

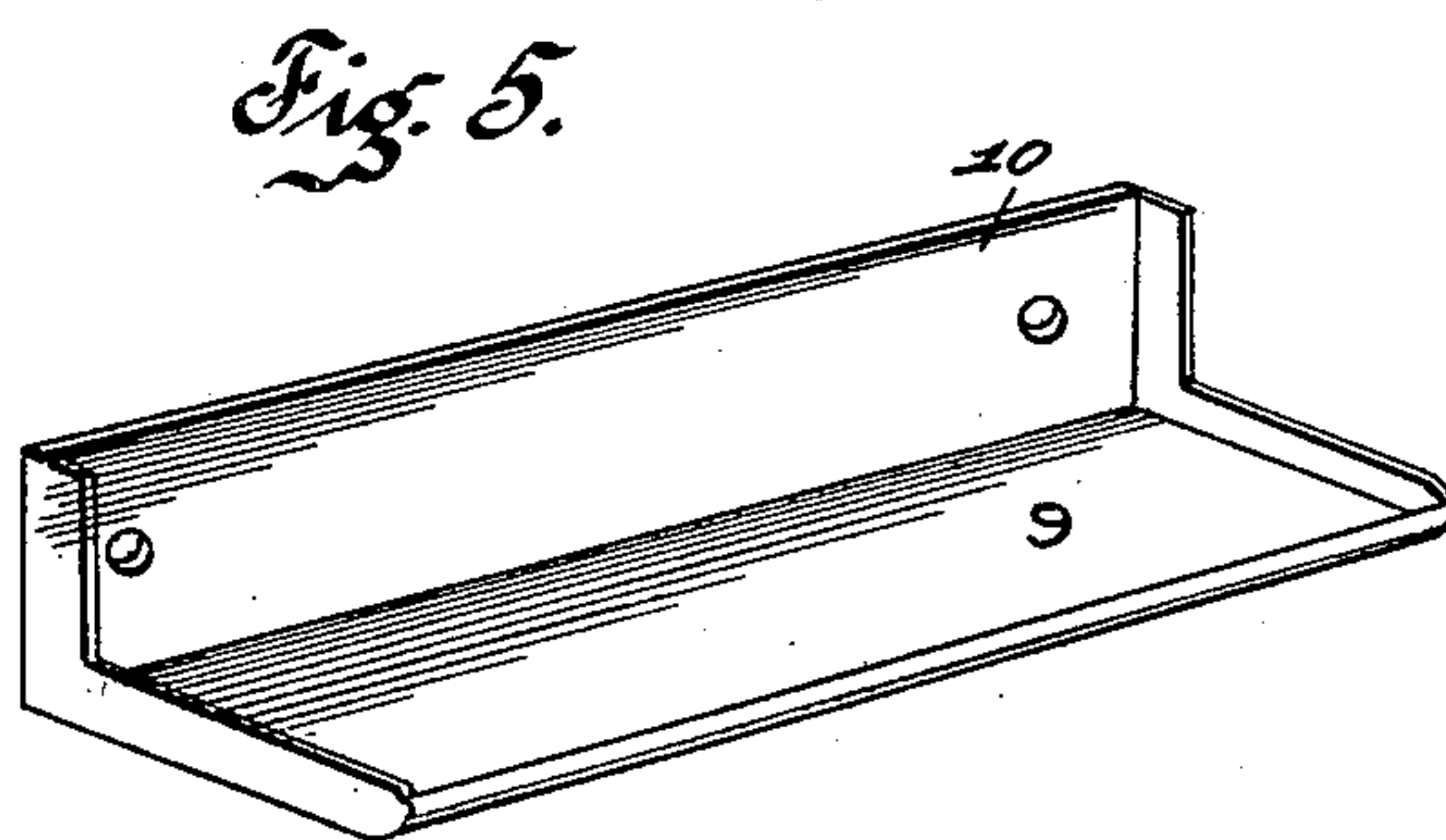
