

G. FINK.
CARRIER.

APPLICATION FILED DEC. 7, 1907.

901,234.

Patented Oct. 13, 1908.

2 SHEETS—SHEET 1.

Fig. 2.

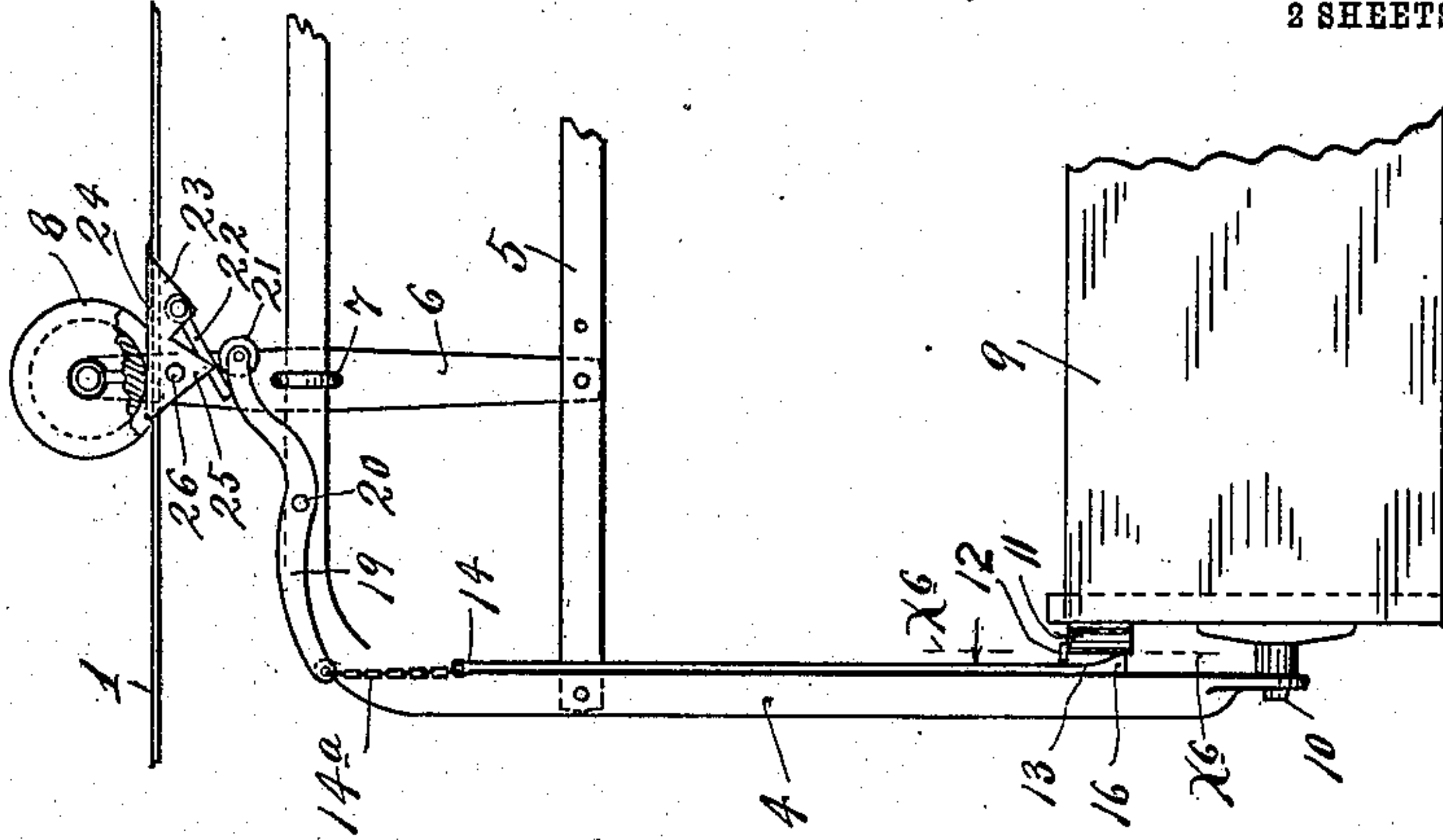


Fig. 1.

