

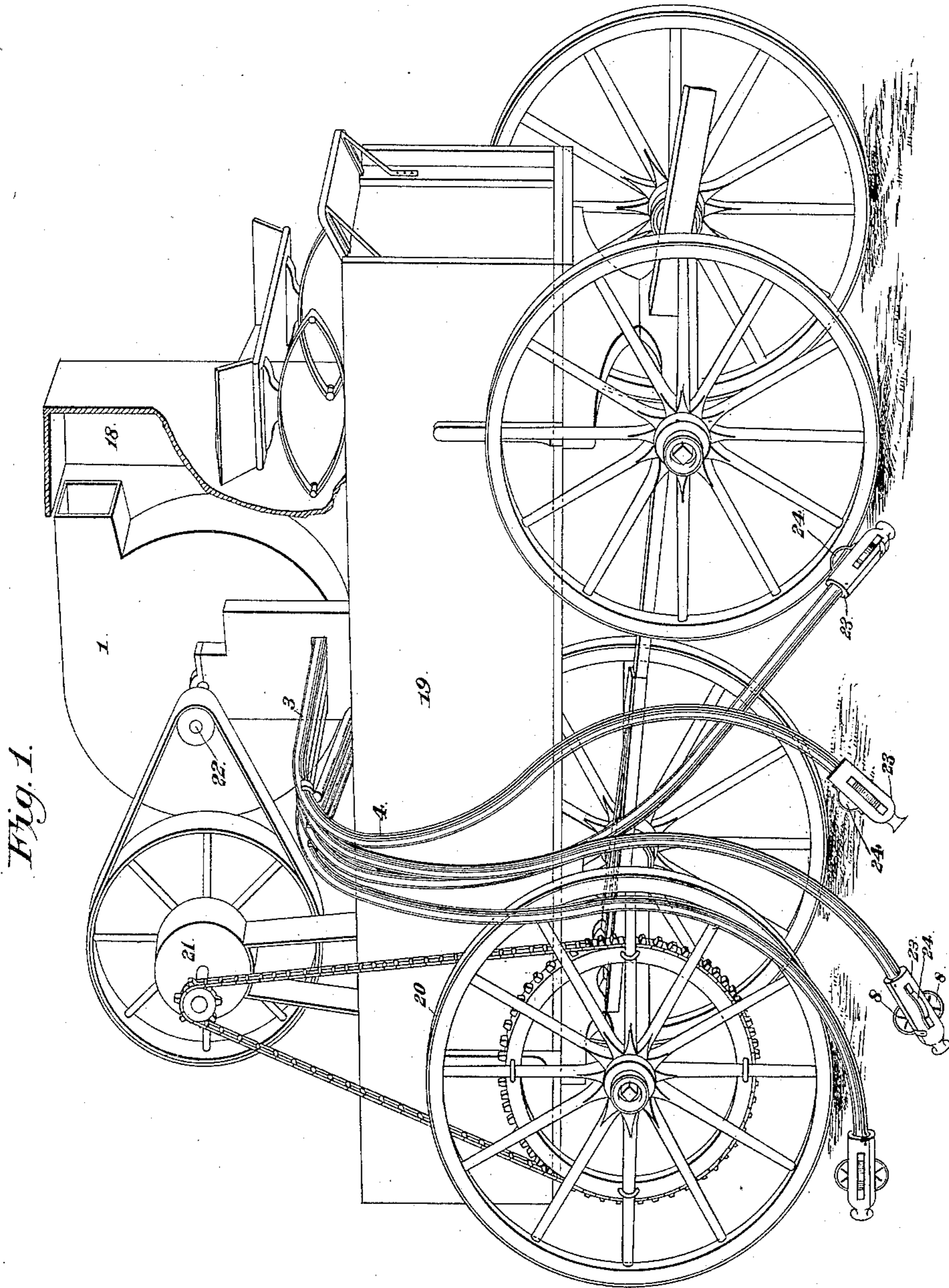
(No Model.)

3 Sheets—Sheet 1.

T. B. HYDE.  
COTTON PICKER.

No. 463,055.

Patented Nov. 10, 1891.



Witnesses

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*Wm. Baggers*

Inventor

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By his Attorneys,

*C. A. Snow & Co.*

(No Model.)

