

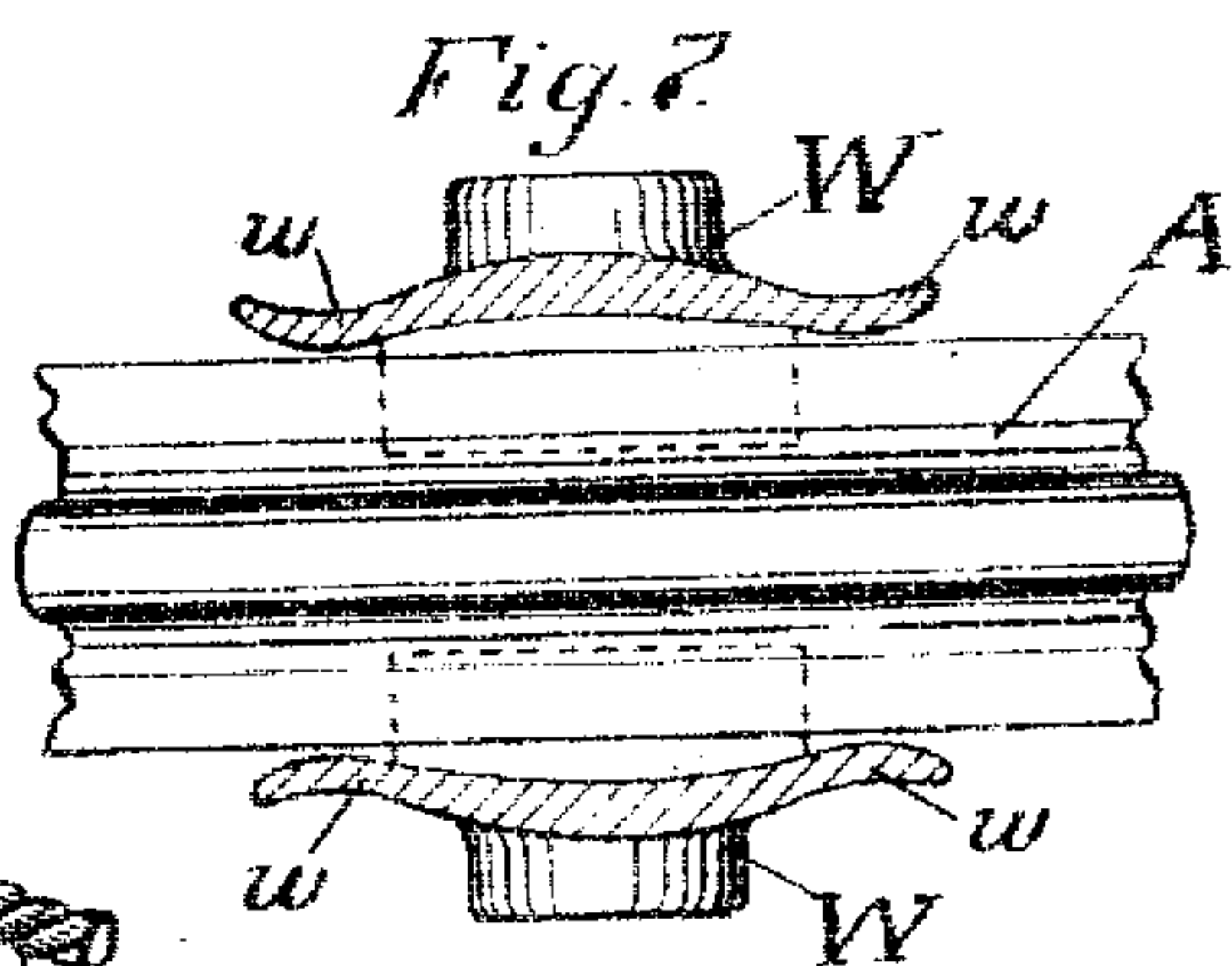
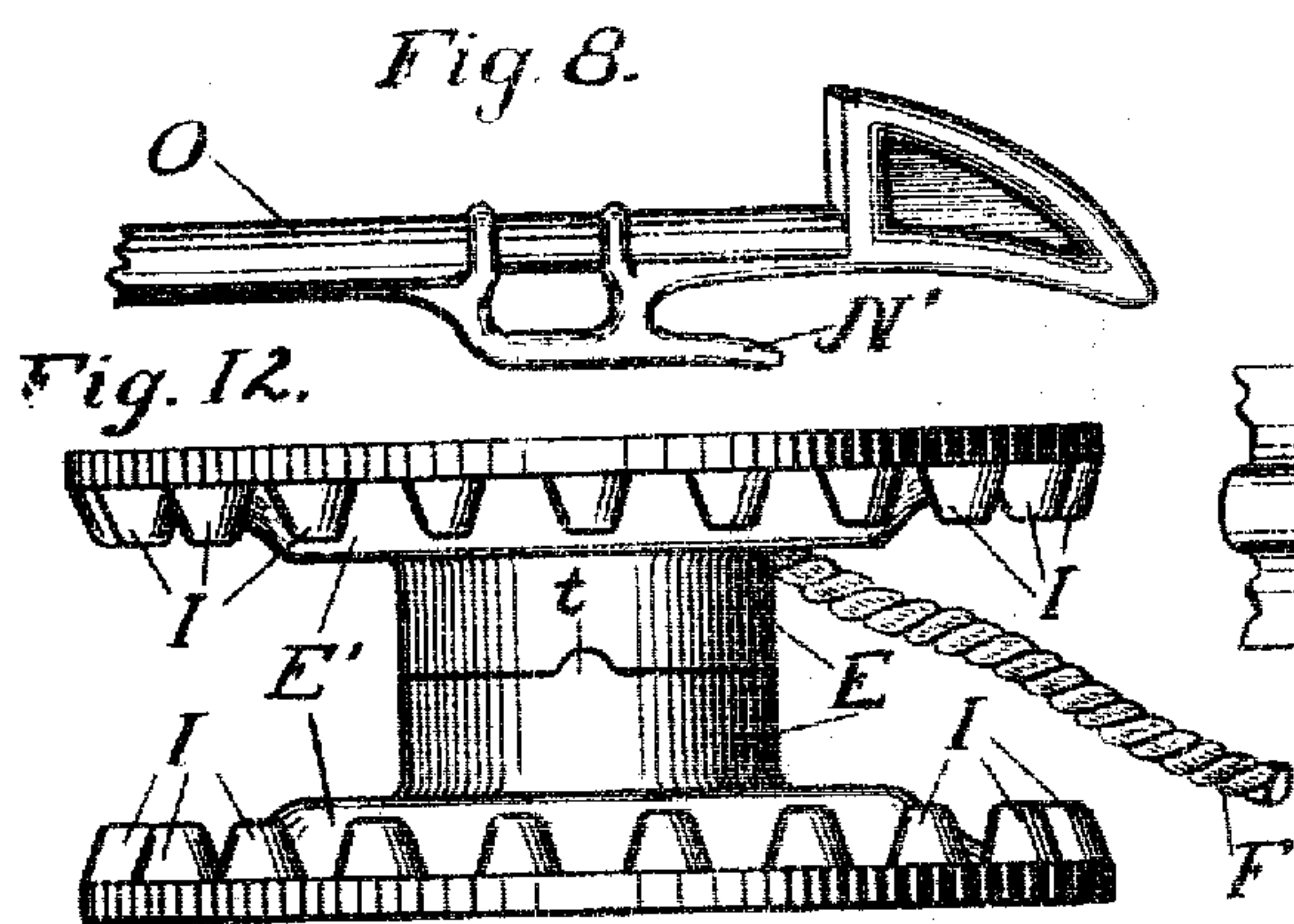
