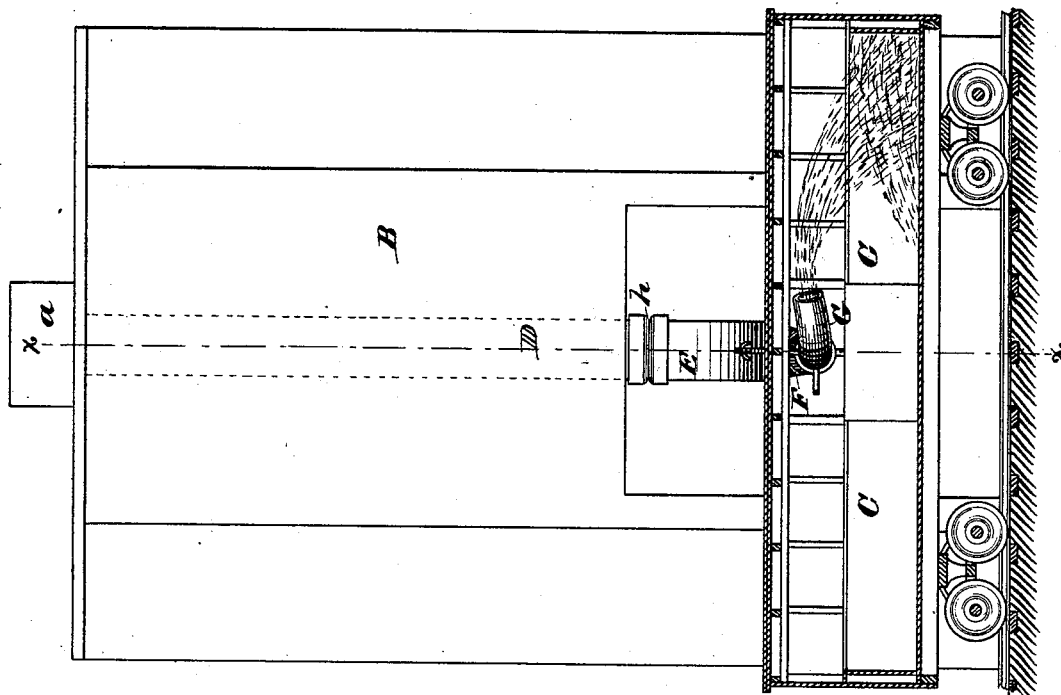
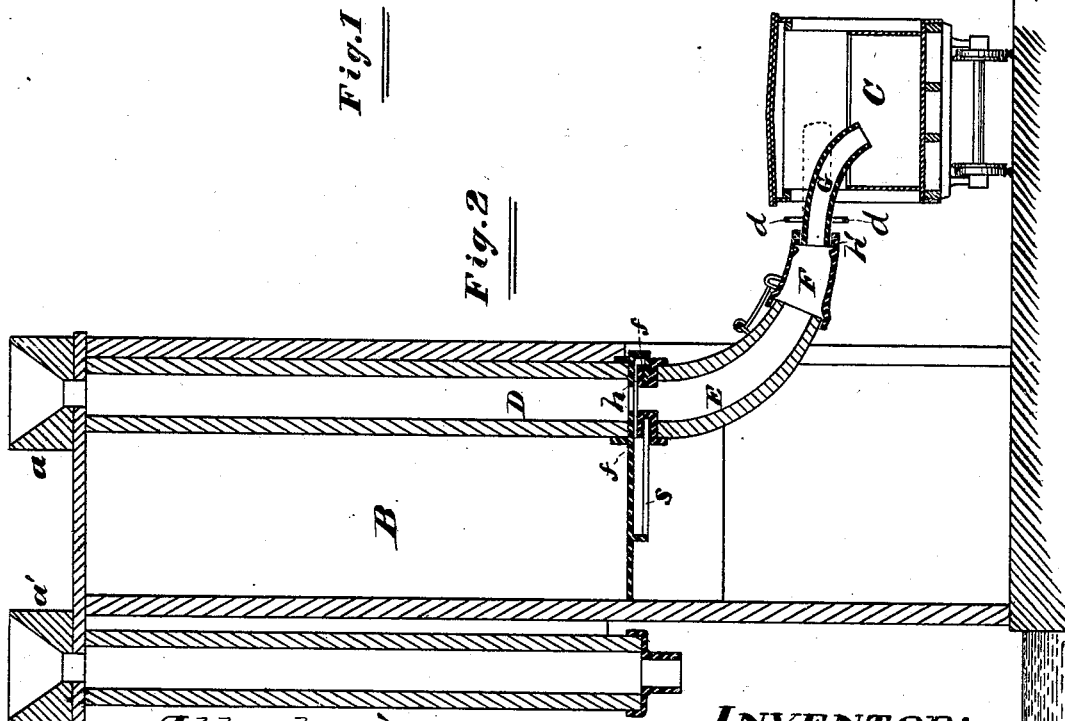


