

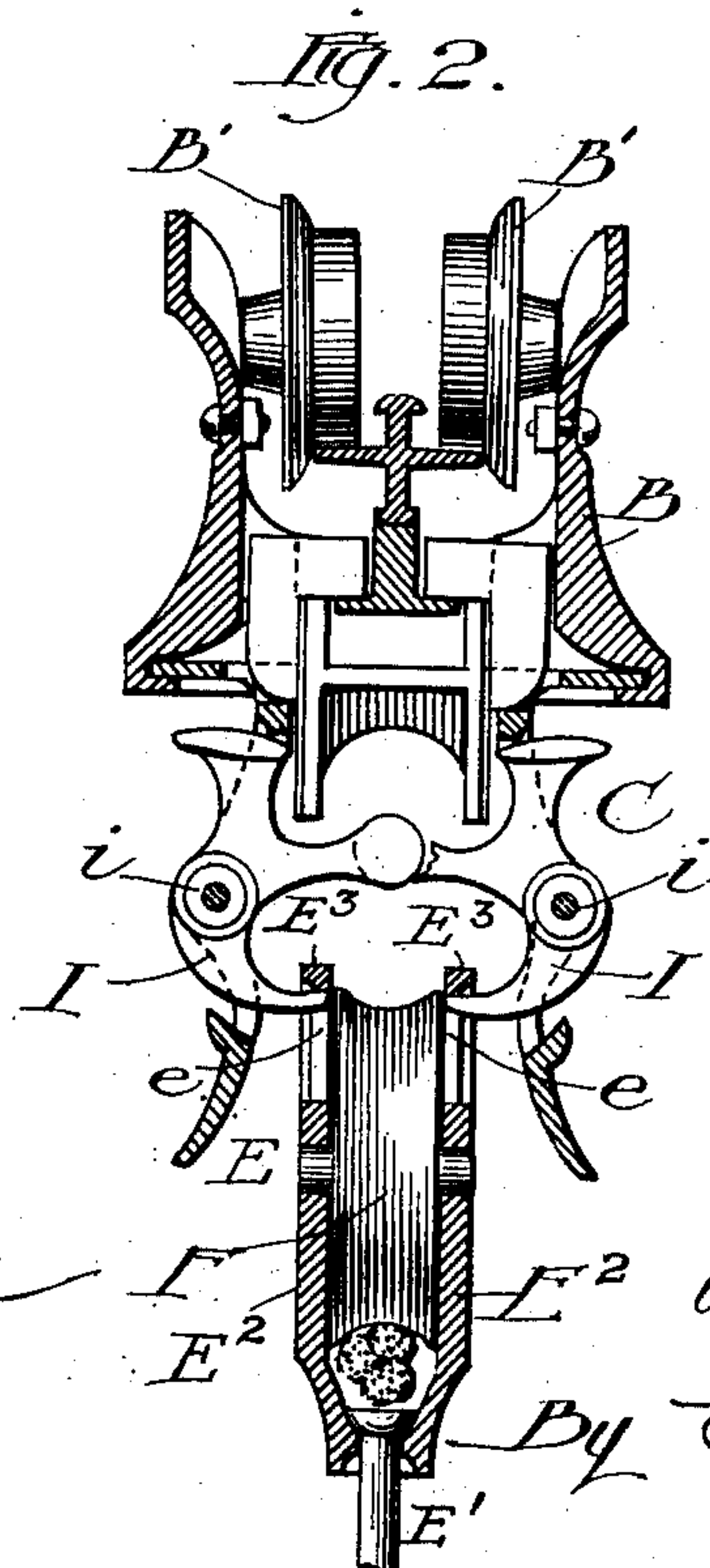
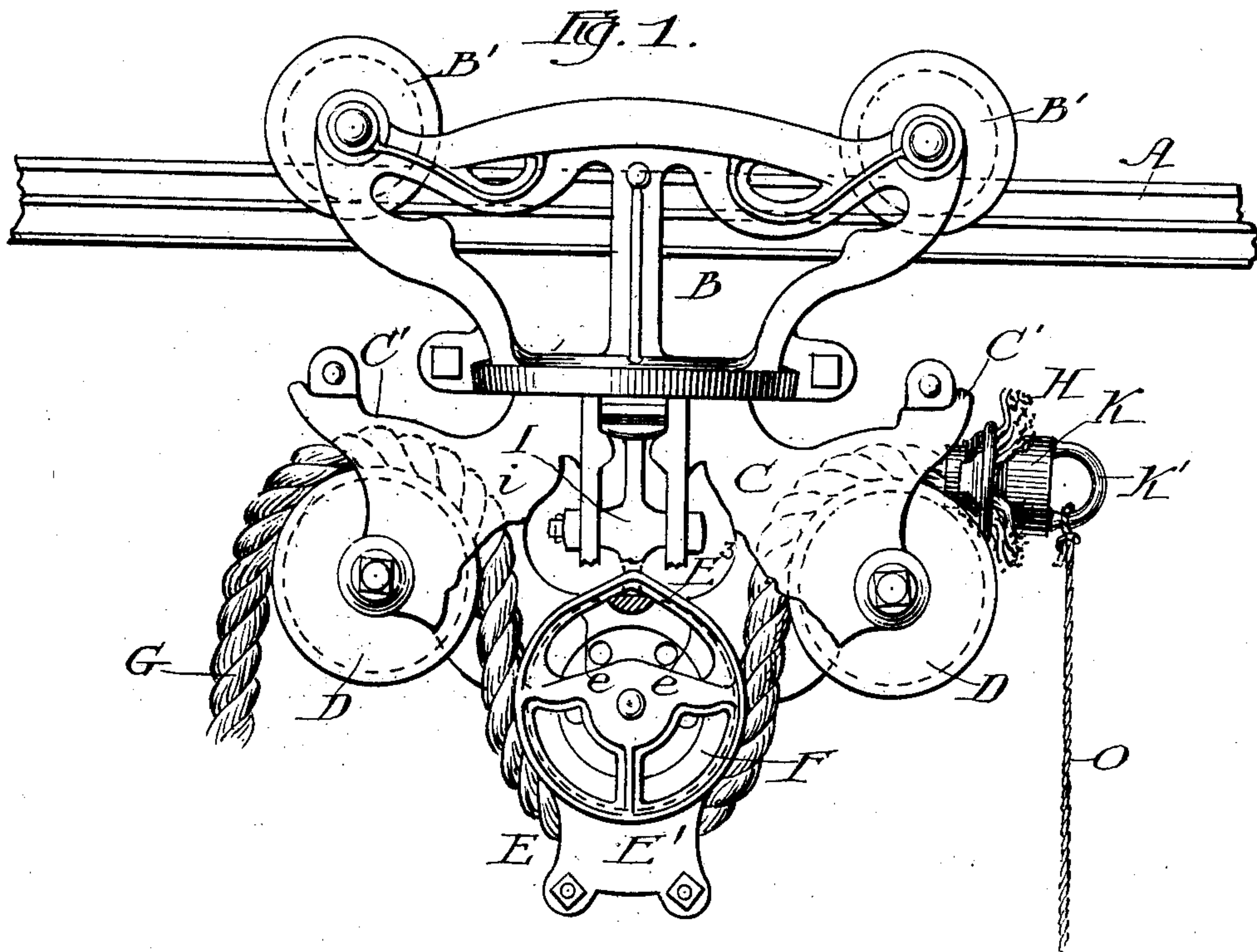
No. 826,856.

