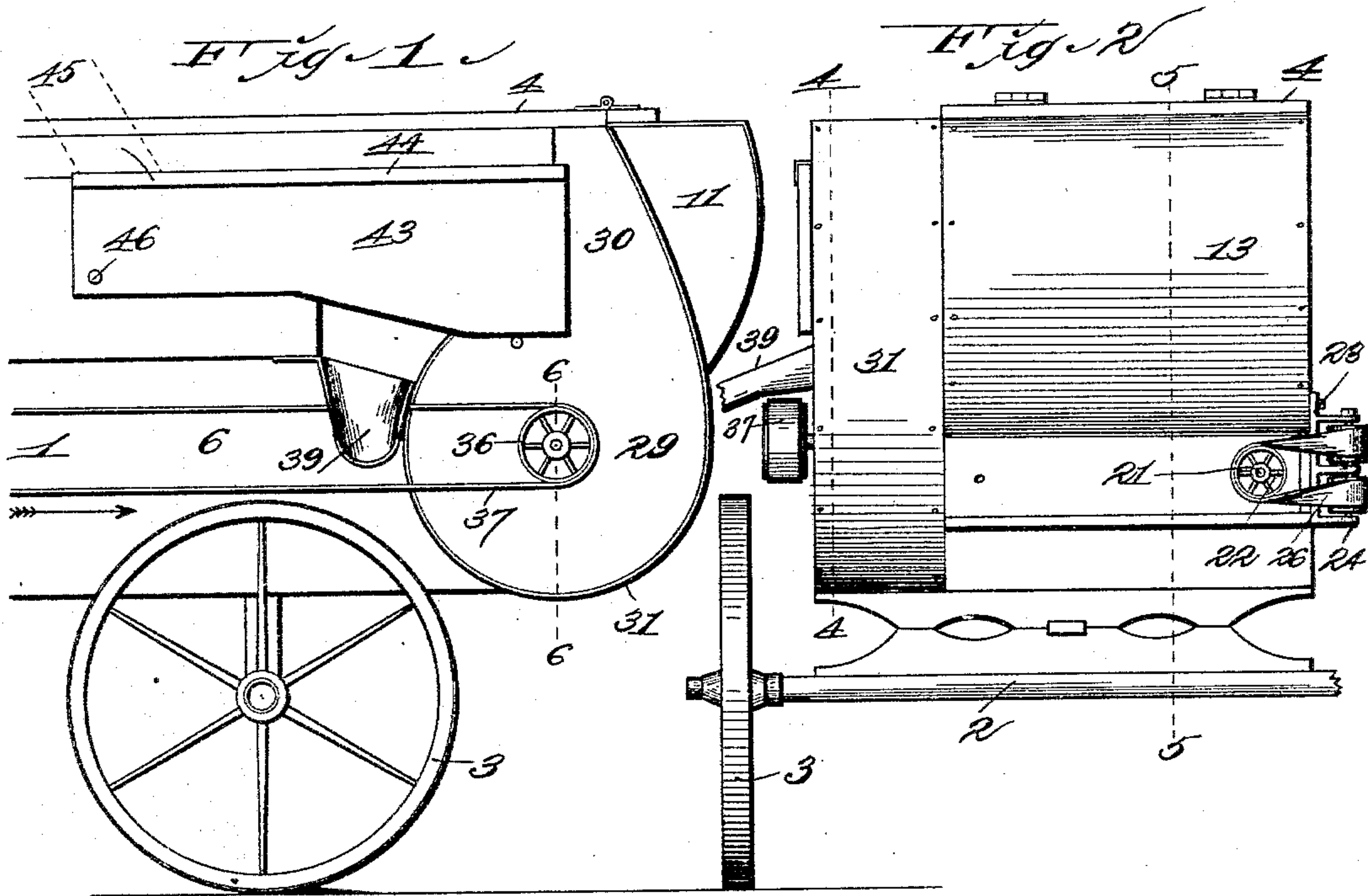
(No Model.)

2 Sheets—Sheet 1.

J. W. KIRSHMAN.
CLOVER HULLER.

No. 545,297.

Patented Aug. 27, 1895.



