J. J. KRENIK.

LOCK FOR LITTER CARRIERS.

APPLICATION FILED NOV. 23, 1908.

929,141. Patented July 27, 1909.

Fig. 1

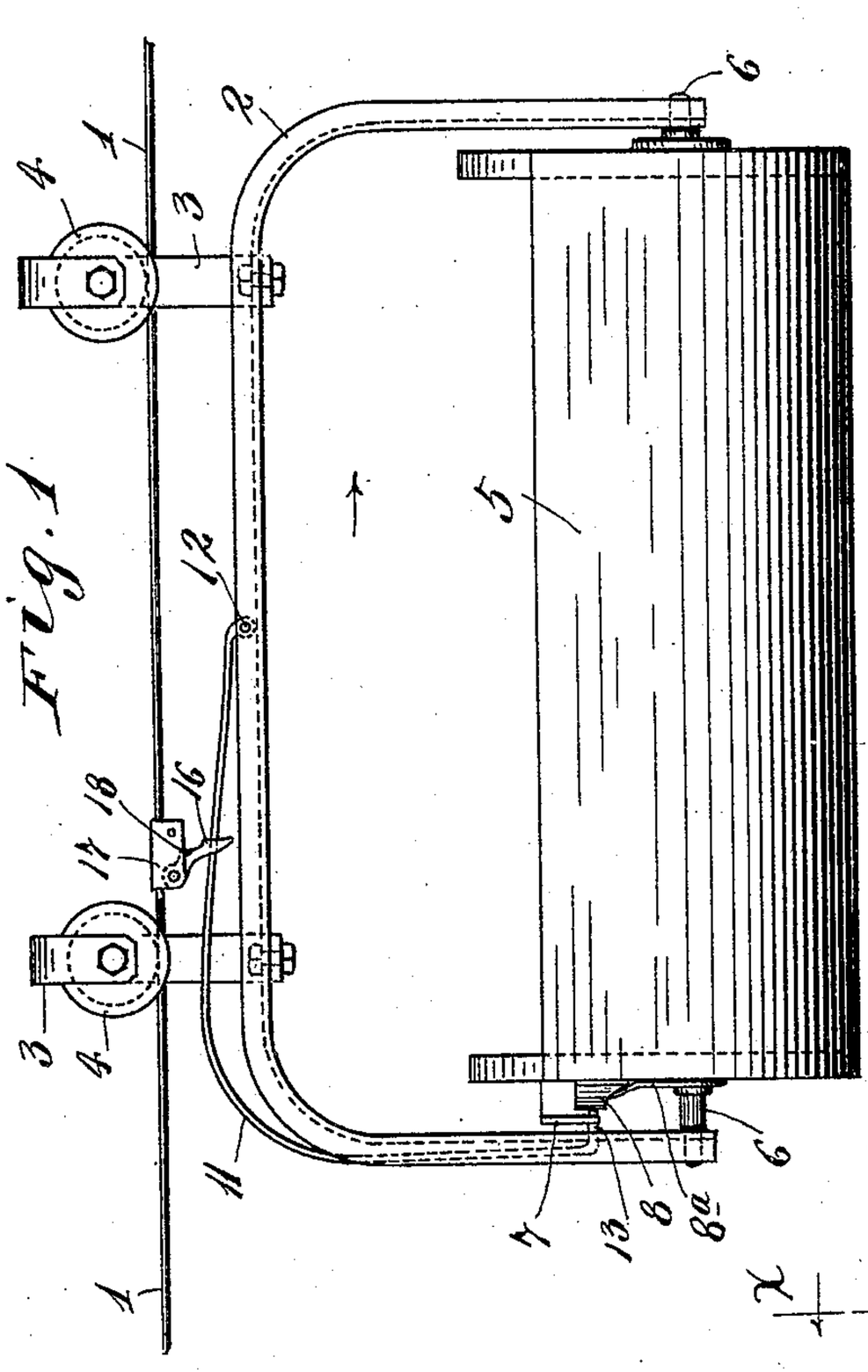