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Grain-Conducting Apparatus.  
No. 215,760. Patented May 27, 1879.



**Fig. 1**



**Fig. 2**

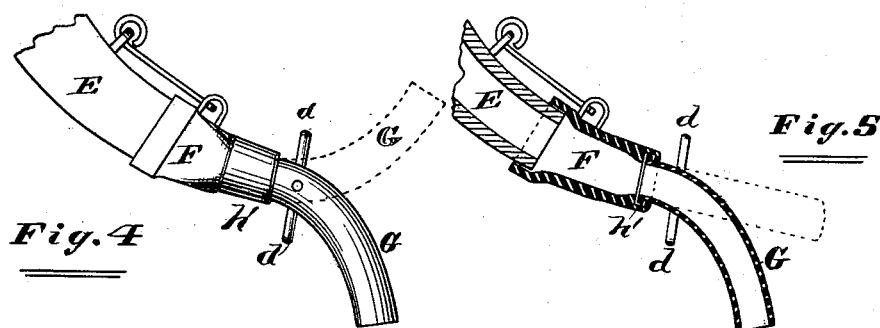
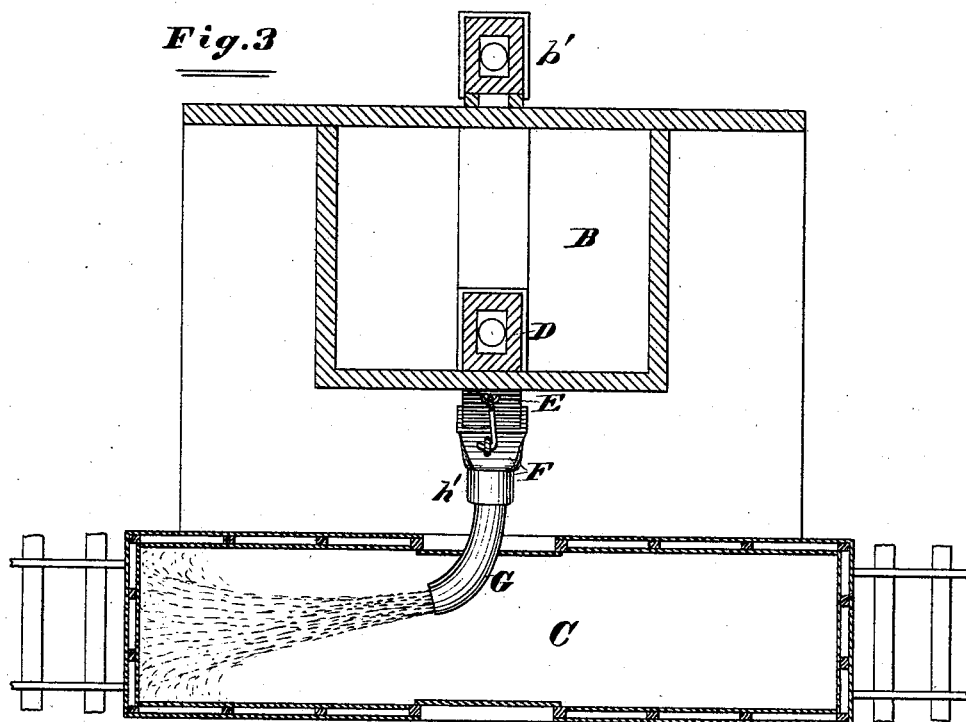
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*W. L. Barker*  
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INVENTOR:

