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PATENTED JUNE 23, 1908.

A. H. BAENEN.
GRAIN SCREENING MACHINE.
APPLICATION FILED NOV. 25, 1907.

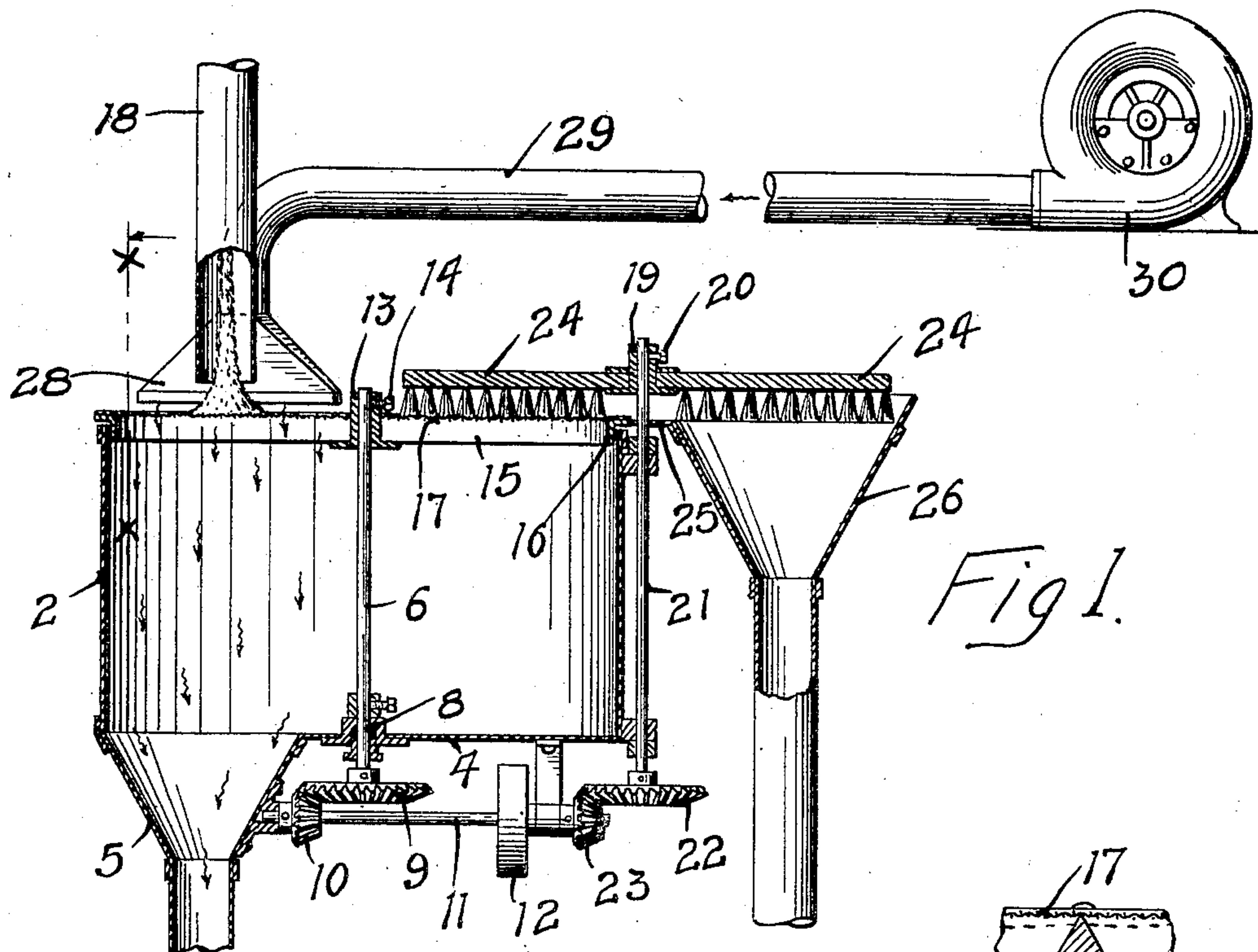


Fig 1.