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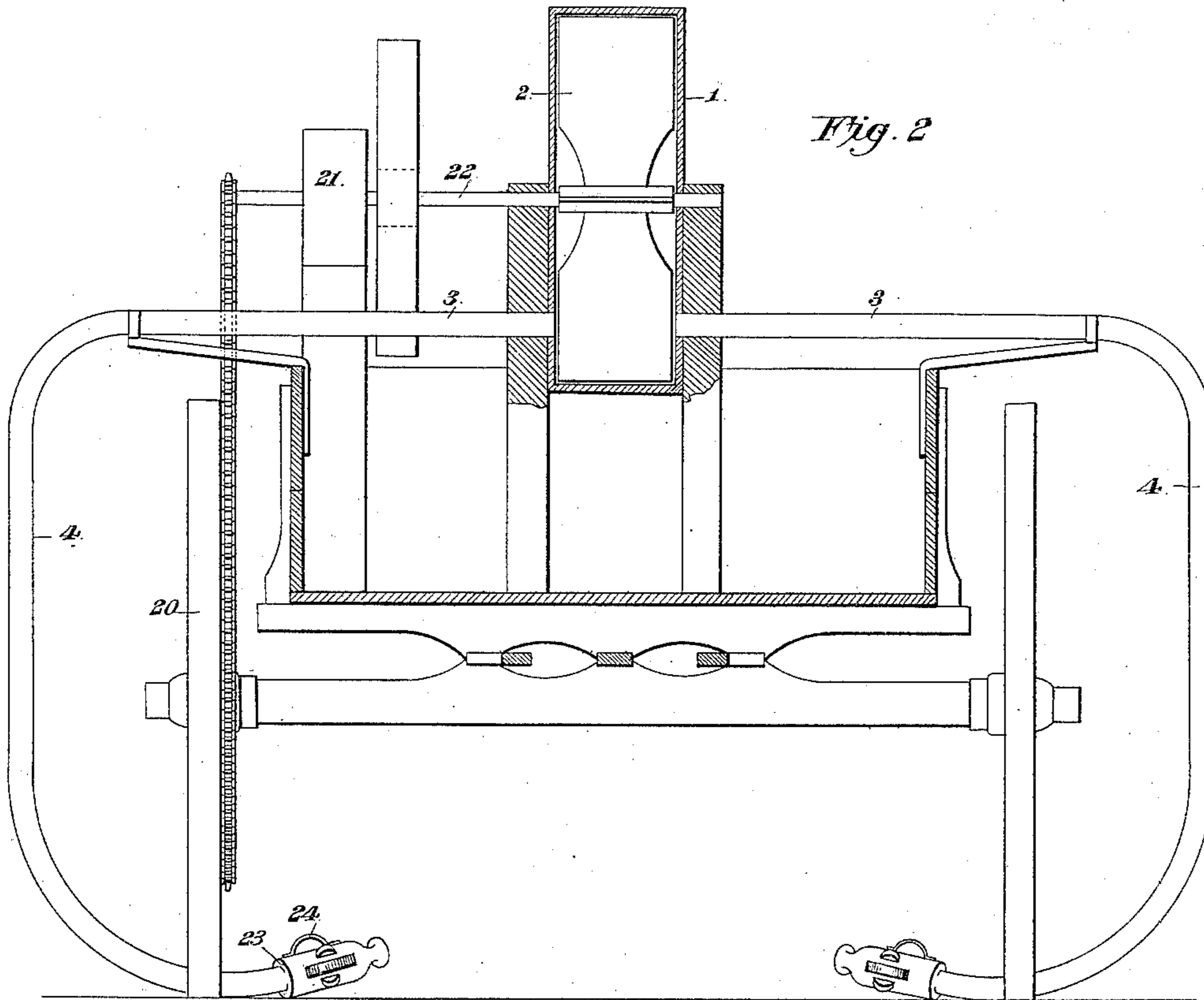


