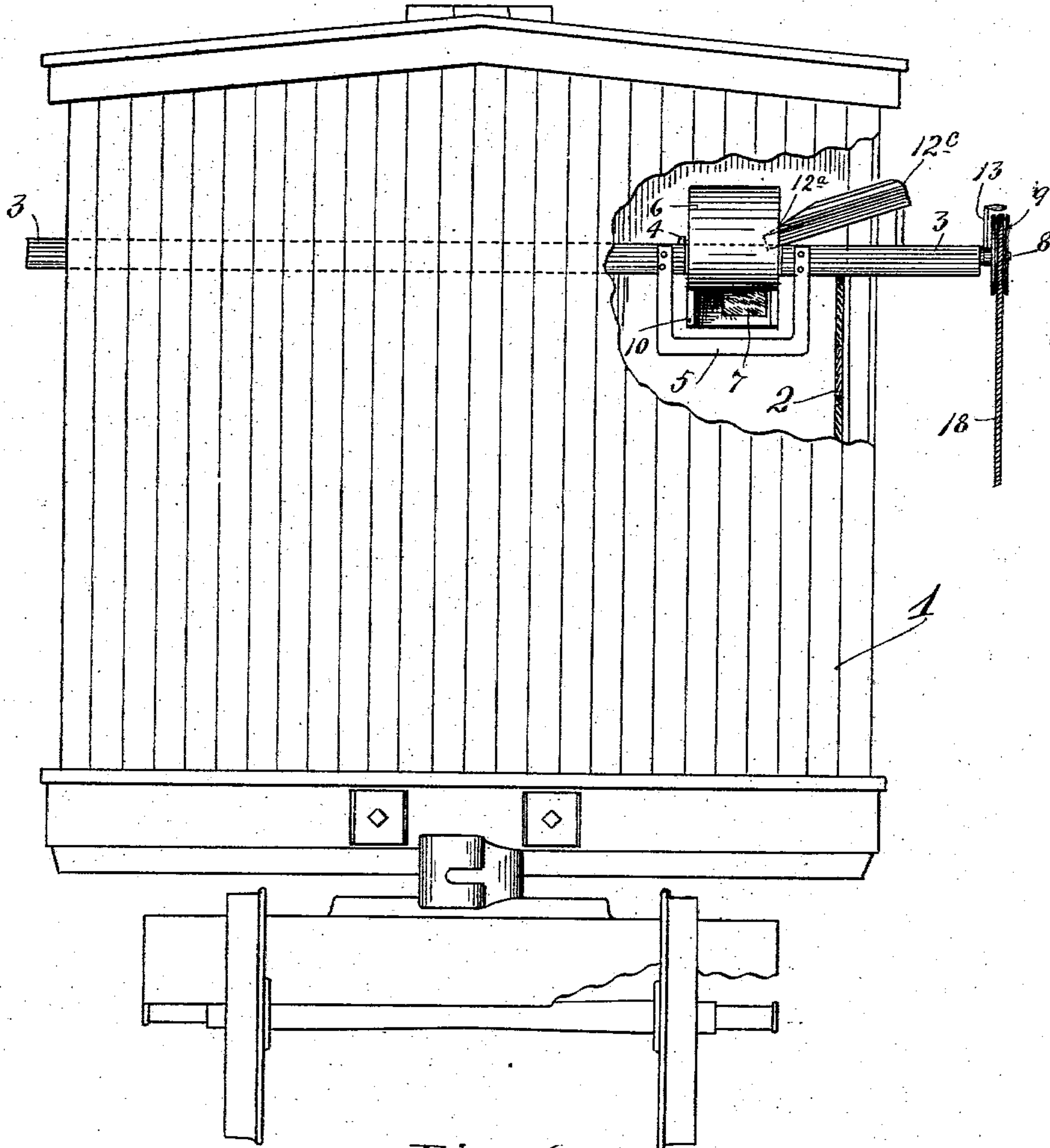


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GRAIN LOADER FOR CARS.  
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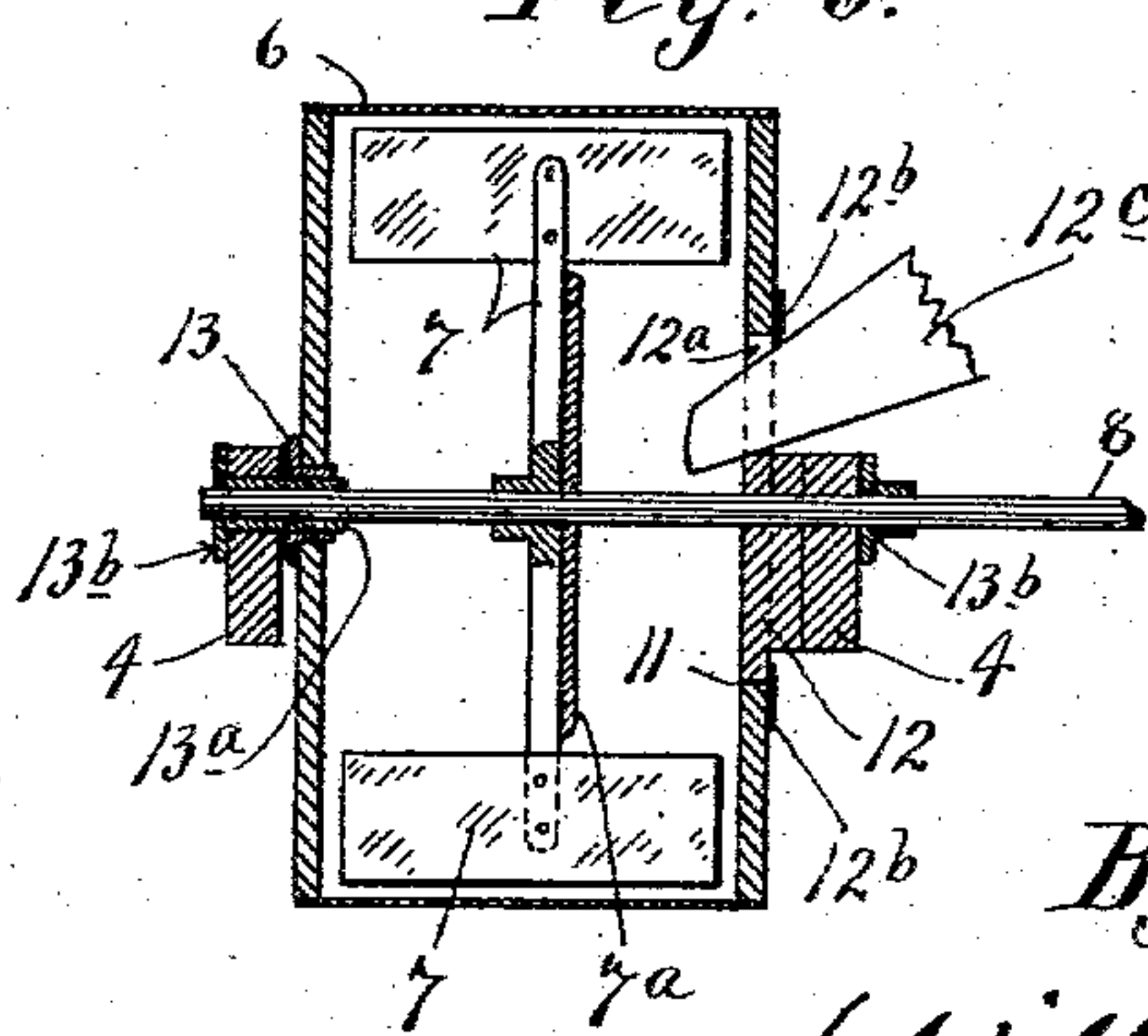
NO MODEL.

2 SHEETS—SHEET 1.

*Fig. 1.*



*Fig. 6.*



Witnesses.  
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NO MODEL.

2 SHEETS—SHEET 2.

Fig. 3.

