

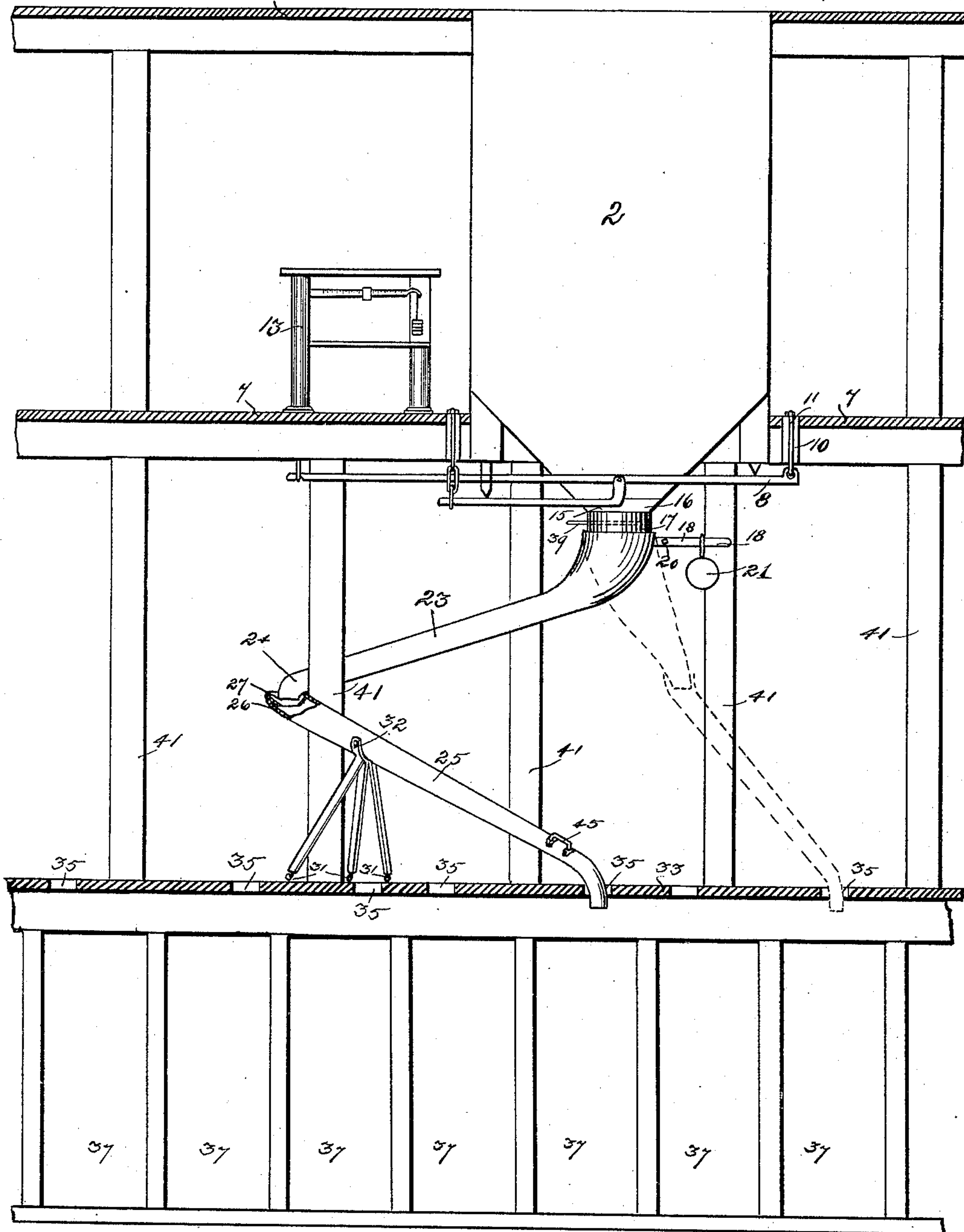
(No Model.)

2 Sheets—Sheet 1.

J. SIMPSON.  
GRAIN SPOUT.

No. 445,645. 5

Patented Feb. 3, 1891.



Witnesses.  
C. E. Van Dorn,  
A. Hawley

Fig. 1.

Inventor.

John Simpson

By Paul M. Munn, Att'y.