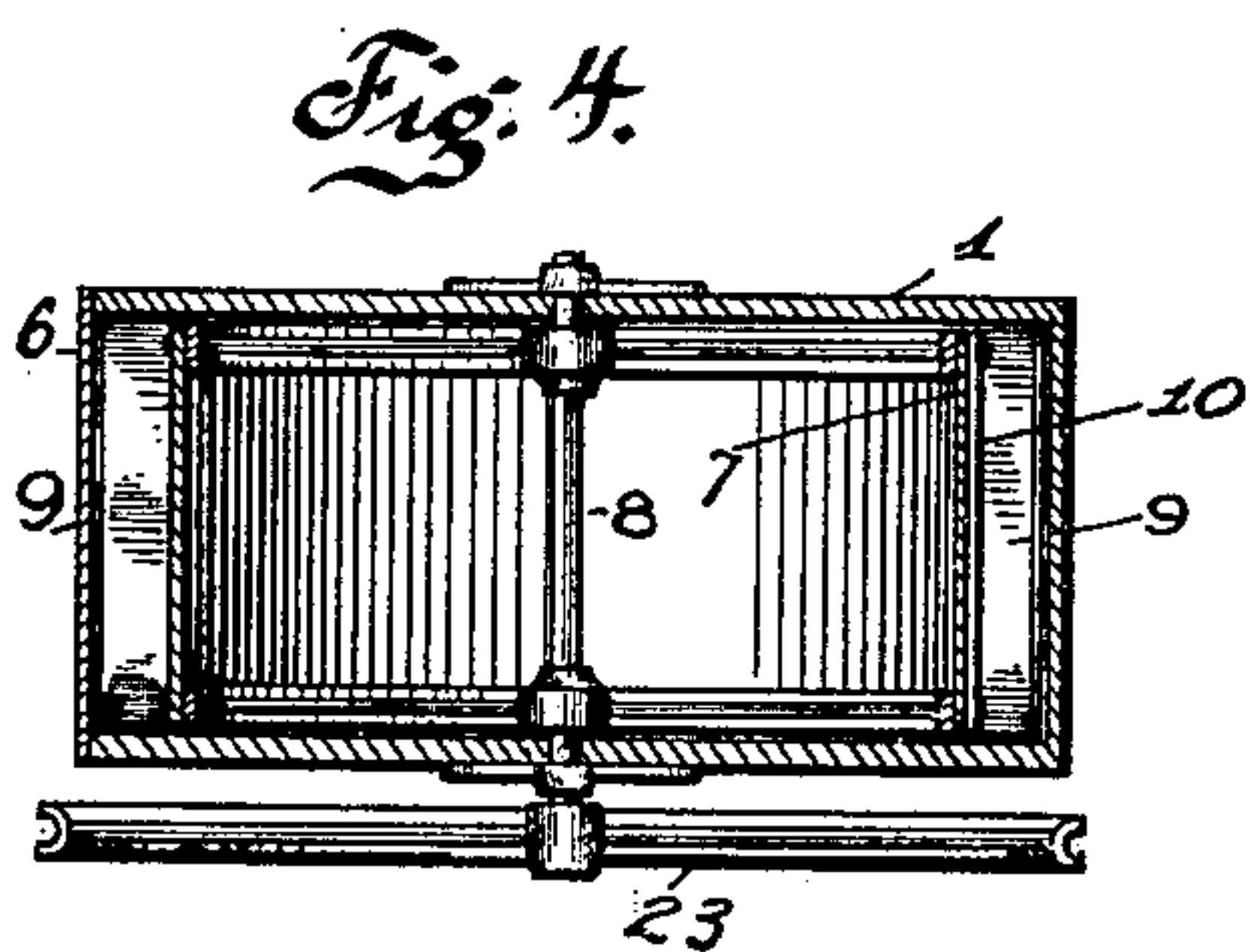
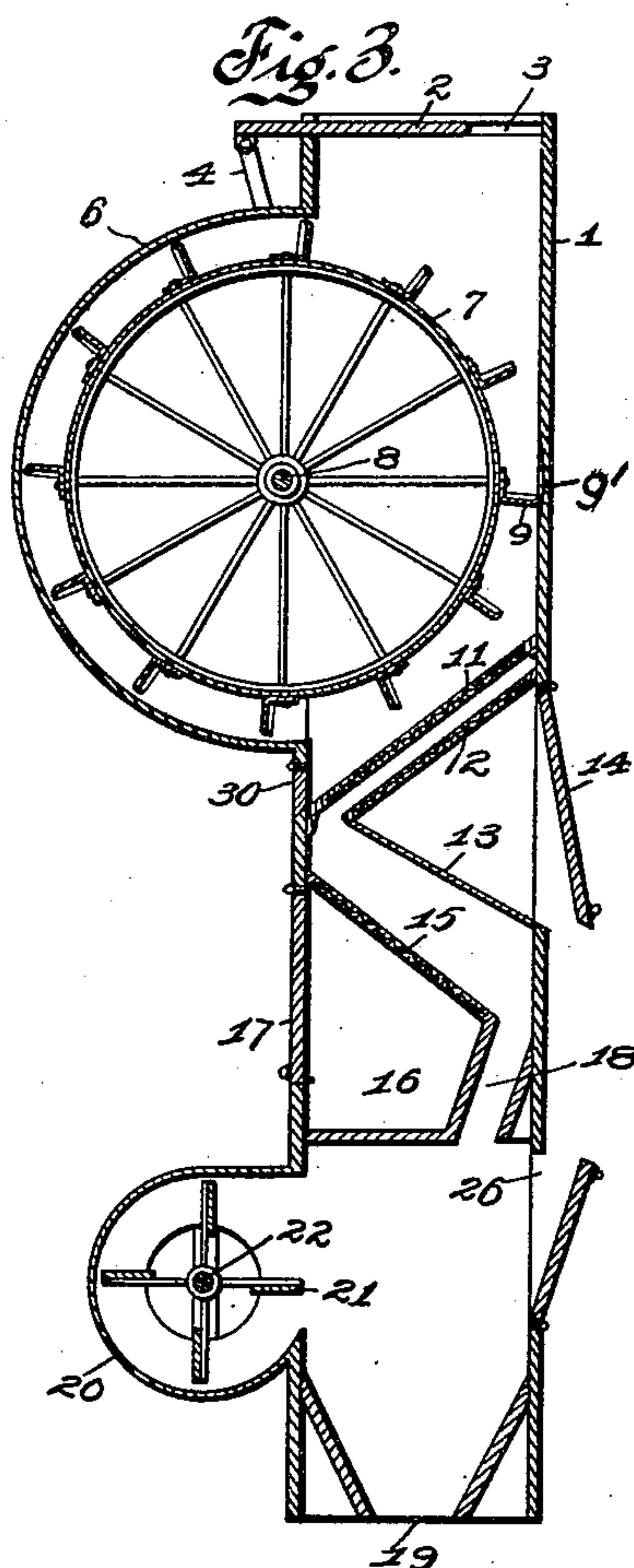
