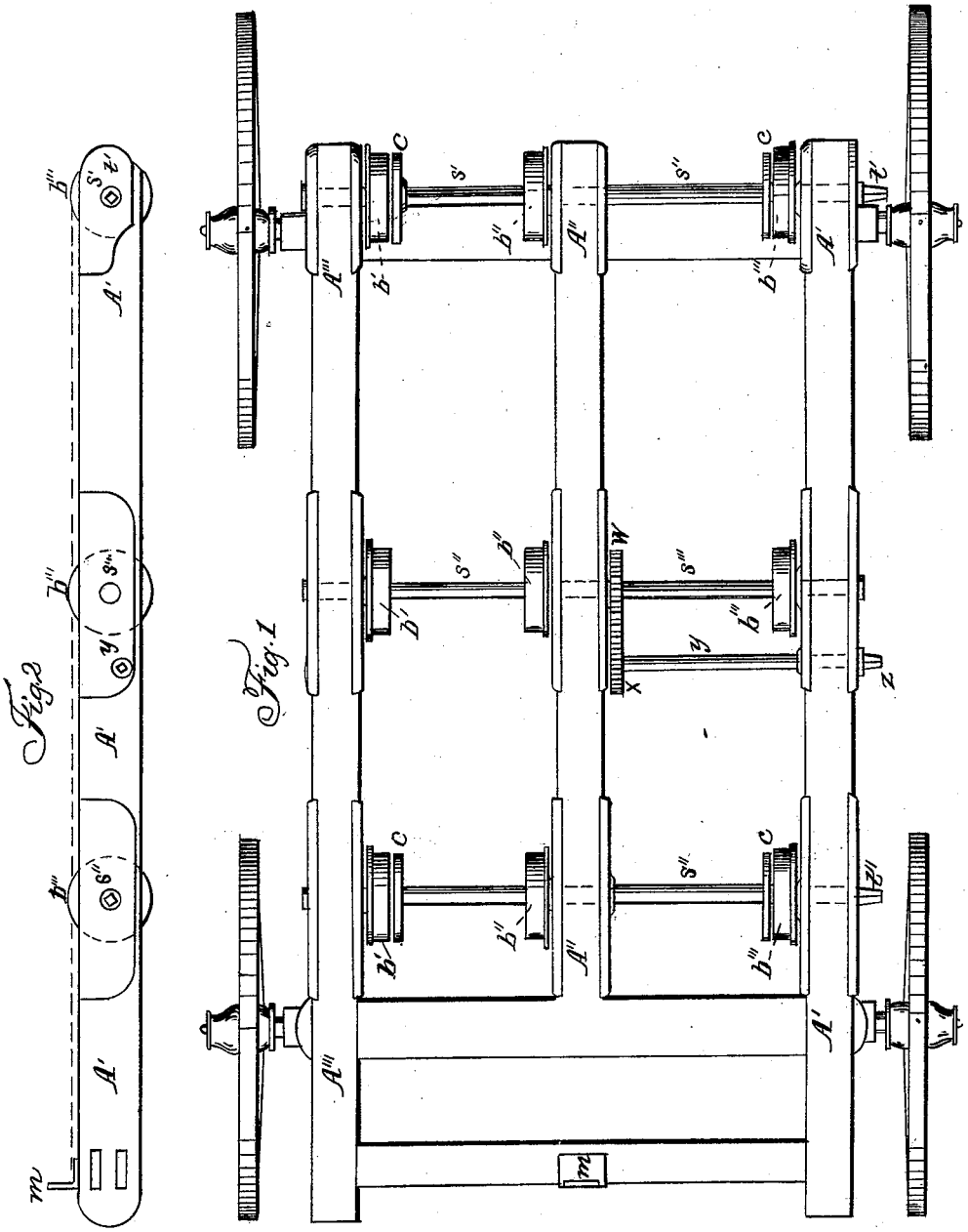
3 Sheets—Sheet 1.

J. MILLS.

Dumping-Wagon.

No. 5,900. Patented Oct 31, 1848.