Fig. 2

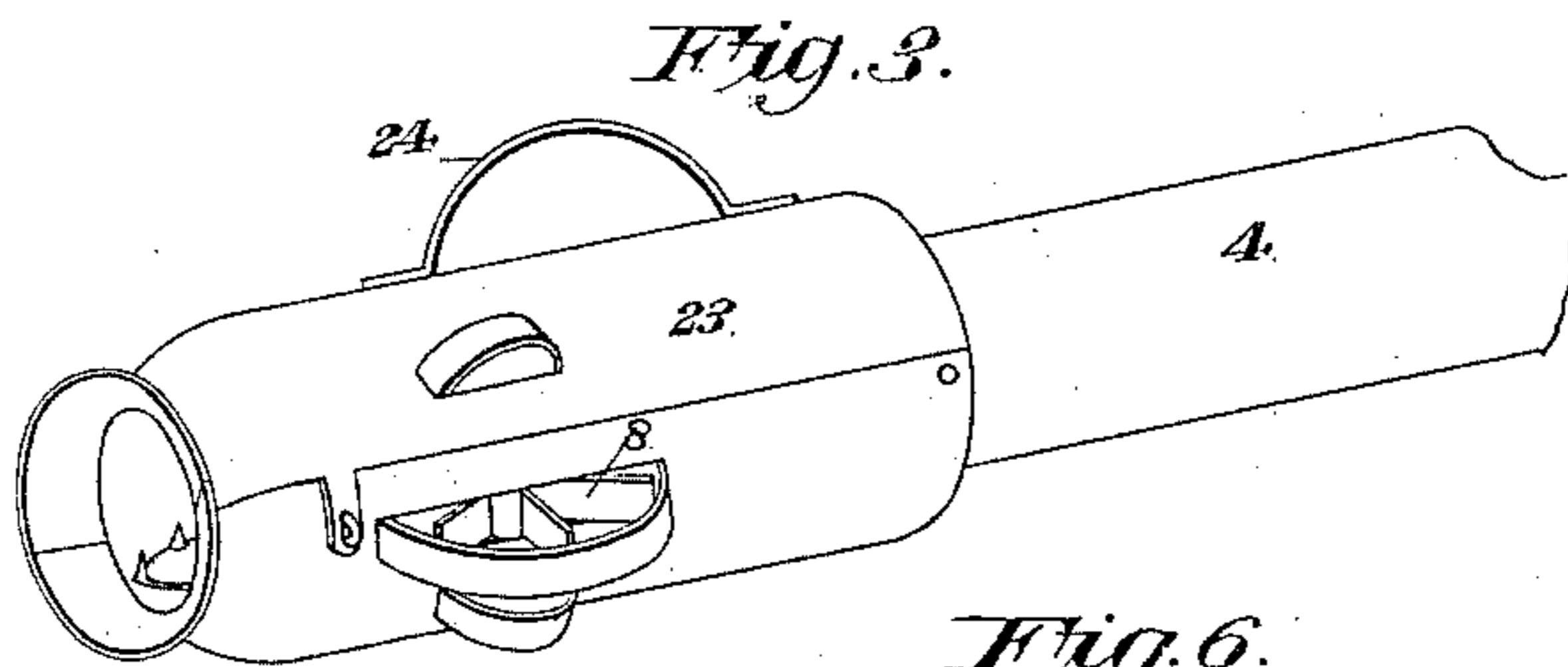
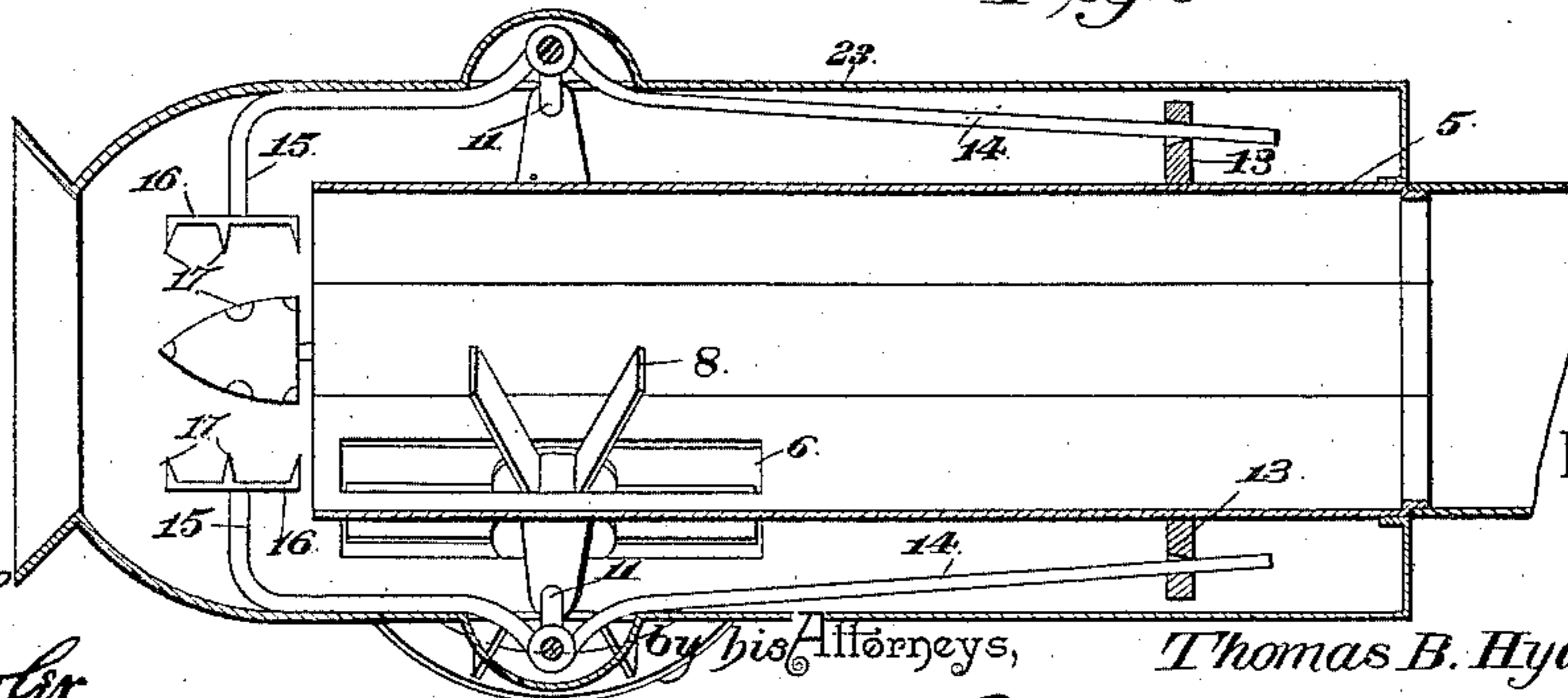