PATENTED JULY 24, 1906.

W. F. JACOBS.  
HAY CARRIER.

APPLICATION FILED FEB. 26, 1906.

2 SHEETS—SHEET 1.



Witnesses:

Frank Blanchard  
W. Hall

Inventor:

William F. Jacobs.

By Poole Brown  
Attorneys.

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2 SHEETS—SHEET 2.

Fig. 3.

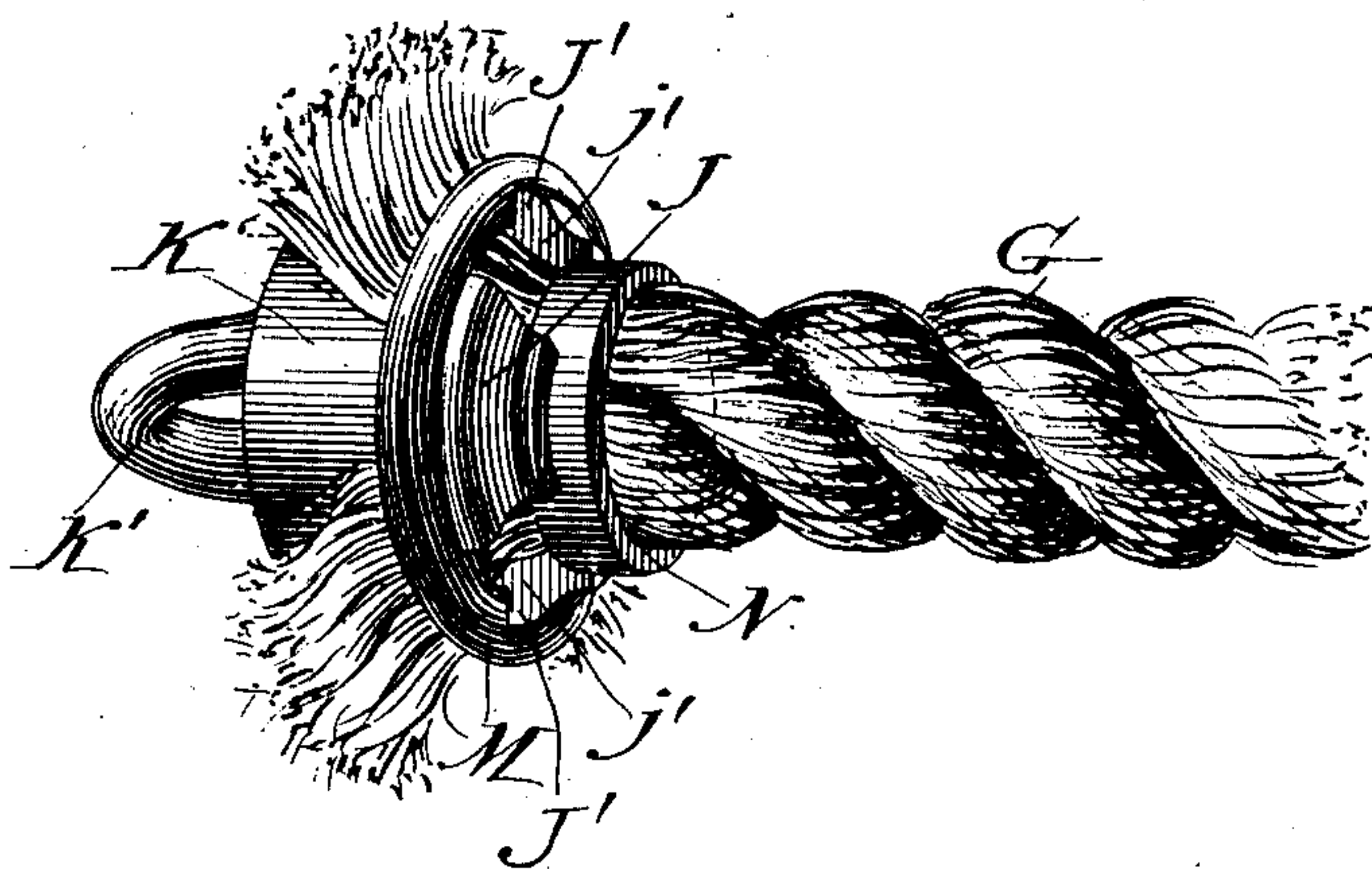


Fig. 4.