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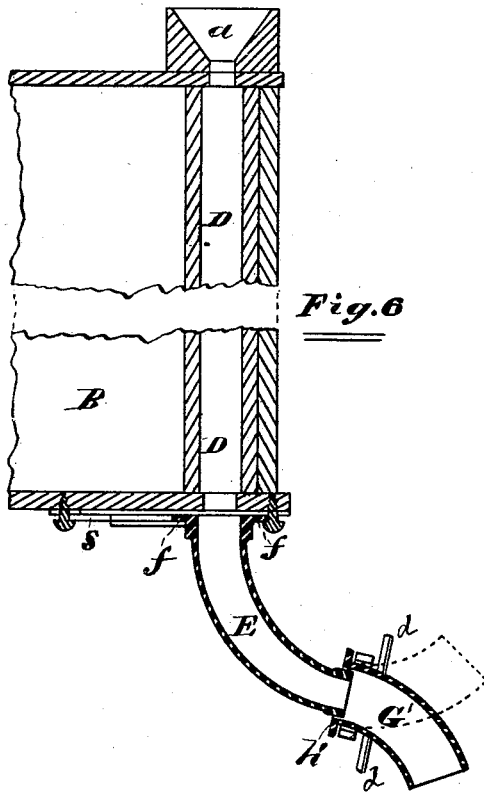
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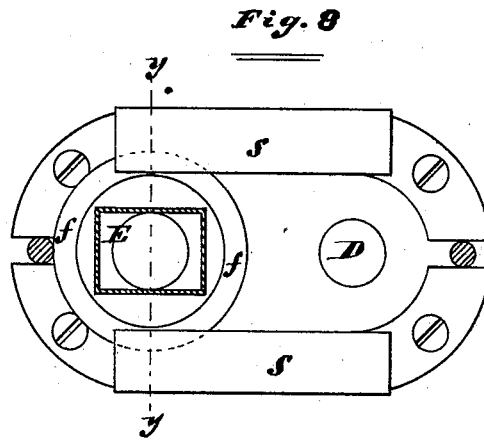
**Attest:**  
W. L. Baker.  
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John F. Lenox

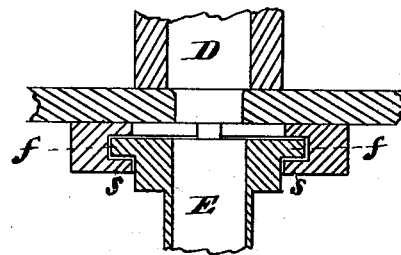
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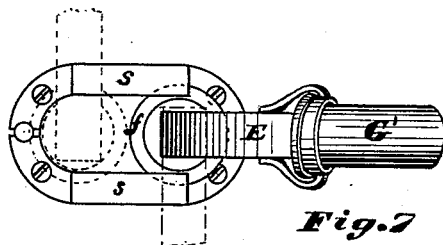
**Fig. 6**



**Fig. 8**



**Fig. 9**



**Fig. 7**

**Attest:**

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**INVENTOR:**

*John F. Lenox*

# UNITED STATES PATENT OFFICE.

JOHN F. LENOX, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN GRAIN-CONDUCTING APPARATUS.

Specification forming part of Letters Patent No. **215,760**, dated May 27, 1879; application filed November 21, 1878.

### *To all whom it may concern:*

Be it known that I, JOHN F. LENOX, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Grain-Conducting Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of devices used in conducting grain, seed, salt, and similar merchandise from elevated bins into cars, vessels, or other carriers.

In the accompanying three sheets of drawings, Figure 1 represents my device, E F G, in the operation of conducting grain, &c., from the bin B into and distributing it throughout the carrier C, which has its front removed, so as to exhibit the *modus operandi*. Fig. 2 is a vertical section through the line *x x*, Fig. 1. Fig. 3 is a horizontal section of Fig. 1, above the conductor E. Fig. 4 is an enlarged view of the parts G F and part of E, showing details of construction. Fig. 5 is a vertical section of same. Fig. 6 is a sectional view of part of bin B and my conducting device, illustrative of a modified construction of the parts E F G, Fig. 4. Fig. 7 is a bottom view of the parts E G', Fig. 6, and the slides *s s*, upon which they are moved bodily. Fig. 8 is an enlarged view of the parts *s s*, Figs. 6 and 7, showing details of construction. Fig. 9 is a sectional view, showing adjustment of the slides *s s* and conductor E to the bottom of the bin.