Fig. 3.

Fig. 6.



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Fig. 4.

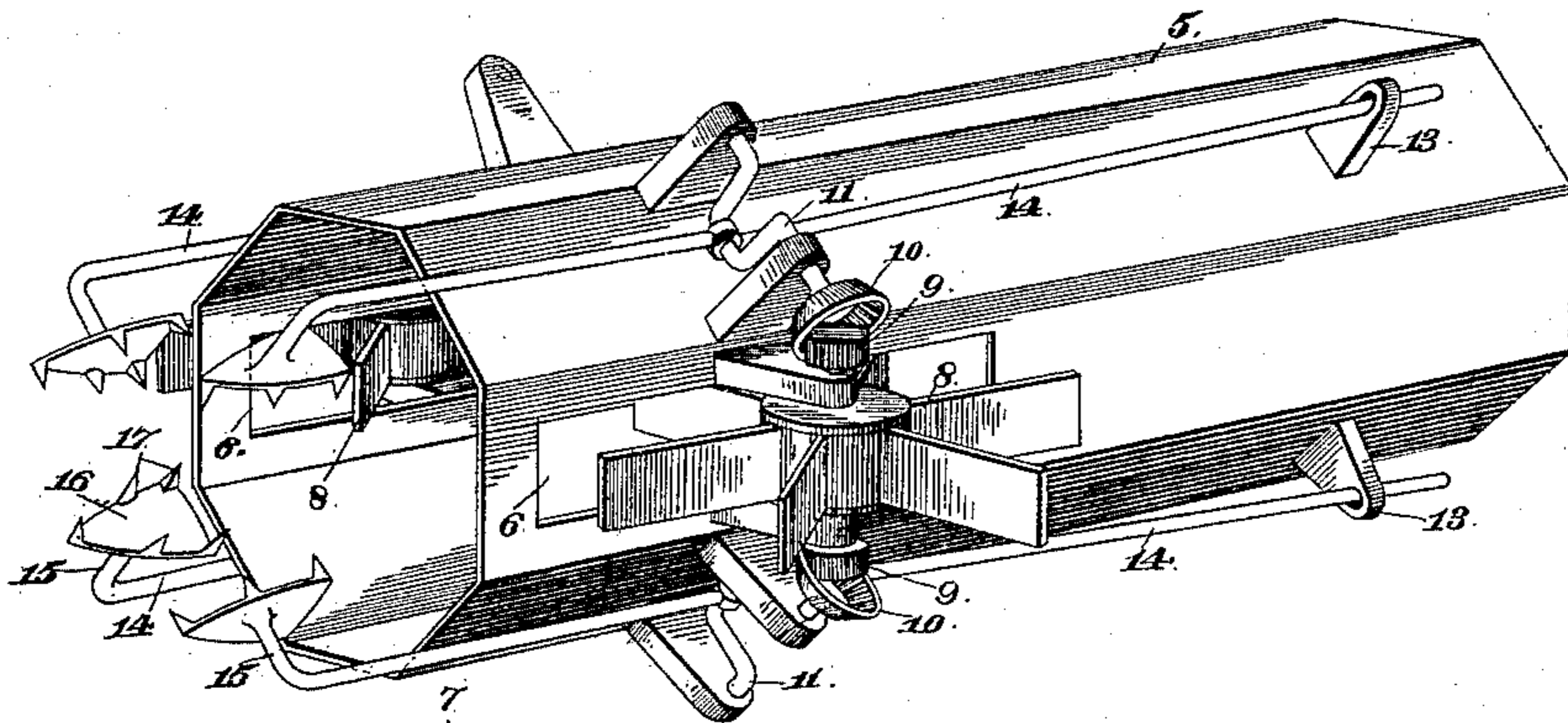


Fig. 5.

