

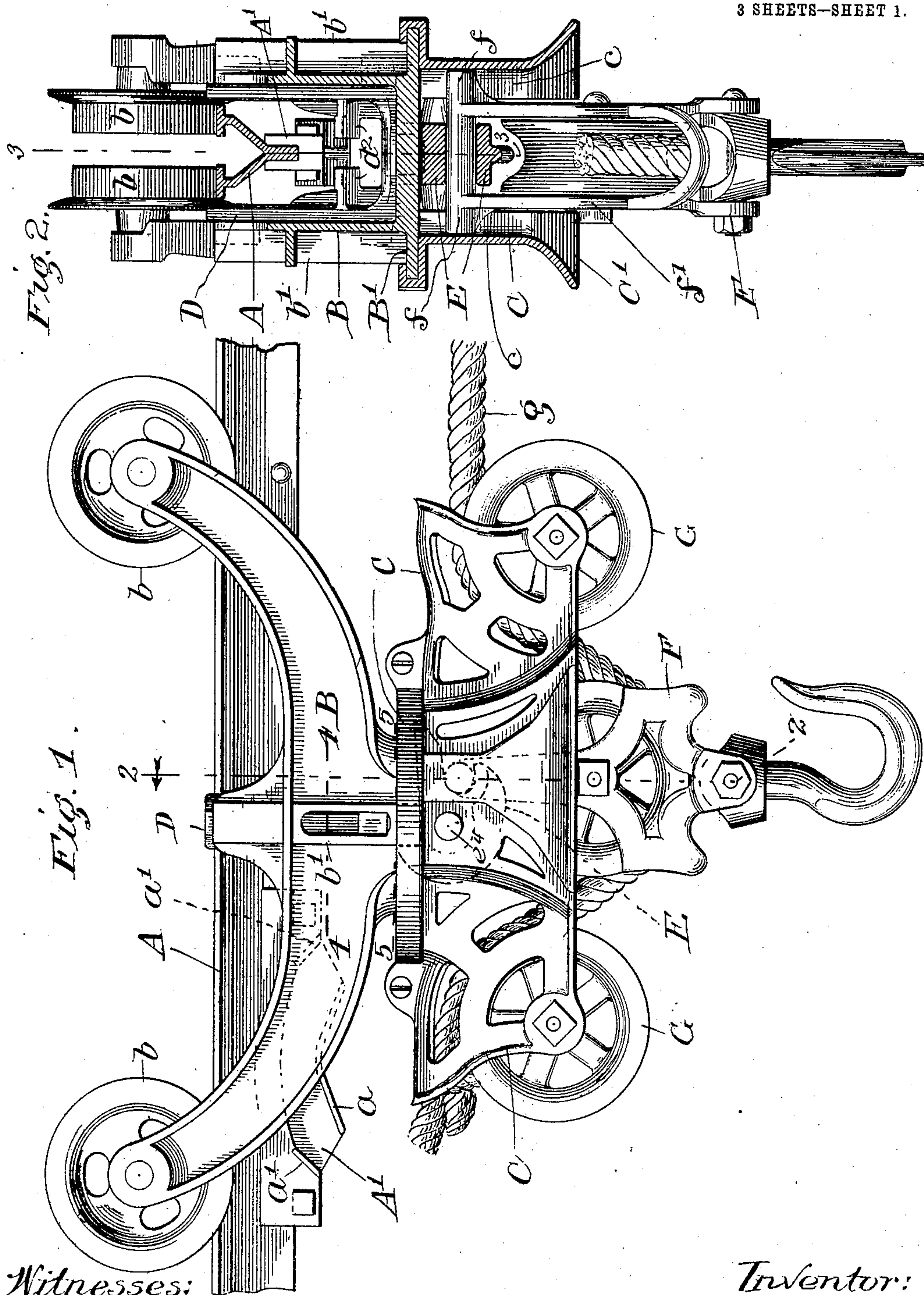
No. 835,185.