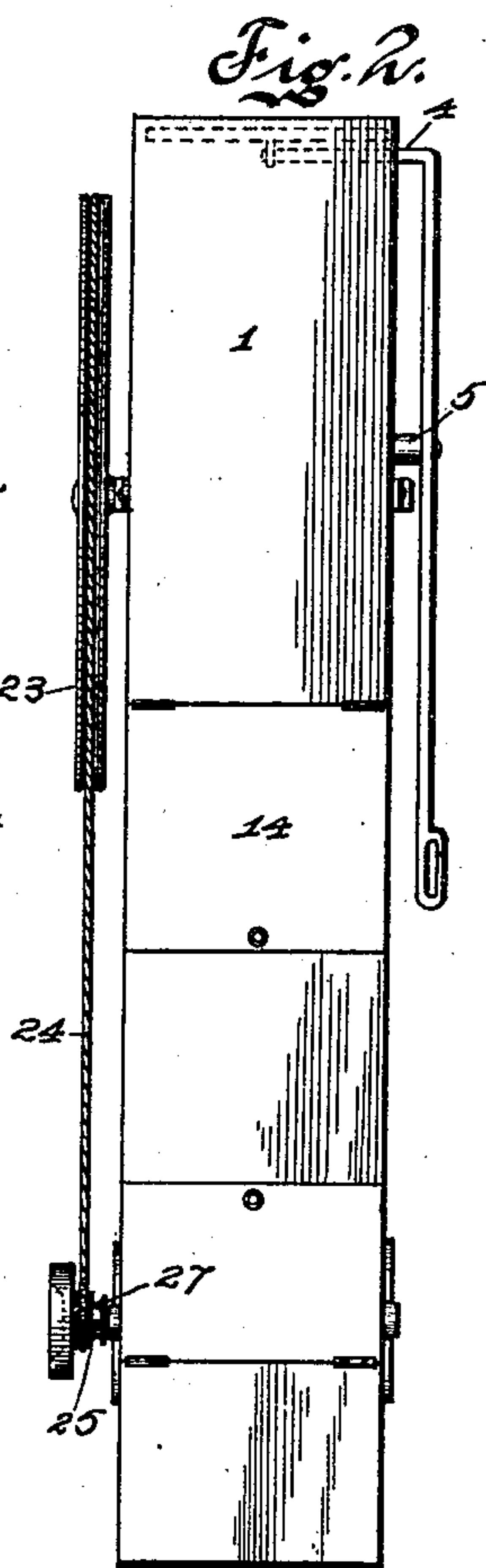