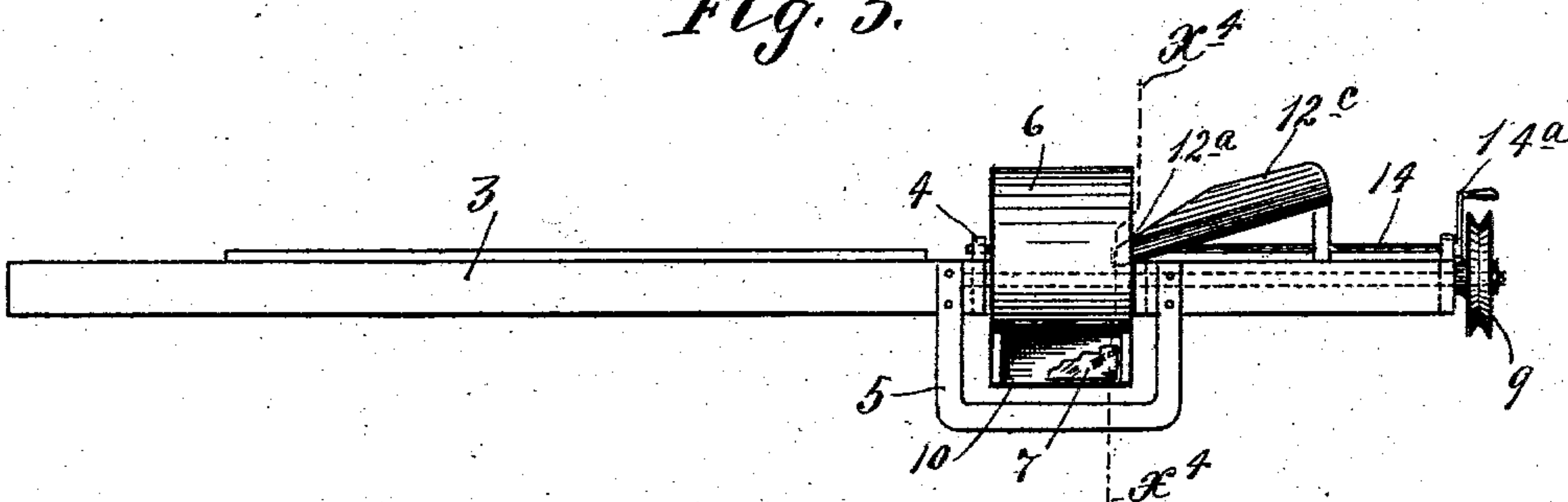


Fig. 2.