Fig. 2

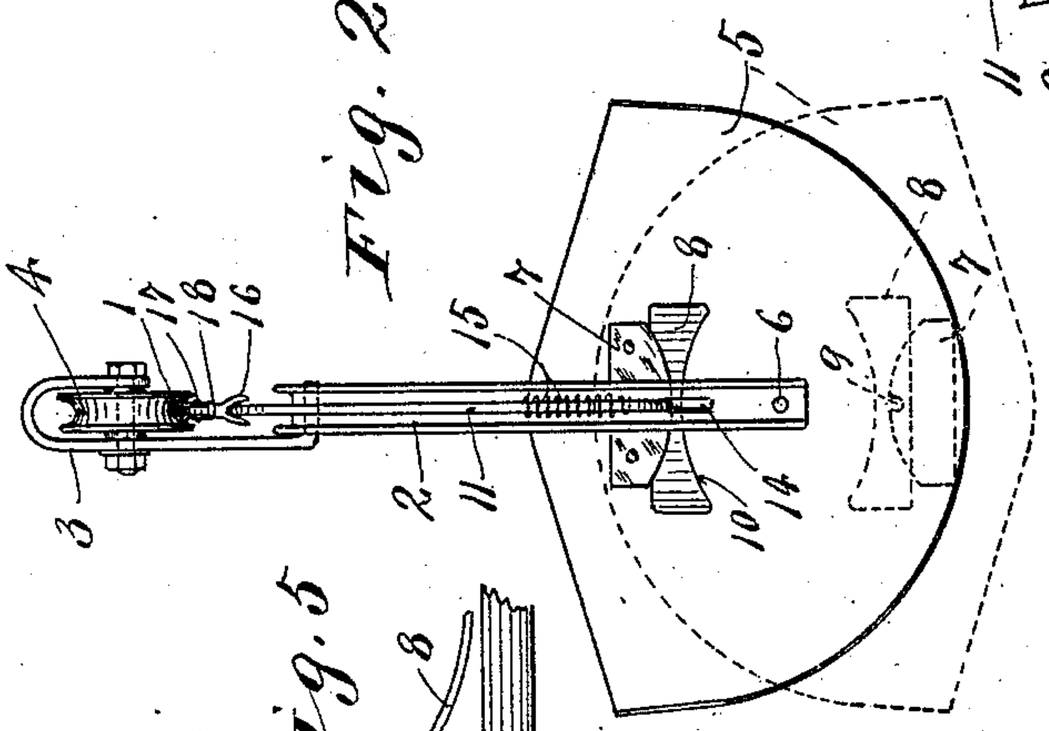


Fig. 3

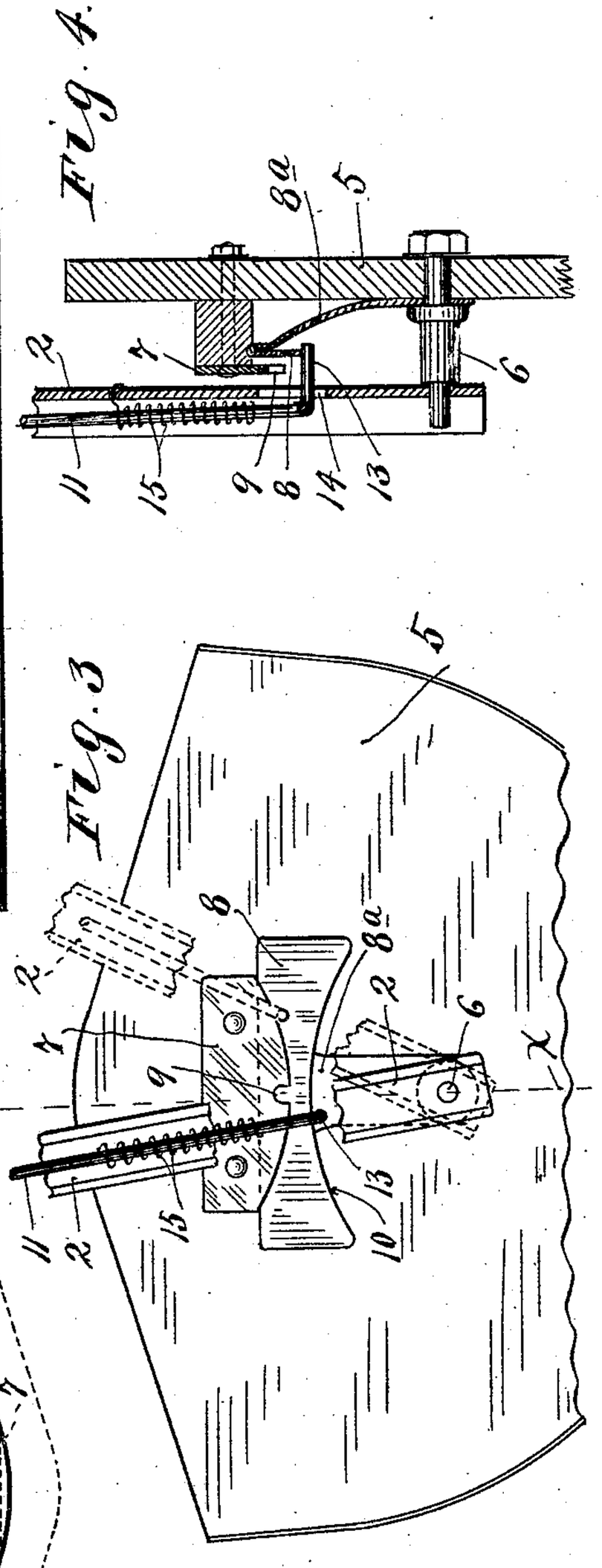
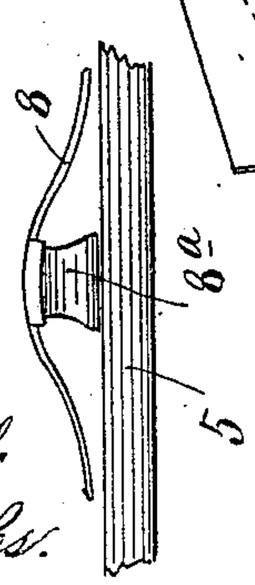


