

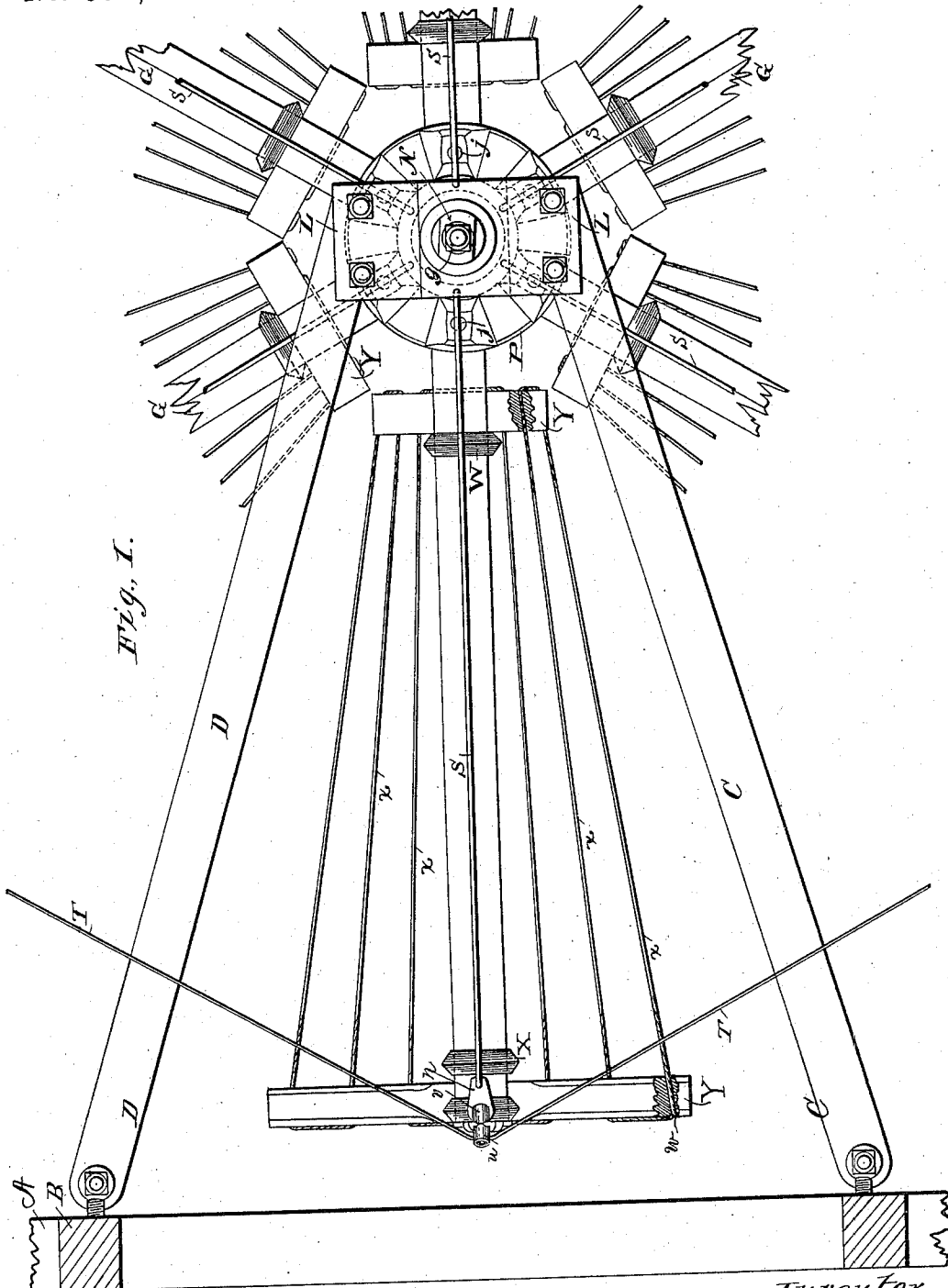
(No Model.)

3 Sheets—Sheet 1.

F. J. BAILEY.
CLOTHES DRIER.

No. 576,335.