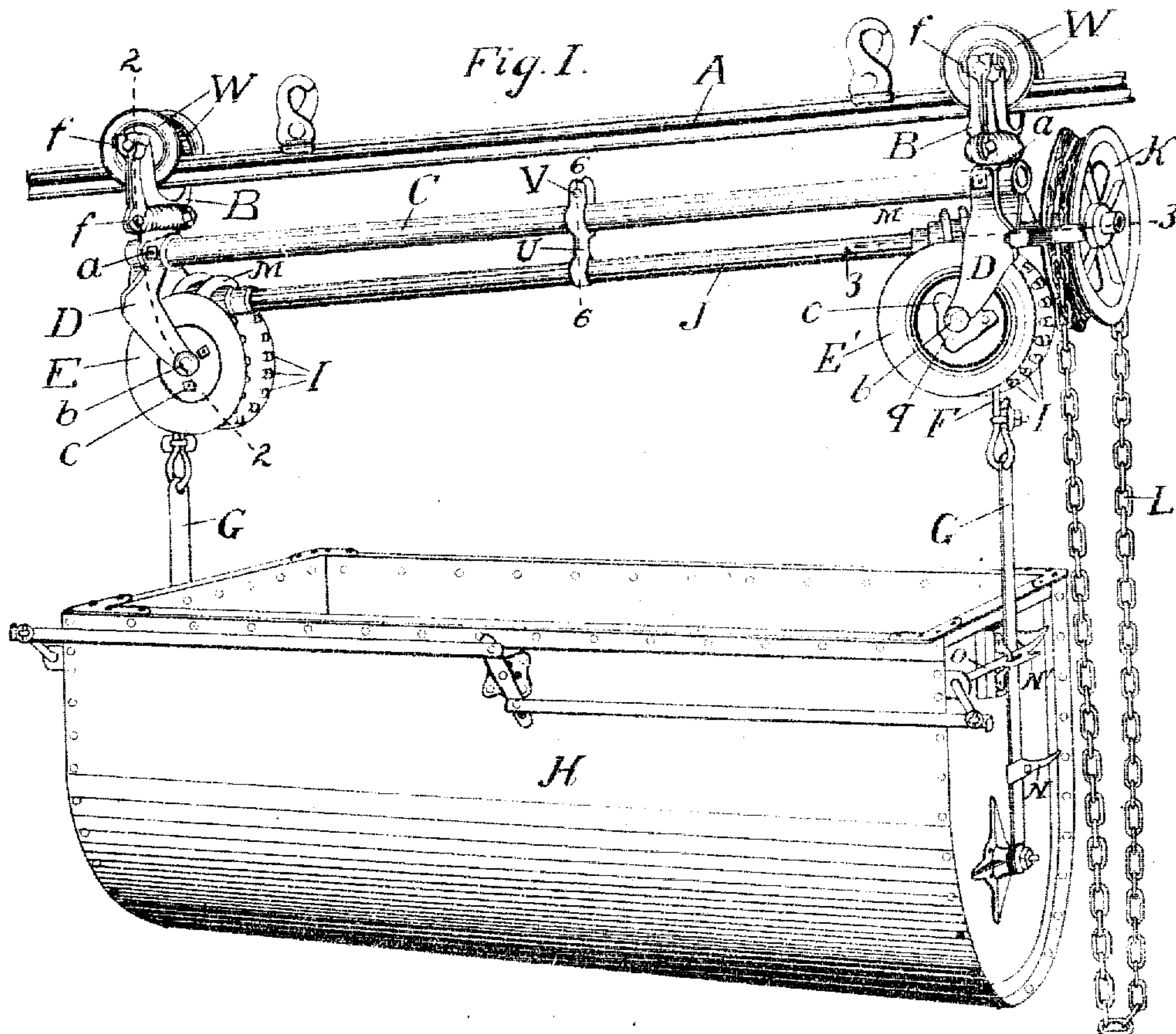
No. 865,509.

