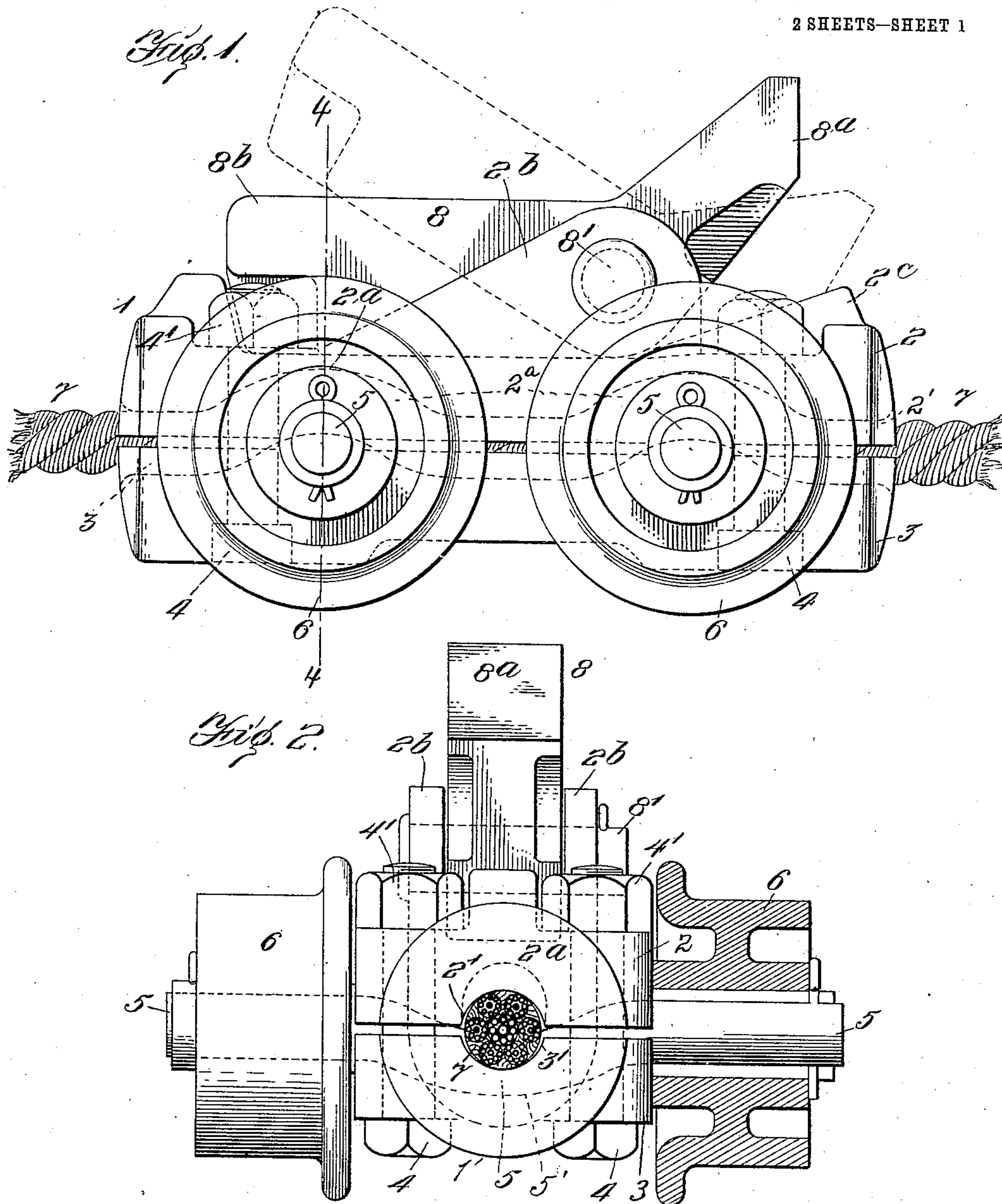


No. 870,003.