PATENTED NOV. 6, 1906.

H. L. FERRIS.
HAY CARRIER.

APPLICATION FILED OCT. 8, 1904.

3 SHEETS—SHEET 1.



Witnesses:

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J. E. Sherry.

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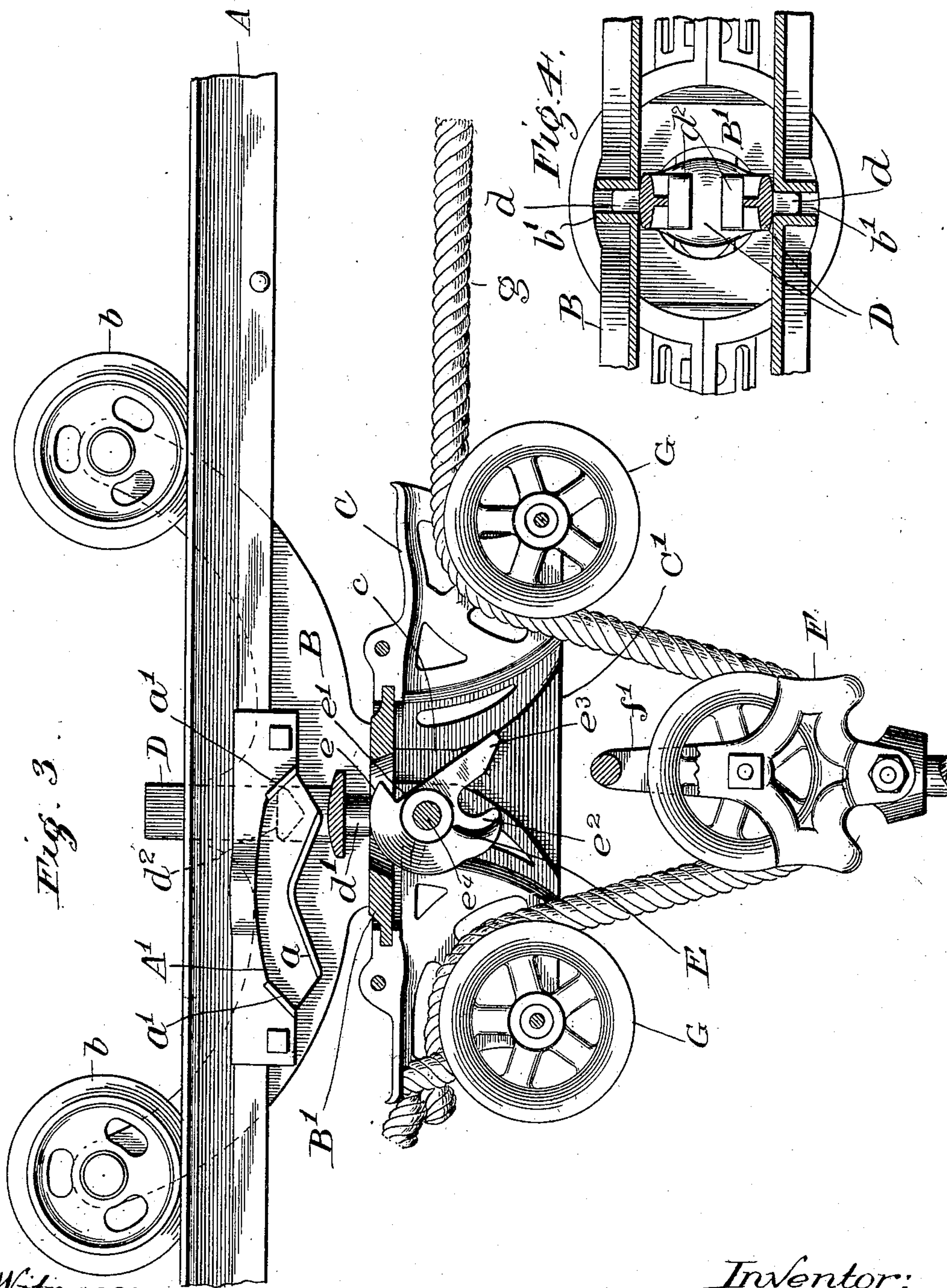
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3 SHEETS—SHEET 2.