Patented Feb. 2, 1897.



Witnesses
H. Rees Edslen.
Theodore T. Snell.

Inventor.
Frank J. Bailey
by *William B. Brown*
his Attorney

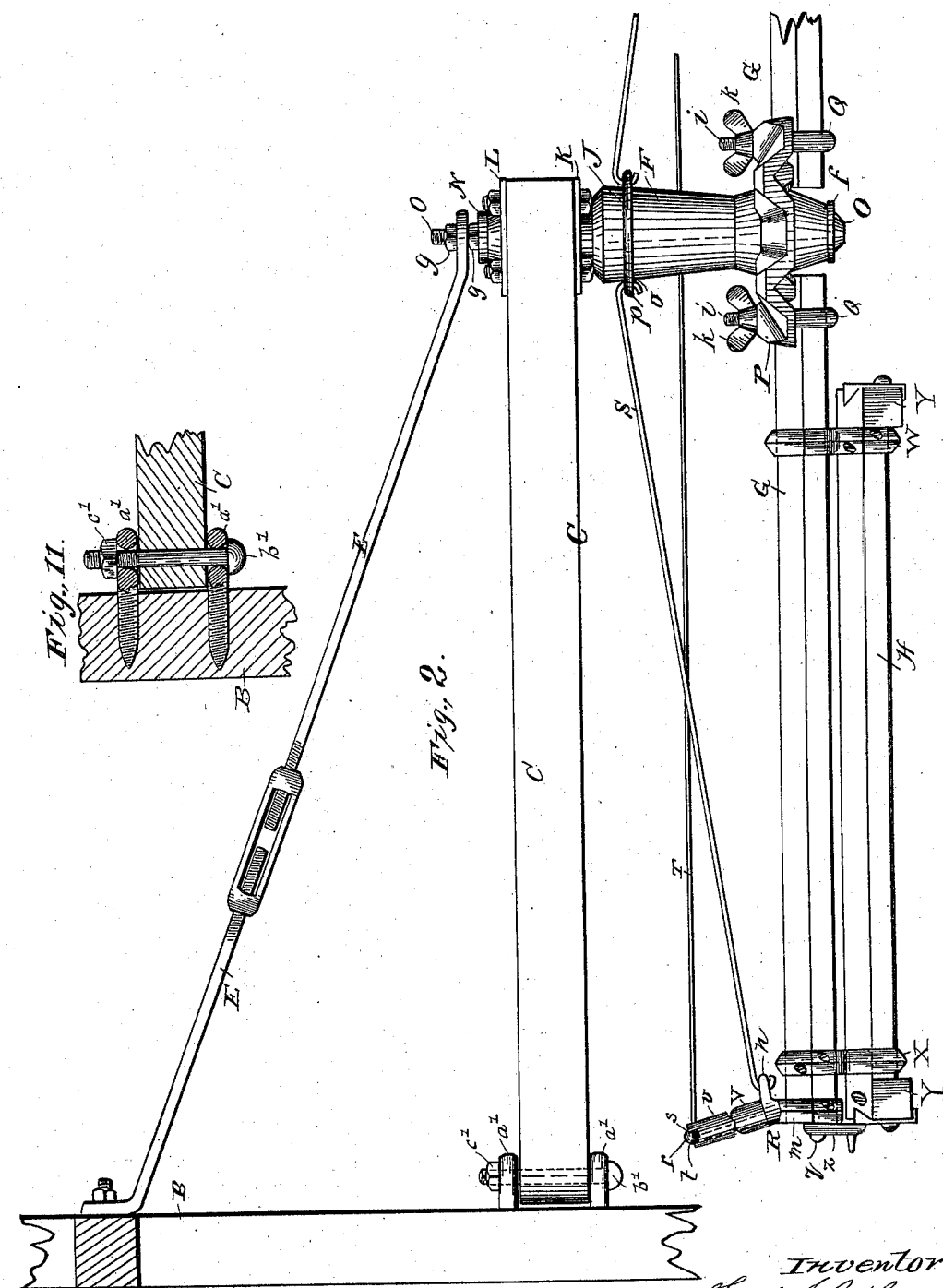
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3 Sheets—Sheet 2.