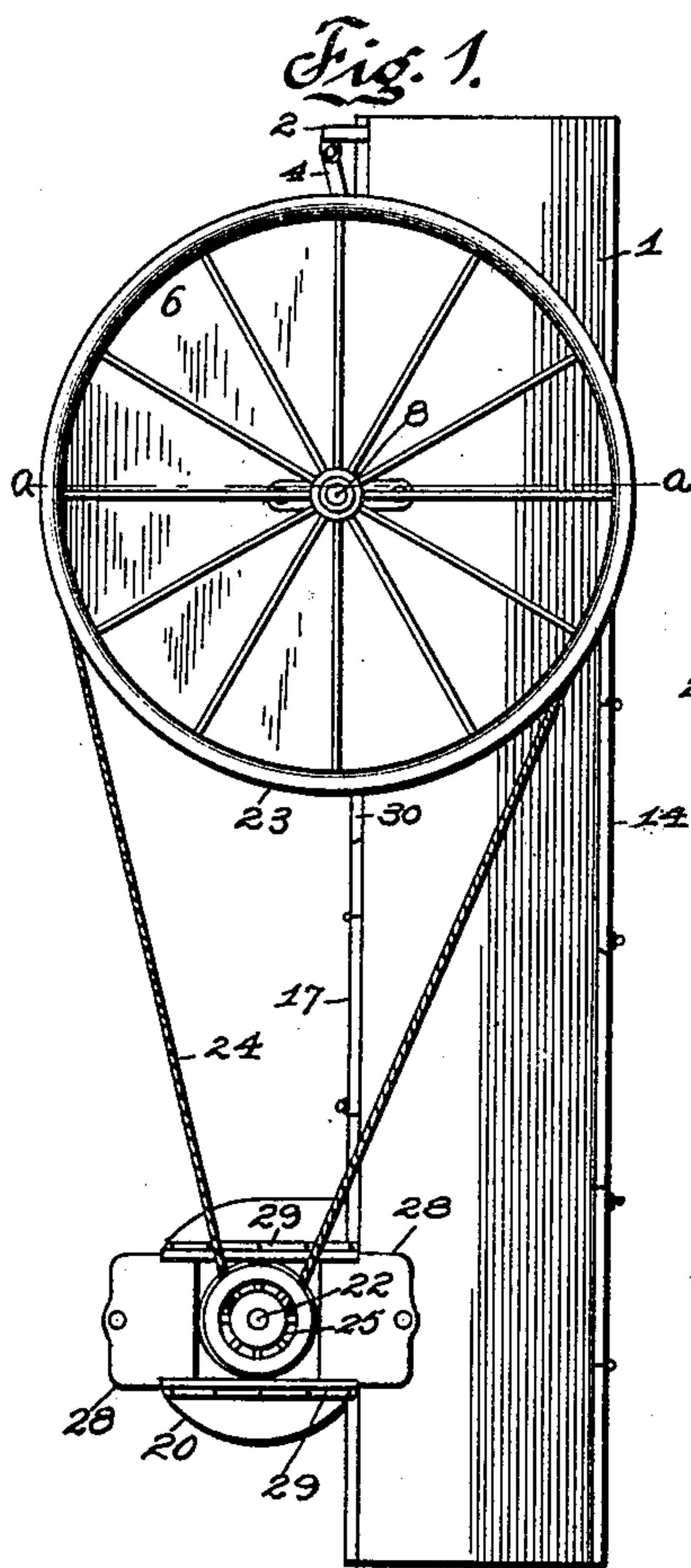
No. 677,630.

