

No. 684,373.

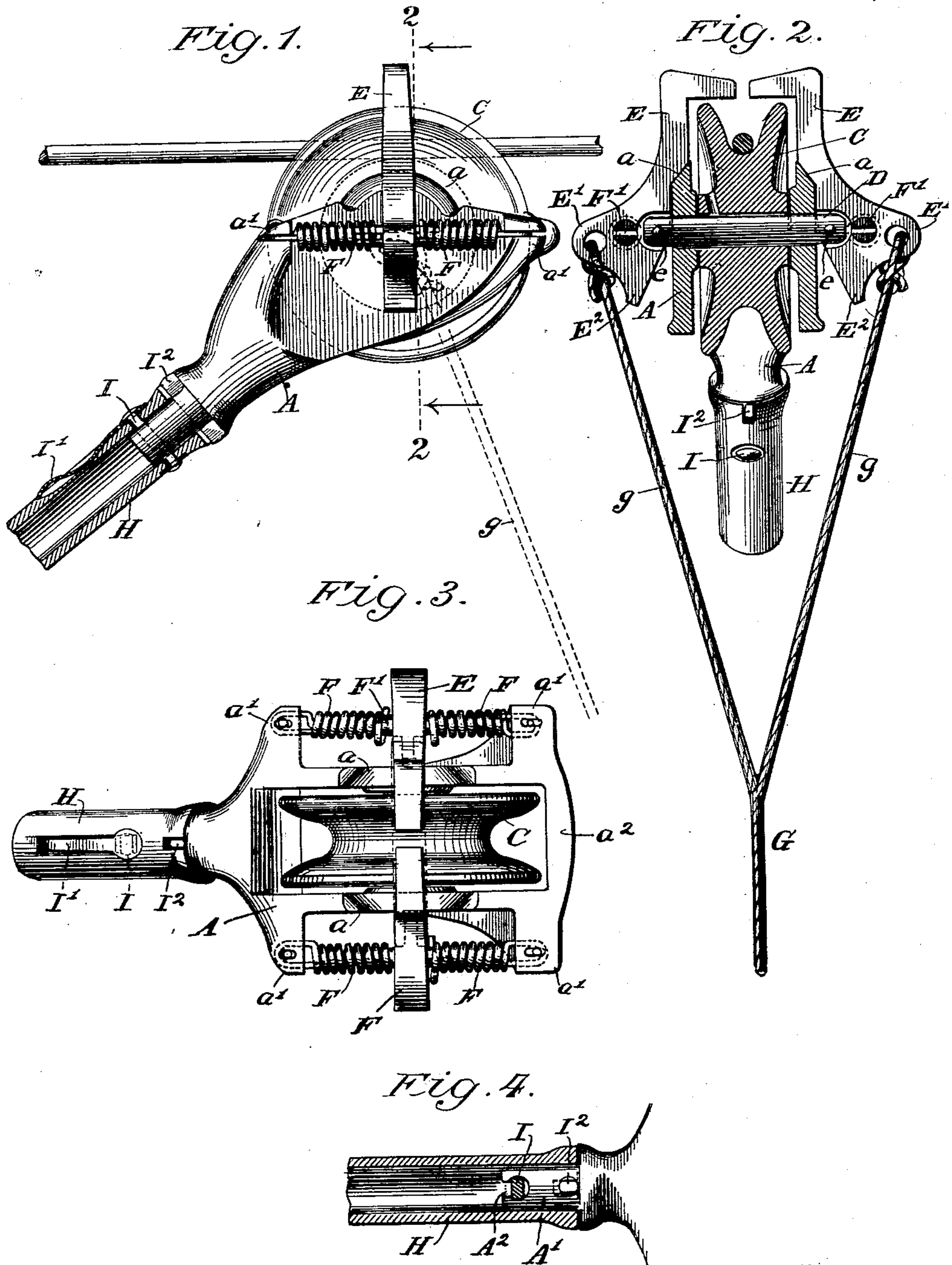
Patented Oct. 8, 1901.