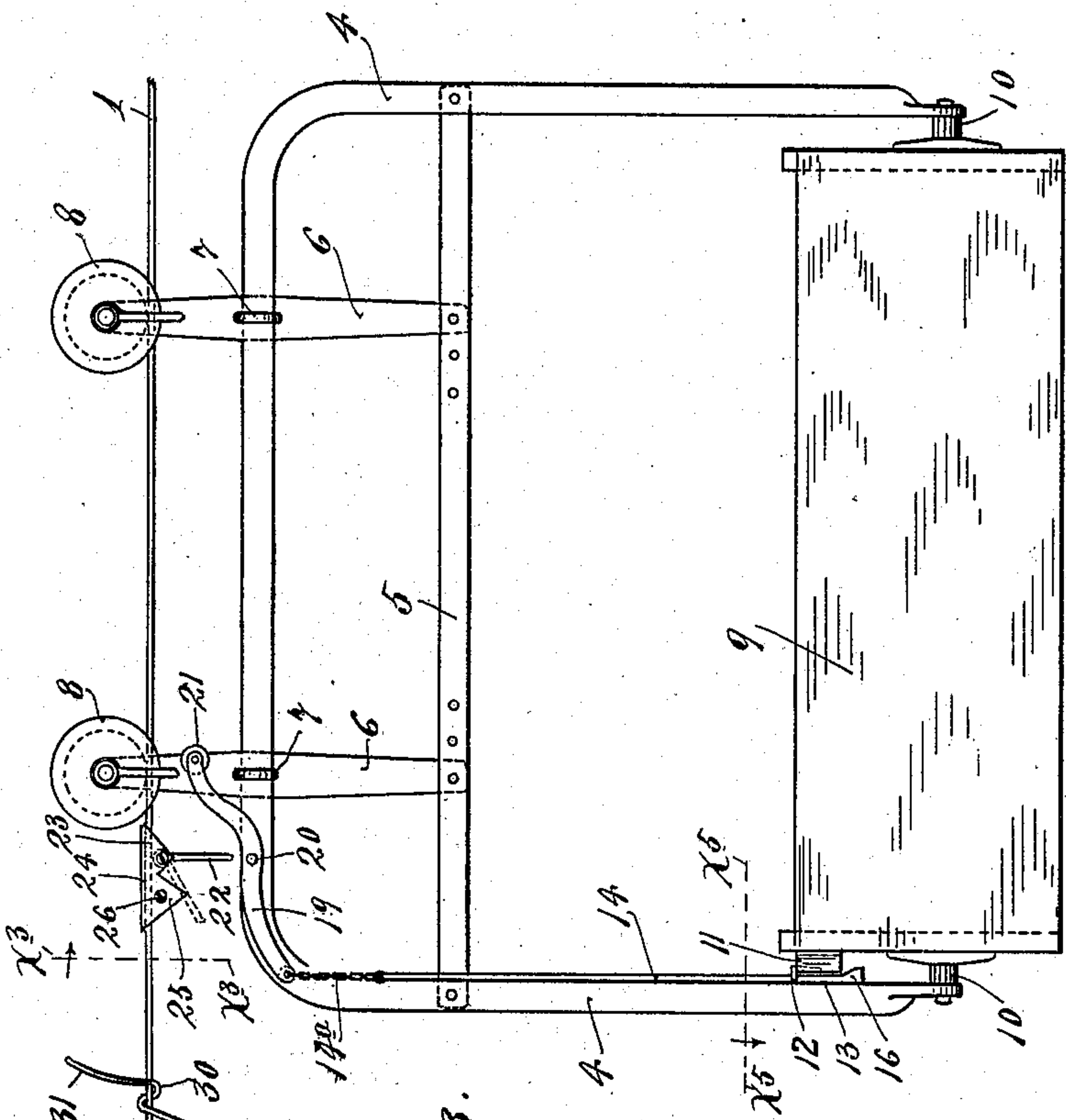
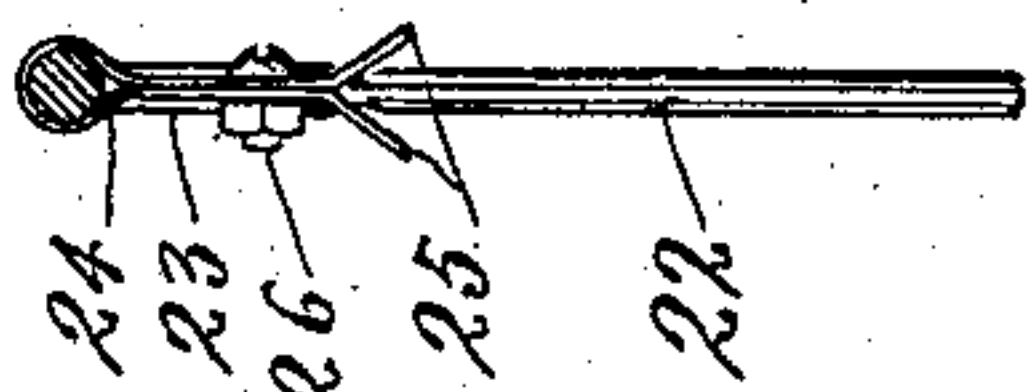