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3 Sheets—Sheet 3.

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Fig. 9.

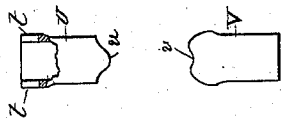


Fig. 8.



Fig. 5.

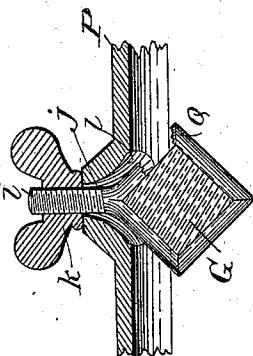
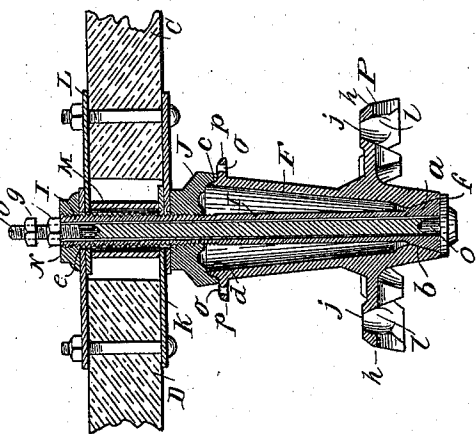


Fig. 3.



Witnesses.
W. Riss Edelen.
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Fig. 7.

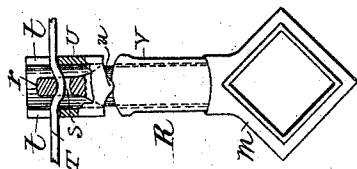


Fig. 6.

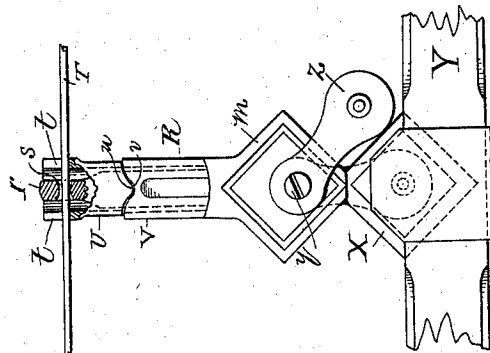
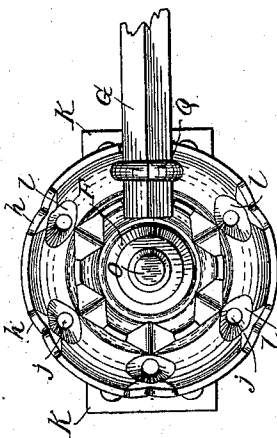


Fig. 4.



Inventor.
Frank J. Bailey
By *Arthur H. Browne*
his Attorney

UNITED STATES PATENT OFFICE.

FRANK J. BAILEY, OF BRATTLEBOROUGH, VERMONT, ASSIGNOR TO LEVI K. FULLER, OF SAME PLACE; E. L. WATERMAN, OF SAME PLACE, ADMINISTRATOR OF SAID FULLER, DECEASED.

CLOTHES-DRIER.

SPECIFICATION forming part of Letters Patent No. 576,335, dated February 2, 1897.

Application filed July 10, 1895. Serial No. 555,527. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. BAILEY, of Brattleborough, in the county of Windham and State of Vermont, have invented certain new and useful Improvements in Clothes-Driers, of which the following is a specification.

The present invention consists of improvements upon the clothes-driers described in Letters Patent of the United States Nos. 522,576 and 522,577, granted to my assignee July 10, 1894.