PATENTED SEPT. 10, 1907.

W. LOUDEN.
ELEVATED CARRIER.

APPLICATION FILED JULY 5, 1907.

3 SHEETS--SHEET 1



WITNESSES:

Edw. C. Peters
Laura Hamp.

INVENTOR

William Loudon.

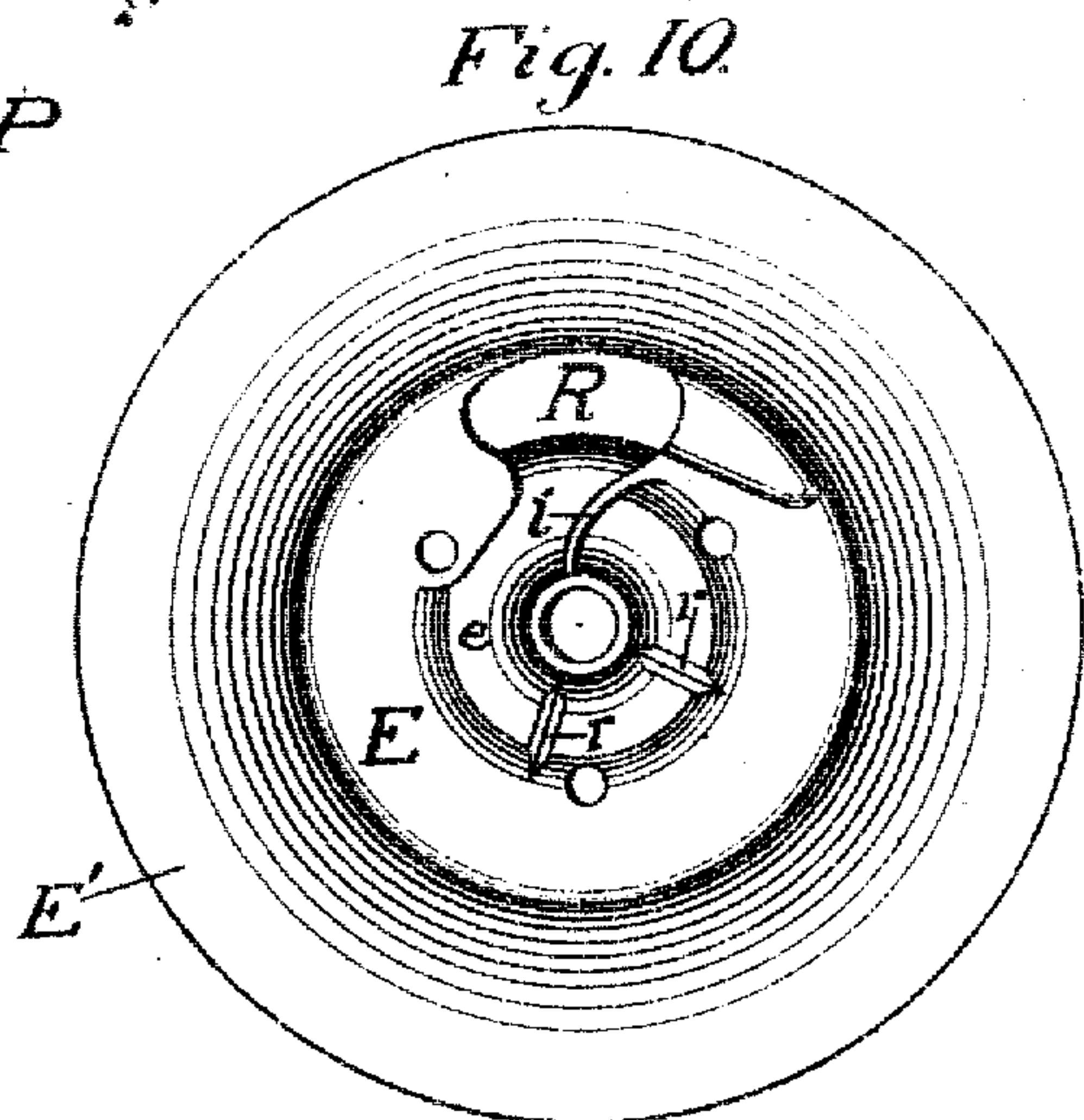