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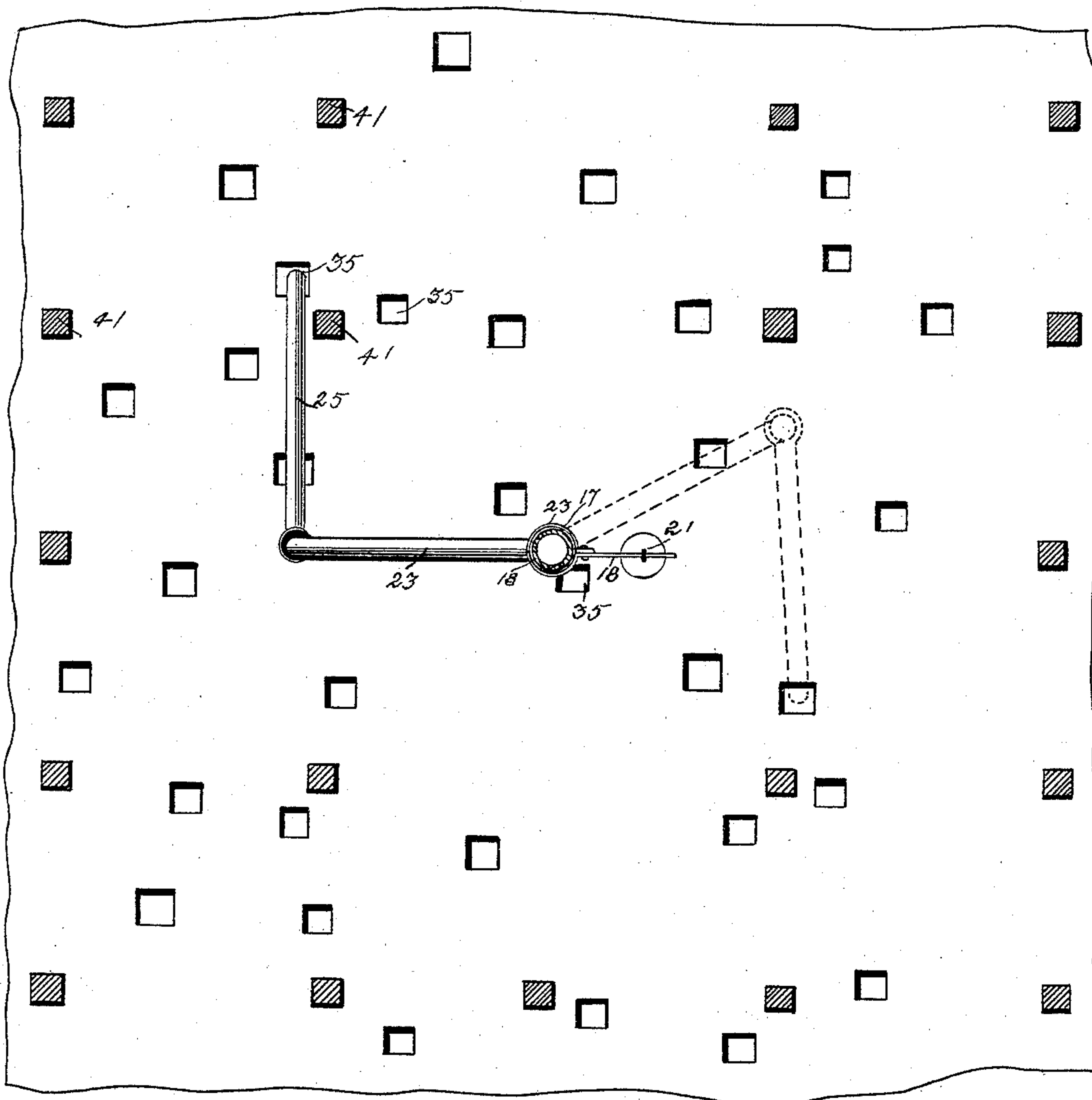


Fig. 2.