Fig. 3.



Witnesses
A. H. Opsahl.
L. L. Simpson.

Inventor.
George Fink
By his Attorneys
William M. Merchant

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2 SHEETS—SHEET 2.

Fig. 4

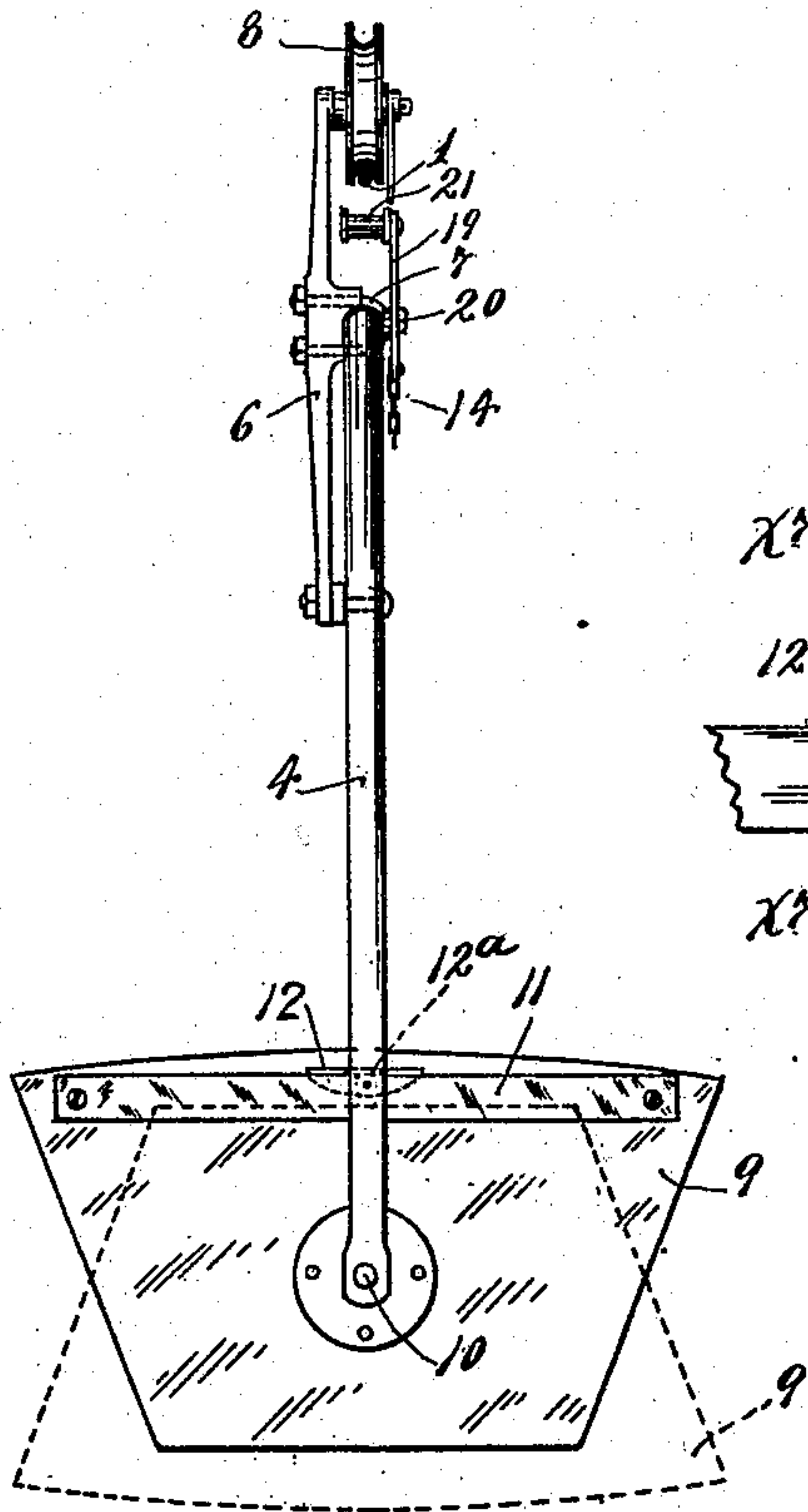


Fig. 6