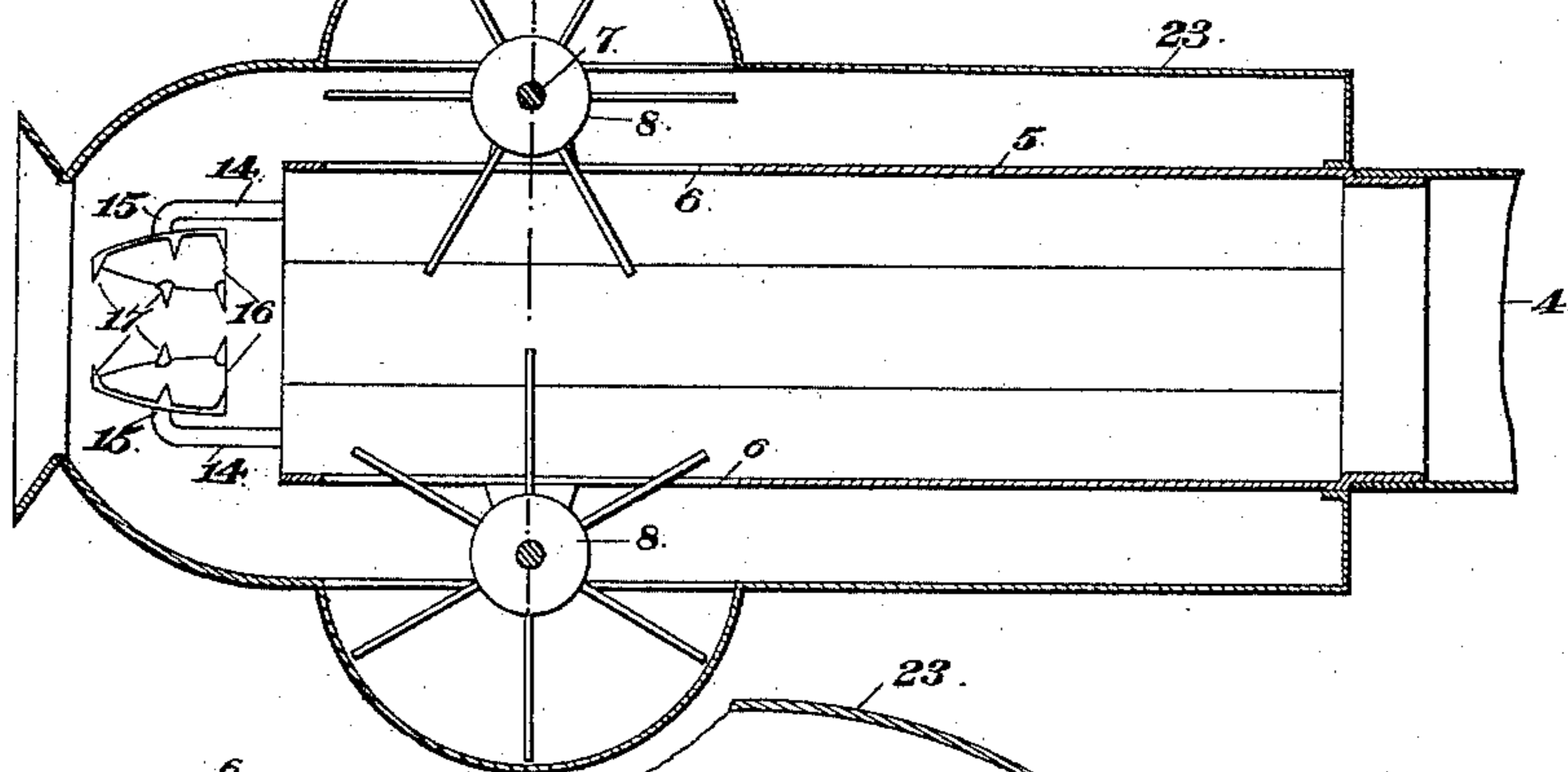