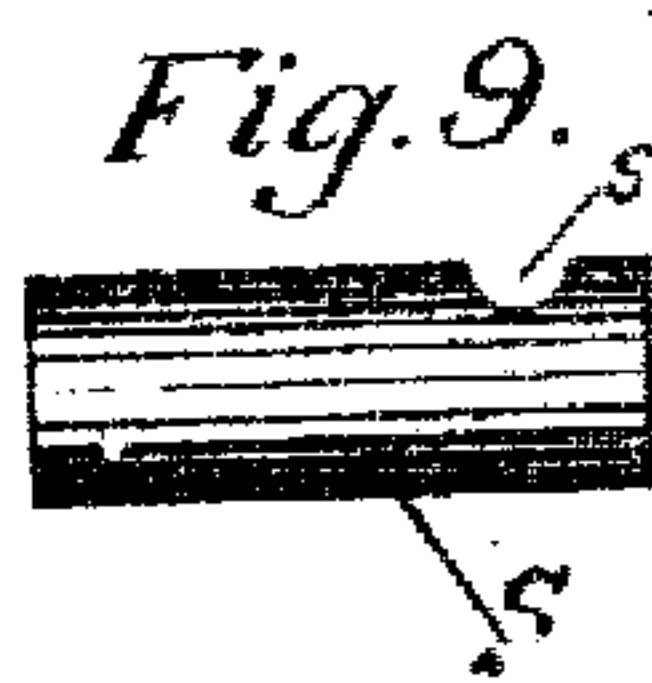
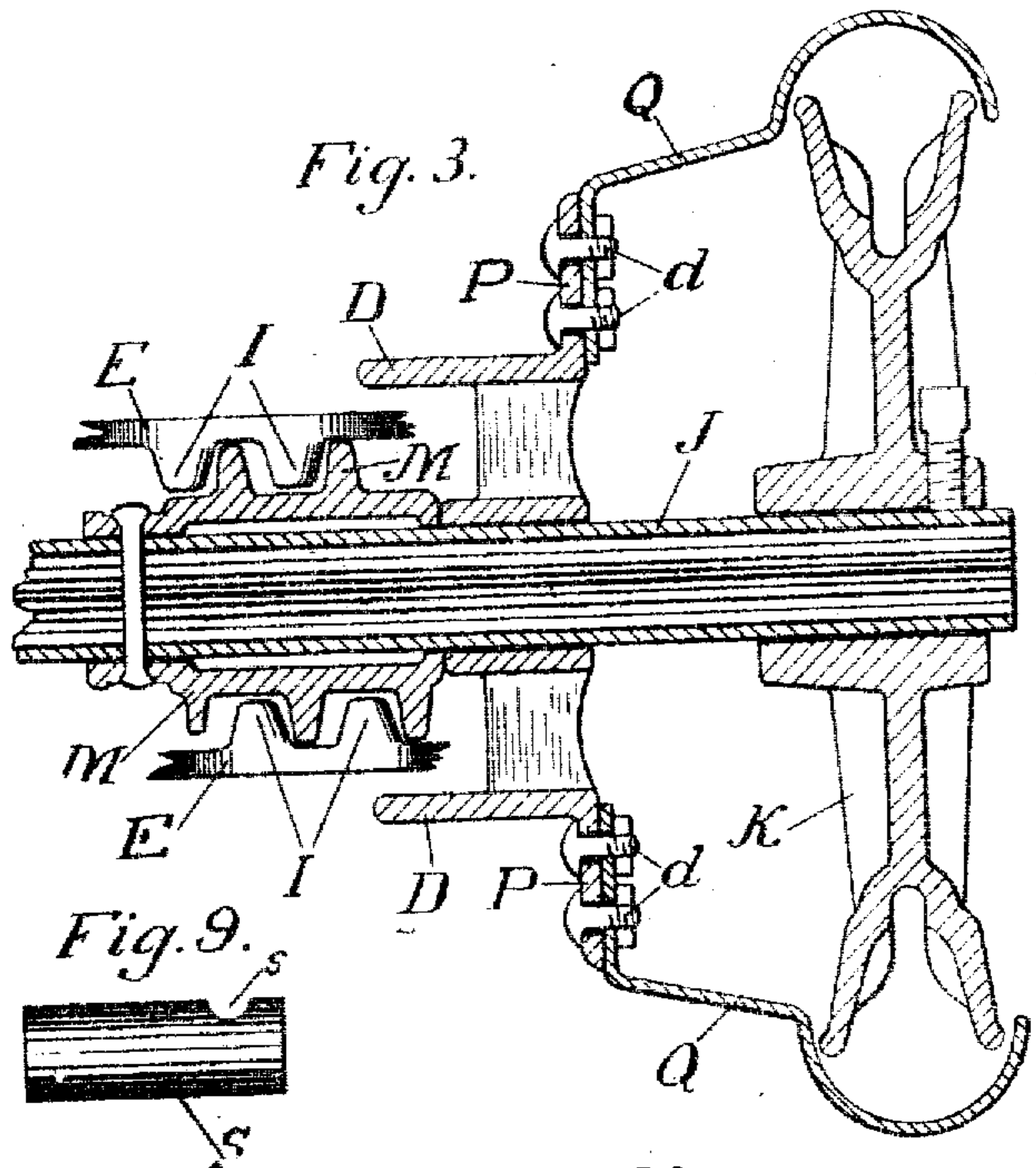
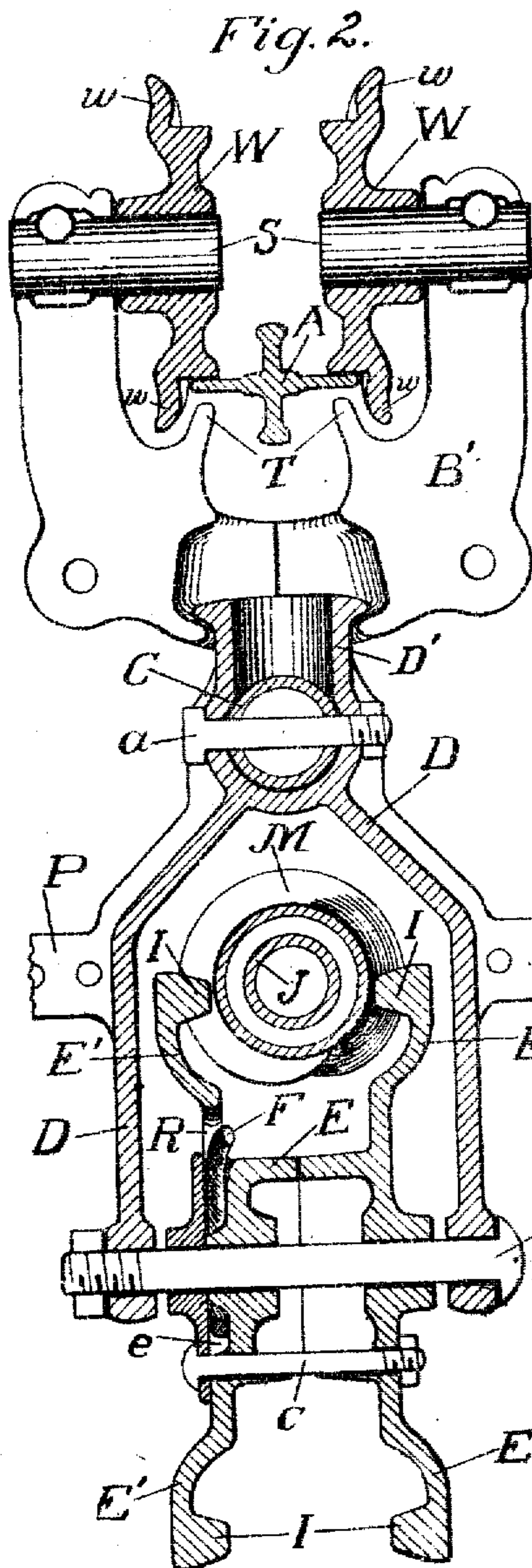
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W. LOUDEN.
ELEVATED CARRIER.