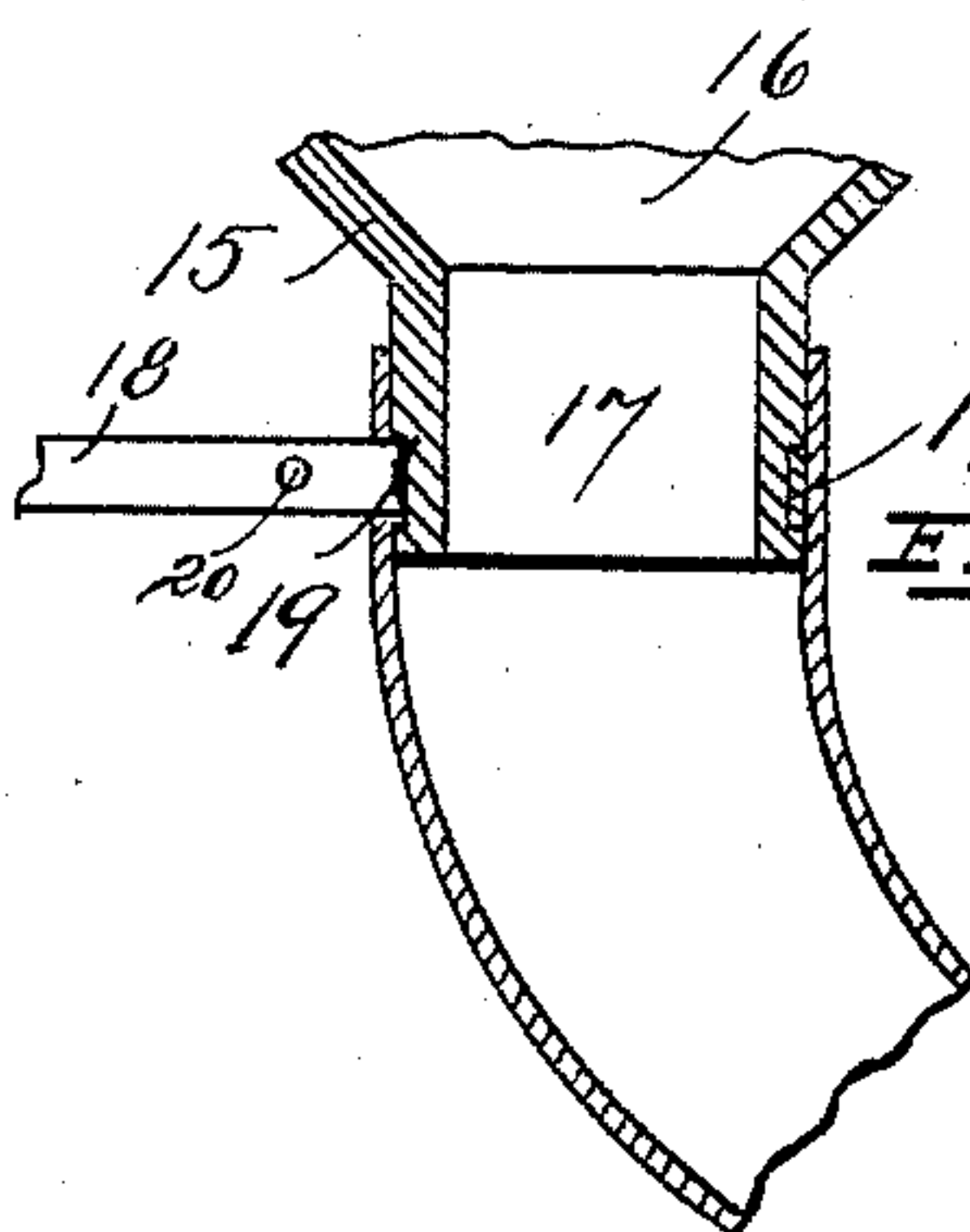


Fig. 3.