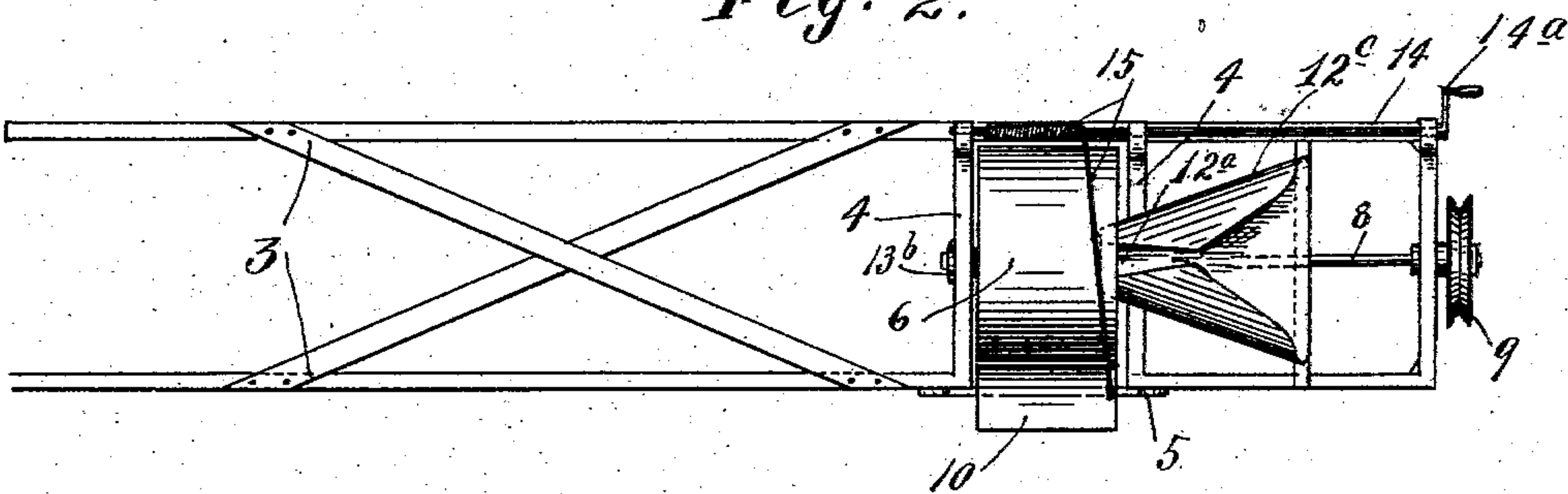


Fig. 4.