R. INGLIS & E. WILKS.

THE NEW JERSEY TITLE GUARANTEE AND TRUST COMPANY, Administrator of R. INGLIS, Dec'd.
TROLLEY GUARD.

(No Model.)

(Application filed Aug. 3, 1900.)



Witnesses
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UNITED STATES PATENT OFFICE.

ROY INGLIS AND EUGENE WILKS, OF JERSEY CITY, NEW JERSEY; THE
NEW JERSEY TITLE GUARANTEE AND TRUST COMPANY ADMINIS-
TRATOR OF SAID INGLIS, DECEASED.

TROLLEY-GUARD.

SPECIFICATION forming part of Letters Patent No. 684,373, dated October 8, 1901.

Application filed August 3, 1900. Serial No. 25,748. (No model.)

To all whom it may concern:

Be it known that we, ROY INGLIS (whose post-office address is 354 Bergen avenue, Jersey City) and EUGENE WILKS, (whose post-office address is 431 Bergen avenue, Jersey City,) citizens of the United States, and residents of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Trolley-Guard, of which the following is a full, clear, and exact description.

Our invention relates to improvements in trolley-guards or devices adapted to prevent the trolley from jumping off of the wire.

Our invention comprises the novel features which will be hereinafter pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a trolley equipped with our device. Fig. 2 is a central vertical section through a trolley having our device thereon, and Fig. 3 is a plan view of the same. Fig. 4 is a longitudinal section of the joint by which the head may be reversed on the pole.

The following is a description of the device as herein shown, the same being the construction now preferred by us.

The trolley-head A has the trolley C mounted to turn therein upon a bolt or axle D, which is free to turn both in the trolley and in the trolley-head. The ends of this bolt project beyond the outer faces of the trolley-head and have the two guard-arms E pivoted thereto by pins *e*, which when the trolley is in use extend in substantially a horizontal plane. The bolt D being free to turn in the trolley-head and the arms E being pivoted thereto by the horizontal pivot, the upper ends of the arms E are free to swing about the periphery of the trolley-wheel and also laterally away from the trolley-wheel. The swing of the guard-arms E about the bolt D is limited by the upper sides of the trolley-heads. This, however, provides as great an extent of swing as is necessary. The upper edge of the trol-

ley-head immediately over the bolt D is provided with a surface *a*, which is a small segment of a cone, the same forming a stop or bearing for the guard-arms E, limiting their inward approach. In swinging upon the bolt D the guard-arms bear upon this surface *a*. The guard-arms E are each provided with a lateral or outward extension *E'*, forming an arm, to which one branch *g* of the trolley-rope G is attached. By pulling down upon this rope the upper end of the guard-arms are swung outwardly, thus freeing the wire and permitting the trolley either to be removed from the wire or to be put in position thereon. The guard-arms are also provided with downward extensions *E''*, which are adapted to engage the lower portion of the trolley-head to limit the swing of the guard-arms. The upper ends of the guard-arms extend over the top of the trolley-wheel and are in their normal position separated only slightly, not sufficient to permit the passage of the wire between them. The guard-arms are held in their normal position by means of springs F, which are coiled-wire springs, their outer ends being formed as loops, which enter slits formed in lugs *a'*, which project from the sides of the trolley-heads, and their inner ends similarly entering projections *F'* upon the side of the guard-arms. Two springs are herein shown attached to each guard-arm. These springs will permit the guard-arms to swing both upon the bolt D and upon the pivots *e*. In passing the wire-suspending devices the ends of the guard-arms E will engage the sides thereof, which will slightly open out the arms. In case the arms should engage these suspenders or any other object fairly they will swing backward until they will open out sufficiently to permit passage of the object. In case the trolley is to be taken from the wire the guard-arms may be opened out by pulling down upon the trolley-rope G.