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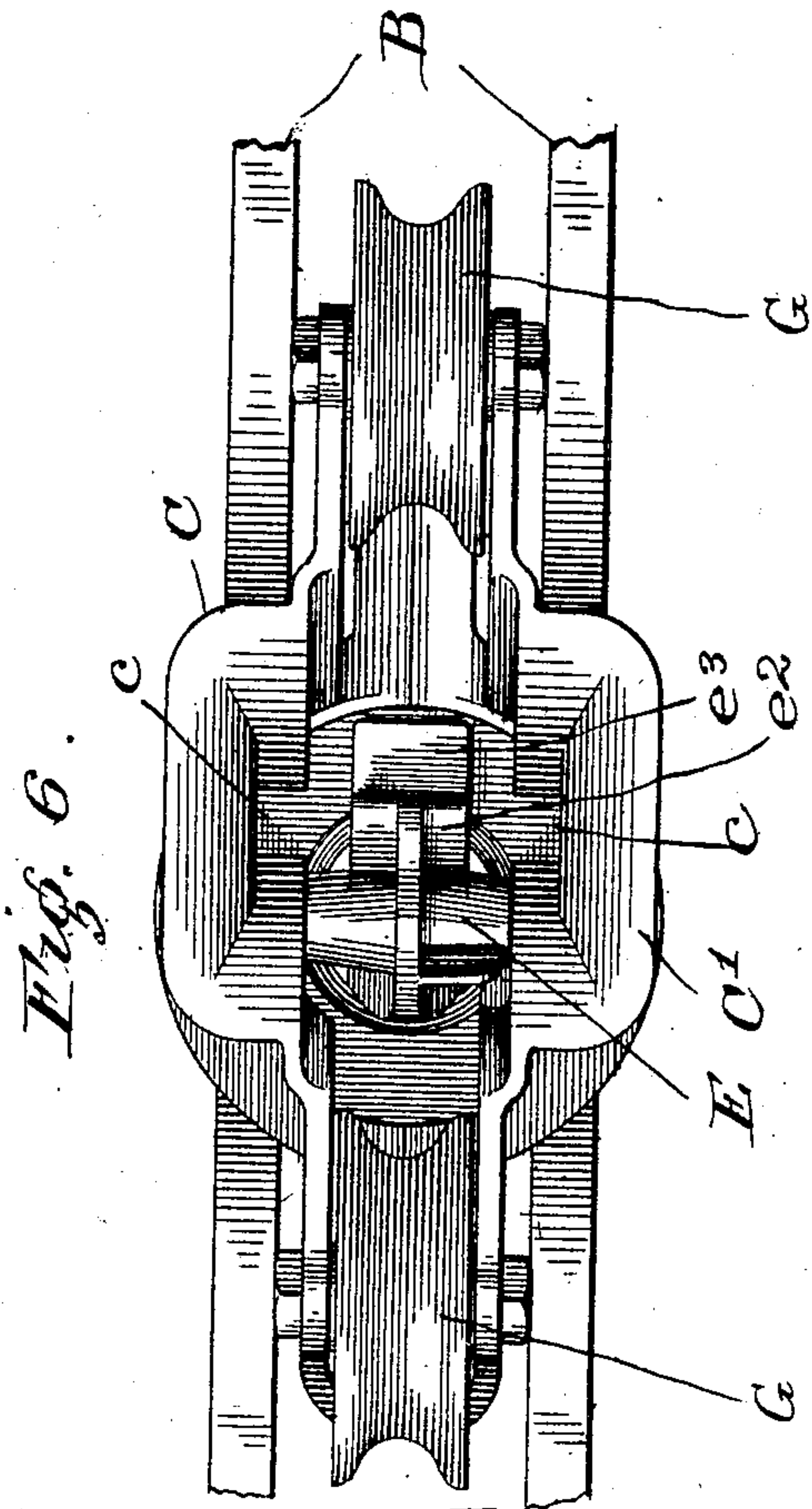
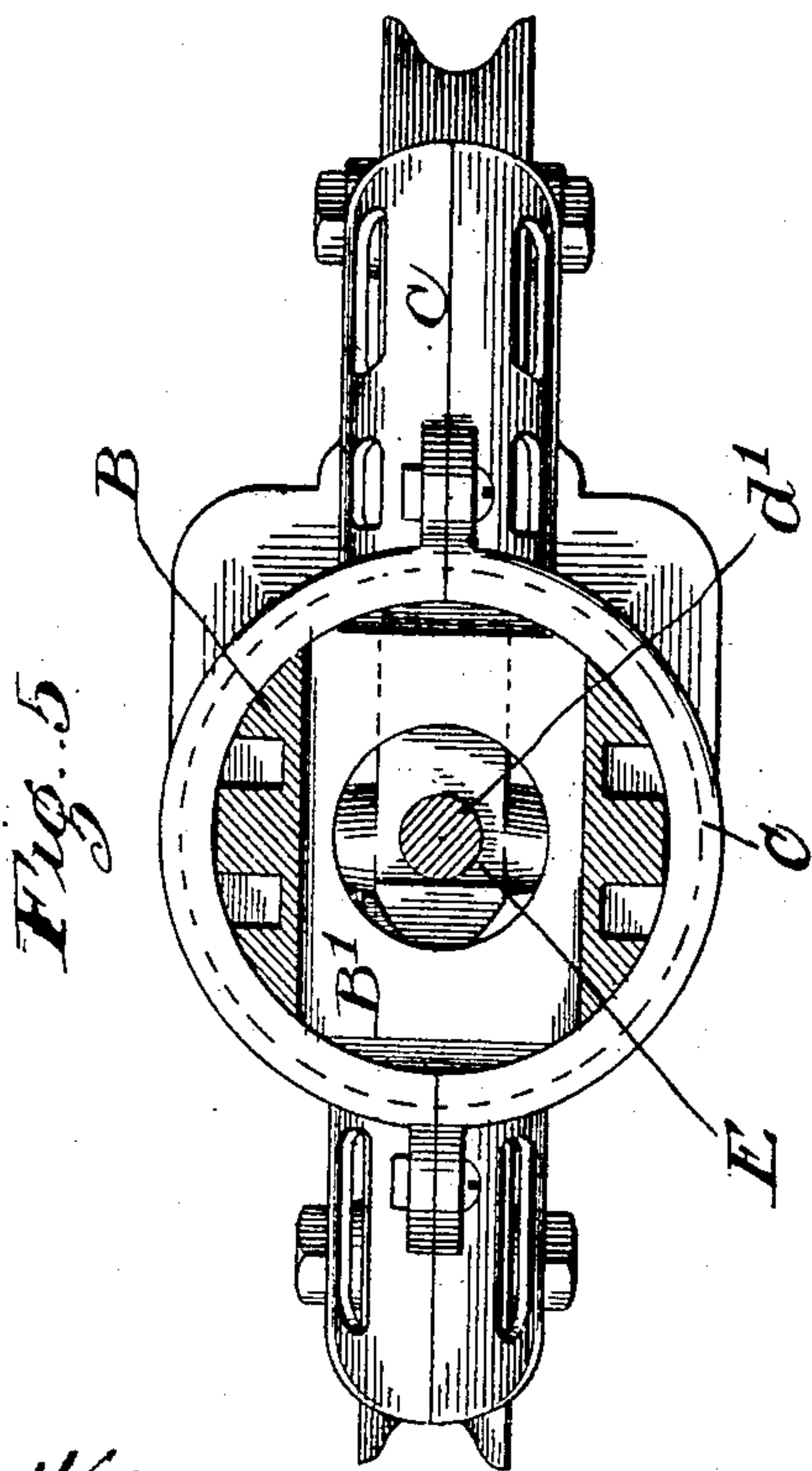