Attest
W. P. Smith
Maud Griffin

Inventor:~
John W. Kirshman
by Higdon & Higdon & Longan.
Attys:~

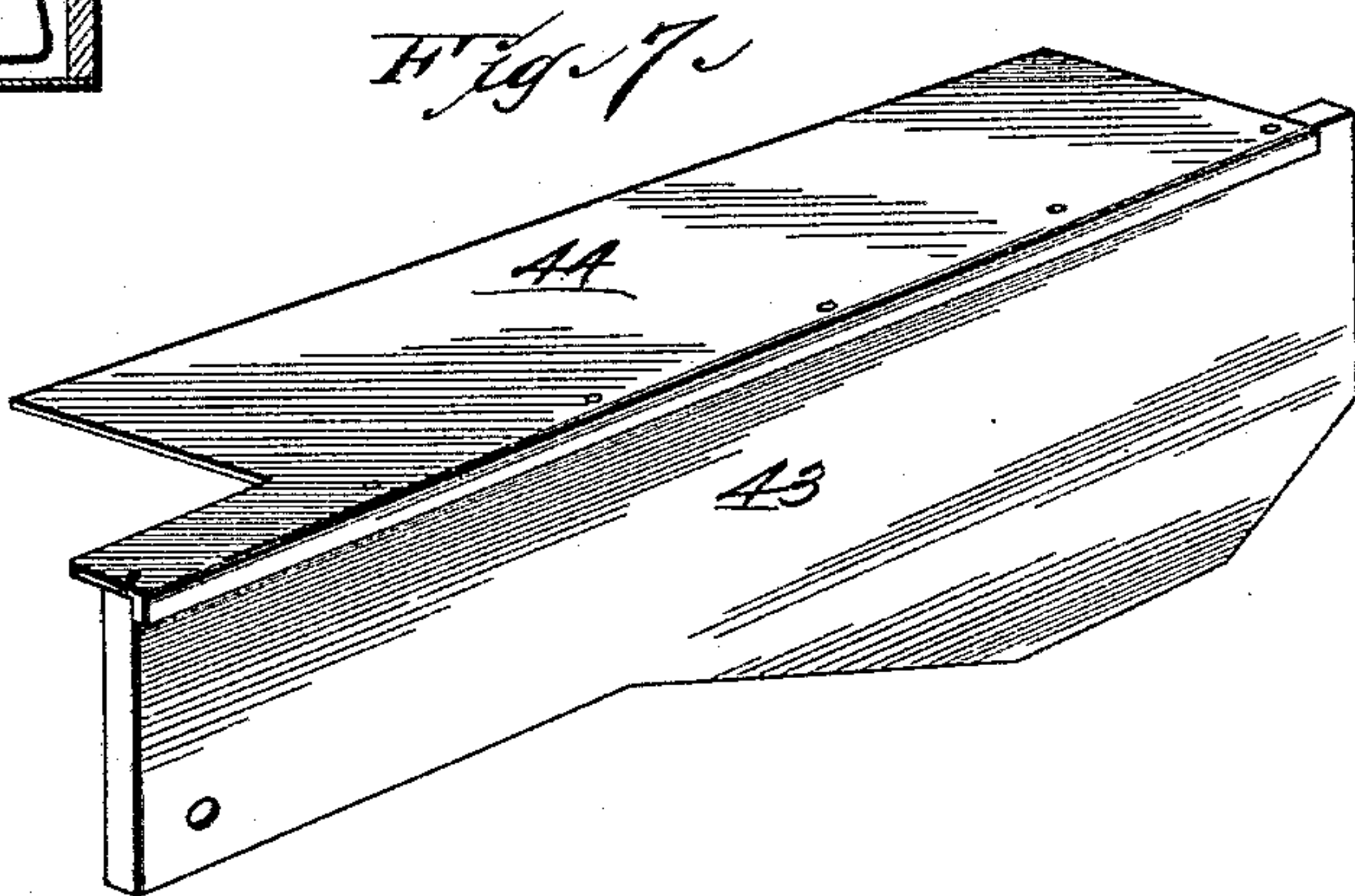
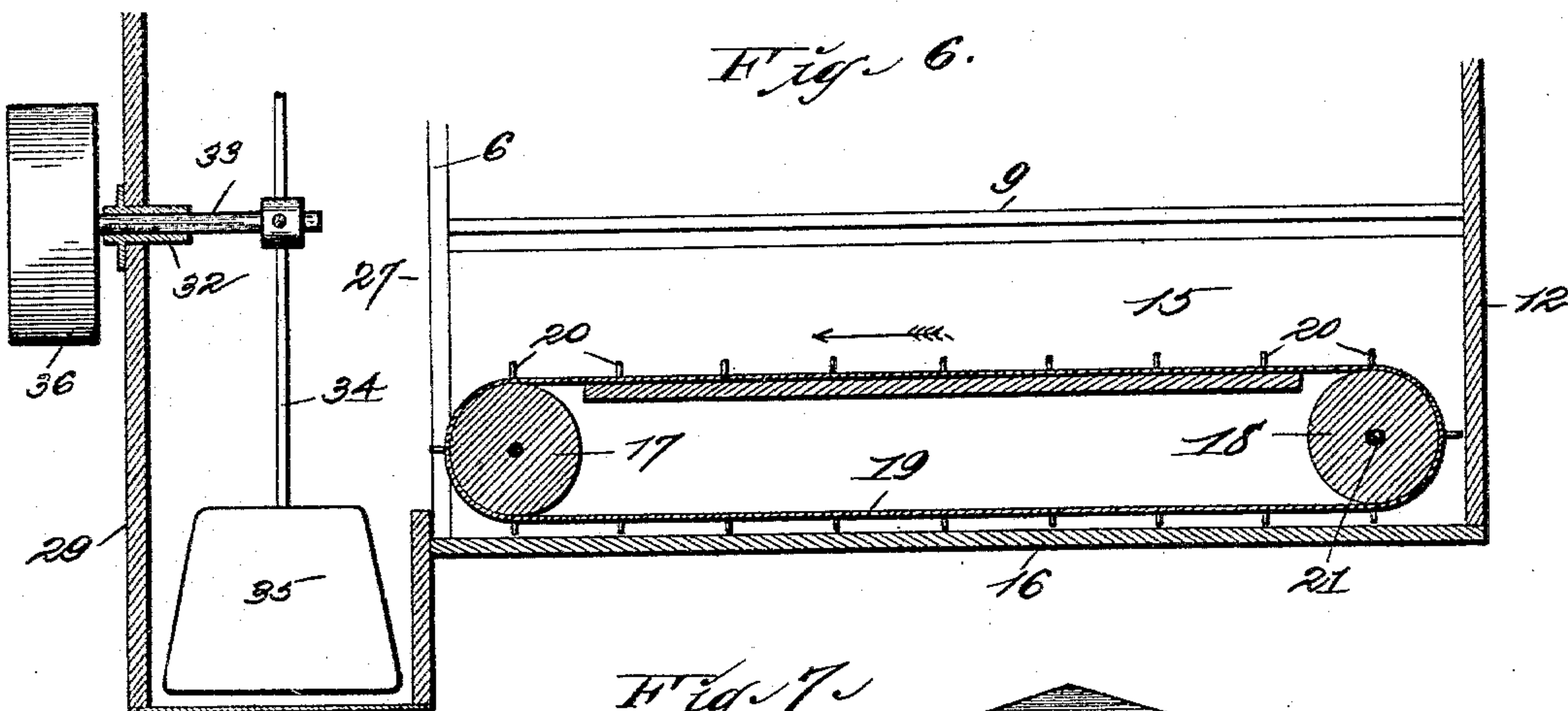