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3 SHEETS-SHEET 2.



WITNESSES:

Edw. C. Peterka
Laura Kamp.

INVENTOR

William Loudon.

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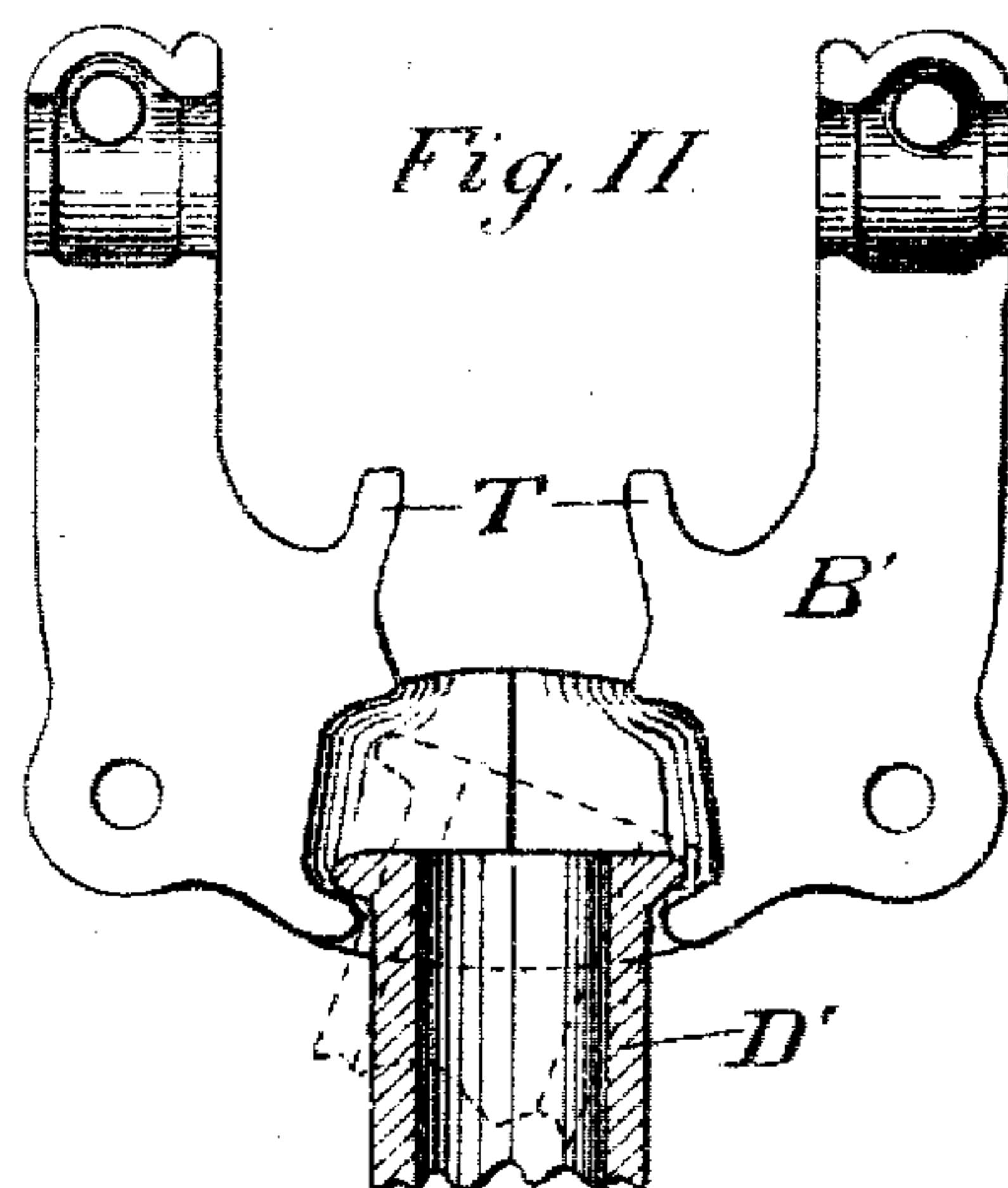