The clothes-drier to which the present invention relates is a clothes-drier comprising a supporting-frame which is adapted to be secured permanently on the exterior of the wall of a building and adjacent to a window or door in the wall and a rotary clothes-reel suspended from and rotatively supported by said supporting-frame, said reel having a plurality of radial arms, each arm carrying a bar sliding longitudinally thereupon and each bar being provided with article-holding lines, whereby each bar in turn may be moved in through the window or door and its line laden with clothes and may then be moved out through the window or door. The principal advantage of such a clothes-drier when applied to a wall in connection with a window therein is that it can be used in tenement and apartment houses where there is no yard-space without necessitating the use of the roof and the consequent climbing of stairs; and when applied to a doorway the clothes can be hung upon the drier within the house, thus obviating the necessity of carrying the clothes from the tubs to the lines, an advantage which is especially conspicuous when snow is on the ground. The present improvements are applied to such a clothes-drier, and consist in the improved details of construction hereinafter described and claimed.

The present improvements are illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view, and Fig. 2 a side view, of the improved clothes-drier, only one, however, of the radial arms and sliding article-carrying bars being shown. In Fig. 1 the stay-rod E is not shown. Fig. 3 is a vertical

section through the hub of the reel. Fig. 4 is a bottom view of the hub. Fig. 5 is a detail view of the connection between the hub and one of the radial arms. Figs. 6, 7, 8, 9, 10, and 11 are detail views of parts of the radial arms and sliding bars.

A is a portion of the wall of a building, and B a portion of an ordinary window-frame set therein.

As shown in the drawings, the supporting-frame of the clothes-drier is secured to the wall by being fastened to the window-frame B. The supporting-frame comprises three principal parts, namely, two horizontal wooden side bars C D and a metallic stay-rod E. At their inner ends the two side bars C D are attached to the window-frame and at their outer ends they are adjustably connected together, so that they can be connected to windows of different widths. The stay-rod E is connected at its inner and upper end to the window-frame and by suitable intervening instrumentalities hereinafter described at its lower outer end to the side bars at the point where they are joined together. The stay-rod is extensible, being capable of longitudinal adjustment, so as to be connected with windows of varying heights and widths. For the sake of clearness of illustration the stay-rod E is not shown in Fig. 1.

The rotary reel, which is suspended from the supporting-frame, comprises a central hub F, a plurality of wooden radial reel-arms G, secured at their inner ends to said hub, and a plurality of suspended wooden article-carrying sliding bars H, mounted and sliding upon said reel-arms G, respectively, only one arm G and one bar H being shown in the accompanying drawings.

In the respects thus far described the drier is similar in construction, arrangement, and mode of operation to the driers of the aforesaid patents, Nos. 522,576 and 522,577.

Extending vertically through the hollow cast-iron hub F is the metallic king-post I, upon which the hub revolves, and which is itself suspended from and secured to the supporting-frame. At its lower end the king-post has a coned bearing a, and the hub F

has a corresponding coned seat *b*, cooperating therewith, the two cones thus constituting a stepped bearing for the hub. The upper end of the king-post is screw-threaded and a bearing cap-plate J screws thereupon. This cap-plate has an annular flange *c*, which, when the cap-plate is screwed down into place, fits around the upper rim or verge *d* of the hub. The cap-plate thus prevents the tilting, rocking, or canting of the reel upon the king-post.

Each of the side bars C D of the supporting-frame has at its outer end two pivot-plates K L secured thereto above and below, said plates projecting inwardly. Each of these plates has an aperture *e*, through which the king-post extends. The bottom plates K K of the side bars overlap each other and lie face to face, as also do the top plates L L. The two pairs of plates K L are kept properly spaced apart by a spacing-sleeve M, which is located between them and loosely surrounds the king-post. A cap-nut N, screwing onto the top end of the king-post I, above the upper of the two top plates L, clamps the several plates of the side bars C D in position. By loosening the cap-nut N the side bars can be swung upon the king-post as a center to vary the angle between them, thereby accommodating the reel-supporting frame to windows or doors of different widths. The cap-nut N, it will be noted, clamps the two sets of plates K L tightly together and to the cap-plate J, owing to the presence of the intermediate spacing-sleeve M, and consequently not only is the reel thus mounted upon the supporting-frame so as to avoid rocking and the side bars C D are firmly secured together at their outer ends, but also the cap-nut and cap-plate serve as lock-nuts to prevent the king-post turning with the rotating reel.