Fig. 4.

Fig. 5



Witnesses:
A. H. Opsahl.
L. L. Hicks.

Inventor
John J. Krenik
By his Attorneys
Williamson Merchant

UNITED STATES PATENT OFFICE.

JOHN J. KRENIK, OF NORTHFIELD, MINNESOTA.

LOCK FOR LITTER-CARRIERS.

No. 929,141. Specification of Letters Patent. Patented July 27, 1909.

Application filed November 23, 1908. Serial No. 464,058.

To all whom it may concern:

Be it known that I, JOHN J. KRENIK, 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 Locks for Litter-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 litter carriers and has for its especial object to provide improved locking and tripping mechanism for the pivoted bucket of the carrier truck.

To the above ends the invention consists of the novel devices and combination of devices hereinafter described and defined in the claims.

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 side elevation, illustrating my invention applied to the truck and bucket of the carrier. Fig. 2 is an end elevation of the parts shown in Fig. 1. Fig. 3 is also an end elevation of the parts shown in Fig. 1, showing the parts on a larger scale and in different positions, some parts being broken away. Fig. 4 is a vertical section taken on the line x^4 x^4 of Fig. 3, and Fig. 5 is a plan view of a so-called secondary cam plate which is applied to the bucket.

The numeral 1 indicates an over-head line wire or track and the numeral 2 indicates a yoke-like truck frame, having wheel brackets 3 and equipped with grooved track wheels 4 that run upon the track wire 1 in the usual way. The bucket 5, at its ends has trunnions 6 located below its center of gravity and journaled in the depending legs of the frame 2.

To one end of the pivoted bucket 5 is riveted a so-called primary cam plate 7 and a so-called secondary cam plate 8. The cam plate 7 is a flat plate having a convexly curved lower edge with a central lock notch 9. The secondary cam plate 8 is located inward of the primary cam plate 7 and has a concavely curved under edge 10. Also, in plan view, this secondary cam plate 8, and particularly the lower edge portion thereof, is outwardly bulged or curved, as best shown in Figs. 4 and 5.

The lock, which is coöperative with said primary and secondary lock plates, is preferably formed by a spring rod 11 bent approximately into an L shape with its upper end pivotally connected at 12 to the intermediate portion of the frame yoke 2. The free lower end 13 of this lock rod is bent laterally inward for engagement with said primary and secondary cam plates, and it works through a vertical slot 14 (see Fig. 2) in the adjacent depending leg of the frame yoke 2. The tension of the rod 11 is such that the end of lock bolt portion 13 thereof is yieldingly thrown inward for action upon both of the said lock plates 7 and 8. A light coiled spring 15, attached to the adjacent leg of the yoke frame 2 and to the lower portion of the rod 11, yieldingly holds the same upward. Normally, the bucket is locked, as shown in Figs. 1 and 2, by engagement of the rod end or bolt 13 with the notch 9 of the primary cam plate 7, and at this time it will be noted the free end of the said lock bolt 13 is held against the outer face of the secondary cam plate 8.