Patented July 2, 1901.

A. F. BRASE.  
GRAIN SEPARATOR.

(Application filed Oct. 1, 1900.)

(No Model.)



Witnesses

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# UNITED STATES PATENT OFFICE.

AUGUST F. BRASE, OF ST. LOUIS, MISSOURI.

## GRAIN-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 677,630, dated July 2, 1901.

Application filed October 1, 1900. Serial No. 31,710. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST F. BRASE, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Grain-Separators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to grain-separators; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a side elevation of my invention. Fig. 2 is a view from the rear. Fig. 3 is a vertical sectional view taken approximately through the center of the machine. Fig. 4 is a cross-sectional view taken on the line *a a* of Fig. 1. Fig. 5 is a perspective view showing a plate made use of in carrying out the invention.

In constructing my improved grain-separator I provide a chute 1, substantially vertical and adapted to receive the grain at its upper end. The chute 1 is constructed, preferably, of sheet metal, but of course may be constructed of any other preferred material. The upper end of the said chute is provided with a slide 2, which operates in the guideway 3 and is provided with an operating-handle 4, whereby it may be operated to close the chute or may be drawn out to allow the grain to enter therein. The handle 4 is pivoted at 5 to the side of the chute and projects downwardly a suitable distance to afford a hold to be engaged for drawing out the slide 2. Near the upper end of the chute 1 is a drum-casing 6, and mounted within the said casing and extending into the chute 1 is a drum-wheel 7, the said wheel being mounted on the axial shaft 8. The drum-wheel 7 is to receive the grain as it descends to the chute 1 and as it is rotated to supply the motive power for operating a fan, the construction of which will hereinafter appear. Carried by the drum-wheel 7 is a series of plates, upon which the grain is received and retained for a time as the wheel is carried around. The plates consist of the portion 9, at right angles to which are the portions 10, which rest upon the surface of the drum and are secured thereto by any suitable means.

In order to provide a close fit between the

side of the casing and the edges of the plates 9, carried by the drum-wheel 7, and at the same time to prevent grain or other matter lodging between the ends of the plates 9 and casing, and thereby clogging the machine or interfering with the movement of the drum-wheel 7, I provide in the casing, at a point opposite the drum-wheel and in position to be entered by the edges of the plates on the drum-wheel, a concave recess 9', which also forms, in connection with the plates, a close receptacle or temporary bucket or pocket for the material being treated.