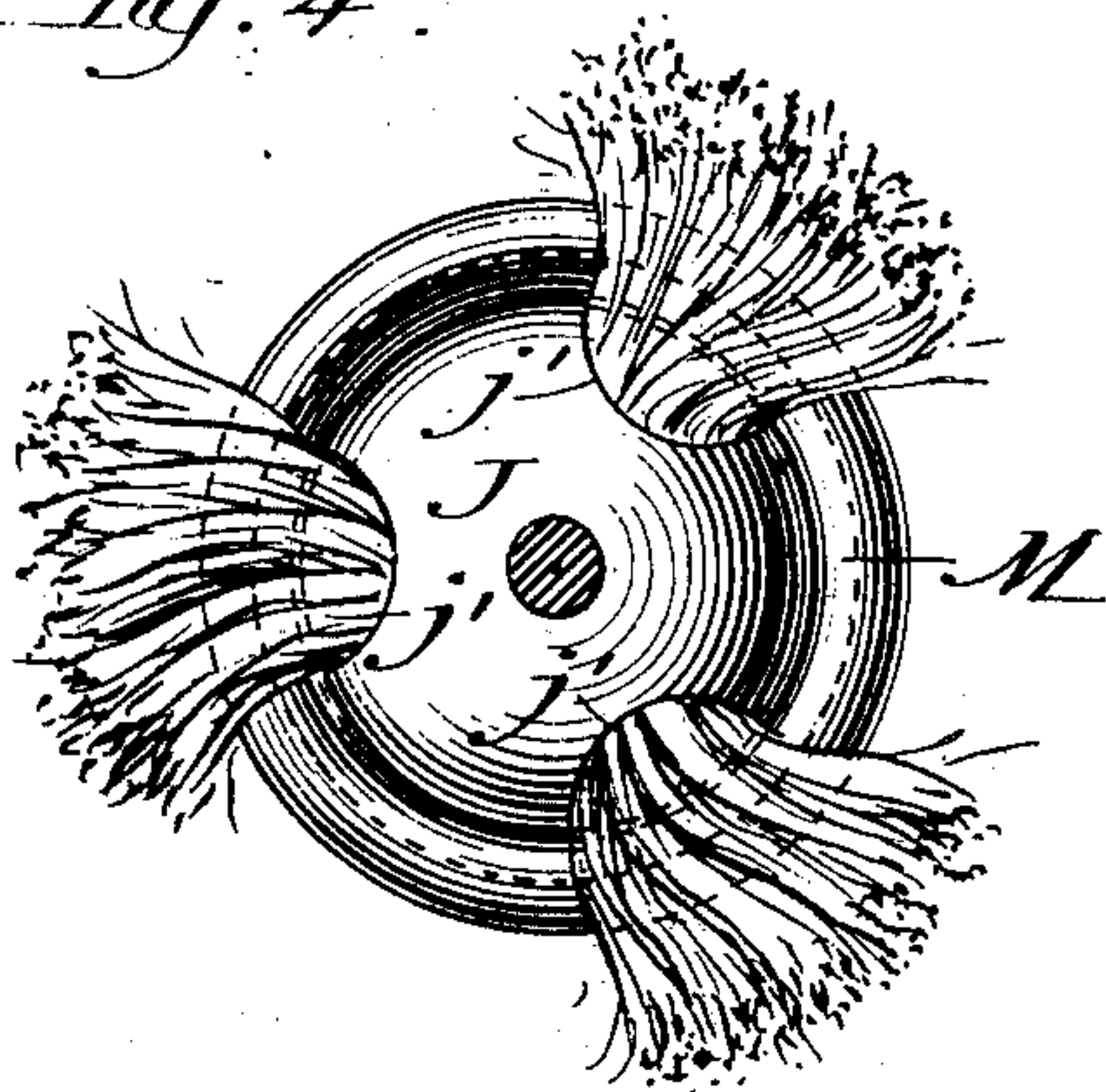