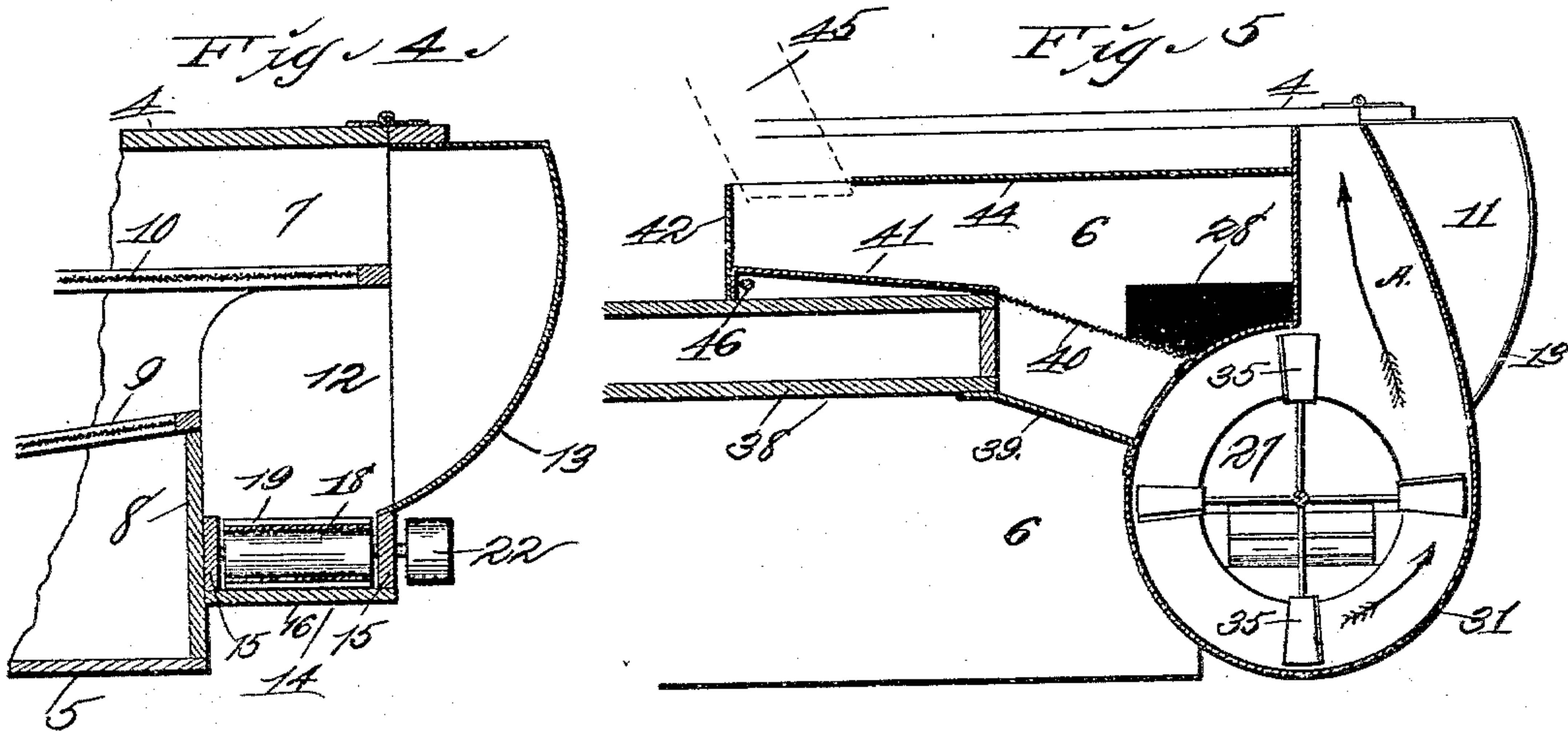
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2 Sheets—Sheet 2.