PATENTED NOV. 5, 1907.

F. R. WILLSON, JR.  
CABLE ATTACHMENT.  
APPLICATION FILED MAY 4, 1906.

2 SHEETS—SHEET 1



Witnesses.  
Paul J. Gathmann  
N. Curtis Hammond

Inventor:  
Freeman R. Willson, Jr.  
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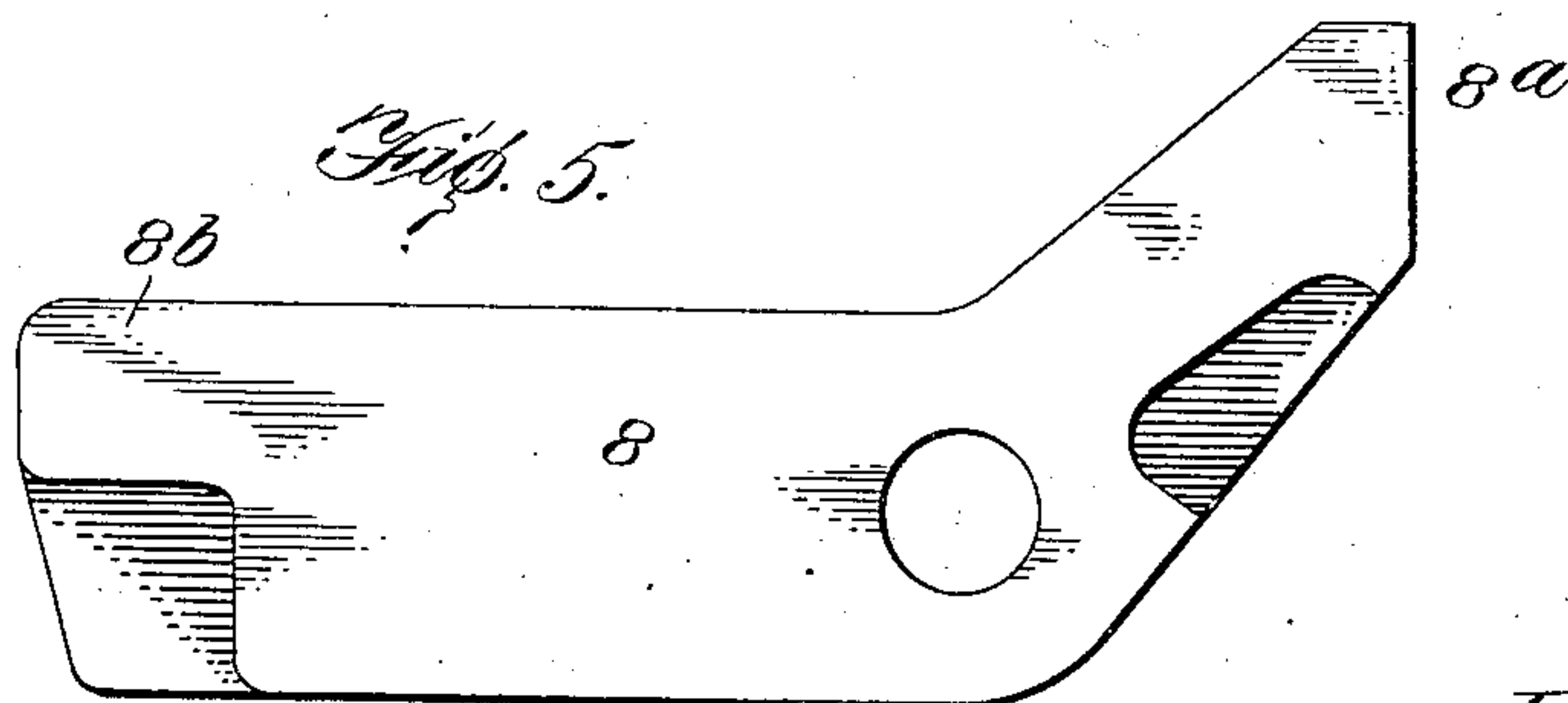
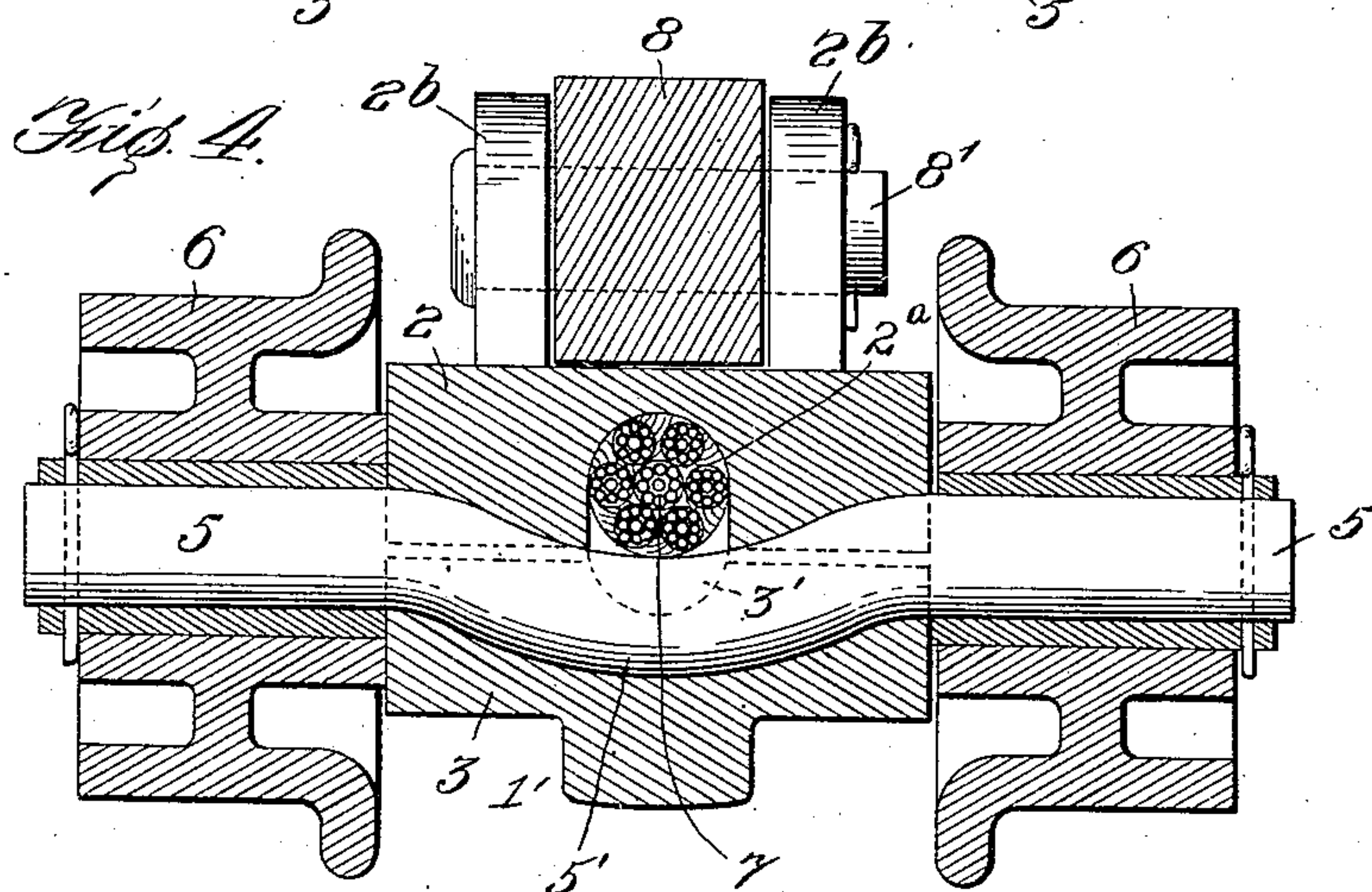