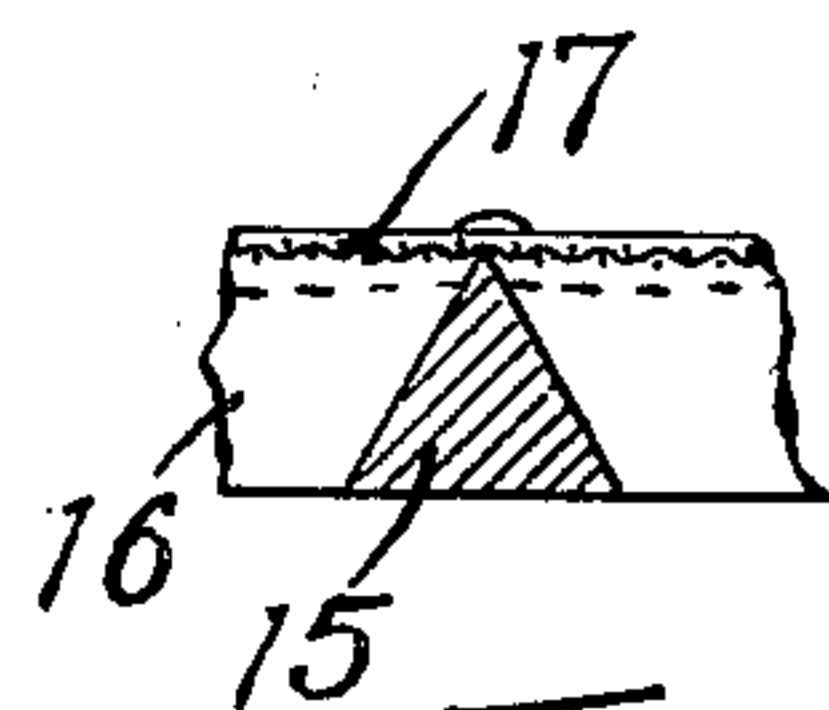


Fig 3.