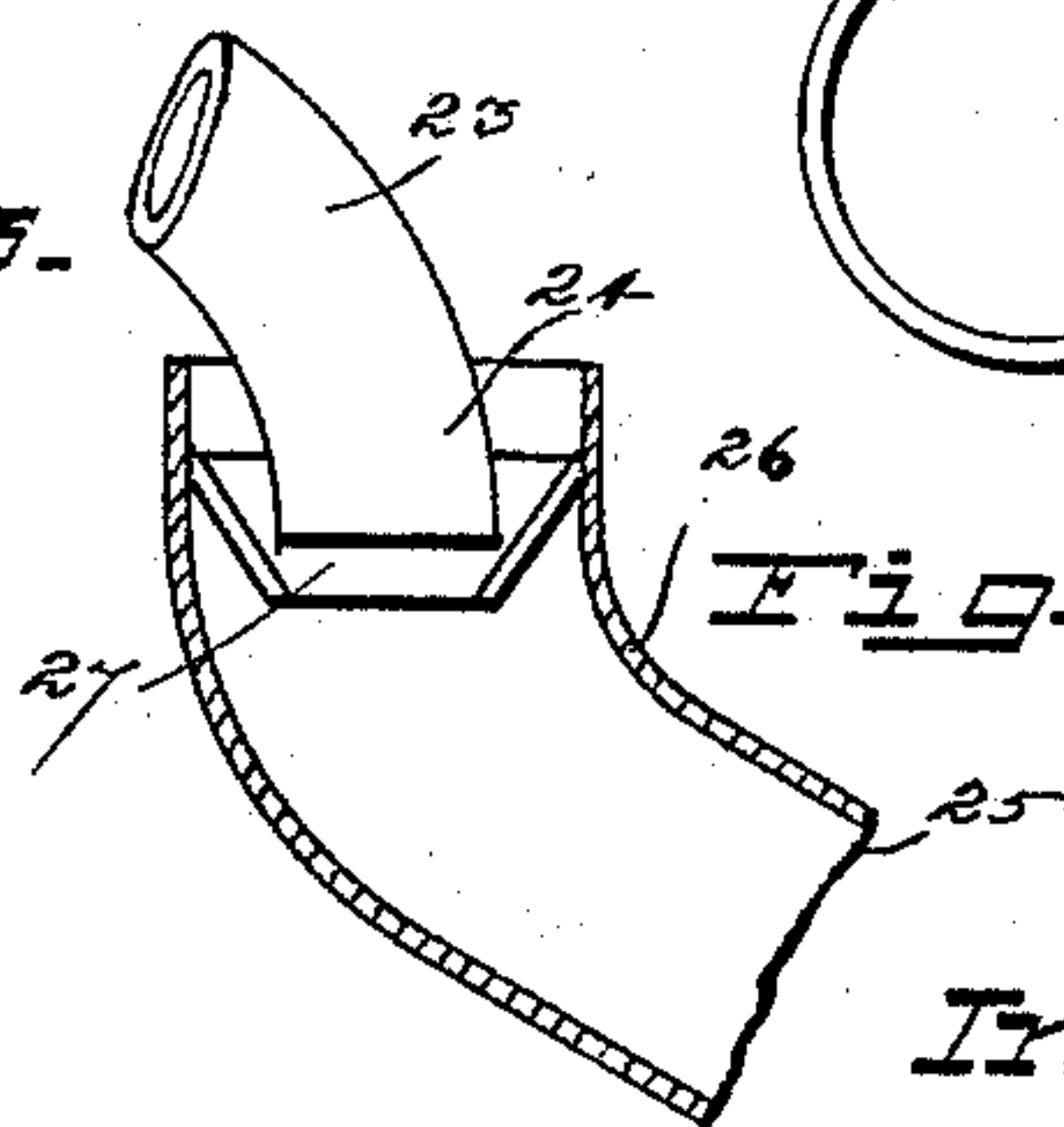


Fig. 4.