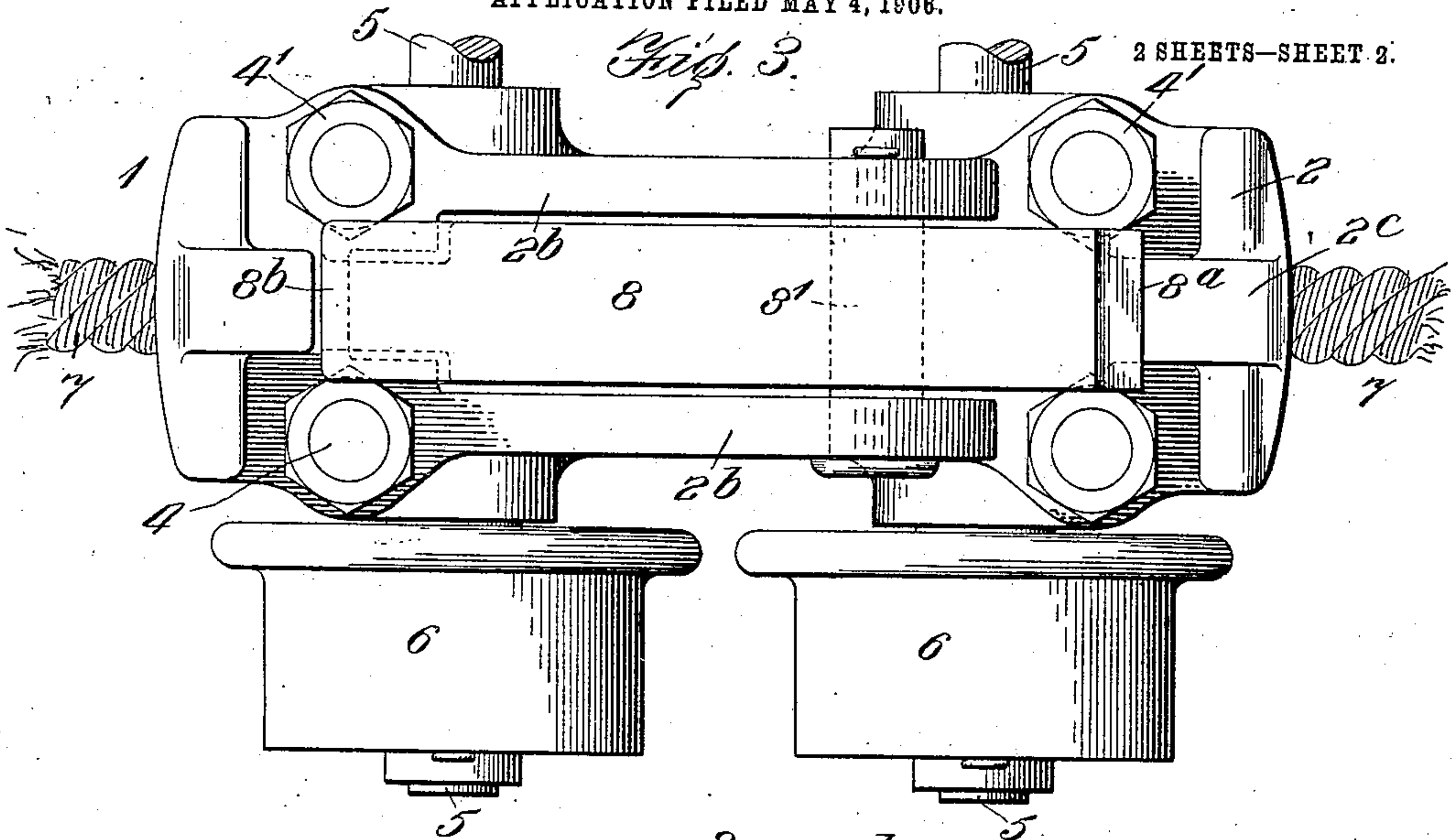
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Paul J. Githmann  
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Atty.