It sometimes happens that the springs which hold the trolley-pole elevated break on one side and it is desirable to swing the pole in the opposite direction without turning the pivoted base or turn-table, so that the oppo-

site set of springs may be brought into use to support the pole. In this case it is necessary to give the trolley-head a half-turn upon the pole. To secure this result, the trolley-head is provided with a socket attachment to the pole, as by a shank A', which fits within a socket in the pole.

The end of the shank is provided with a transversely-extending hole A² near its end, which is connected throughout its length with the end of the shank by a slit of less width than the diameter of the hole. The pole is provided with a pin I, extending across it in position to enter said hole when the shank is seated in the hollow end of the pole. The pin is mounted to turn in the pole and has a spring-arm I' connected therewith by which it may be turned, and the pole is provided with a longitudinal groove or recess adapted to receive the spring-arm to hold it in place, as is shown in Figs. 1 and 3. The pin I is round with two opposite sides flattened, so that by turning the arm I' at right angles with the pole the pin will enter the slot A² in the shank, whereupon by turning the arm back to extend with the pole the pin is caused to lock the shank in place, as shown in Fig. 4. To further hold the head against rotation, a pin or projection I² may be provided at the base of the shank, which enters corresponding notches in the end of the pole. By this device the trolley-head may be reversed on the pole at any time desired.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination in a trolley-guard of two guard-levers pivoted one at each side of the trolley-head by a compound pivot permitting their ends to swing about the periphery of the trolley and laterally or away from the trolley, and springs connected to said levers and the trolley-head to return the levers to their normal position, substantially as described.

2. In a trolley-guard in combination a turnable pivot-bolt for the trolley-axis, guard-levers pivoted to the ends of said bolt to swing away from the trolley, and springs connecting said levers and the trolley-head, substantially as described.

3. In a trolley-guard in combination, a turnable pivot-bolt for the trolley-axis, guard-levers pivoted to the ends of said bolt to swing away from the trolley, and helical springs connecting the levers and the trolley-head to return the levers to their normal position, substantially as described.

4. In a trolley-guard in combination a turnable pivot-bolt for the trolley-axis, guard-levers pivoted to the ends of said bolt to swing away from the trolley and having outwardly-extending arms adapted to receive the trolley-rope, and springs connecting the said levers and the trolley-head, substantially as described.

5. In a trolley-guard the combination of guard-arms mounted to swing both parallel with the plane of the wheel and away from the same, and springs connected to said arms and acting thereon to return them when swung in either direction, substantially as described.

6. In a trolley-guard, the combination of guard-arms mounted to swing both parallel with the plane of the wheel and away from the same, and helical or coiled springs connecting said arms and the trolley-head and adapted to return the arms to their normal position, substantially as described.

7. The combination of a trolley-pole and trolley-head having interlocking members adapted to engage each other to prevent rotation in two positions one hundred and eighty degrees apart, and a releasable catch adapted to hold said parts together in either position.

8. The combination with a trolley-pole and trolley-head having a rotatable or shank-and-socket connection with each other, of a turnable pin in the socket having a non-circular cross-section and a slot therefor in the shank wider at its inner than at its outer end, substantially as described.

9. The combination of a trolley pole and head having radial projections and recesses adapted by a relative longitudinal movement to interlock to prevent rotation, and a releasable catch adapted to engage pole and head to prevent such longitudinal movement when they are interlocked.

10. The combination of a trolley pole and head having a cylindrical pin-and-socket engagement, the pin having radial projections and the socket corresponding recesses, and a releasable catch adapted to engage the parts to prevent longitudinal movement when the projections lie within the recesses.

In testimony whereof we have signed our names to this specification in the presence of the two following witnesses.

ROY INGLIS. [L. S.]
EUGENE WILKS. [L. S.]

Witnesses:

WELLINGTON WALTON,
JOHN J. M. LANEY.