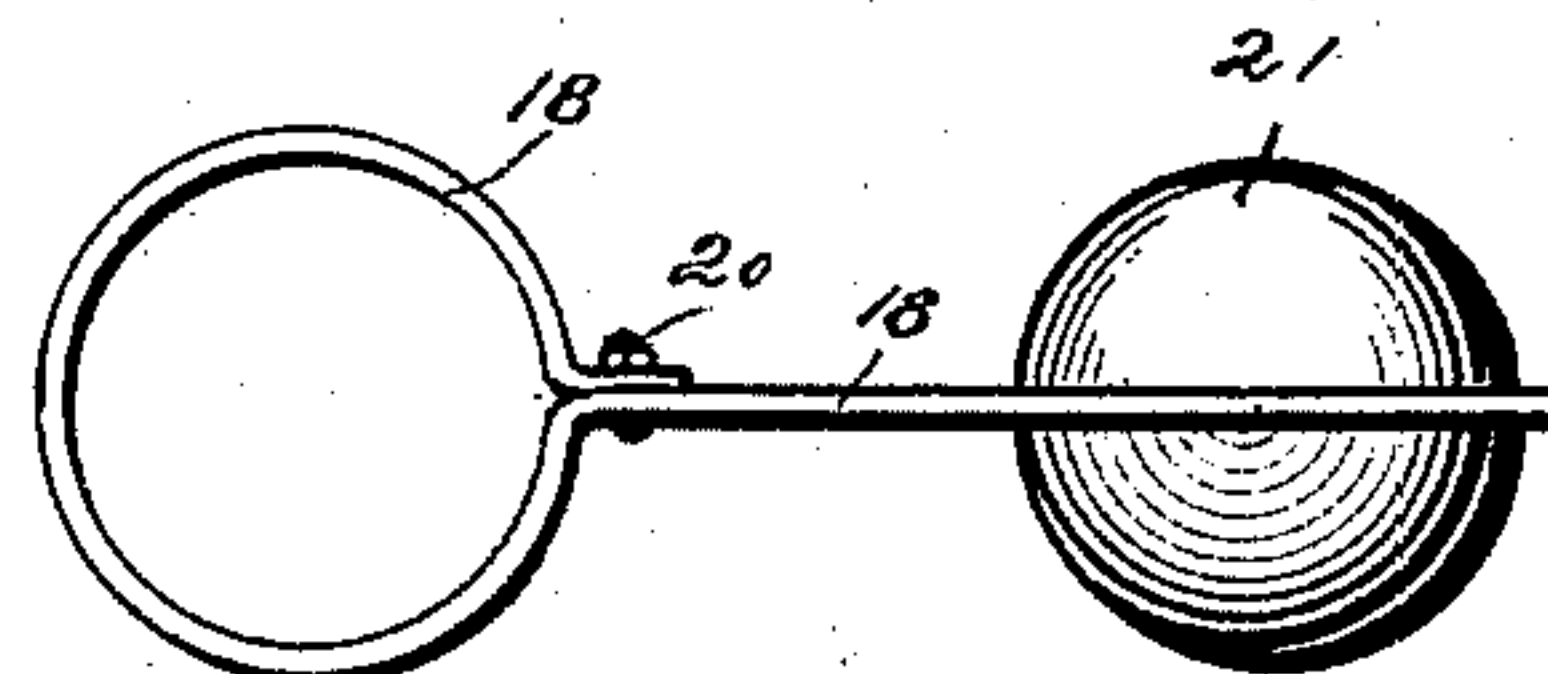


Fig. 5.

WITNESSES  
C. E. Van Dorn.  
O. Hawley.

Inventor.  
John Simpson  
By Paul Monahan Att'y



# UNITED STATES PATENT OFFICE.

JOHN SIMPSON, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF TO  
DIGHTON A. ROBINSON, OF SAME PLACE.

## GRAIN-SPOUT.

SPECIFICATION forming part of Letters Patent No. 445,645, dated February 3, 1891.

Application filed February 15, 1890. Serial No. 340,655. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN SIMPSON, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain Improvements in Grain-Spouts, of which the following is a specification.

My invention relates to means for spouting or removing by gravity grain from one receptacle to another, and is particularly adaptable and useful in elevators for spouting grain from the scale-hopper to the various bins in the elevator; and the invention consists, generally, in two spouts or chutes, preferably made of metal, the upper one pivotally supported upon the bottom of the scale-hopper and adapted to be rotated about said hopper, and the lower one supported upon a suitable frame provided with rollers, so that it may be easily moved about the floor. The lower end of the upper spout is adapted to fit into the upper end of the lower spout, which may be rotated about said upper spout, thereby making a continuous conductor to any part of the floor within a circle described by the combined lengths of the two spouts. For convenience in weighing grain the upper spout is provided with a counterbalancing-weight to raise the upper from the lower spout, except when the grain is passing through it, all of which is hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a vertical section of a portion of an elevator provided with my improvements. Fig. 2 is a sectional view on line *xx* of Fig. 1. Fig. 3 is a detail showing the manner of connecting the upper spout to the hopper. Fig. 4 is a detail showing manner of constructing the parts of the two spouts where they come together. Fig. 5 is a detail plan view of the counterbalancing-weight and ring.

In the drawings, 2 represents a scale-hopper extending from the garner-floor 5 to the scale-floor 7 and supported upon suitable weighing-levers 8 and 9, supported by the bolts 10 upon the floor-timbers 11 and connected with the scales 13. Upon the bottom of the hopper is secured a suitable casting 15, having preferably the upper part 16 con-

structed flaring to fit onto the bottom of the hopper, and the lower part 17 cylindrical and provided with the annular groove 19. A bar of iron 18 is preferably provided bent in the form of a ring, so as to fit into the groove 19, and secured in place by means of the bolt 20, one end projecting out far enough to receive the weight 21. To the bar 18 is securely riveted the upper spout 23, so that when the band 18 is in place in the groove 19 it supports the spout 23. A lower spout 25 is provided, the upper end 26 of which is preferably made flaring or enlarged to receive the end 24 of the spout 23.