# UNITED STATES PATENT OFFICE.

FREEMAN R. WILLSON, JR., OF WORTHINGTON, OHIO, ASSIGNOR TO JOSEPH A. JEFFREY, OF COLUMBUS, OHIO.

## CABLE ATTACHMENT.

No. 870,003.

Specification of Letters Patent.

Patented Nov. 5, 1907.

Application filed May 4, 1906. Serial No. 315,160½.

To all whom it may concern:

Be it known that I, FREEMAN R. WILLSON, Jr., a citizen of the United States, residing at Worthington, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Cable Attachments, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in cable attachments for car haul systems, it pertaining particularly to the manner of securing to the cable the trucks or carriages which carry the spurs or arms which are adapted to engage with a cooperating element on the car to be controlled.

One of the objects of the invention is to provide a simple, durable and light attachment or clamp which may be quickly secured to or detached from the cable.

Other objects of the invention will be set forth in the description of a device embodying it, which I have herein presented for the purpose of illustration.

Figure 1 is a side elevation of a device embodying my improvements; Fig. 2 is a front end elevation of the same; Fig. 3 is a plan view; Fig. 4 is a section on the line 4—4 Fig. 1; Fig. 5 shows a detail.

In the drawings 1 indicates as an entirety a cable clamp or attachment. It is preferably formed in two parts, an upper one 2 and a lower one 3 arranged parallel with each other along the cable and separable from each other on lines longitudinal of the cable and of the clamp itself. These parts of the clamp or attachment are preferably detachably secured together by bolts 4 having at their upper ends nuts 4'.

Each cable attachment preferably carries near either end a transversely-arranged axle 5 on which is mounted at either side of the clamp or attachment anti-friction wheels or rollers 6 which are adapted to support the clamp or attachment as it is traveling along the different circuits or run of the car haul system.

The lower part 3 of the clamp or attachment is centrally and longitudinally grooved as indicated at 3' to receive the cable which is indicated by 7. The upper section or part of the clamp or attachment is also centrally and longitudinally grooved as indicated at 2' to receive the cable and at points immediately above the axles 5 at either end of the attachment the groove 2' is increased in depth as indicated at 2<sup>a</sup> in order to permit the forming of a kink or bend in the cable at these points so as to insure the secure fastening of the attachments or clamps to the cable and prevent relative longitudinal movement of the said parts.

The bearings for the axles 5 are formed in both the upper and the lower portion of the clamp in such way that when the said parts of the clamp are separated the axles can be bodily lifted laterally from the lower por-

tion 3 of the attachment. Each of these axles near its center is slightly curved or bent downwardly as indicated at 5' in such manner that when the axle is in position the upper surface of this curved portion will engage with the under surface of the cable 7 and force the cable up into the cooperating deeply recessed part 2<sup>a</sup> of the upper portion of the clamp, the transverse grooves through the clamp conforming with the curves of the axles.

8 is a spur or arm pivotally mounted at 8' between upwardly and forwardly extending arms 2<sup>b</sup> 2<sup>b</sup> carried by the upper section of the clamp or attachment. This tilting spur 8 has a forwardly and upwardly extending arm 8<sup>a</sup> and a rearwardly extending arm 8<sup>b</sup> of greater length than the arm 8<sup>a</sup>, which tends normally to hold the said arm 8<sup>a</sup> in its upright position. The arm 8<sup>b</sup> is adapted to engage with the upper surface of the part 2 of the clamp in order to limit the rotation of the spur 8 in an anti-clockwise direction beyond a predetermined point. 2<sup>c</sup> is an upwardly extending stop arranged in the path of travel of the arm 8<sup>a</sup> and adapted to limit the downward travel of the said arm. This tilting spur operates in the well-known manner to permit a cooperating element or attachment on a car to ride over it in one direction, while engaging with it so as to advance the car when the pressure between it and the cooperating element on the car is applied in the opposite direction. It will be understood that, if desired, the upward extending spur or arm may be rigid with or formed integral with the upper portion of the clamp.