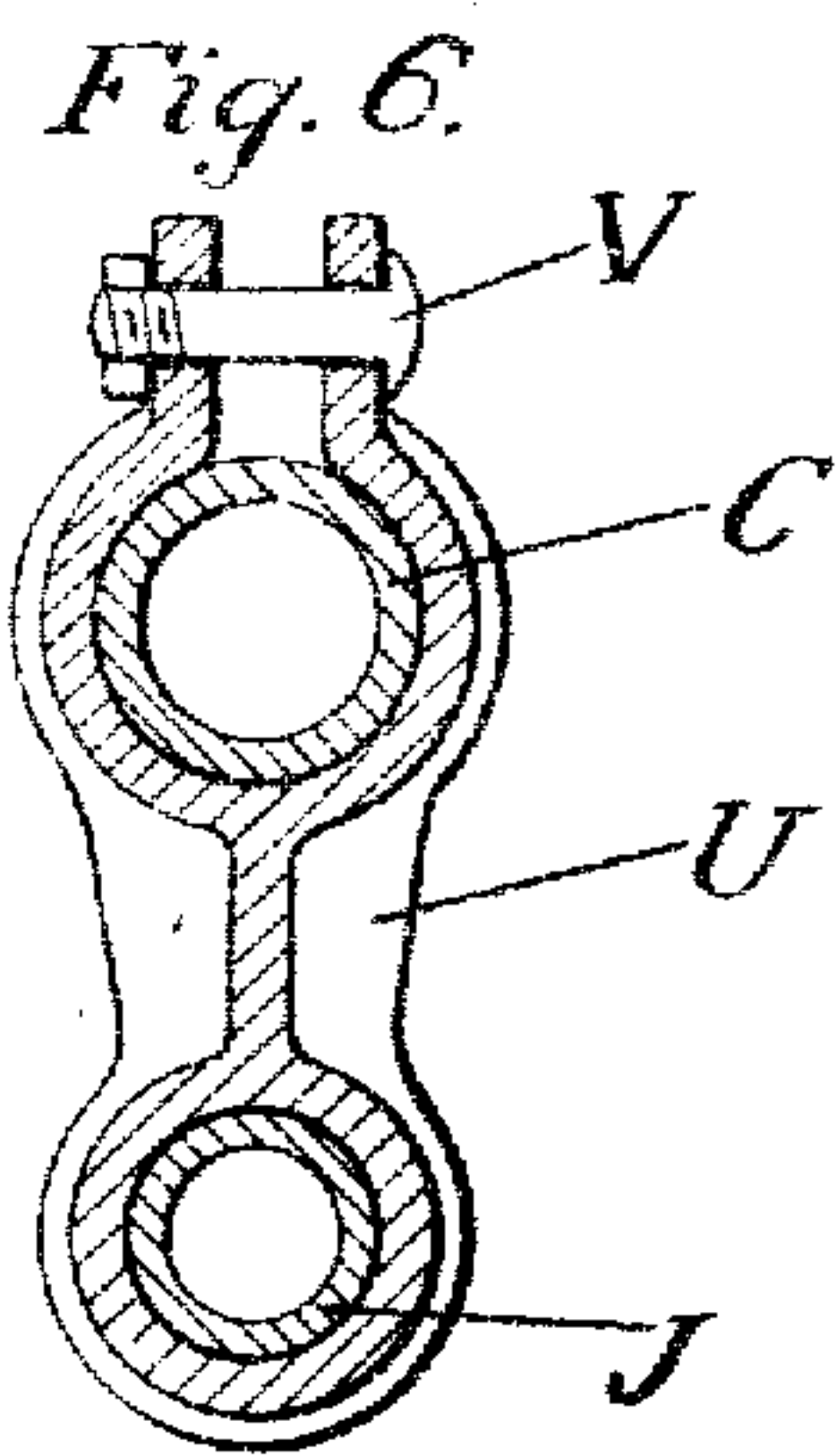
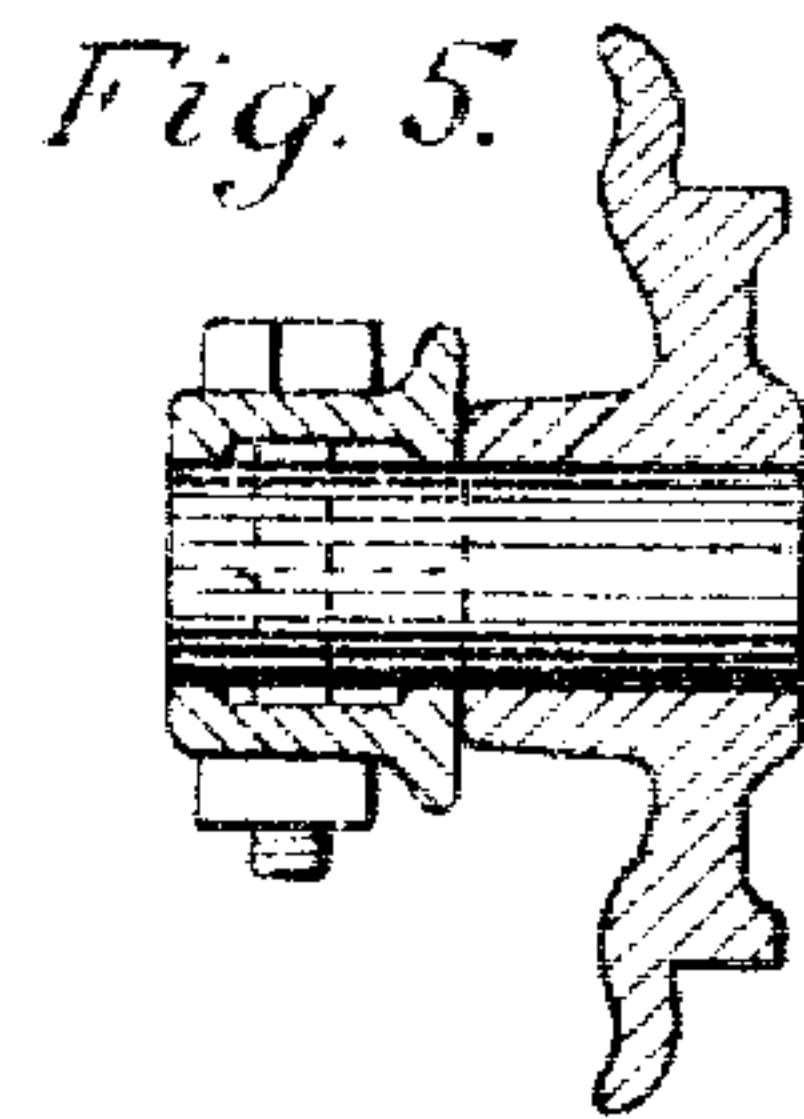
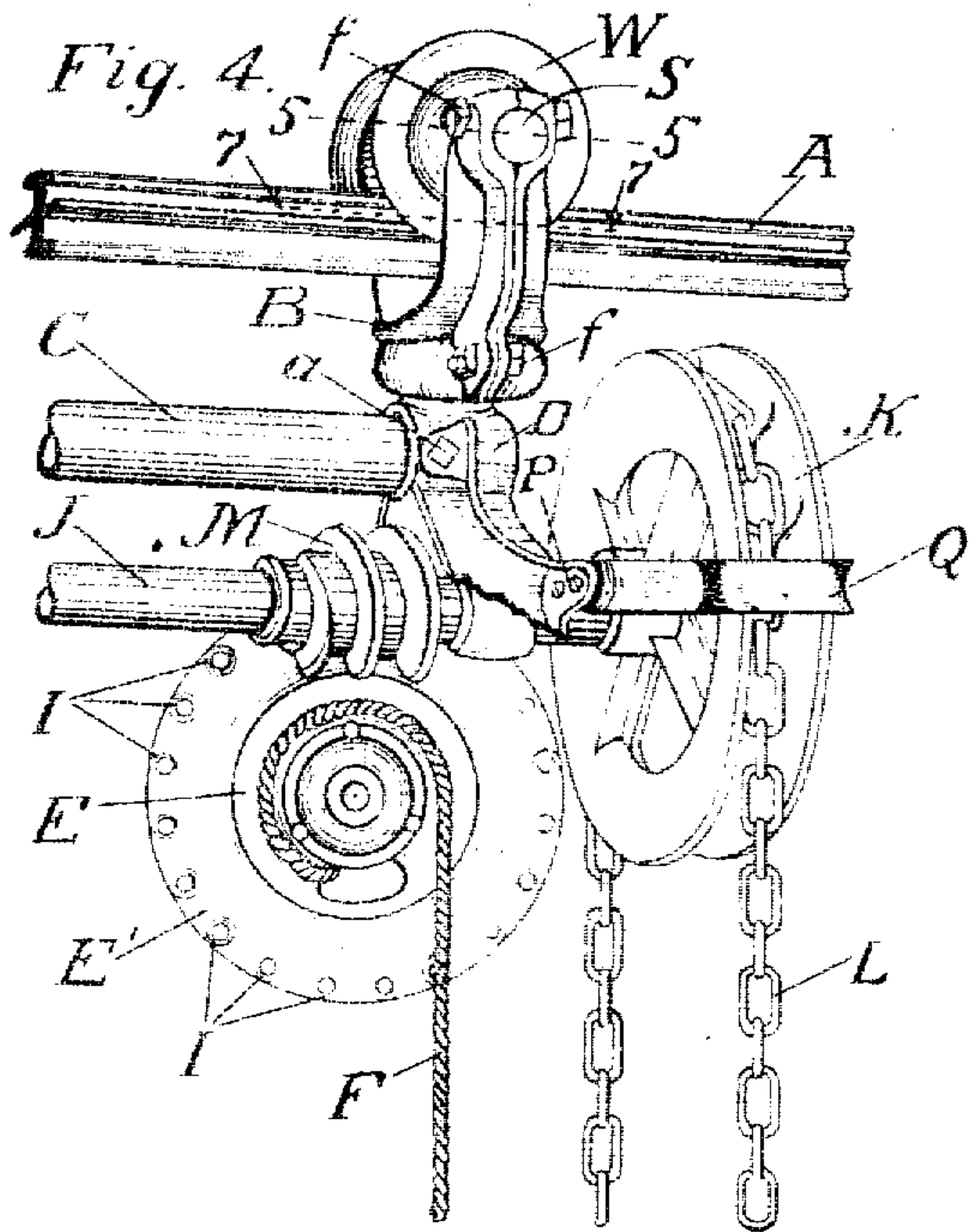
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3 SHEETS—SHEET 3.