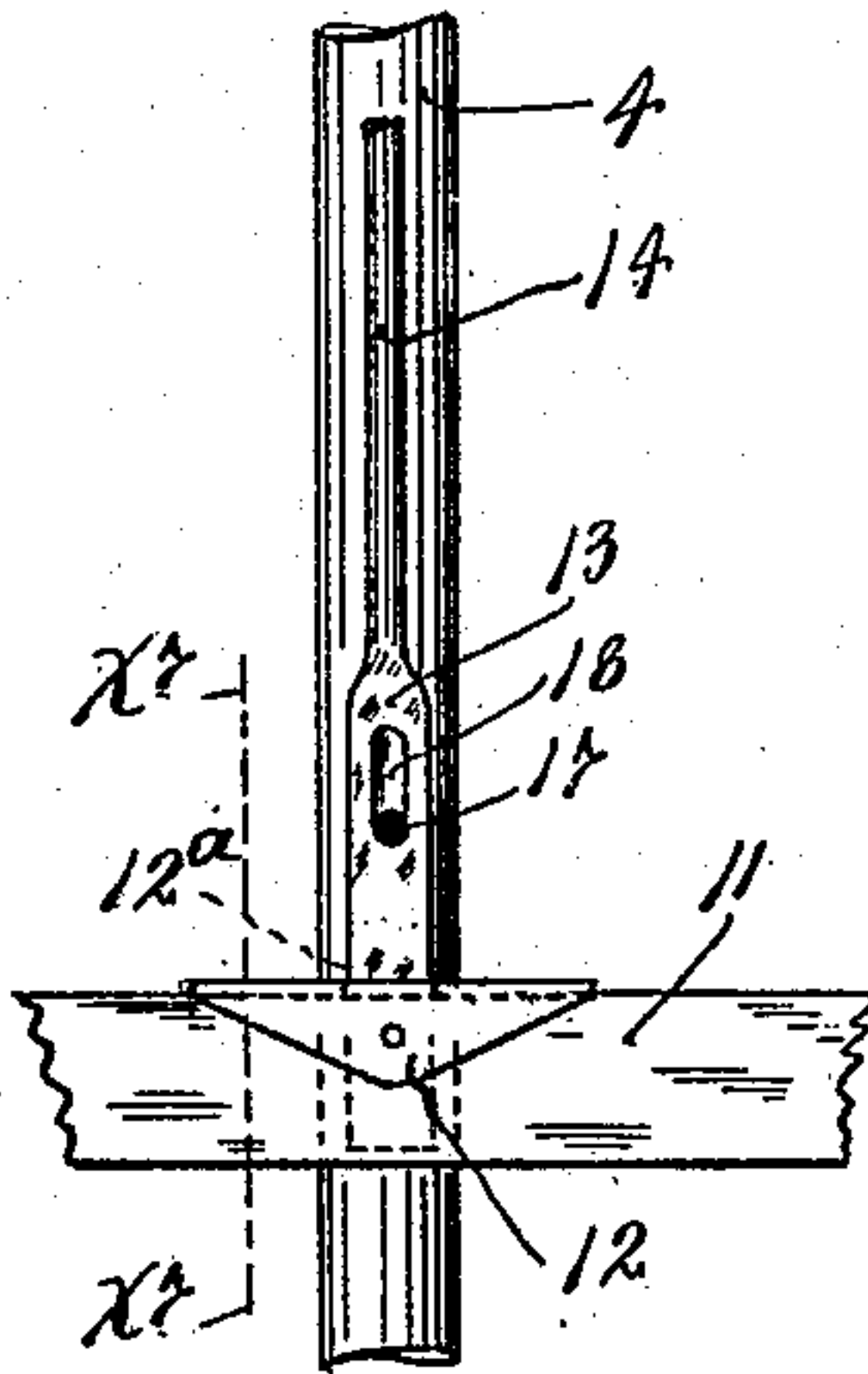


Fig. 7

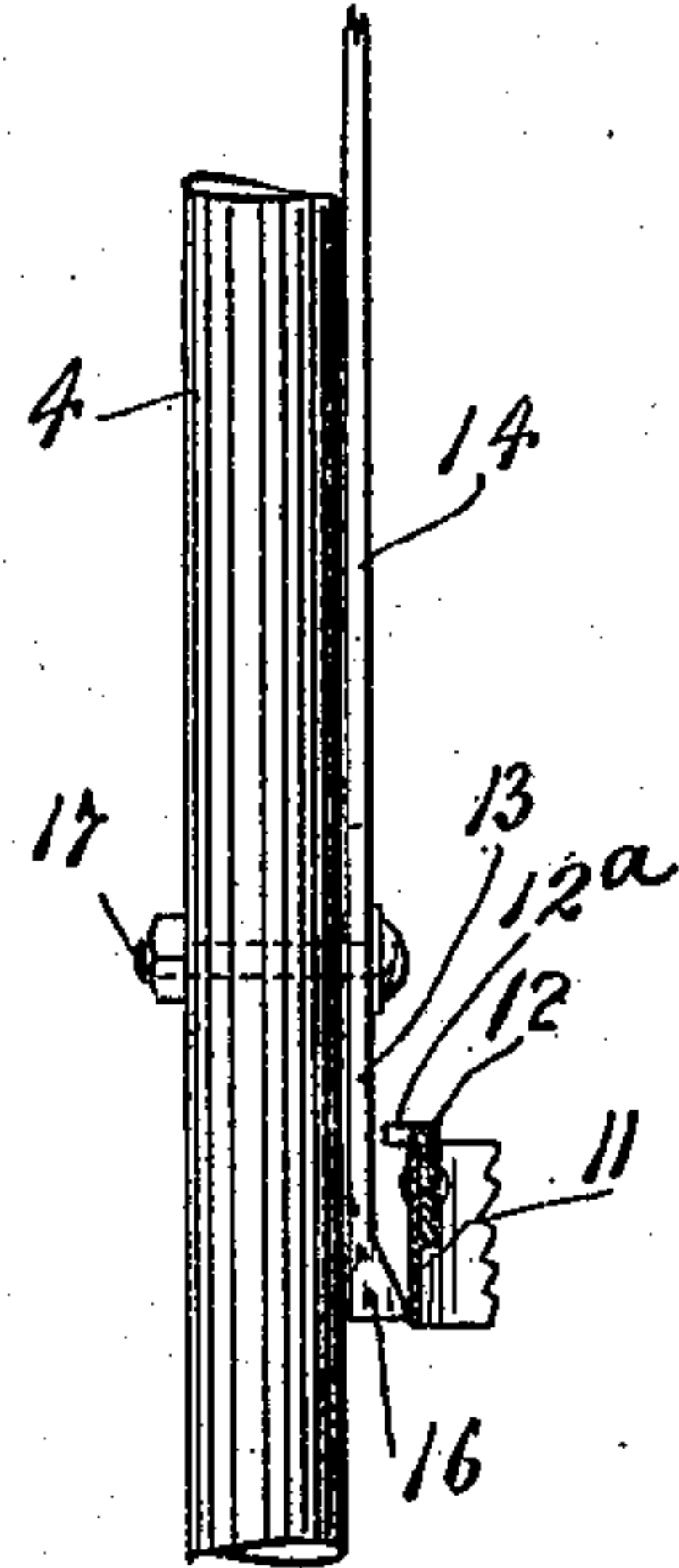
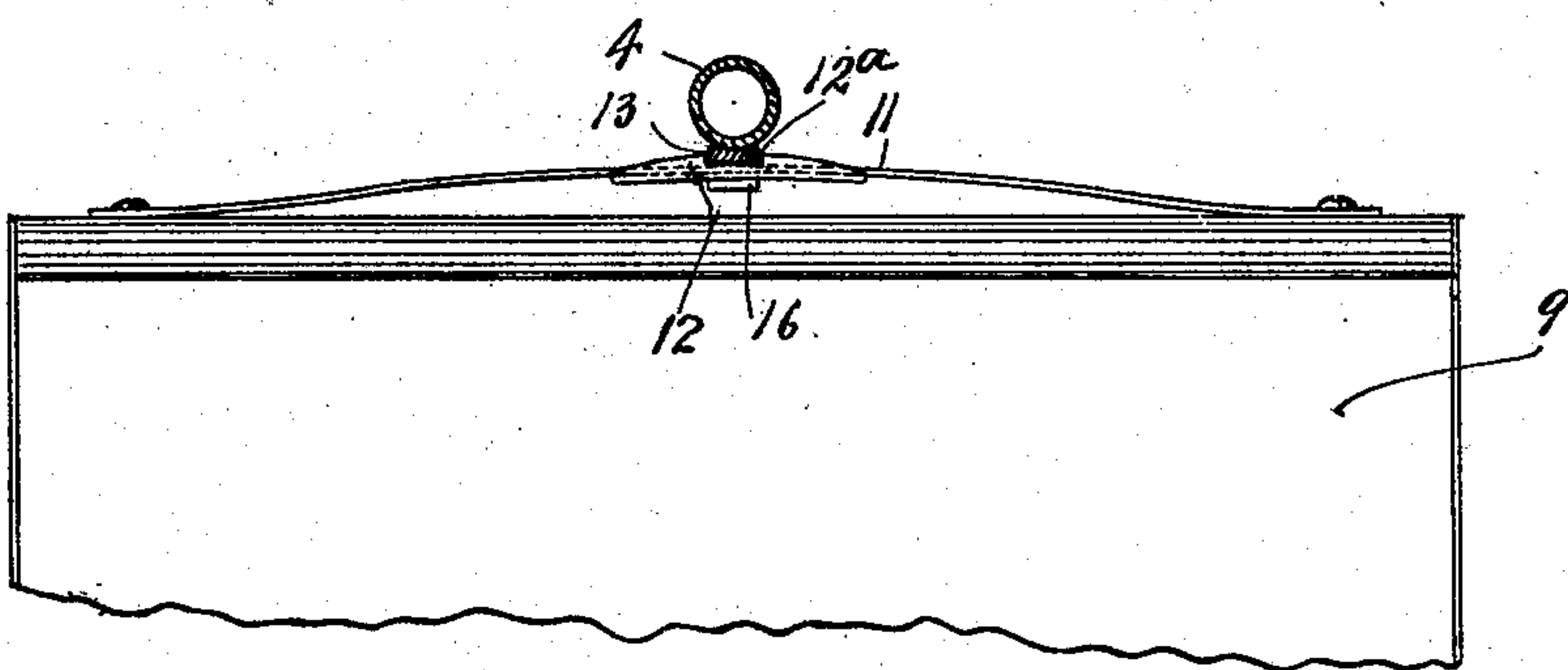