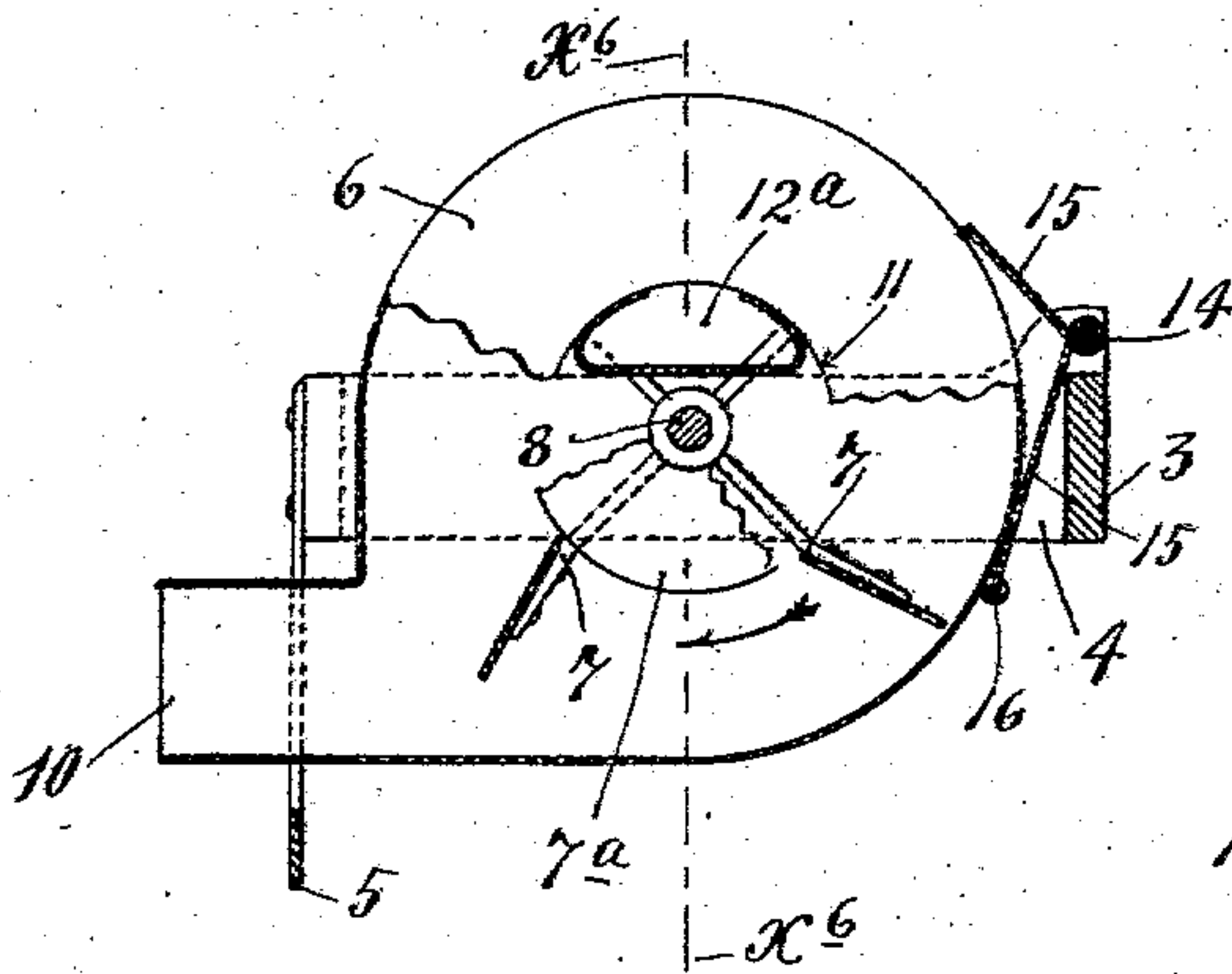
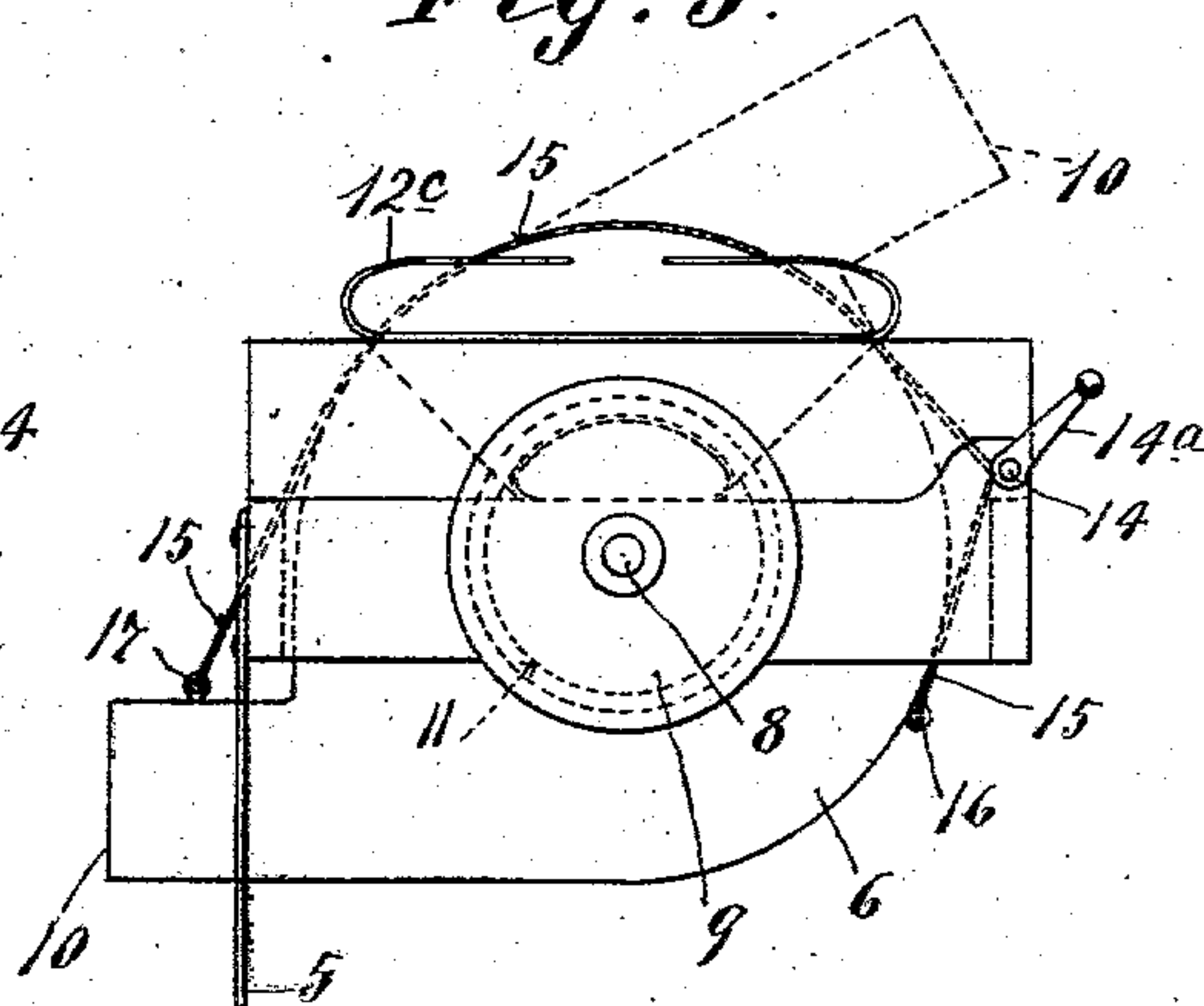