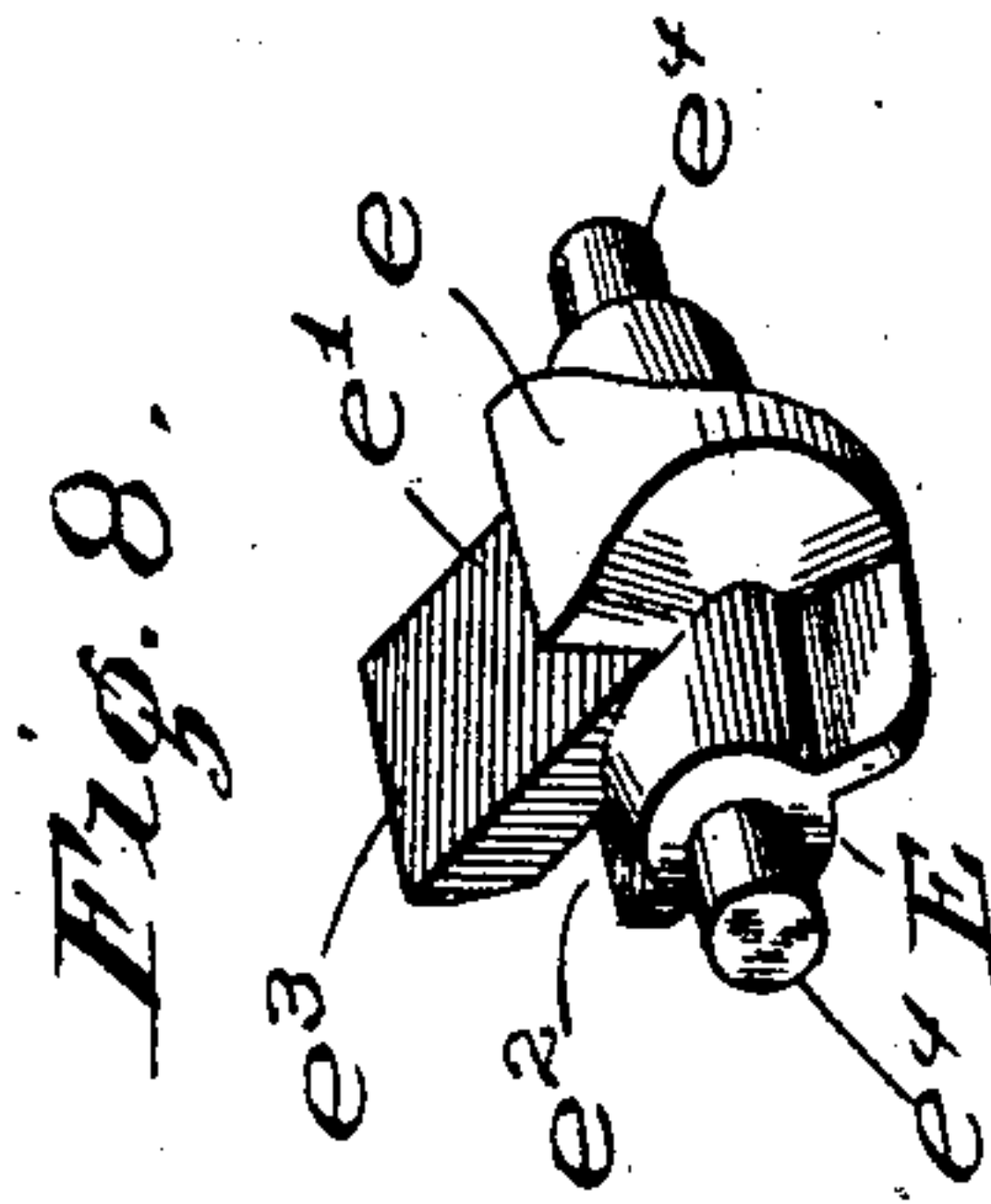
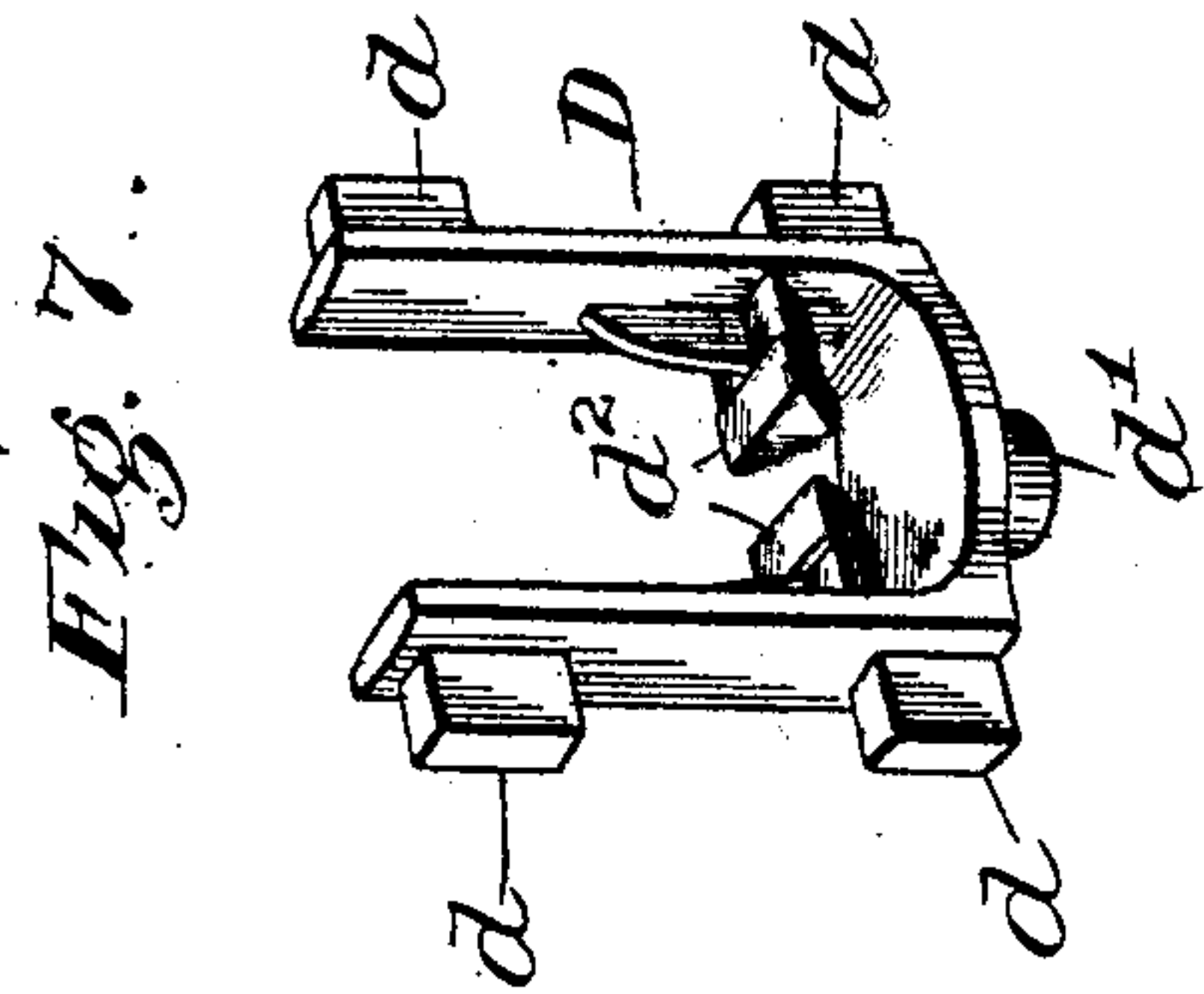
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3 SHEETS—SHEET 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY L. FERRIS, OF HARVARD, ILLINOIS, ASSIGNOR TO HUNT, HELM,
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HAY-CARRIER.