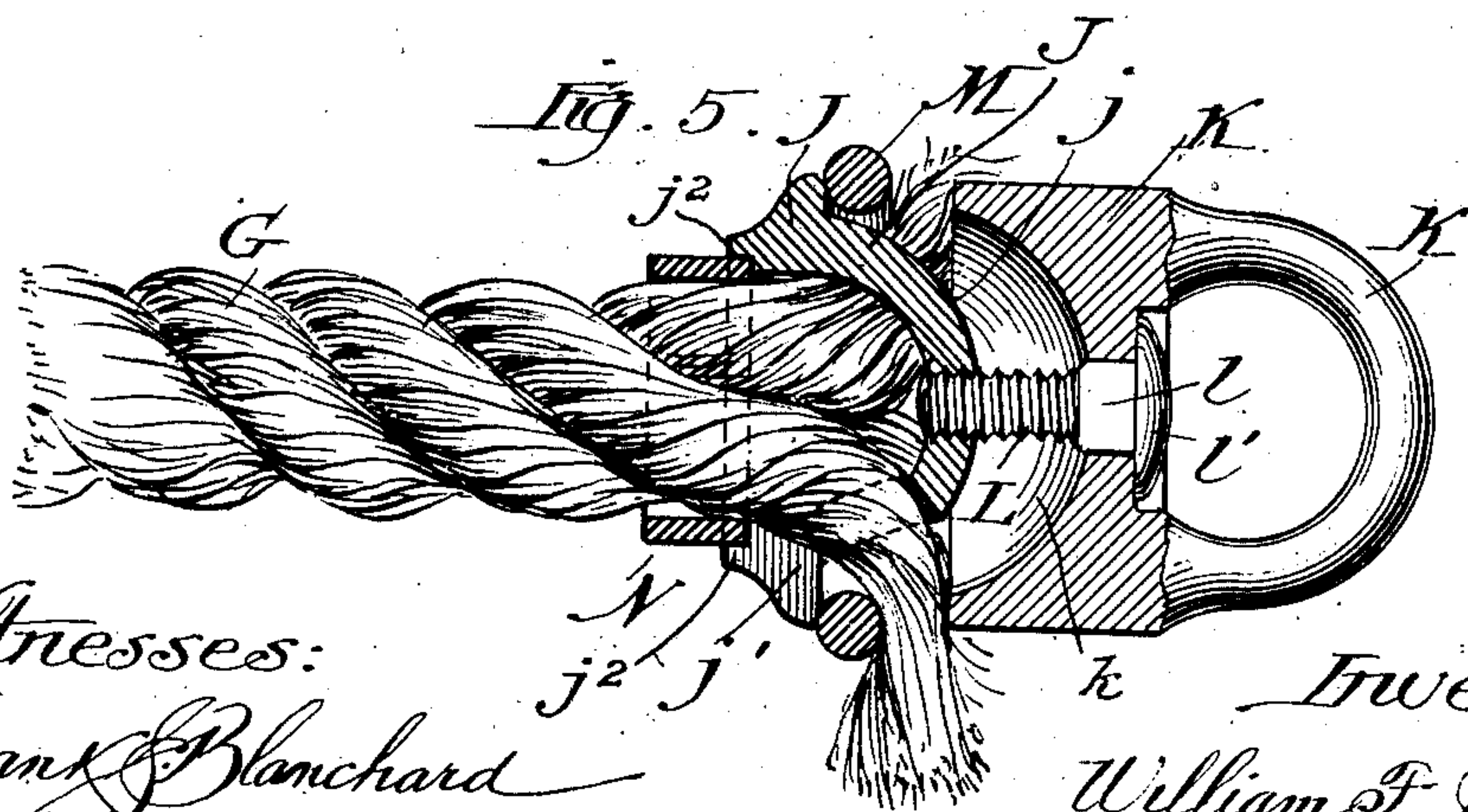