Fig. 5.



Witnesses

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# UNITED STATES PATENT OFFICE.

HANS L. MOEBECK, OF ULEN, MINNESOTA.

## GRAIN-LOADER FOR CARS.

SPECIFICATION forming part of Letters Patent No. 740,453, dated October 6, 1903.

Application filed February 5, 1903. Serial No. 142,067. (No model.)

*To all whom it may concern:*

Be it known that I, HANS L. MOEBECK, a citizen of the United States, residing at Ulen, in the county of Clay and State of Minnesota, have invented certain new and useful Improvements in Grain-Loaders for Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved grain-loader for cars; and to this end it consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 shows an ordinary box-car in end elevation, but with some parts broken away and having applied thereto in working position one of my improved grain-loading devices. Fig. 2 is a plan view of the improved grain-loading device removed from the car. Fig. 3 is a side elevation of the same. Fig. 4 is a transverse vertical section on the line  $x^4 x^4$  of Fig. 3. Fig. 5 is an end elevation of the grain-loader, and Fig. 6 is a transverse vertical section on the line  $x^6 x^6$  of Fig. 4.

The numeral 1 indicates the body of a car, and the numeral 2 indicates one of the grain-doors thereof.

The numeral 3 indicates a support for the grain-loader proper, the same, as shown, being in the form of a trussed frame. At its intermediate portion the frame 3 is provided with a gap formed between transverse bars 4, the side which is thus left open being rigidly tied together by a depending metallic yoke or U-shaped strap 5. A fan-case 6 is mounted within the gap formed between the bars 4 and above the lower portion of the yoke 5. Within the fan-case 6 is a fan-head 7, having the ordinary radial arms and blades. The fan-head 7 is rigidly secured to the fan-shaft 8, which is passed through the sides of the case 6 and is suitably journaled in the bars 4 and in the outer end of the frame 3, being provided at its outer end with means for transmitting motion thereto, as shown, afforded by

a sheave 9, rigidly secured to the said shaft. The fan-case is provided with a discharge opening or neck 10, which preferably extends tangentially therefrom, and in its outer face it is provided with an eye 11, which directly engages a disk-like support 12. At its other side the fan-case is shown as provided with a bushing 13, which works pivotally on a sleeve-like projection  $13^a$  of one of the shaft-bearings  $13^b$ , which shaft-bearings are suitably secured to the bars 4 of the main support. The disk-like head 12 is rigidly secured to the adjacent bar 4 and is provided with a perforation  $12^a$  and with a projecting annular flange  $12^b$ . The flange  $12^b$  holds the fan-case against lateral movements, but permits the same to move pivotally on the head 12 and on the sleeve  $13^a$ . In this way the shaft 8 is relieved of strains due to the weight of the fan-case. A supply-spout  $12^c$ , which is rigidly secured to the trussed support 3, projects into the fan-case through the opening  $12^a$  of the head 12.

A deflecting-disk  $7^a$ , which extends from the shaft 8 outward nearly or quite to the blades of the fan-head, is rigidly secured to the radial arms of the said fan-head, as best shown in Figs. 4 and 6. This deflecting-disk  $7^a$  stops the grain before it strikes the fan-blade and gives an even feed to the fan; also, by preventing the grain from directly striking against the opposite face of the fan-case it reduces friction, and thereby makes the fan easier running, and, furthermore, prevents rebounding of the grain.