No. 835,185.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed October 8, 1904. Serial No. 227,621.

To all whom it may concern:

Be it known that I, HENRY L. FERRIS, a citizen of the United States of America, residing at Harvard, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Hay-Carriers, of which the following is a specification.

My invention relates to certain new and useful improvements in hay-carriers; and its object is to produce a device of this class which shall have certain advantages, which will appear more fully and at large in the course of this specification.

To this end my invention consists in certain novel features of construction, which are illustrated in the accompanying drawings and described herein.

In the aforesaid drawings, Figure 1 is a side elevation of my improved hay-carrier. Fig. 2 is a transverse vertical section in the line 2 2 of Fig. 1, the fork-pulley block being shown in end elevation. Fig. 3 is a view, partly in side elevation and partly in vertical longitudinal section, the line of section being indicated in the line 3 3 of Fig. 2. Fig. 4 is a horizontal section in the line 4 4 of Fig. 1. Fig. 5 is a view, partly in plan and partly in horizontal section, the line of section being indicated at 5 5 in Fig. 1. Fig. 6 is an inverted plan view of the carrier with the fork-pulley block removed. Fig. 7 is a perspective view of a certain operating-dog, and Fig. 8 is a similar view of the latch.

Referring to the drawings, A is a suitable track upon which runs a carriage B, supported by rollers *b*. This carriage terminates at its lower end in a circular turn-table B', which furnishes a pivotal support for a frame C. The sides of the carriage B are cast with vertical channels *b'*, in which channels is guided a locking-dog D. This dog is in general U-shaped in form (see Fig. 7) and is provided with laterally-projecting lugs *d*, which run in the channels *b'*. The lower portion of the dog has a pin *d'*, the purpose of which will be presently explained, and is provided with two inwardly-extending beveled lugs *d*², which engage with a tripping-block A' on the track. This tripping-block is of well-known construction and is provided with a beveled flange *a* to engage with the lugs *d*² to raise the locking-dog and with flanges *a'*, which en-

gage therewith, to prevent movement of the carrier on the track when the locking-dog is raised, as will hereinafter be explained.

At the longitudinal center of the frame C is journaled a latch E, swinging on a horizontal transverse axis in the form of gudgeons *e*⁴. This latch has a cam-surface, one portion *e* of which is circular and the other portion *e'* of which is straight and nearer the pivot of the latch than the portion *e*. Inasmuch as the latch is journaled in the center of the carriage B, the pin *d'* on the locking-dog always bears against this cam-surface, no matter how the frame may be rotated with respect to the carriage. When the latch is in the position illustrated in Fig. 3, the locking-dog will be held up by engagement of the pin with the circular portion of the cam; but when the latch is rotated to the position shown in dotted lines in Fig. 1 the pin will run off the curved portion *e* onto the surface *e'*, and the dog will thus fall from the position shown in Fig. 3, at the same time preventing the reverse rotation of the latch until the dog is raised by some mechanism—as, for instance, the tripping-block.

The frame C is provided with a flaring mouth C' at its lower end, the same terminating in a vertical groove adapted to receive projecting pins *f* on an upwardly-projecting yoke *f'* on the fork-pulley block F. The fork-pulley block F is supported by a rope *g*, running over pulleys G, mounted in the frame C.