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Maud Griffin.

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UNITED STATES PATENT OFFICE.

JOHN W. KIRSHMAN, OF CALIFORNIA, MISSOURI.

CLOVER-HULLER.

SPECIFICATION forming part of Letters Patent No. 545,297, dated August 27, 1895.

Application filed January 14, 1895. Serial No. 534,930. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. KIRSHMAN, of the city of California, Moniteau county, State of Missouri, have invented certain new and useful Improvements in Clover-Hullers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improved clover-huller, and more especially to that attachment for a clover-huller known as the "re-cleaner," the object of my invention being to construct the rear end of a clover-huller so that access to the screen on the interior of said huller may be at all times easily and quickly obtained.

A further object of my invention is to locate an exhaust for the dust, straw, chaff, and other refuse at one side of the rear end of the machine, and an endless carrier leading from the discharge of the screens into said discharge for the said dust, straw, chaff, &c.

My invention consists in certain novel features of construction, combination, and arrangement of parts, hereinafter described and claimed.

In the drawings, Figure 1 is an elevation of the side of the clover-huller upon which the recleaning attachment is mounted. Fig. 2 is a rear elevation of a clover-huller constructed in accordance with my invention. Fig. 3 is a side elevation of the rear end of the clover-huller, said elevation being taken on the opposite side from that upon which the recleaning attachment is located. Fig. 4 is a vertical sectional view taken approximately on the indicated line 4 4 of Fig. 2. Fig. 5 is a vertical sectional view taken approximately on the indicated line 5 5 of Fig. 2. Fig. 6 is an enlarged cross-sectional view taken approximately on the indicated line 6 6 of Fig. 1. Fig. 7 is a view in perspective of the combined top and side of my improved recleaning attachment.

Referring by numerals to the accompanying drawings, 1 indicates the body of an ordinary clover-huller, the same being mounted in the usual manner upon the rear axle 2 and rear wheels 3.

4 indicates the top of the huller, 5 the bottom thereof, and 6 and 7 the sides.

8 indicates a transversely-positioned end

board that extends from the side 6 to the side 7 and from the bottom 5 up to the lowermost screen, designated by the numeral 9. Horizontally positioned between the sides 6 and 7 and between the screen 9 and the top 4 is a screen 10, that extends rearwardly some distance beyond the screen 9. Hinged to the rear end of the top 4 is a casing comprising the sides 11 and 12, the top and rear side of said casing comprising a section of sheet metal 13, that is secured in any suitable manner to the rear edges of the sides 11 and 12, said rear edges being curved inwardly for a purpose that will be presently shown. Transversely positioned at the bottom of said casing and extending from the side 11 to the side 12 is a trough 14, comprising the sides 15 and bottom 16, in the ends of which are horizontally mounted for rotation rollers 17 and 18, over which passes an endless carrier 19, provided with transverse slats 20. The shaft 21, upon which the roller 18 is mounted, extends through the rear side wall 15 of the trough, and has rigidly fixed thereto a belt wheel or pulley 22.

A bracket 23, provided with horizontal bearings 24, is bolted to the lower portion of the side 12 of the rear casing. Mounted for rotation between these bearings 24 and in vertical alignment are belt wheels or pulleys 25. A belt 26 passes over these pulleys 25 and over the belt-wheel 22. This belt is driven by a belt-wheel (not shown) on the forward end of the huller. Thus means for moving the endless carrier is provided. When the belt 26 is removed from the pulleys, the entire rear casing and the endless carrier can be raised, as indicated by dotted lines in Fig. 3, thus allowing free access to the screens 9 and 10 and the interior of the huller. The screen 9 discharges direct onto the endless carrier 19, and the screen 10, by reason of the shape of the rear casing, extends over the endless carrier. By reason of the curvature given the sheet-metal end of the casing, the discharge from the screen 10 will be deflected directly onto the endless carrier.

Formed in the side wall 6 is a circular aperture 27, through which the endless carrier 19 discharges. Formed in the side wall 6, directly above the aperture 27, is an opening 28, said opening 28 being above the endless carrier 19.

Located a slight distance from the side wall 6, and adjacent to the rear end thereof, is a side board 29, the same being circular in form at its lower end and provided with a vertically-
5 arranged projection 30. The space between this side board 29 and the side wall 6 is inclosed by a sheet-metal covering 31.

Passing through a bearing 32, fixed to the side board 29, is a shaft 33, upon the end of which is fixed a series of arms 34, on the outer ends of which are mounted fan-blades 35. This fan so constructed occupies the chamber formed between the side walls 6 and 29 and is inclosed by the sheet-metal covering 31.
15 On the outer end of the shaft 33 is mounted a belt-wheel 36, that is driven by a belt 37, that passes over a belt wheel (not shown) on the forward end of the huller. Fixed to the side of the body of the huller is a framework 38, that extends to a point adjacent the forward side of the fan or discharge chamber. A spout 39 leads from this framework and the edge of the fan-chamber to a point a slight distance away from the side of the huller. A screen
25 40 connects the upper corner of the framework 38 with the side of the discharge or fan chamber and extends along the lower edge of the opening 28 in the side 6. An inclined base 41 extends from an upright end board 42, that is mounted directly upon the framework 38.
30 The space above the inclined bottom 41 and the screen 40 is inclosed by a hinged side board 43, to which is fixed and extends at right angles a top 44, the rear end of which is cut away to allow the introduction of a discharge-spout 45. (Indicated by dotted lines in Figs. 1 and 5.) This side board 43 and top
35 44 is hinged by means of a pin 46, passing through the side board and into the side 6 of the huller.