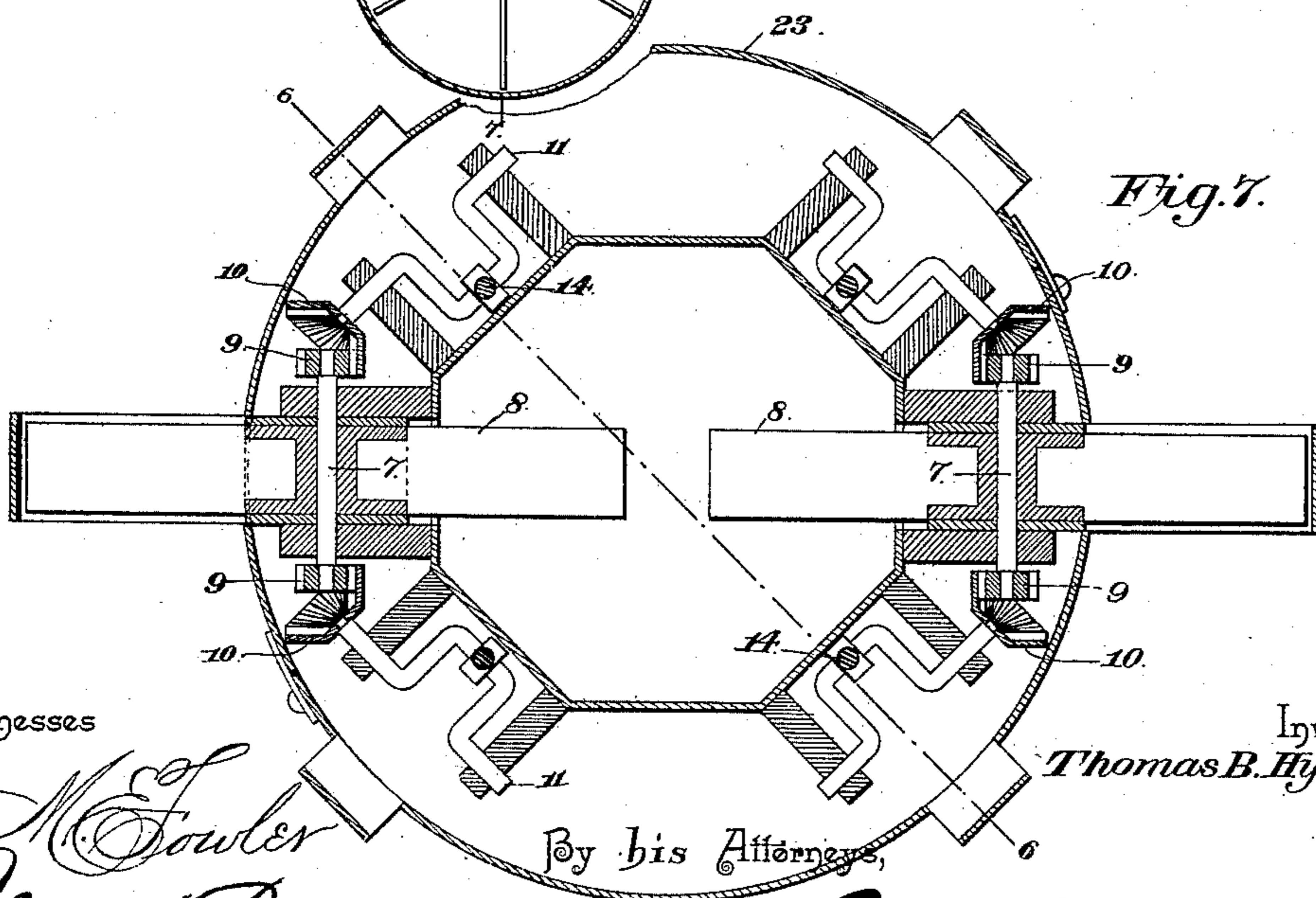