Fig. 5.



Witnesses:

Frank Blanchard  
W. H. Hall

Inventor:

William F. Jacobs.

By Poole Brown  
Attorneys.



# UNITED STATES PATENT OFFICE.

WILLIAM F. JACOBS, OF OTTAWA, ILLINOIS.

## HAY-CARRIER.

No. 826,856.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed February 26, 1906. Serial No. 302,900.

*To all whom it may concern:*

Be it known that I, WILLIAM F. JACOBS, a citizen of the United States, residing at Ottawa, in the county of Lasalle and State of Illinois, have invented certain new and useful Improvements in Hay-Carriers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in hay-carriers of that class embracing a supporting-track, a carriage which rests and travels on said track, a hoisting-pulley block, locking-dogs for locking the hoisting-pulley block to the carriage, and a hoisting-rope which passes over or around two pulleys on the carriage and the pulley in the pulley-block.

The objects of the invention are to provide an improved construction in the shell or casing of the pulley-block by which the locking-dogs on the carriage are adapted to more certainly and reliably engage the same and to an improved construction in a metal head for the rope, adapted to be used in place of the knot usually tied in the end of the rope to prevent the same from becoming disengaged from the carriage.

The invention consists in the matters hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, illustrating my invention, Figure 1 is a view in side elevation of a hay-carrier embodying my invention, with the lower part of the frame of the carriage broken away to show the pulley-block in side elevation. Fig. 2 is a vertical cross-section taken centrally through the carriage and pulley-block. Fig. 3 is a perspective view of the metal head at the end of the rope. Fig. 4 is a face view of the inner members of the metal head with the outer part or cup thereof removed. Fig. 5 is a longitudinal axial section of the said head.