Inventor.
John Mills

3 Sheets—Sheet 2.

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Fig 4

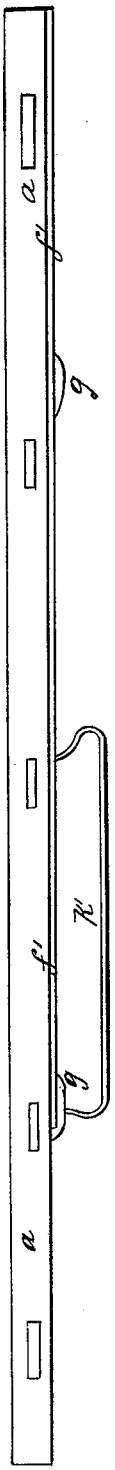
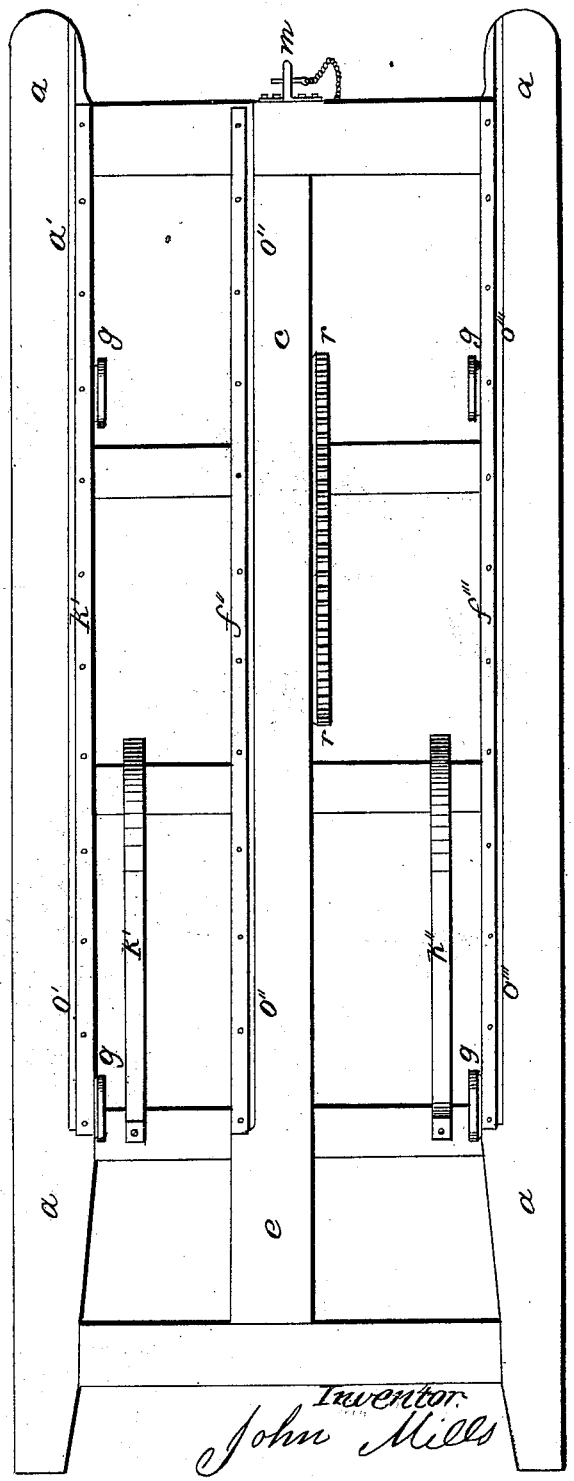