Fig. 7.



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# UNITED STATES PATENT OFFICE.

THOMAS BURKE HYDE, OF TAYLOR, TEXAS.

## COTTON-PICKER.

SPECIFICATION forming part of Letters Patent No. 463,055, dated November 10, 1891.

Application filed March 18, 1891. Serial No. 385,511. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS BURKE HYDE, a citizen of the United States, residing at Taylor, in the county of Williamson and State of Texas, have invented a new and useful Cotton-Picker, of which the following is a specification.

This invention relates to machines for picking cotton; and it has for its object to provide a device of this class which shall be simple in construction and comparatively inexpensive, and which in operation shall simulate the action of the hand as nearly as possible.

The invention consists in the details of construction and arrangement of parts which will be hereinafter described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a perspective view, showing my improved cotton-picking apparatus mounted upon a rack in position for operation. Fig. 2 is a transverse sectional view taken through the wagon and the exhaust-fan, and showing a part of the picking mechanism in elevation. Fig. 3 is a perspective view, on a larger scale, of one of the pickers. Fig. 4 is a similar view of one of the pickers, with the protecting sleeve or covering broken away. Fig. 5 is a longitudinal sectional view of one of the pickers. Fig. 6 is a longitudinal sectional view taken on the line 6 6 in Fig. 7. Fig. 7 is a transverse sectional view taken on the line 7 7 in Fig. 5.

Like numerals of reference indicate like part in all the figures of the drawings.

In the drawings hereto annexed, 1 designates the fan-case, in which is mounted the fan 2. The inlet of the fan-case is connected on each side with a suitable number of tubular conveyers 3, which may be constructed of sheet metal and provided with flexible extensions 4. If preferred, however, the said tubular conveyers may be constructed wholly of flexible material, such as hose made of rubber or textile material. Each of the tubular conveyers terminates in a sleeve 5, which is made of sheet metal and which may be either cylindrical or polygonal in cross-section. These sleeves, which, in connection with mechanism attached thereto, constitute the pickers, are all of the same construction, and a description of a single one will answer for all.

The sleeve 5, as will be seen in Figs. 4 to 7

inclusive, is provided near its outer end, on diametrically opposite sides, with longitudinal slots 6, on opposite sides of which bearings are provided for shafts 7, carrying the fan-wheels 8, the wings on one side of which extend through the slots 6 into the sleeve. The upper and lower ends of the shafts 7 carry the pinions 9. The outer side of the sleeve 5 is provided above and below the shaft 7 with bearings for inclined crank-shafts 11, having disks 10, provided with inclined or beveled interiorly-toothed flanges meshing with the teeth of the adjacent pinions 9. It will thus be seen that when the shafts 7 revolve a rotary motion at a decreased rate of speed will be transmitted to the crank-shafts 11. I desire at this point to state that the shafts 7 may, if desired, be connected with the shafts 11 by means of knuckle-joints or universal couplings of any suitable construction, or that any other suitable and well-known means may be employed for transmitting motion from the shafts 7 to the shafts 11 without departing from the spirit of my invention.

The sleeve 5 is provided near its rear end with perforated lugs 13, forming bearings for the longitudinally-reciprocating arms 14, the front ends of which are suitably connected with the cranks of the shafts 11. The extreme front ends are bent inwardly at right angles, as shown at 15, and terminate in the jaws 16, having claws or fingers 17. These jaws and claws may be made of any suitable material, such as wood or rubber; or claws or teeth of metal or other material may be mounted in a backing of wood, rubber, or the like. In practice, however, they will probably be constructed of moderately soft rubber, which may be readily molded to the desired shape and which will grasp the cotton with sufficient firmness to detach it from the bowl.

It will be understood from the foregoing that when the fan is rotated rapidly in its casing suction will be created in the tubular conveyers and in the sleeves of the pickers, thus rotating the fan-wheels 8 and transmitting to the arms 14 a rapid reciprocating motion. When the pickers, which are held in the hands of the operator, are applied to the cotton, the toothed jaws will detach the cotton from the bowls and throw it back into the

sleeve, where the suction will carry it back through the tubular conveyer, the action of the wings of the fan-wheels serving to assist in detaching the loose cotton from the jaws from the fan-case. The cotton is to be detached into a suitable receptacle, which in the drawings is designated by 18.

It is obvious that in operation my improved picking apparatus is to be mounted upon a wagon, whereby it may be readily carried over the field, so as to pick the cotton over an extended area. The motive power for the rotary fan may be derived from the wagon-gearing; but inasmuch as it will be necessary to make frequent stops, in order to give the operators time to pick all the cotton within reach, it will not be found practical to gear the power direct from the transporting-wheels of the wagon to the fan. To overcome this difficulty I propose to gear the power from the transporting-wheels to a suitable motor, such as a spring-motor or a suitably-constructed electric motor, in which the power may be stored and from which it may be transmitted to the shaft of the exhaust-fan. In this manner by the passage of the wagon over a short distance sufficient power may be stored in a motor to operate the exhaust-fan for a sufficient length of time to pick all the cotton within reach without the necessity for going twice over the ground.