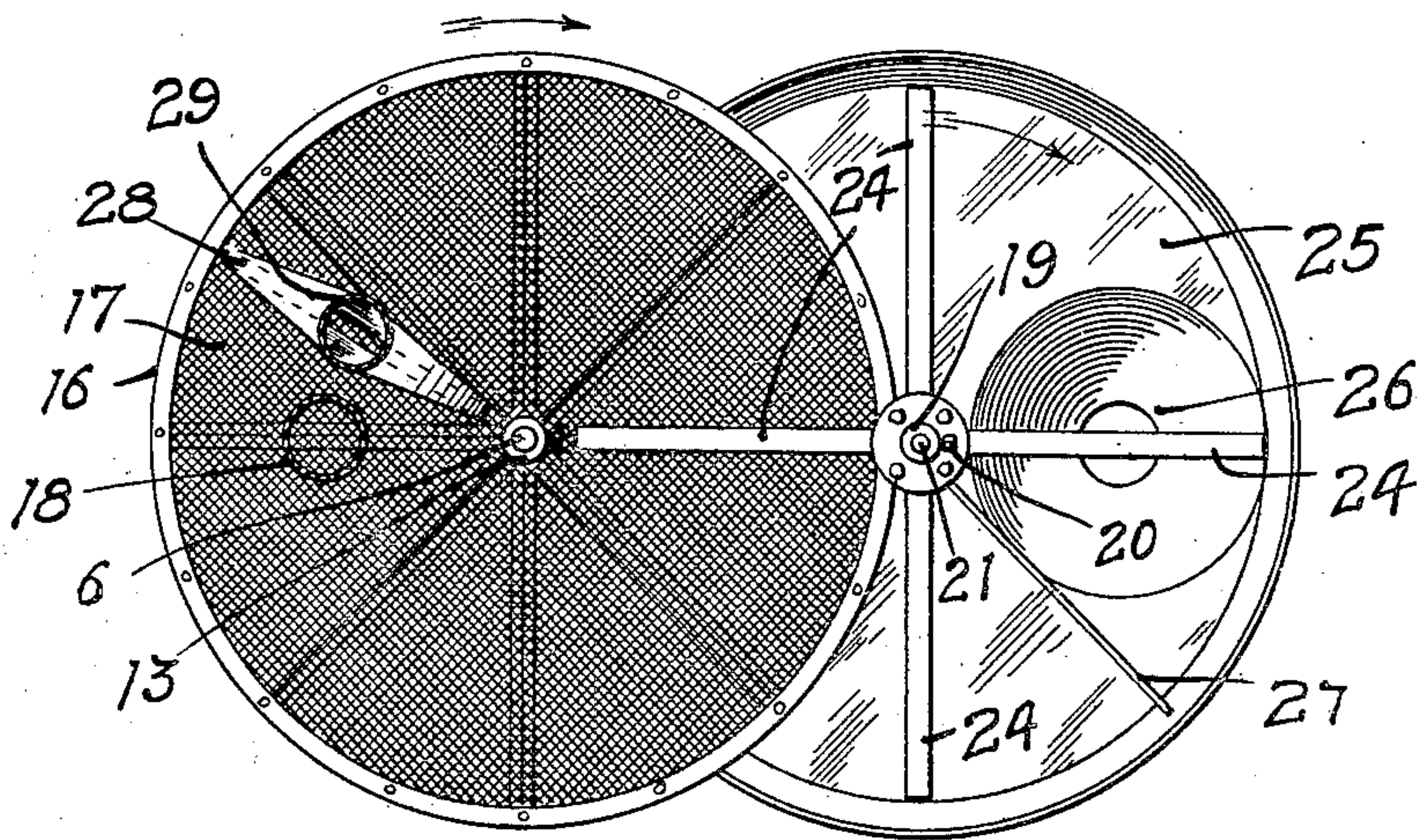


Fig 2.

WITNESSES
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UNITED STATES PATENT OFFICE.

ANTHONY H. BAENEN, OF JAMESTOWN, NORTH DAKOTA.

GRAIN-SCREENING MACHINE.

No. 891,654.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed November 25, 1907. Serial No. 403,600.

To all whom it may concern:

Be it known that I, ANTHONY H. BAENEN, of Jamestown, Stutsman county, North Dakota, have invented certain new and useful
5 Improvements in Grain - Screening Machines, of which the following is a specification.

The object of my invention is to provide a machine for separating the seeds of grain or
10 screenings from the waste water of a grain washing machine.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out
15 in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical sectional view of a grain separating machine embodying my invention. Fig. 2 is a
20 top view of the same. Fig. 3 is a sectional view on the line $x-x$ of Fig. 1.

In the drawing, 2 represents a drum or casing circular in form having an open top and a bottom 4 on one side communicating
25 with a discharge spout 5. A stuffing box 8 is mounted in the bottom of said drum and a shaft 6 passes through said box and is provided at its lower end with a gear wheel 9 meshing with a pinion 10 on a horizontal
30 shaft 11 that is provided with a driven pulley 12. A hub 13 is secured to the upper end of said shaft by a set screw 14 and is provided with a series of spokes 15 radiating from said hub and connected at their outer ends to a
35 rim 16 consisting of angle bar iron, with its vertical flange depending within the drum and its horizontal flange overhanging the upper edge of the drum and preventing the waste water from flowing down around the
40 wheel into the drum. This wheel may be cast if preferred. A wire fabric 17 is stretched across the said wheel and secured thereto, and the waste water and screenings mixed therewith are discharged through the
45 pipe 18 upon the screen. With this waste water more or less grain is mixed. The screen will revolve slowly from left to right and the material from the spout will thereby be evenly distributed over the screen surface.

To sweep off the screenings and keep the meshes of the sieve clean I provide a hub 19 removably secured by a set screw 20 on an upright shaft 21 that is geared to the shaft
50 11 through a beveled gear 22 and pinion 23. The hub 19 is provided with a series of brushes 24 which radiate therefrom in a

plane parallel with the sieve, and the brushes with their shaft are arranged to revolve in the same direction as the sieve, or from left to right. The brushes overhang the surface
60 of the sieve and as the sieve and brushes revolve they will at their meeting point move in opposite directions and consequently the screenings will be swept off the sieve on to a plate 25 which is provided on one side of its
65 center with a spout 26 into which the screenings fall. A bar 27 on one side of the spout is arranged to engage the bristles of the brushes and keep them clean, scraping off
70 any grain that may cling thereto.

For the purpose of driving the water out of the meshes of the sieve I provide a flattened nozzle 28 mounted on a spout 29 and arranged to overhang the sieve, the spout 29
75 leading to a blast fan 30 by means of which suitable currents of air can be established through the sieve.