The king-post I has a longitudinal bore extending therethrough, through which extends a king-bolt O, headed at its lower end, with a washer *f* interposed between its head and the lower end of the king-post, and threaded at its upper end where it projects above the king-post to receive nuts *g g*, which fasten the outer end of the stay-rod E to the supporting-frame. The lower of the nuts *g* seats upon the top of the king-post. This independence of the king-post and king-bolt is an important feature of improvement over the construction shown in said prior patents, Nos. 522,576 and 522,577, since with the improved construction there is practically no liability of the reel becoming accidentally detached from the supporting-frame. In the present construction the king-bolt O does not receive any of the friction due to the rotating hub, and hence there is no tendency for the king-bolt to work loose in its nuts *g g*. The reel is thus doubly locked in place both by the nuts *g g* and by the cap-nut N and the cap-plate J.

Each of the several radial reel-arms G and sliding bars H of the reel, while rectangular in cross-section, is arranged angularly, that is to say, with one of its corners up, so that its upper

faces are inclined, in order to more readily shed water and snow. The hub F is hence properly shaped and equipped to receive and hold the angularly-arranged radial reel-arms G. As shown in Fig. 4, the hub is constructed to receive six of the radial reel-arms, which is a usual and proper number. To receive the angular reel-arms, the hub has a horizontally-projecting annular flange P, having on its under side angular radial notches or recesses *h*, in each of which fits the upper portion of the inner end of one of the reel-arms G. Surrounding each of the reel-arms G near its inner end and fitting thereupon is a metal strap Q, conforming in shape thereto, and this strap has at its upper corner in one therewith a stud-post *i*. This stud-post *i* extends through an aperture *j* in the hub-flange P and a nut *k* fits thereupon above said flange. The aperture *j* intersects the apex of the notch *h* and merges into an angular cross notch or recess *l* on the under side of the hub-flange, which extends crosswise of the notch *h* and is shaped to conform to the strap Q. Hence by tightening the nut *k* the strap Q is drawn into the cross-notch *l*, thus clamping the reel-arm G tightly and firmly into the radial notch *h*. In this way the reel-arm has a broad and extended bearing upon the hub-flange and is firmly and rigidly secured in place and is capable of withstanding without sagging a considerable weight on its outer end. The nuts *k* are wing-nuts and being located above the hub-flange are conveniently manipulated and readily accessible for tightening the reel-arms when required.

At its outer end each radial reel-arm G carries a metal bracket R, having a strap *m*, conforming to the shape of and fitting over the end of the reel-arm and fastened thereto by screws. This bracket has an eye *n*, through which hooks one end of the usual stay-rod S, the other end of which hooks into an aperture *o* in a peripheral horizontal flange *p* near the top of the reel-hub. The differences in this respect over said prior patents are that in the present case the stay-rod S is hooked at both ends, the reel-arm bracket having the eye *n* for this purpose, and that the bracket R is differently attached to the reel-arm.

The bracket R has an upwardly-inclined post *r*, having an eye *s* at its upper end to receive the usual peripheral article-holding wire T. The wire T is fastened to each post *r*, so as to maintain the several reel-arms at proper angular distances apart, by means of two cam-sleeves U V, which surround and turn upon the post *r*. The upper sleeve U has opposite apertures *t* in its upper edge, through which the wire T is passed, and the wire then prevents the sleeve U from turning. The contiguous edges of the two sleeves are cam-shaped, so that when the lower sleeve V is then rotated the upper sleeve U is lifted thereby, sharply bending the wire on both sides of the post *r*, thus holding the radial reel-arms in proper place. Coacting notches

v and heels *u* in the sleeves *V U*, respectively, maintain the upper sleeve *U* in its uplifted position. The post *r* of one of the radial reel-arms has its eye *s* elongated or large enough to receive the two ends of the peripheral wire, and hence the uplifting of the locking-sleeve *U* on said arm bends and fastens the ends of the peripheral wire.