WITNESSES:

Edw. C. Peterske.
Lena Kamp.

INVENTOR

William Loudon

UNITED STATES PATENT OFFICE.

WILLIAM LOUDEN, OF FAIRFIELD, IOWA.

ELEVATED CARRIER.

No. 865,509.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed July 5, 1907. Serial No. 382,386.

To all whom it may concern:

Be it known that I, WILLIAM LOUDEN, a citizen of the United States, residing at Fairfield, in the county of Jefferson and State of Iowa, have invented a new and useful Improvement in Elevated Carriers, of which the following is a specification.

My invention relates to that class of elevated carriers adapted to run on an overhead track and provided with a receptacle which can be elevated and lowered, so that the material may be carried at any desired height from the ground and be discharged at any desired point along the track; and it consists of an improvement in the construction and combination of parts set forth in this specification and more specifically pointed out in the claims.

In the accompanying drawings forming a part of this specification, Figure 1 is a perspective of a carrier embodying my invention. Fig. 2 is a transverse section on line 2—2 of Fig. 1. Fig. 3 is a horizontal section on line 3—3 of Fig. 1. Fig. 4 is an enlarged perspective of the elevating and lowering gear, the lower front portion being broken away to show the working interior. Fig. 5 is a horizontal section through one of the track wheels on line 5—5 of Fig. 4. Fig. 6 is a vertical section on line 6—6 of Fig. 1. Fig. 7 is a horizontal section on line 7—7 of Fig. 4. Figs. 8, 9, 10, 11 and 12 are detail views.

Referring to the drawings, A represents an elevated track.

B B are track frames carrying wheels W, to run upon the track.

C is a horizontally disposed bar, preferably a pipe or tubing, and D D are brackets secured to each end of the pipe preferably by bolts a. The trucks are connected to the brackets by means of swivels which will permit them to turn when running on a curved track. The lower ends of the brackets are forked and in the lower ends of the forks, hoisting drums E are mounted preferably on bolts b. Hoisting ropes or cables F are connected to these drums and are secured to hangers G which in turn are pivoted to the receptacle H at each end. The hoisting drums are preferably composed of two halves having flanges E' held together by means of bolts c or otherwise. Each of these halves is provided with inwardly projecting pins I.

A rotatable shaft J, preferably of pipe is mounted in the brackets below the bar C and between the flanges E'. This shaft is extended beyond the bracket at one end, and this extended end is fitted with a chain wheel K in which an endless chain L is hung. It is also fitted with a screw or worm M which is adapted to contact with the pins I, and when the shaft is rotated, to rotate the drums. The pins contacting with the screw on both sides will not exert any side pressure on it as is the case with ordinary worm gears. Should the pins on one side become worn or get broken those

on the other side will be sufficient to operate the hoist, though not so perfectly or with as little friction as when complete on both sides.

The chain L is extended down within reach of the operator, and by drawing it in one direction the receptacle will be elevated, while in the other direction it will be lowered, and it will be held suspended at any desired elevation. To insure its being held at the proper height a finger N may be affixed to the hanger adjacent to the chain, and one of its links may be slipped over this finger so as to prevent its running down. Instead of this, a finger N' may be formed on the latch rod O, and be used in the same way. The chain being held stationary by either of these fingers, or by other equivalent, can not run back and let the receptacle run down until released.

The brackets D are provided with outwardly projecting lugs P to which are secured by bolts d or otherwise guards or keepers Q which are formed to cover at opposite sides, the groove of the chain wheel K, and prevent the chain from getting off the wheel. The outer circumference of the flanges E' are preferably dished outwardly so that the points of the pins I will not project farther in than the central part of the flanges where the cable winds. In this way the cable will be kept from rubbing or wearing against the pins. The central portions of the sides forming the drums are preferably made concave so as to lighten it, but may be made solid if so preferred.

One of the sides of which the drum E is composed is fitted with an opening R through which the end of the cable F is passed to fasten it to the drum. The edges of this opening are rounded so as to present no sharp corners to injure the cable. It is provided with a recess e surrounding the hub into which the end of the cable is coiled. Also, with a curved flange i joining the hub with one side of the opening R. The groove e is also preferably fitted with transverse ribs r. The cable F is held in the groove by means of a plate q through which the bolts c are passed. The sides of the groove e are rounded back as they approach the opening R so that the cable may be wound in either direction without having to come in contact with a sharp corner. The pins are set so as to fit evenly on each side of the worm M and the two sides E' of which the hoisting drums are composed are preferably fitted with a tongue and groove t which will prevent them from getting shifted to one side or the other.

The truck frames are preferably made of two parts B' arranged to fit each other face to face, and are provided with semi-circular or semi-spherical recesses or cavities in their lower central parts which are adapted to fit over necks D' on the upper ends of the brackets D, and to hold therein swivel heads on the upper ends of said necks. It is better to have these cavities large enough so that the swivel heads will have room to swing to

either side, as shown by dotted lines in Fig. 11. The parts B' are held together by bolts f. In the upper ends of the parts B' are corresponding semi-circular cavities adapted to embrace and hold the axles S on which the wheels W run. To prevent the axles from getting out or turning around, transverse grooves s are cut in them near their outer ends so that the bolts f, which hold the upper ends of the truck frames together will pass through these grooves. No extra work will be

required on the axles, which may be a straight piece of shaft, but to keep the wheels from getting off, upwardly projecting lugs T are formed on the pieces B' so as to stand inside the lower edges of the wheel flanges w and below the wheel supporting flanges of the track A. In this way the wheels can not get off the axles even when off the track. The wheel flanges w are made curved so the central portions will extend in toward the track more than the inner portions adjoining the treads of the wheels, thus virtually forming a recess in the flange adjoining the tread as shown in Fig. 7. In this way the portion of the flange adjoining the tread will not come in contact with the edge of the track, but the central portion of the flange will do so, thus forming two points of contact with the track instead of one as with the common construction of wheel flanges. By this means the wheels are kept from oscillating laterally like wheels with common flanges will do when mounted upon swivel trucks.

A supporting bracket represented by U is employed to steady the central portion of the rotatable shaft J. Its upper end is bi-furcated and is adapted to embrace the shaft C and it is clamped thereon by means of a bolt V. The lower end is provided with a boxing or loosely fitting sleeve through which the rotatable shaft J is passed and in which it may freely turn. The support U may be adjusted upon any part of the shaft C and will securely hold the two shafts together while permitting the shaft J to rotate freely therein. The lower ends of the brackets D which are made forked to use with the hoisting drums E are preferably inclined inwardly so that each drum may be directly below its corresponding worm M and the worm be allowed to abut against the inner side of the bracket.

What I claim is:

1. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum mounted in each bracket adjacent to the worms and provided with means for co-acting therewith, a receptacle, means for connecting the receptacle with the drums, and means for rotating the shaft so as to raise and lower the receptacle.

2. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum mounted in each bracket adjacent to the worms and provided with means for co-acting therewith, a receptacle, means for adjustably connecting the receptacle with the drums, and means for rotating the shaft so as to raise and lower the receptacle.

3. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum mounted in each bracket adjacent to the worms and provided with gears for co-acting with the worms, a receptacle, means for connecting each end of the receptacle with the drums and means for rotating the shaft and elevating and lowering the receptacle.

4. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum mounted at right angles to the shaft in each bracket, adjacent to the worms and provided with means for co-acting therewith, a receptacle, means for connecting the receptacle with the drums, and means for rotating the shaft so as to raise and lower the receptacle.

5. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum mounted in each bracket and having flanges to straddle the worms and pins or spurs on the inner faces of said flanges to co-act therewith, a receptacle, means for connecting the receptacle with the drums and means for rotating the shaft to raise and lower the receptacle.

6. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, a revoluble shaft mounted in the brackets and carrying a worm or screw adjacent to each bracket, a drum consisting of two parts joined together and mounted in each bracket adjacent to the worms, each part having a flange provided with pins or spurs to co-act with the worms, a receptacle, means for connecting the receptacle with the drums, and means to rotate the shaft and raise and lower the receptacle.

7. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, said brackets having their lower ends forked, a revoluble shaft mounted in the brackets above said forked ends, and carrying a worm or screw adjacent to each bracket, a drum mounted in the forked ends of each bracket adjacent to the worms and provided with means for co-acting therewith, a receptacle, means for connecting the receptacle with the drums and means for rotating the shaft and raising and lowering the receptacle.

8. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, said brackets having their lower ends forked, a revoluble shaft mounted in the brackets above said forked ends, and carrying a worm or screw adjacent to each bracket, a drum mounted at right angles to the shaft in the forked ends of each bracket adjacent to the worm and provided with means for co-acting therewith, a receptacle, means for connecting the receptacle with the drums, and means for rotating the shaft and raising and lowering the receptacle.

9. An overhead track, a carriage to run on the track, a depending bracket secured to each end of the carriage, said brackets having their lower ends forked and inwardly inclined, a revoluble shaft mounted in the brackets above said forked ends, and carrying a worm or screw at the inner side of each bracket, a drum mounted in the forked ends of each bracket opposite the worms and provided with means for co-acting therewith, a receptacle, means for connecting the receptacle with the drums, and means for rotating the shaft and raising and lowering the receptacle.

10. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft and a chain hung in the wheel and adapted to rotate the shaft and elevate and lower the receptacle.

11. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel and adapted to rotate the shaft, and keepers secured to the brackets and adapted to prevent the chain from jumping off the wheel.

12. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a

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rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel, lugs formed on the brackets, and keepers or guards secured to the lugs.

13. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel and adapted to rotate the shaft and means to hold the chain in fixed position.

14. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel, and adapted to rotate the shaft and elevate and lower the receptacle and means to hold the chain in fixed relation to the receptacle.

15. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel and a device affixed to the receptacle to hold the chain in fixed relation thereto.

16. In a device of the character described, a track, a carriage, a bracket secured to each end of the carriage, a rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel and a prong affixed to the receptacle to engage a link of the chain and hold it in fixed relation thereto.

17. In a device of the character described, a carriage, a connecting bar or shaft in the carriage, a rotatable shaft mounted below the connecting shaft, and a center support having on one end a boxing for the rotatable shaft and on the other a gripping opening to embrace the connecting shaft.

18. In a device of the character described, a carriage, a connecting bar or shaft in the carriage, a rotatable shaft mounted below the connecting shaft, and a center support having on one end a boxing for the rotatable shaft, the other end bifurcated and arranged to embrace the connecting shaft, and a bolt to clamp the bi-furcated ends upon the shaft.

19. In a device of the character described, a receptacle, a hoisting cable connected thereto, and a drum having a flange with a doubly rounded opening through which the cable may be passed and be wound in either direction on the drum without producing sharp bends therein.

20. In a device of the character described, a receptacle,

a hoisting cable connected thereto, and a drum having a flange and an opening therein through which the cable may be passed and a plate on the outside of the drum to clamp the end of the cable thereto.

21. In a device of the character described, a receptacle, a hoisting cable connected thereto, and a drum having a flange and an opening therein through which the cable may be passed, a groove leading from the opening around the axle of the drum and on its outer side, into which the end of the cable may be laid and a plate to clamp the cable to the drum.

22. In a device of the character described, a receptacle, a hoisting cable connected thereto, and a drum having a flange and an opening therein through which the cable may be passed, a groove leading from the opening around the axle of the drum and on its outer side, into which the end of the cable may be laid, ribs in said groove and a plate to clamp the cable to the drum.

23. In elevated carriers, a track, a truck consisting of two separate pieces placed face to face and secured together, each piece passing below and on each side of the track and at substantially right angles thereto, axle pins inserted in recesses between the upper ends of said pieces and wheels mounted on said pins and adapted to run on the track.

24. In elevated carriers, a track, a truck consisting of two separate pieces placed face to face and secured together, each piece passing below and on each side of the track and at substantially right angles thereto, a swivel head on the carrier frame, a recess formed in the central lower ends of the truck pieces so as to inclose and hold the swivel head, axle pins inserted in recesses between the upper ends of said pieces and wheels mounted on said pins and adapted to run on the track.

25. In elevated carriers, a track, a truck consisting of two separate pieces placed face to face and secured together, each piece passing below and on each side of the track and at substantially right angles thereto, axle pins inserted in recesses between the upper ends of said pieces, flanged wheels mounted on said pins and upwardly projecting lugs formed on one or both of the pieces below the track so as to come in contact with the flanges and prevent the wheels from coming off the pins.

26. In elevated carriers, a track, a truck consisting of two separate pieces placed face to face and secured together, each piece passing below and on each side of the track and at substantially right angles thereto, axle pins inserted in recesses between the upper ends of said pieces and wheels mounted on said pins and adapted to run on the track, and recesses being formed in the upper edges near the outer ends and bolts being passed through said recesses to hold the pins in place.

27. In elevated carriers, a track, a carriage having wheels to run on the track, said wheels being provided with flanges to bear against the edges thereof, a recess being formed in the face of the flange adjoining the tread of the wheel so that each flange will have two bearing places against the track, one on each side of the vertical center.

WILLIAM LOUDEN.

Witnesses:

LAURA KAMP,

EDW. C. PETERKE

It is hereby certified that in Letters Patent No. 865,509, granted September 10, 1907, upon the application of William Loudon, of Fairfield, Iowa, for an improvement in "Elevated Carriers," an error appears in the printed specification requiring correction, as follows: In line 30, page 1, the word "track" should read *truck*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 31st day of March, A. D., 1908.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.

rotatable shaft mounted in the brackets, a worm on the shaft adjacent to each bracket, a drum mounted in each bracket and adapted to co-act with the worms, a receptacle, cables connecting the ends of the receptacle with the drums, a groove wheel upon one end of the shaft, a chain hung in the wheel, lugs formed on the brackets, and keepers or guards secured to the lugs.

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