The head 12 closes the eye of the fan except for a small opening through which the grain is delivered by the spout  $12^c$ , and thus makes it impossible for the grain to be thrown out of the fan-case except through the delivery-spout 10 thereof.

Suitably mounted in one side of the support 3 and extending longitudinally thereof is a windlass-shaft 14, provided with a crank  $14^a$ . The windlass-cord 15 is wrapped about the inner end of the windlass-shaft 14, with its ends extending in opposite directions, passed over the peripheral portions of the fan-case 6, and attached to said case at 16 and 17, as best shown in Fig. 5. By means of this windlass the fan-case may be moved pivot-



ally from the position indicated by full lines into the position indicated by dotted lines in Fig. 5, and, in fact, even farther downward into a horizontal position beyond that indicated by dotted lines in Fig. 5. When the device is in operative position, as indicated in Fig. 1, the support may rest loosely upon the tops of the grain-doors or may be anchored thereto or secured with freedom for adjustment by any suitable devices. (Not shown.) Usually the support 3 would be moved farther toward the left than shown in Fig. 1, so as to bring the fan-case nearer to the center of the car and the sheave 9 closer to the side of the car.

Motion may be imparted to the fan-shaft 8 through a power-driven belt 18, (preferably a round belt or rope,) which runs over the sheave 9 and may receive motion from any suitable driving mechanism. (Not illustrated.)

The grain to be loaded into the car may be delivered to the spout 12 in any suitable way—as, for instance, from an elevator-spout or distributing-tube. (Not shown.) The grain being thus delivered into the fan-case and the fan-head being put under high rotary motion in the direction indicated by the arrow marked on Fig. 4, it is evident that the grain will be discharged or thrown out through the neck 10 of the fan-case and into the car by the combined blowing action of the fan and by the direct impact or throwing action of the fan-blades thereon. The blowing action insures an equal distribution of dust or chaff throughout the grain loaded in the car, so that there will be no special deposit thereof in the immediate vicinity of the fan.

It is of course evident that when the fan-case is positioned as shown by full lines in Fig. 5 the grain will be thrown toward one end of the car, while with the fan-case turned as shown by dotted lines in Fig. 5, or farther onward toward a horizontal position, the grain will be discharged or thrown toward the other end of the car. It is evident from the foregoing that the fan-case may be thus reversed very quickly and with ease and, further, that this may be accomplished without

stopping the rotation of the fan-head or interrupting the discharging action thereof.

By taking hold of the ends of the bars of the support 3, which projects at the left-hand side of the car as viewed in Fig. 1, the fan-case may be moved pivotally or oscillated in a horizontal plane, so as to direct the discharge of the grain from one side to the other of the car. The flexible driving belt or connection 18 will of course permit this pivotal or oscillatory movement of the support 3.

It will of course be understood that the device described is capable of many modifications within the scope of my invention as herein set forth and claimed.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a grain-loader for cars, the combination with a support, of a fan-case pivoted thereon and provided with the lateral inlet and a tangential outlet passage, a fan-shaft provided with a fan-head working within said case, and a windlass comprising a shaft having a cord or connection wound on the periphery of said fan-case and attached thereto, substantially as described.

2. In a grain-loader for cars, the combination with a fan-case having a lateral inlet-passage and a tangential outlet, of a fan-head rotatively mounted within said case and provided with a deflecting-disk extending outward approximately to the fan-blades, substantially as described.

3. In a grain-loader for cars, the combination with a fan having its case mounted for pivotal movements and provided at one side with an eye or inlet-passage and having a tangential outlet-passage, of a non-rotary head working in the eye of said fan, and a spout delivering into said fan-case, through an opening in said non-rotary head, substantially as described.

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

HANS L. MOEBECK.

Witnesses:

P. C. HENNORK,  
J. W. MYLIN.