This machine has been found to be very effective for the purpose of separating the screenings from the waste water. It is simple
80 in construction and easily accessible in all its parts and cannot become clogged or choked. The blast of air will drive all the water out of the meshes of the sieve, and the brushes operating thereover will keep the
85 sieve clean and sweep away all the material screened out of the water into the spout provided to receive it.

The machine above described may be mounted in a frame or supported on a suitable platform, and can be built in a comparatively small space. The depth of the drum may be varied, it being only necessary to increase the number of bearings for the vertical shaft 6. The speed of the wheel
95 carrying the screen is preferably about fifteen revolutions per minute.

I claim as my invention:

1. The combination, with a spout through which waste water and screenings are discharged, of a horizontal revolving screen arranged to receive the material from said
100 spout, a revolving brush overhanging said screen on one side only and moving thereon to sweep up the screenings, and a spout
105 provided at one side of said screen and over which said brush moves to deliver the screenings thereto.

2. The combination, with a revolving circular screen moving in a horizontal plane,
110 and a spout arranged to deliver waste water and screenings thereto, a revolving circular

brush moving in a horizontal plane overhanging one side of said screen, said screen and brush moving in the same direction, whereby their lapping portions will move in
 5 opposite directions, said brush operating to sweep the screenings off the surface of said sieve, and a receptacle arranged to receive such screenings.

3. The combination, with a drum circular
 10 in form, having a discharge spout in its bottom, and an open top, a shaft centrally mounted in said drum, a hub mounted on said shaft and having a series of spokes radiating therefrom, a rim composed of angle
 15 bar iron secured to said spokes and having its horizontal flange overhanging the upper edge of said drum, a wire mesh stretched over said spokes and secured thereto and forming a screen, a spout arranged to de-
 20 liver waste water and screenings to said screen, means for revolving said shaft and screen, and a brush moving at one side of said screen.

4. The combination, with a drum having a discharge spout in its bottom and an open
 25 top, of a circular revolving sieve moving within the open top of said drum, a spout arranged to deliver waste water and screenings to said sieve, a blast fan having a spout and nozzle arranged to direct a blast of air
 30 through the meshes of said sieve, a revolving brush moving in a horizontal plane above said sieve and adapted to sweep the screenings off the surface of said sieve, a plate provided at one side of said sieve and whereto
 35 the screenings are delivered, and a spout over which said brush passes and whereto said screenings are delivered by the revolution of said brush.

5. The combination, with a drum or casing
 40 having an open top and a discharge spout in its bottom, of a screen circular in form arranged to revolve in the open top of said drum, a discharge spout arranged to deliver waste water and screenings to said screen on one side
 45 of its center, a revolving brush overhanging

said screen on the other side of its center and moving in the same direction as said screen whereby the portions of said screen and brush that pass by one another will move in opposite directions, said brush operating to
 50 sweep the screenings to the edge of said screen, and a spout over which said brush moves and whereto the said screenings are delivered.

6. The combination, with a revolving
 55 screen moving in a horizontal plane and a spout arranged to deliver waste water and screenings thereto, of a brush moving in a horizontal plane and overhanging one side of
 60 said screen, said screen and brush moving in the same direction, whereby their lapping portions will move in opposite directions, substantially as described.

7. The combination with a revolving
 65 screen, and a spout arranged to deliver waste water and screenings thereto, of a revolving brush overhanging one side only of said screen, said brush being adapted to sweep the screenings off the surface of said sieve,
 70 and a blast fan having a spout and nozzle arranged to direct a blast of air through the meshes of said sieve intermediate to the point where said brush engages said sieve and said spout delivers the screenings thereto.

8. The combination, with a spout through
 75 which waste water and screenings are discharged, of a revolving sieve arranged to receive the material from said spout, a receptacle beneath said screen, a spout at one side of said screen, and a revolving brush ar-
 80 ranged to overhang a portion of said sieve and said last named spout and adapted to sweep the screenings off said sieve into said spout.

In witness whereof, I have hereunto set
 my hand this 9th day of November, 1907.

ANTHONY H. BAENEN.

Witnesses:

M. F. MULROY,
 C. J. MANGEARD.