The latch E is provided on its lower side with a hook *e*², normally out of the line of the grooves *c*, and with an arm *e*³ in the line of said grooves. As the fork-pulley block is raised by pulling up the rope *g* the yoke on the fork-pulley block passes into the flaring mouth of the frame C and the pins enter the grooves *c*. Eventually the top of the yoke engages the arm *e*³, rotating the latch, so that the hook *e*² swings underneath the upper end of the yoke *f'*. As this rotation is continued the locking-dog runs off the surface *e* on the latch, as before explained, thus releasing the carriage and permitting it to move longitudinally on the track and simultaneously locking the latch in the position illustrated in dotted lines in Fig. 1 to hold the fork-pulley block in its raised position. On the other

hand, starting with the parts in the position illustrated in Fig. 1, when the locking-dog strikes the tripping-block A' it is raised, as above set forth, releasing the latch, which is swung to the position shown in Fig. 3 by the weight of the fork-pulley upon it. The fork-pulley block is thus left free to fall by its own weight.

In a device of this class the most important features are cheapness of construction, which means, of course, a small number of operating parts, simplicity in operation, and compactness, especially vertical compactness, when the load is raised. These features are all combined in my improved device in the most advantageous manner. A single latch is used to hold the fork-pulley, and the dog which locks the latch in position is operated directly by the tripping-block on the track, so that only two movable parts are comprised in the locking mechanism proper. Furthermore, no riveting or other means for securing the operating parts together is necessary.

To use a single latch, as I do, it is necessary that the same take hold of the fork-pulley from above, and structures of this sort have heretofore been open to the objection that the eye at the upper end of the fork-pulley was made so long as to sacrifice vertical compactness. In my device, however, the mouth at the lower end of the frame is made sufficiently large to receive the entire fork-pulley, and the eye which is engaged by the latch is short enough that the latch lies within the groove of the pulley, (see Fig. 2), thus producing a device with a single latch which is as short vertically as any of the prior devices. This feature of vertical compactness is particularly desirable, because these devices are often placed in barns having small openings, and it is very necessary that the load be held as close as possible to the track in order that a large load may be taken. It should be noticed that the arrangement of parts is such that the fork-pulley block is free to swing between the pulleys G when it is supported by the latch E.

I realize that considerable variation is possible in the details of this construction without departing from the spirit of my invention, and I do not, therefore, intend to limit myself to the specific form herein shown and described.

I claim as new and desire to secure by Letters Patent—

1. In a device of the class described, the combination with a track and a tripping-block thereon, of a carriage movable on the track, a frame swiveled to the carriage, a fork-pulley block having an upwardly-projecting yoke arranged to be guided by grooves in the frame, a single latch pivoted on a transverse horizontal axis, a hook on the latch, adapted to engage said yoke and to lie within the groove of the pulley of the fork-pulley block when the same is raised, an arm on the latch lying in the path of said yoke and arranged to be engaged thereby, and a dog adapted to bear against said latch and to engage with a depression therein.

2. In a device of the class described, the combination with a track and a tripping-block thereon, of a carriage movable on the track and having a turn-table at its lower end, a frame swiveled to the turn-table, a single latch journaled in the frame on a horizontal transverse axis, a cam-surface on said latch projecting through a perforation in the turn-table, a dog guided in the carriage and bearing directly against the cam-surface, a fork-pulley frame having an upwardly-projecting yoke, an arm on the latch adapted to be engaged by the yoke and a hook on the latch adapted to engage the yoke when the latch is rotated.

3. In a device of the class described, the combination with a carriage having a centrally-disposed turn-table and adapted to run upon a suitable track, a locking-dog guided to move vertically above the center of said turn-table, said turn-table being perforated for the passage of the dog, a frame swiveled to the turn-table, a single hook pivoted to the frame and having a portion adapted to engage directly with said dog, and an engagement device on said hook adapted to cooperate with a fork-pulley, said engagement device being out of the vertical line of the dog whereby the load is supported eccentrically.

In witness whereof I have signed the above application for Letters Patent, at Harvard, in the county of McHenry and State of Illinois, this 21st day of September, A. D. 1904.

HENRY L. FERRIS.

Witnesses:

BLAKE B. BELL,
L. EUGENE NORTON.