Fig. 5.



Witnesses.
A. H. Opsahl.
L. L. Simpson.

Inventor.
George Fink.
By his Attorneys.
Williamson & Merchant

UNITED STATES PATENT OFFICE.

GEORGE FINK, OF NORTHFIELD, MINNESOTA.

CARRIER.

No. 901,234.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed December 7, 1907. Serial No. 405,467.

To all whom it may concern:

Be it known that I, GEORGE FINK, a citizen of the United States, residing at Northfield, in the county of Rice and State of Minnesota, have invented certain new and useful Improvements in Carriers; 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 relates to carriers particularly adapted for use in connection with stables or barns for carrying the litter therefrom and dumping the same at a suitable point outside of the stable or barn.

The present invention is in the nature of an improvement on the device disclosed and claimed in Letters Patent No. 869,357, issued to me of date October 29, 1907, entitled "Carrier."

In the accompanying drawings which illustrate the invention like characters indicate like parts throughout the several views. Referring to the drawings, Figure 1 is a view in side elevation, showing the improved carrier mounted on a supporting wire or cable. Fig. 2 is a view corresponding to Fig. 1, but with some parts broken away and with the latch in its releasing position. Fig. 3 is a detail in section on an enlarged scale, taken on the line $x^3 x^3$ of Fig. 1. Fig. 4 is an end elevation of the improved carrier. Fig. 5 is a horizontal section taken on the line $x^5 x^5$ of Fig. 1, some parts being broken away. Fig. 6 is a detail in section taken approximately on the line $x^6 x^6$ of Fig. 2; and Fig. 7 is a section taken on the line $x^7 x^7$ of Fig. 6.