Fig 3



Inventor.
John Mills

3 Sheets—Sheet 3.

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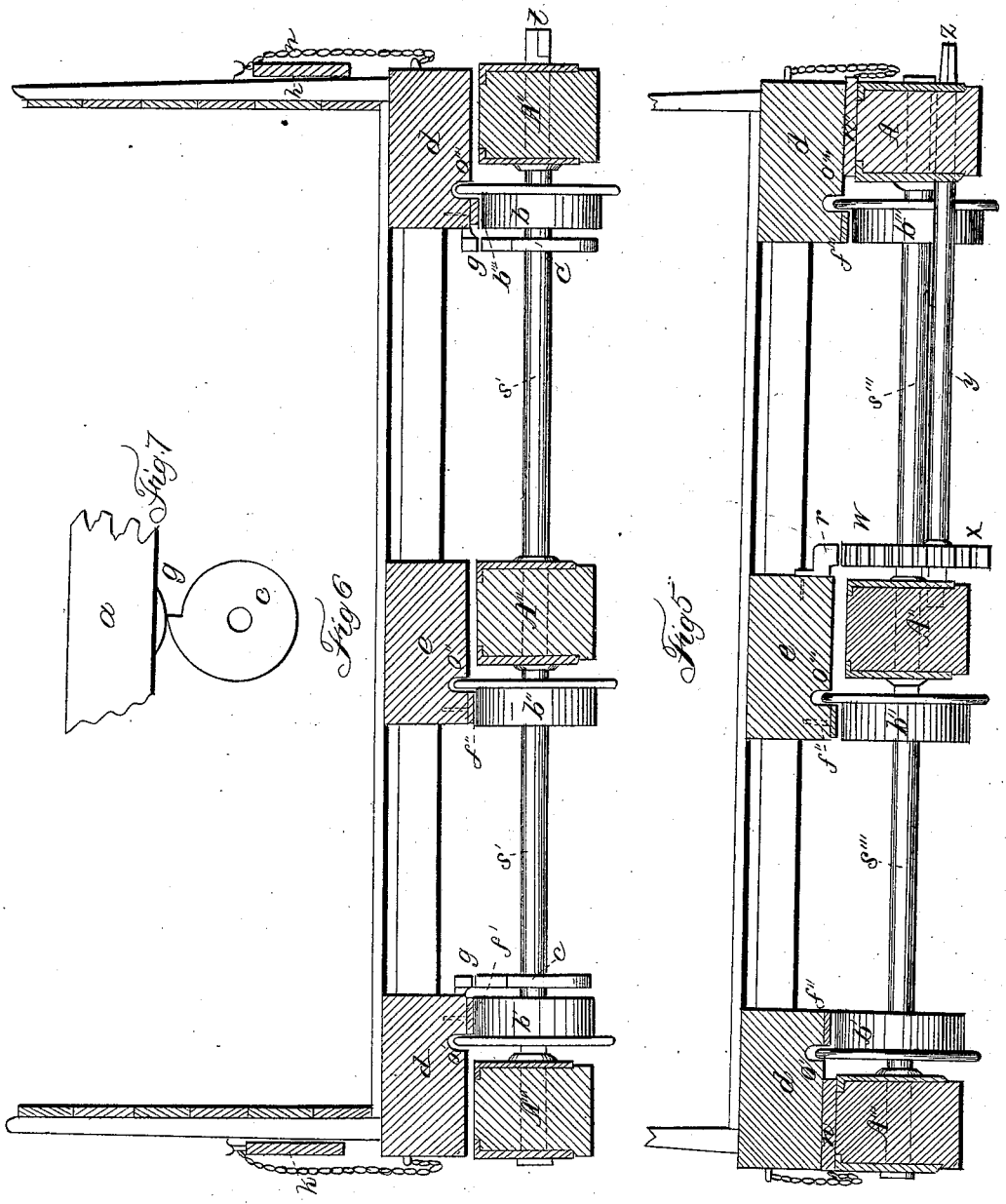

Inventor
John Mills.

UNITED STATES PATENT OFFICE.

JOHN MILLS, OF PITT TOWNSHIP, ALLEGHENY COUNTY, PENNSYLVANIA.

WAGON.

Specification of Letters Patent No. 5,900, dated October 31, 1848.

To all whom it may concern:

Be it known that I, JOHN MILLS, of Pitt township, in the county of Allegheny and Commonwealth of Pennsylvania, have invented a new and useful Improvement in the Construction of Brick-Wagons and other Carts and Wagons for the Carriage of Heavy Substances; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical plan of the running gears of the wagon, exhibiting so much thereof as is necessary to show the application of my improvement thereto. Fig. 2 is a side view of the same. Fig. 3 represents the under side of a wagon body, and Fig. 4 is a side view thereof. Fig. 5 is a transverse section of the running gears and wagon body, near the center. Fig. 6 is a transverse section of the running gears and body of a wagon at one end, and Fig. 7 is a side view of one of the combs used to elevate the body of the wagon as hereinafter described.

The corresponding parts of the wagon are marked with the same letters in the different figures.

To enable others skilled in the art of making wagons to make and use my invention I will proceed to describe the several parts and their construction, application and operation.