As shown in the said drawings, A indicates an overhead track which is intended to be supported in a barn or elsewhere and which usually extends over the place or floor on which stands a wagon to be unloaded and over a mow or place at which the hay is to be deposited. Said track may be supported by any suitable means not necessary to be illustrated, as they form no part of the present invention.

B indicates the upper and C the lower part of the carriage-frame, said parts B and C being joined by a swivel connection permitting the lower part of the carriage-frame to be turned or rotated relatively to the upper part. The upper part or member B of the carriage is provided with four supporting-rollers B' B', which rest and roll upon the track A, and the lower part of the carriage is provided with two sheaves or pulleys D D.

E' indicates the frame of the pulley-block, which is provided with a wheel or pulley F and which is adapted to be raised and lowered relatively to the carriage-frame by means of a rope G, which also serves to move the carriage along the track A.

The rope G passes around or over the pulleys D D and beneath the pulley F of the hoisting-block in the usual manner. The lower part C of the carriage-frame is provided above the pulleys D D with transversely-extending parts or loops C' C', which form, with the grooves in said pulleys, spaces, or passages through which pass the rope G and by which said rope is certainly and positively held in place upon the said pulleys. One only of the two pulleys D D is used in the operation of the carrier, this being the pulley over which passes the end of the rope that is used in operating the carrier, the opposite end of the rope being held or secured from movement by contact of an enlargement or head H thereon with the said pulley and the loop C' of the carriage-frame above it, the head H being of such size as to come in contact with the said pulley and said loops C' when drawn into contact with said part by tension on the rope. The said head H is formed by metal parts adapted to be rigidly and securely attached to the rope, as hereinafter described.

I I indicate locking-dogs for holding the pulley-block E in its elevated position or interlocked with the lower part C of the carriage. Said locking-dogs are mounted on horizontal pivot-pins *i i*, arranged parallel with the side frame-plates of the carriage. Said dogs are arranged to hang or depend from the said pivot-pins, and their lower ends swing in transverse vertical planes inwardly and outwardly relatively to the side plates. The lower ends of said dogs are of hook shape or provided with inwardly-extending arms adapted to engage the side plates E<sup>2</sup> E<sup>2</sup> of the pulley-block E. Said side plates of the pulley-block are provided at their upper parts with transversely-extending locking-bars E<sup>3</sup>



E<sup>3</sup>, adapted for engagement with the locking-dogs I I on the carriage-frame. The lower surfaces of said locking-bars E<sup>3</sup> E<sup>3</sup>, which are engaged by the arms on said dogs I I, are provided with upwardly-converging oblique surfaces or edges *e e*, which meet each other at an angle at the center of the top of the pulley-block, giving to said lower surfaces of the locking-bars the form of an inverted V. As a result of this construction when the said pulley-block is lifted to its place between the side plates of the lower part of the carriage-frame and its locking-bars E<sup>3</sup> E<sup>3</sup> are engaged with the locking-dogs the weight coming on said pulley-block will tend to shift the block so as to bring it into a central position with respect to said dogs, and when the said pulley-block is moved or swung in the plane of the carriage the arms on the locking-dogs will retain their engagement with the central elevated part or apex of the said bars, thus permitting the pulley-block to take a forwardly or rearwardly inclined position in case the point at which the hay-fork or other lifting device attached to the pulley-block is not directly beneath the carriage without changing the points of engagement of the said locking-dogs with the pulley-block.

In the operation of the parts thus constructed the locking-bars E<sup>3</sup> E<sup>3</sup> will invariably come into engagement with the locking-dogs whatever may be the angular position of the pulley-block when it is lifted to its place within the carriage, the lower ends of said dogs being forced apart by and coming beneath the said locking-bars regardless of the particular portion of said bars which may come in contact with said locking-dogs; but as soon as the upward pull on the pulley-block ceases and the weight of the load is brought upon the same the said locking-bars if engaged with the locking-dogs at one side of the center of the block will slide along the locking-dogs until the latter are brought into engagement with the elevated central parts or upper angles of said bars, and the pulley-block will thereby be centered with respect to the carriage and will swing on or about the elevated center or apex of the block when brought to a rearwardly or forwardly inclined position by the action of the load or under the stress on the pulley-block produced by the same.