For forcing the free end of the lock rod 11 downward to release the bucket, a tripping abutment is applied on the track wire 1. As shown and preferred, this tripping abutment is in the form of a small arm 16 pivotally connected at its upper end with a sheath or bearing 17, which embraces the track wire and is adjustable thereon. The pending lower end of the trip arm 16 is preferably forked so that it will engage and straddle the normally inclined upper portion of the lock rod 11 and force the same downward when the truck is moved from left toward the right in respect to Fig. 1. Under this movement the swinging movement of the tripping arm 16 is limited by engagement of a shoulder 18 thereon with the lower edge of the sheath 17. When the said tripping arm is engaged by the rod 11 under movement of the carrier truck from right toward the left, the said arm will freely swing into an upward inoperative position, thus permitting return movements of the carrier truck without action upon its lock mechanism.

When the inclined upper portion of the tripping rod 11 is engaged by the tripping arm 16 and pressed downward, as just above stated, its lock bolt end 13 will be forced downward out of the lock notch 9 of the

primary lock plate 7 and to a point below the lower edge of the secondary lock-plate 8; and when this happens the tension of said rod 11 will force the lock bolt end 13 inwardly under the lower edge of the said secondary lock plate 8, as shown in Fig. 4. When this happens the bucket is unlocked, so that it may make its pivotal dumping movement and the bucket cannot possibly be again locked until it has made a complete dumping movement and has been forced back to normal position. Hence, if the bucket locking rods should be depressed only for an instant and again released before the bucket is moved from normal position, it cannot then again lock the bucket because the lock bolt 13 is held downward by the secondary lock plate 8. When, however, the bucket is turned up side down or into a dumping position, the inner end of lock bolt 13 is carried to a point beyond the outwardly bulged portion of the secondary lock plate 8 where it will be raised by the spring 15, so that when the bucket is returned to normal position, the end of the said lock bolt will be forced both against the outwardly bulged surface of the secondary lock plate 8 and against the curved under edge of the primary lock plate 7 and these two guide plates will therefore guide the lock bolt back into engagement with the lock notch 9, thus again locking the bucket at the proper time.

The device above described, while very simple and of extremely small cost, has in practice been found highly efficient for the purposes had in view.

It will, of course, be understood that the so-called primary and secondary lock plates may, if desired, be integrally formed and may be constructed either of pressed sheet metal or they may be cast. As shown, the secondary lock plate has a depending strap 8^a that is connected to one of the bucket trunnions 6, as best shown in Fig. 4. The lower edge of the primary lock plate 7 has been described as convexly curved, but it will be clearly within the scope of the invention as claimed to extend the lower edge of said plate on straight lines inclining upwardly and outwardly from the lock notch 9.

It will also be understood that by rigidly securing the lock rod 11 to the truck frame 2 and giving the said lock rod an upward and inward spring tension, the coil spring 15 may be dispensed with.

What I claim is—

1. In a carrier system, the combination with a truck frame and a bucket pivoted thereto, of a lock for locking said bucket in a normal position and a primary and secondary lock plate, the former coöperating with said lock, to lock the bucket, and the two lock plates coöperating with said lock to prevent re-locking of the bucket until after it has made its dumping and return movement.

2. In a carrier system, the combination with a wheeled truck frame and a bucket pivotally connected thereto, of a yieldingly held lock rod or member applied to said truck frame, and a primary and a secondary lock plate secured to one end of said bucket, the former having a convexly curved lower edge and a lock notch, and the latter having an outwardly bulged cam surface located below the notched and curved edge of said primary lock plate, and which lock rod is engageable with said lock notch to lock the bucket, and which lock plates coöperate to reëngage said lock rod with said lock notch only after the bucket has been given a dumping movement.

3. In a carrier system, the combination with an over-head track and a tripping abutment thereon, of a truck frame having wheels arranged to run on said track, a bucket pivotally connected to said truck frame, a curved lock rod having a depending end, a projecting lock bolt, spring-pressed upward and inward and working through a slot in said truck frame, and a primary and a secondary lock plate secured to one end of said bucket, the former having a convexly curved lower edge with an intermediate lock notch and the latter having an outwardly bulged portion located below said lock notch, the lock bolt of said lock rod being engageable with the lock notch of said primary lock plate to lock the bucket, and the bulged surface of the said secondary lock plate coöperating with the lower edge of said primary lock plate to reëngage the lock bolt of said lock rod with the said lock notch, only after said bucket has been given a dumping movement.

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

JOHN J. KRENIK.

Witnesses:
EFFIE M. STRANAHAN,
J. J. SLETTEN.