I am aware of the fact that it has been heretofore proposed to form a clamp somewhat similar to the clamp herein described, also formed in two parts separable on a longitudinal line, having cable-receiving grooves somewhat similar to the ones I have shown and employing wheel-carrying axles arranged to kink or bend the cable within the clamp, such, for example, as shown in Patent #722,951, dated March 17th, 1903, to C. W. Damron. In the earlier construction, however, the axles were straight throughout their length and were inserted by pressing them longitudinally through bearings arranged entirely within the lower portion of the clamp. These axles could neither be inserted nor withdrawn laterally, when the parts of the clamp or attachment were separated, but had to be withdrawn longitudinally. Applicant's construction simplifies the assembling and dismantling of the cable trucks or attachments, and by bending the axles at their centers, as shown, applicant has succeeded in decreasing the vertical thickness of the clamp and consequently lessening its weight.

What I claim is:

1. A cable attachment comprising two parts separable on longitudinal lines, and each provided with a longitu-



dinal groove arranged to receive a portion of the cable and with a transverse groove arranged to receive a portion of an axle, an axle fitted into said transverse grooves, and rollers on the axle.

- 5 2. A cable attachment comprising two parts separable on longitudinal lines and each having a longitudinal groove and a transverse groove, the longitudinal grooves cooperating to receive the cable and the transverse grooves cooperating to receive an axle, an axle fitted into said transverse grooves, and rollers on the said axle.

- 10 3. A cable attachment comprising two parts separable on longitudinal lines and having transverse grooves arranged to register with each other and to receive an axle and longitudinal grooves adapted to receive the cable, the longitudinal groove in the upper part of the clamp being deeper immediately above the point at which the axle is inserted than elsewhere throughout its length, an axle fitted into said transverse grooves and adapted to force the cable into the deeper portion of the said upper longitudinal groove, and rollers on said axle.

- 20 4. A cable attachment formed in two parts, an upper and a lower one, separable on longitudinal lines and having transverse grooves arranged to register with each other and to receive an axle and correlated longitudinal grooves arranged to receive the cable, the longitudinal groove in the upper part of the clamp being deeper immediately above the point at which the said axle is inserted than elsewhere throughout its length, an axle fitted into said transverse grooves and having its central portion bent downwardly and arranged to engage the cable and to press it into the said deeper portion of the longitudinal groove in the upper part of the clamp, and rollers on said axle.

- 30 5. A cable attachment formed in two parts, an upper

and a lower one, separable on longitudinal lines and having transversely-arranged curved grooves adapted to register with each other and to receive an axle and cooperating longitudinally-arranged grooves adapted to receive the cable, the longitudinal groove in the upper part of the clamp being deeper immediately above the point at which the said axle is inserted than elsewhere throughout its length, an axle fitted into said transverse grooves and having its central portion bent downwardly and adapted to press the cable upwardly into the said deeper portion of the longitudinal groove in the upper part of the clamp, and rollers on the axle.

6. In a conveyer carriage, the combination of the body part, a bent axle, the body part having a depressed seat receiving the bent portion of the axle, means for clamping the axle in the said seat, and wheels on the axle.

7. In a conveyer carriage, the combination of a body part, an axle round in cross section and bent intermediate its ends, the body part having a depressed seat receiving the bent portion of the axle, means for clamping the axle in the said seat and wheels on the axle.

8. In a conveyer carriage, the combination of a body comprising two parts separable on longitudinal lines, a bent axle, one of the body parts having a depressed seat receiving the bent portion of the axle, means for clamping the two body parts together and thereby locking the axle in position, and wheels on the axle.

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

FREEMAN R. WILLSON, Jr.

Witnesses:

J. E. McDONALD,  
J. WEBSTER.