The heavy wire or cable 1 which constitutes the carrier track is supported in an elevated position in the usual or any way and, as shown in the drawings, one end thereof is directly attached to an eye-bolt 2 that is anchored to a suitable support 3, such as a post, the said support in the illustration given being that which is at the delivery end of the track.

The carrier frame is made up of a U-shaped or yoke-like body portion 4, a transverse tie bar 5 and a pair of upright laterally spaced arms 6. The yoke 4 is positioned with legs turned downward, the bar 5 ties together the upper portion of the legs thereof and the arms 6 are secured at their lower ends to said tie bar 5 and at their intermediate

portions are rigidly clamped to the transverse or horizontal upper portion of the yoke 4, by nutted staples or U-bolts 7. To the upper ends of the arms 6 grooved truck wheels 8 are journaled, and these truck wheels are arranged to run upon the track 1.

A trough-like bucket or carrier receptacle 9 is provided at its ends and at points below its center of gravity with trunnions 10 that are journaled in the lower ends of the depending legs of the frame yoke 4. To one end or head of this bucket 9 a laterally bulged leaf or flat spring latch 11 is attached at its ends, and secured to the central portion of this latch bar is a latch plate 12, the tapered outwardly projecting flange of which has a centrally located lock notch 12^a.

Connected for vertical sliding movements to the legs of the yoke 4 that is adjacent to the latch bar 11, is a latch bolt 13 having an upwardly extended stem 14 and a cam head or beveled latch releasing lug 16. As shown, the latch bolt 13 is slidably connected to the adjacent yoke leg by means of a nutted bolt 17 that works in a slot 18 of said latch bolt, as best shown in Fig. 6.

The arrangement of the parts just described is such that when a bucket is in normal position and the latch bolt 13 is dropped, said latch bolt will engage the lock notch 12^a of the latch plate 12 and lock the said bucket in its normal or upright position. When, however, the latch bolt is raised, as shown in Figs. 6 and 7, its beveled latch tripping lug or head 16 will press the intermediate portion of the latch bar 11 laterally inward and disengage the lock notch 12^a from the said latch bolt 13.

Preferably the upper end of the latch bolt stem 14 is connected, by a short chain 14^a, to one end of a trip lever 19 that is intermediately pivoted at 20 to the top of the yoke bar 4 and is provided at its free end with a lateral trip projection, preferably afforded by a roller 21.

The roller 21, when the bucket reaches a dumping position on the track, engages a tripping abutment in the form of a trip finger 22, the upper end of which is located between and is pivotally connected to depending laterally spaced ears 23 of a supporting sheath 24. This supporting sheath 24 is made from thin sheet metal folded upon itself so as to embrace and freely slide upon the track wire or cable 1, and it is further provided with depending ears 25 clamped

together below the cable by a screw 26, and below the said screw having reversely out-turned portions affording a stop against which the trip finger 22 is pressed when the latter is engaged by the roller 21 of the trip lever 19. The tripping finger 22, it will be noted, is located directly below and in the vertical plane of the track wire or cable, so that when it is engaged it will have no more tendency to force the same laterally in one direction than in the other, but it will simply be moved in the vertical plane of the cable against the ears 25 of the sheath 24. The sheath 24 will not slide upon the track wire or cable under upward pressure produced thereon by the engagement of the tripping lever of the tripping finger, but will simply be cramped onto the said wire or cable and held against slipping thereon while subject to such pressure. The tripping finger or abutment and its supporting sheath may, however, be easily adjusted to any position on the track wire or cable when the device is freely suspended and out of action. The said tripping finger and sheath will, as is obvious, be gravity held in the vertical plane of the track wire or cable.

The carrier will not be stopped by engagement of the roller 21 with the tripping finger or abutment 22, but the wheels of said carrier will freely run over the rounded upper portion of the sheath 24 and the roller 21 will pass the said trip finger. As a cushioning device for stopping the movement of the carrier at the extreme end of the track, I provide a buffer spring made from a single piece of wire 27 having an intermediate coil 28, a hook 29 at one end, a loop 30 near its other end, and a projecting stop arm 31 extending from said loop 30 above the track in position to be engaged by the forward wheel of the carrier. In applying this buffer spring the hooked end 29 may be conveniently engaged with the eye of the bolt 2 and the loop 30 is placed on the track wire or cable, as shown in Fig. 1.