Arranged to fit in the enlarged end 26 of the spout 25 is a seat 27, preferably secured to the inclosing spout, the lower end being contracted so that its diameter is less than the diameter of the end 24 of the spout 23, thereby forming a seat for the spout 23 when in use. The spout 25 is preferably pivotally mounted upon a suitable track or frame 30, supported upon rollers 31, by means of the pivot 32, to facilitate its being moved from one place to another on the floor 33, which is provided with openings 35, leading into the bins 37 for the reception of the grain.

On the projecting end of the bar 18 is adjustably secured the weight 21, so as to counterbalance the weight of the spout 23, lifting the end 24 from contact with its seat 27 in the spout 25, so that it normally hangs suspended from the scale-hopper 2, the scales being adjusted to balance the weight of the hopper and the suspended spout.

A slide 39 is arranged in the casting 15 for opening and closing the outlet from the hopper into the spouts.

In operating the device, the grain being elevated into hopper 2 and weighed by the scales 13, the slide 39 is withdrawn, when the grain rushes into spout 23, its gravity overcoming the weight 21, thereby pressing the end 24 of the spout 23 firmly against the seat 27 in the enlarged end of the spout 25, the other end of the spout 25 being inserted in the opening 35, leading into the bin 37, into which it is desired to conduct the grain. When the grain is all out of the hopper 2, the spout 23 is automatically raised from contact with its seat 27 by means of the weight 21, but not out



of the spout 25. The spout 23 is adapted to be rotated about the bottom of the hopper 2 upon the bar 18, secured in the annular groove 19. The area traversed by the spout 23 when rotated should be free from posts or supporting-timbers 41; but outside this circle supporting-timbers may be placed when desired, as the construction and arrangement of the two spouts permit their being used in openings which may be directly behind the posts 41, as shown in Fig. 2. The dotted lines in both Figs. 1 and 2 show different positions into which the spouts may be swung. The end 24 of the spout 23 being rotated upon the inner casting in the spout 25, the dust from the grain is prevented from escaping from the spouts into the room, thereby avoiding a common nuisance and great annoyance.

A suitable handle 45 is secured to the spout 25, to take hold of in moving the spout from place to place.

I claim as my invention—

1. A grain-conductor comprising, in combination, an upper spout rotatively secured to a suitable support, an independent lower spout adapted to receive the loose end of the upper spout in any position in which it may be and capable of being rotated about said upper spout as a center, and an independent support mounted upon suitable rolls and supporting said lower spout, substantially as described.

2. The combination, with a scale-hopper, of a counterbalanced rotative spout 23, secured thereto.

3. The combination, with a scale-hopper for weighing grain, of a grain-conductor comprising two spouts, one secured to and adapted to rotate about said scale-hopper, the other adapted to receive the loose end of said first spout and to be rotated about it, and a counterbalancing-weight adapted to hold said first

spout out of contact with said second spout when in its normal position, for the purpose specified.

4. The combination, with the scale-hopper, of a counterbalanced rotative spout 23, secured thereto, the independent movable spout 25, adapted to receive the loose end of the spout 23 in any position in which it may be, and a supporting-frame 30, provided with suitable rollers 32, substantially as described.

5. The combination, with the hopper 2, of the casting 15, secured thereto, provided with the annular groove 19, bar 18, secured in said groove and provided with weight 21, and the spout 23, secured to said bar, for the purpose specified.

6. The combination, with the spout 23, of the independent movable spout 25, having its upper end enlarged and adapted to receive the spout 23 in any position, the seat 27, secured to the said spout 25, the lower end of said seat being of less diameter than the end of the spout 23, for the purpose specified.

7. The combination, with a scale-hopper, of the casting 15, secured thereto, provided with the annular groove 19, bar 18, carrying weight 21, counterbalanced suspended spout 23, secured to said bar and adapted to rotate in said annular groove, and the spout 25, adapted to receive the loose end of the spout 23, substantially as described, and for the purpose specified.

8. The combination, with the hopper 2, of the casting 15, having groove 19, bar 18, weight 21, spouts 23 and 25, and seat 27, substantially as described, and for the purpose specified.

In testimony whereof I have hereunto set my hand this 3d day of February, 1890.

JOHN SIMPSON.

In presence of—

S. W. ROBERTS,  
A. M. GASKILL.