In Figs. 1, 2, 5, and 6 A′, A″, A‴, &c., represent the frame of the running gears on which the wagon body is usually placed; *b′ b″ b‴*, &c., represent nine small iron wheels similar in shape to railroad-car wheels with flanges on one edge. These wheels turn freely on the iron ends *s′ s″ s‴* which pass through the frame work A′ A″ &c., parallel to the axles of the wagon. There are 3 rods, one *s′* at the extreme end of the frame A′ A″, &c., another *s″* immediately back of the front axle, and a third *s‴* between the other two. Each rod carries three wheels. The rods *s′* and *s″* near each two cams *c*, *c*, (shaped as represented in Fig. 7) secured to them, parallel with the small wheels, and near the four corners of the wagon. Each cam works against a piece of iron on the wagon body marked *g*, Figs. 3 and 6. The middle rod *s‴* has no cam and carries at its center a cogwheel *w* which gears into the rackwork *r*, on the wagon body (see Figs. 3 and 5) a pinion *x* on the rod *y* works the cogwheel by means of a wrench at *z*. Three flat strips of iron *f′ f″ f‴*, (Figs. 3, 5, and 6) are fixed longitudinally to the bottom of the wagon body to correspond with and rest on the wheels when the wagon body is lowered as hereinafter described. A groove cut in the frame of the wagon body beside each rail, see *o′ o″ o‴* (Figs. 3, 5, and 6) receives the flanges of the wheels. Two strips of wood about ⅞ inch thick as long as the wagon body and suitably wide are attached to the sides of the wagon body (see *k′ k″* Figs. 5 and 6). Two iron bands *k′ k″* fastened at each extremity, to the wagon body pass around the rear rod *s′* thus connecting the wagon body with the running gears. They are long enough to allow the wagon body to be rolled back far enough to tilt. The foremost end of each band is about in the center of the wagon body, rests on the rear rod *s′* and forms its turning point in tilting. The 'snail curve' is used for the cams (see Fig. 7) so that when the body is raised by them a slight movement will suddenly drop it again.

Having described the separate parts of my improvement I will proceed to explain their combined operation.

Fig. 5 is a transverse section of the body and running gears of the wagon as it appears when in use. The entire weight of the body is sustained by the frame A′ A″, &c.. on the bearing points presented by the strips *h′ h″*, which are inserted on each side between the body and running gears. The railway irons *f′ f″ f‴* do not rest on the wheels (which prevents their being worn by attrition), the cog wheel *w* is not in gear with the rack *r*, but the flanges of the small wheels are sufficiently far in their grooves to keep the loaded body steadily in its place. The cams (not seen in Fig. 5) at the far corners are turned back so as not to touch their bearing points.

In order to tilt the wagon body the cams are turned by a wrench at *t′ t″* (Figs. 1 and 6) this raises the bed of the wagon very slightly off the strips *h′ h″*, the 4 cams thus supporting the whole weight of the loaded body. The strips are now drawn out from each side and hung up to the sides of the wagon (see Fig. 6). The strips being thus out of the way the cams

are turned a little farther and the bed falls down to the position shown in Fig. 6. The railway irons *f' f'' f'''* rest on their respective wheels *b''' b''' b'''*, &c., the cams *e* having their lowest point upward, do not touch their bearing points *g*, and the cogwheel *w* is in gear with the rack *r*. (The cogwheel and rack could not be shown in Fig. 6). The flanges of the wheels have sunk to their whole depth in their respective grooves *o' o'' o'''*. Thus the only points of contact between the body and running gears, are the surfaces of the railway and the wheels which now bear the whole weight of the loaded body. The cogwheel also touches the rack into which it gears without sustaining any part of the weight. The rod *y* Figs. 1 and 5 being now turned by the wrench moves the body of the wagon longitudinally backward until the bands *k' k''* rest on the rod *s'* forming the turning point on which the wagon body turns in tilting over. When unloaded the body is easily raised and rolled back to its former position in which it is secured by the ordinary catch in the front of the wagon (see in Figs. 1, 2, and 3).

The wagon body when thus restored to its place is raised by the cams, the strips *h' h''* are again inserted and the cams being then dropped as before the wagon body again rests on the strips as represented in Fig. 5.

What I claim as my invention and desire to secure by Letters Patent is—

The use of the strips *h' h''* to support the body of the wagon off the wheels in combination with the cams to elevate and lower the wagon body off the wheels and running gears substaintially in the manner hereinbefore described.

JOHN MILLS.

In presence of—
WM. BAKEWELLS,
WM. WILLSON.