The main object of my invention is to utilize the momentum acquired by the falling of the grain, seed, &c., for the purpose of "trimming" the car, vessel, or other carrier. By the technicality "trimming" is meant the equal distribution of the weight throughout the entire carrier, or that part of it allotted to the particular article of freight in process of being loaded. The carrier being trimmed as the grain descends, it is evident that not only the time consumed in the ordinary process, but the labor of re-handling or shoveling for the

necessary purpose of trimming, are saved by my device. Or, as is ordinarily the case, the piling of the grain beneath the opening of the usual conductor requires that the grain be removed and distributed by shovellers as it falls into the carriers. Experience has proven that the exceedingly dense dust that arises from the descending grain, loaded as it is with the beard and fiber, is fatal to the health of the shovellers so employed within the confines of the carrier, and for the same reason exceedingly expensive to the employer.

My device enables one man, standing outside of the carrier and manipulating the distributor G or G', to accomplish the work of these several shovellers, saving thereby health, labor, and time.

To avoid the liability of grain descending through my conductor to clog, I use gently-curved elbows of ample diameter, and in no case of less diameter than the main conductor. I have determined by experiment that in no case a decreasing, but rather an increasing, outward of the diameter of the conductor (see Fig. 6) was essential to secure the greatest possible throw of the grain from the mouth of the conductor, thus securing the widest possible distribution with any given elevation of the bin.

In spouting or throwing liquids, a contraction of the discharging-orifice produces the best results in distance of the throw; but in grain the reverse is true, as an expanding orifice will produce the best result in that respect.

In Fig. 1 the grain in the elevator B is conducted to the hopper *a*. As the grain descends it acquires momentum contingent upon the height of the hopper *a*. No unusual elevation is required to enable me, as shown in Fig. 1, to throw the grain to the farthestmost and uppermost confines of the usual freight-car. The grain, being impelled by this momentum, is distributed at will by the manipulator, outside of the car or ship, turning the conductor E F G or E F G' bodily upon the swivel-joint *h*, and the distributor G or G' upon the joint *h'*. The handles *d d* on the distributor G or G' afford ample leverage for one man to easily manipulate the distributor.

In my construction, as shown in Figs. 2, &c., I use the slides *s s*, upon which the flange *f*,

Figs. 6 and 8 rests and supports the parts of the conductor below. By simply sliding the parts thus supported to or fro I can run the opening of the distributor into the door of the car or carrier or withdraw it with the greatest possible dispatch.

By it also I am enabled to dispense with the detachable part F, Figs. 2 and 4, and combine the three parts E F G into the modified construction E G'. By having the flange *f* duly constructed, I can also dispense with the joint *h*, and have the part E turn upon the flange *f*, resting on the slides *s s*, thus supplanting the use of the joint *h*.

It is evident that by the use of the curves E and G, with the swivel-joints *h* and *h'*, I can secure a universal direction of the throw of the grain from the distributor, and especially secure the upward throw or toss, so desirable in trimming.

By having the distributor revolve on a horizontal axis, I can change the throw of the grain from one end to the other of the car without stopping its flow, while the door opposite to the one through which the car is being loaded is open, thus affording ample light and escape of the dust; also, by the same device I can throw the grain directly down, thus loading the center of the car evenly with the ends.

I am aware that swivel-joints and gently-curved elbows are not new, singly or in many combinations; but

What I claim as new, and for which I desire Letters Patent, is—

1. In a grain-conveyer, the combination of the curved or horizontally discharging tube E with the curved and enlarged discharging-section G', adapted to be rotated to throw the grain in any desired direction in the same vertical plane, substantially as specified.

2. In a grain-conveyer, the combination of the swinging or shifting curved horizontal discharging-pipe E with the rotatory discharging curved pipe, whereby the grain may be discharged in a varying horizontal and vertical plane, substantially as specified.

3. The pipe or conductor E, provided with the flange *f* and the joint G, in combination with the slides *s s*, substantially as and for the purpose set forth.

4. The conductor D, connected with the pipe E by the joint *h*, in combination with the detachable section F, connected with the elbow G by the joint *h'*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN F. LENOX.

Witnesses:

JOHN P. LENOX,  
JOHN CHIVILL.