The operation is as follows: The belt 26, being properly positioned upon the pulleys 25 and 22, moves in the direction of the arrow, Fig. 3. This necessarily drives the endless
45 carrier in the direction of the arrow in Fig. 6. The dust, straw, and chaff discharged from the screens 9 and 10 fall directly onto the endless carrier 19. By said carrier it is deposited into the fan or discharge chamber between the side wall 29 and side 6 and surrounded by the
50 sheet metal covering 31. The belt 37, being driven in the direction indicated by the arrow in Fig. 1, necessarily drives the fan in the direction of the arrow in Fig. 5. Thus any dust, straw, and chaff entering the fan or discharge
55 chamber is thrown up through the discharge-spout of said chamber, as indicated by the arrow A, Fig. 5. From the mouth of said discharge-spout the dust, straw, and chaff are
60 carried off by means of endless carriers or in any suitable manner. The semicleaned seed is carried by an elevator (not shown) to the spout 45 and by said spout discharged directly onto the inclined bottom 41 of the re-
65 cleaning attachment. Said seed gravitates downwardly along the inclined bottom 41 and onto the inclined screen 40. Any chaff, straw,

or hulls that might have remained with said seed passes over said screen through the opening 28 in the side wall 6 onto the endless carrier 19 onto the fan or discharge chamber and out through the discharge-spout. The screen
70 40 being of proper mesh, the seed will easily pass through said screen into the spout 39 and from thence into a proper receptacle. When it is desired to gain access to the screens 9 and 10 of the interior of the huller, the entire rear casing may be raised, as indicated by dotted lines in Fig. 3. If desired at any
75 time, the side board 43 and top 44 may be raised and access readily had to the inclined bottom 41 and screen 40. The suction or draft created by the fan tends to carry off all the noxious dust that emanates from the
80 passage of the clover through the huller, and that is extremely injurious when breathed by the operatives or attendants of the machine. Thus it will be seen how I have constructed a clover-huller and attachment therefor that is
85 inexpensive, easily operated, and possesses superior advantages in point of simplicity, durability, and general efficiency.

What I claim is—

1. In a clover huller, a casing hinged to the rear end of the frame work of said huller, an
95 endless carrier operating within said casing, means for operating said endless carrier, a fan or discharge chamber located at one side of said casing and into which said endless carrier discharges, a fan operating within said
100 discharge chamber, means for driving said fan, and a re-cleaning attachment mounted on the side of said clover huller.

2. In a clover huller, a casing hinged to the rear end of the frame work of said huller, an
105 endless carrier carried by and operating in the lower end of said casing, means for operating said endless carrier, a fan or discharge chamber formed at one side of said hinged casing and into which the endless carrier dis-
110 charges, a fan operating within said discharge chamber, and a re-cleaning attachment comprising a chamber having an inclined bottom and an inclined screen, a discharge opening from the screen onto the endless carrier, and
115 a hinged cover and side for said re-cleaning attachment.

3. In a clover huller, a re-cleaning attachment comprising a framework, an inclined
120 bottom mounted upon said frame work, an inclined screen extending from said inclined bottom to a discharge opening through the side-wall of the huller, and a side-wall and top for said re-cleaning attachment fixed together and hinged at one end of said attach-
125 ment.

4. In a clover huller, the combination of a casing hinged to the rear end of said huller, an endless carrier operating in the base of
130 said casing, a fan or discharge chamber formed at one end of said casing, and a re-cleaning attachment having a hinged side and top, the straw and chaff from said re-cleaner discharging onto the endless carrier

carried by the hinged casing, and the cleaned seed from said re-cleaning attachment passing through a discharge spout into a suitable receptacle.

- 5 5. The combination with the usual fan and operative parts of a clover-huller, of an additional fan which is in the form of a suction-fan, mounted for operation upon the rear portion of the hulling machine and arranged to

remove by suction all of the dust and other refuse material from the interior of said hulling machine, substantially as herein specified.

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

JOHN W. KIRSHMAN.

Witnesses:

JACOB HALDEMAN,
THOMAS KIRSHMAN.