To illustrate, I have in the accompanying drawings shown the apparatus mounted in a wagon 19, from the transporting-wheels 20 of which motion is transmitted to a motor 21. The latter is connected by means of a belt or suitable gearing with the shaft 22 of the exhaust-fan 2, which is in this manner operated. I desire it to be distinctly understood, however, that I do not limit myself to any particular mode of or means for operating the exhaust-fan. Thus, for instance, an electric motor run by a storage battery or a suitable spring-motor previously wound might be employed without departing from the spirit of my invention. The operating mechanism of the pickers is in practice to be protected by a suitable shell or covering 23, suitably attached to the sleeve 5. Said cover is preferably provided with a handle 24, which may be conveniently grasped by the operator. Four or more pickers may be connected by the tubular conveyers 3 with each side of the fan-case. Each operator holds a picker in each hand and applies the pickers to the cotton, as will be very readily understood. The apparatus, when thus provided with four pickers from each side, may be served by four men or boys, and the cotton may in this manner be harvested in an exceedingly rapid, efficient, and inexpensive manner.

I desire it to be distinctly understood that I do not limit myself to details of construction herein shown and described. Thus, for instance, other means than the ordinary exhaust-fan herein described might be used for creating the necessary suction to operate the

pickers and to carry the cotton through the conveyers to the receptacle provided for its reception. I also reserve the right to any modifications in the detailed construction of the pickers, which may be resorted to without departing from the spirit of my invention.

Having thus described my invention, what I claim is—

1. A cotton-picker comprising a tubular sleeve having reciprocating arms projecting beyond the mouth of the sleeve, in combination with fan-wheels for operating said arms, and means for creating suction in said tubular sleeve and across one side of each fan, so as to revolve the latter, substantially as set forth.

2. The combination of a tubular sleeve, longitudinally-reciprocating arms having jaws at their front ends, fan-wheels mounted upon said sleeve, and having wings extending through slots in the latter, means for transmitting motion from the fan-wheels to the reciprocating arms, and means for creating suction in the tubular sleeve, substantially as set forth.

3. A cotton-picker consisting of a tubular sleeve having longitudinally-reciprocating arms projecting beyond the mouth of the sleeves provided with toothed jaws at their front ends, in combination with fan-wheels extending into the sleeve for operating said reciprocating arms, and means for creating suction to operate said fan-wheels and to carry the cotton through the tubular sleeve or conveyer, substantially as set forth.

4. In a cotton-picker, a tubular sleeve or conveyer having longitudinally-reciprocating arms connected near their front ends with crank-shafts mounted upon said sleeve, in combination with fan-wheels geared to said crank-shafts and having wings extending through slots in the tubular sleeve and means for creating suction in the latter, substantially as set forth.

5. In a cotton-picker, the combination of a tubular sleeve or conveyer having slots near its front end, the shafts journaled outside of said slots and having fan-wheels the wings of which are extended through the latter, the reciprocating arms having jaws at their front ends, the crank-shafts connected with said reciprocating arms, and means for transmitting motion from the fan-wheels to the crank-shafts, substantially as set forth.

6. In a cotton-picker, the combination, with a tubular sleeve or conveyer, of the reciprocating arms projecting beyond the mouth of the sleeve and having jaws at their front ends, and fan-wheels for operating the said reciprocating arms by a draft of air through the sleeve, substantially as set forth.

7. In a cotton-picker, the combination of the tubular sleeve or conveyer having perforated lugs near its rear end and provided with crank-shafts journaled near its front end, the reciprocating arms connected with said crank-shafts extending through said per-

forated lugs and provided with intumed front ends carrying toothed jaws, and means for operating the said crank-shafts and reciprocating arms, substantially as set forth.

5 8. In a cotton-picker, the combination of a tubular sleeve or conveyer, the fan-wheels having wings extending through slots in said sleeve and provided at the ends of their shafts with pinions, crank-shafts journaled in bearings across the sleeve and provided at their  
10 ends with disks having beveled or inclined internally-toothed flanges, the pinions meshing with said flanges, and the reciprocating arms projecting beyond the mouth of the  
15 sleeve and having toothed jaws at their front ends, their rear ends sliding in guides and their bodies connected with the crank-shafts, substantially as and for the purpose set forth.

20 9. In a cotton-picker, the combination of an exhaust-fan, tubular conveyers connected with the inlet of the casing of said fan, and the pickers connected with said tubular conveyers, said pickers consisting of tubular

sleeves having reciprocating picker-arms projecting beyond the mouth of the sleeve, and 25 fan-wheels for operating the same by the draft of air, substantially as and for the purpose set forth.

10. A cotton-picker comprising, essentially, one or a series of tubular conveyers provided 30 with reciprocating picker-arms, fan-wheels connected with the arms for driving them, which wheels are adapted to be operated by suction, said tubular conveyers being suitably connected with a casing having means 35 for creating suction therein and across the wheels, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 40 presence of two witnesses.

THOMAS BURKE HYDE.

Witnesses:

H. FREITAG,  
JNO. I. LLOYD.