Each sliding bar *H* is suspended beneath its corresponding radial reel-arm *G*, is parallel therewith, and slides radially thereupon. The bar and arm are connected by two metallic double straps *W X*, each of which is composed of rectangular straps united at their apices and fitting over the bar and arm, respectively, with which they conform in shape. The inner double strap *W* is fastened by screws to near the inner end of the sliding bar *H* and slides upon the radial reel-arm *G*. The outer double strap *X* is fastened by screws to near the outer end of the reel-arm, and through it the sliding bar slides.

Owing to the circumstances that the corners of the arm and bar are adjacent and that they are spaced apart by the double straps the arm and bar are not liable to become bound together by ice forming thereon.

The sliding bar has cross-heads *Y Y* at both ends, through holes *v* in which the line *x* of wire or rope for the clothes is strung, passing back and forth a number of times to give extended hanging capacity to the reel.

To prevent the accidental radial movement of each sliding bar, a lock is provided for locking it in its inner position. This lock consists of a gravity-dog *Z*, pivoted at *y* to the end of the radial reel-arm *G* and hangs down in front of the sliding bar *H*, thus preventing the outward movement of the bar until the dog is swung manually out of the way. The dog then rides on one of the upper faces of the sliding bar, and when the sliding bar is pushed to its inner position the dog automatically drops by gravity into its locking position.

In order to fasten the side bars *C D* of the supporting-frame to the window or door frame, two eyed screw-shanks *a' a'* are employed for each side bar, one above and one below the side bar. These eyed screw-shanks are first inserted in place in the frame and the end of the side bar placed between them. Then the vertical bolt *b'* is placed through the eyes of both screw-shanks and an aperture through the side bar, and is fastened in place by a nut *c'*. (See Fig. 11.) This is a better way of fastening than that described in said Patent No. 522,576, since it takes the strain off from the nut *c'*.

I claim as my invention—

1. The reel-hub having a seat at its lower end, the king-post extending through said reel-hub, said king-post having a bearing at its lower end adapted to said seat, and said king-post having a longitudinal bore there-through and being exteriorly screw-threaded

at its upper end, a cap-plate screwing onto the upper end of said king-post and having an annular peripheral flange embracing the rim or verge of said hub, and a king-bolt extending through said longitudinal bore, in combination with two side bars and a stay-rod of a reel-supporting frame, each of said side bars having an upper pivot-plate and a lower pivot-plate secured thereto and fitting over and turning upon said king-post, a spacing and clamping sleeve surrounding said king-post and located between the upper and lower pivot-plates of said side bars, a cap-nut screwing upon the upper end of said king-post and seating upon the uppermost of said pivot-plates, and locking-nuts upon the upper projecting end of said king-bolt securing said stay-rod thereto, substantially as set forth.

2. The king-post, and the reel-hub carried and turning thereon, in combination with the cap-plate secured on said king-post above the reel-hub, the two side bars of the supporting-frame, each having an upper and a lower pivot-plate turning upon said king-post, a spacing-sleeve surrounding the king-post between said upper and lower pivot-plates, and a cap-nut screwing on the king-post above the uppermost of said pivot-plates, substantially as set forth.

3. The radial reel-arm having a bracket secured to the outer end thereof, said bracket having an upwardly-extending post with an eye therein, in combination with a peripheral line extending through said eye, and two sleeves around said post beneath said eye, said sleeves having their adjacent edges cam-shaped, and the upper of said sleeves having holes for the reception of said wire, substantially as set forth.

4. The radial reel-arm having a bracket secured to its outer end, said bracket having an upwardly-extending post with an eye therein, in combination with a peripheral wire extending through said eye, and two sleeves upon said post having their adjacent edges cam-shaped, with reciprocally-engaging notches and heels for holding the upper sleeve in its elevated position, said upper sleeve having holes for the reception of said wire, substantially as set forth.

5. The reel-hub having a projecting flange, said flange having a cross notch or recess and an aperture intersecting said recess, in combination with a radial reel-arm seating upon said flange, and a strap surrounding said radial reel-arm entering said cross notch or recess and having a stud-post extending through said aperture, and a nut fitting upon said stud-post, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

FRANK J. BAILEY.

Witnesses:

JAMES CONLAND,
CLARKE W. FITTS.