Now referring to the construction in the detachable head for the rope G, hereinbefore referred to, the same is shown in detail in Figs. 3 to 5 and is constructed as follows:

J indicates a circular cup-shaped disk or button provided with a rounded or convex outer face *j* and having three or more peripheral notches *j' j' j'*. K indicates a cap or block of cylindric form having a recess in its inner face, preferably formed by a concave surface *k*, corresponding with the convex surface *j* on the disk J. The said cap-plate K is

provided with a central aperture through which is inserted a bolt L, which is screw-threaded at one end to engage a screw-threaded central bolt-hole in the disk J. The central aperture in the cap K is made of square form and adapted to engage a corresponding square portion *l* of the bolt L, said bolt being provided with a head *l'*, adapted for contact with the outer face of the cap K. A ring M surrounds the convex portion of the disk J and is adapted to bear against peripheral segmental shoulders formed on flanges *J' J'*, extending between the notches on *j' j' j'* of said disk. The number of peripheral notches *j'* in the disk J corresponds with the number of strands in the rope to which the device is to be attached. Ordinarily the rope will have three strands, and in such case the disk will have three notches *j' j' j'*, as shown. In applying the device to the rope the strands are spread apart and inserted in or drawn through the said notches, and the ring M is then applied around the convex part of the disk, so as to extend over the open ends of the said notches and outside of the strands of rope inserted therein. The cap K is then applied to the disk with the marginal part of its recessed inner face in opposition to the ring M and is secured to the said disk by means of the bolt L, which is tightened by the turning of the cap on the disk and serves to draw or clamp said cap firmly against or toward the disk and the said ring. The strands of the rope being bent outwardly over the ring are firmly and strongly clamped between the same and the marginal part of the cap.

In connection with the construction described I prefer to employ a ring or sleeve N, the interior diameter of which is equal to the diameter of the rope and which is placed around the rope in close contact with the disk J, which latter is preferably provided around its central cavity with rabbets or grooves *j<sup>2</sup> j<sup>2</sup>*, adapted to receive said ring and to thereby hold the same in a central position with respect to said disk. The ring will be held in position against the disk by its frictional engagement with the rope around which it closely or tightly fits. Said ring N thus applied prevents the rope from untwisting or the strands thereof from spreading apart at the point where they diverge for engagement with the notches in the disk.

Attached to or formed upon the outer face or end of the caps K is a metal loop K'. Said loop forms a means for attaching to the end of the rope G a string or small line O, which when the head is engaged with one of the pulleys in the carrier hangs from the same with its lower end in position to be reached by the operator. The small rope O is used for the convenience of the operator when it is desired to carry the running end of the hoisting-rope toward the opposite end of the track.



I claim as my invention—

1. The combination with a hay-carrier carriage and locking-dogs thereon, of a hoisting-block, the side plates of which are provided  
5 with locking-bars having their lower edges which engage the locking-dogs shaped to form oppositely-inclined, upwardly-convergent surfaces, which meet each other at the center line of the hoisting-block.
2. A head for a hay-carrier hoisting-rope  
10 embracing a disk or button provided with peripheral notches, a ring surrounding said disk, and a cap adjustably secured to said disk, and having an annular clamping-surface opposed to said ring.
3. A head for the end of a hay-carrier hoisting-rope comprising a cup-shaped disk or button provided with peripheral notches, a ring  
15 surrounding the convex part of said disk or button, and a second cap adjustably secured to said disk and provided with an annular clamping-surface opposed to said ring.

4. A head for the end of a hay-carrier hoisting-rope, comprising a disk or button provided with peripheral notches, a ring surrounding said disk, a cap having an annular  
25 clamping-surface opposed to the said ring, and a central clamping-bolt engaging the said cap and disk.

5. A knot for the head of a hay-carrier  
30 hoisting-rope comprising a peripherally-notched disk or button, a ring surrounding the same, a cap adjustably secured to said disk, and a ring adjacent to and surrounding the rope adjacent to the said disk.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 21st day of February, A. D. 1906.

WILLIAM F. JACOBS.

Witnesses:

WILLIAM GLOVER.

M. B. SHAW.