When the latch bolt 13 is, by engagement of the roller 21 with the trip finger 22, raised into the position shown in Figs. 2, 6 and 7, the bucket is released and the said latch bolt is temporarily held in its raised or released position by the frictional engagement between the back of the same and the connected yoke leg, and between the beveled tripping head 16 thereof and the latch bar 11. If, therefore, the bucket does not instantly move pivotally to dump the load while the roller 21 is passing into and out of engagement with the trip finger 22, the said latch bolt can not drop back into engagement with the latch bar and will not again lock the bucket against pivotal movement until after the bucket has been given a dumping movement and returned to normal or upright position. When the bucket is turned upside

down or into a dumping position indicated by dotted lines in Fig. 4, the latch bar 11 is carried out of engagement with the trip head 16 and the latch bolt 13 is again permitted to drop to its normal position. Then, when the bucket is given a return movement back to its normal or upright position, the tapered flanges of the latch plate 12 engage the latch bolt 13, and when the bucket reaches its proper upright position said latch bolt 13 becomes again engaged with the lock notch 12^a of the said latch plate 12, thereby again locking the bucket in its normal position. If the latch bolt 13 should happen to stick in an upper position after the bucket is turned downward, a return movement of the bucket to normal position will cause the spring latch bar 11 to engage the beveled head 16 of said latch bolt and thereby cam the said latch bolt downward into an operative position.

While the spring latch bar 11 is preferably provided with a separately formed latch plate 12 with lock notch 12^a, it is, of course, evident that said parts 11 and 12 might be integrally formed.

The above noted arrangement whereby the bucket lock or latching device, when released, is rendered inoperative until the bucket has been given dumping movement and returned to normal position, is disclosed and broadly claimed in my prior patent above identified. The present invention, however, involves a simplification and improvement of the said device.

What I claim is:

1. The combination with an overhead track, of a carrier frame having wheels arranged to travel on said track, a bucket pivotally mounted on said carrier frame, a yielding latch bar applied to one end of said bucket, a latch bolt slidably mounted on said carrier frame and provided with a beveled tripping head, which bolt is engageable with said latch bar to lock said bucket, and which tripping head is engageable with said latch bar, to release the same from said latch bolt and to temporarily hold said latch bolt in an inoperative position, and means for automatically raising said latch bolt when said carrier reaches a predetermined position on said track, substantially as described.

2. The combination with an overhead track, of a carrier frame having truck wheels arranged to travel on said track, a bucket pivotally mounted on said carrier frame, a spring latch bar 11 attached at its ends to one end of said bucket and having an intermediate lock notch 12^a, a latch bolt 13 slidably mounted on said carrier frame and automatically engageable with said lock notch 12^a, said latch bolt having a beveled trip head 16 for action on the intermediate portion of said latch bar, to release the latter from said latch bolt and to hold said latch

bolt raised until said bucket is pivotally moved, a trip lever carried by said truck frame and connected to said latch bolt, and a tripping abutment on said track, operative on said trip lever to raise said latch bolt, substantially as described.

3. In a device of the kind described, the combination with a track wire or cable, of a tripping device comprising a sheath formed from sheet metal bent upon itself and embracing said track, and a tripping arm pivoted to depending flanges of said sheath, the said sheath having depending ears with out-turned ends affording a stop to said tripping arm, substantially as described.

4. The combination with a track wire or cable, of a carrier truck having wheels arranged to run on said track, a bucket pivoted to the frame of said truck, a latch for said bucket, a tripping device comprising a sheath formed from sheet metal bent upon itself and embracing said track, and arranged

to slide freely thereon, a tripping arm pivoted to depending flanges of said sheath for engagement with said latch, the parts being 25 so related that when the tripping arm is acting on the said latch, one of the truck wheels will be bearing upon said sheath, substantially as described.

5. In a device of the kind described, the 30 combination with an overhead track, cable, or wire, of a buffer spring made from a single piece of spring wire, one arm of which is anchored and the other arm of which is bent around said track to form a loop and 35 has an upwardly projecting arm adapted to engage a wheel of the carrier truck, substantially as described.

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

GEORGE FINK.

Witnesses:

H. D. KILGORE,

F. D. MERCHANT.