Within the chute 1, below the drum-wheel, is carried an inclined screen 11 of coarse mesh, upon which the grain drops as it falls away from the drum-wheel. The coarser substances will be retained upon the screen 11, and the grain and finer particles will pass through and drop onto the inclined screen 12 of finer mesh than the screen 11. The screen 12 being of fine mesh will not permit the grain to pass through, and dust and finer particles will drop through the said screen onto the inclined bottom 13, whence it can be removed by raising the door 14, hinged to the side of the chute 1. The grain sliding from the screen 12 drops onto the screen 15, and the portion of the remaining foreign substances will drop through the screen 15 into the receptacle 16, from which it can be removed by opening the door 17, hinged to the front side of the chute 1. The grain not being permitted to pass through the screen 15 drops into the guideway 18 and continues its descent until it passes out through the opening 19 at the bottom of the chute.

A casing 20 is carried on the front side of the chute 1 below the receptacle 16, and a rotary fan 21, carried on the shaft 22, is within the casing 20.

The shaft 8 projects beyond the side of the casing and carries on its outer end a pulley or grooved wheel 23, around which is passed a belt or rope 24, the said belt being also passed around a pulley 25, carried on the outer end of the shaft 22. As the wheel 7 is carried around on its axis by the descent of the grain the pulley 23 is rotated, operating the belt 24, and thereby driving the rotary fan 21, creating a current which carries the dust which remains in the grain out through an



opening 26 at the rear side of the chute 1, leaving the grain free to drop through the opening 19. I provide other pulleys 27 on the shaft 22, the said pulleys being of various sizes, whereby the speed of the fan 21 may be regulated and the force of the current adjusted, according to the weight of the grain which is passing through the chute.

A grain-separator constructed as described possesses many superior advantages over others of ordinary construction. It may be connected to a bin within which grain is contained, and whenever it is desired to separate any of the grain from the foreign particles contained therein the slide 2 may be operated, permitting the grain to drop within the chute upon the drum-wheel 7. The weight of the grain is sufficient to rotate the wheel, carrying it around and allowing the grain to drop upon the screen 11. The screens may be made of different mesh in order to accommodate grains of different sizes, and whenever it is desirable to separate smaller grain a screen of fine mesh will be inserted, and whenever it is desired to separate large grain a screen of larger mesh will be placed therein.

The rotation of the wheel 7 operates its shaft 8, driving the pulley 23 and the belt 24, which, as explained, operates the fan 21 within the casing 20. The amount of air to be admitted into the casing 20 may be regulated by means of the slides 28, movable in guides 29 at one side of the casing. By drawing the slides outwardly a large opening will be made, allowing a greater amount of air to enter and a stronger current to be provided, and by closing the slides the current will be correspondingly weakened.

After the grain has passed onto the screen 11 it drops through the screen onto the screen 12, and foreign substances—such as burs, &c.—will be retained on the screen 11, whence they may be removed through the door 30, allowing only the grain and the smaller particles of dust, &c., to pass onto the screen 12. The grain by its downward movement on the screen 12 forces the dust out into the opening onto the bottom 13, from which it can easily be removed, as described, by opening the door 14. The remaining foreign particles are removed, as described, a portion entering the receptacle 16 and the remaining portion being driven out by the rotary fan through the opening 26.

I claim—

In a grain-separator, the combination of an upright chute or casing having a concave recess in the inner face of one wall, a half-drum mounted on and forming part of the opposite wall, a motor-wheel journaled in line with the juncture of the half-drum and casing, and projecting only on its descending side into said casing and recess, and provided with L-shaped plates with their bases secured to the periphery of the drum and their radial portions formed with flanges; and a slide operated from the side of the casing over the half-drum so as at all times to leave a feed-opening directly over the buckets.

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

AUGUST F. BRASE.

Witnesses:

ALFRED A. EICKS,  
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