

No. 720,566.

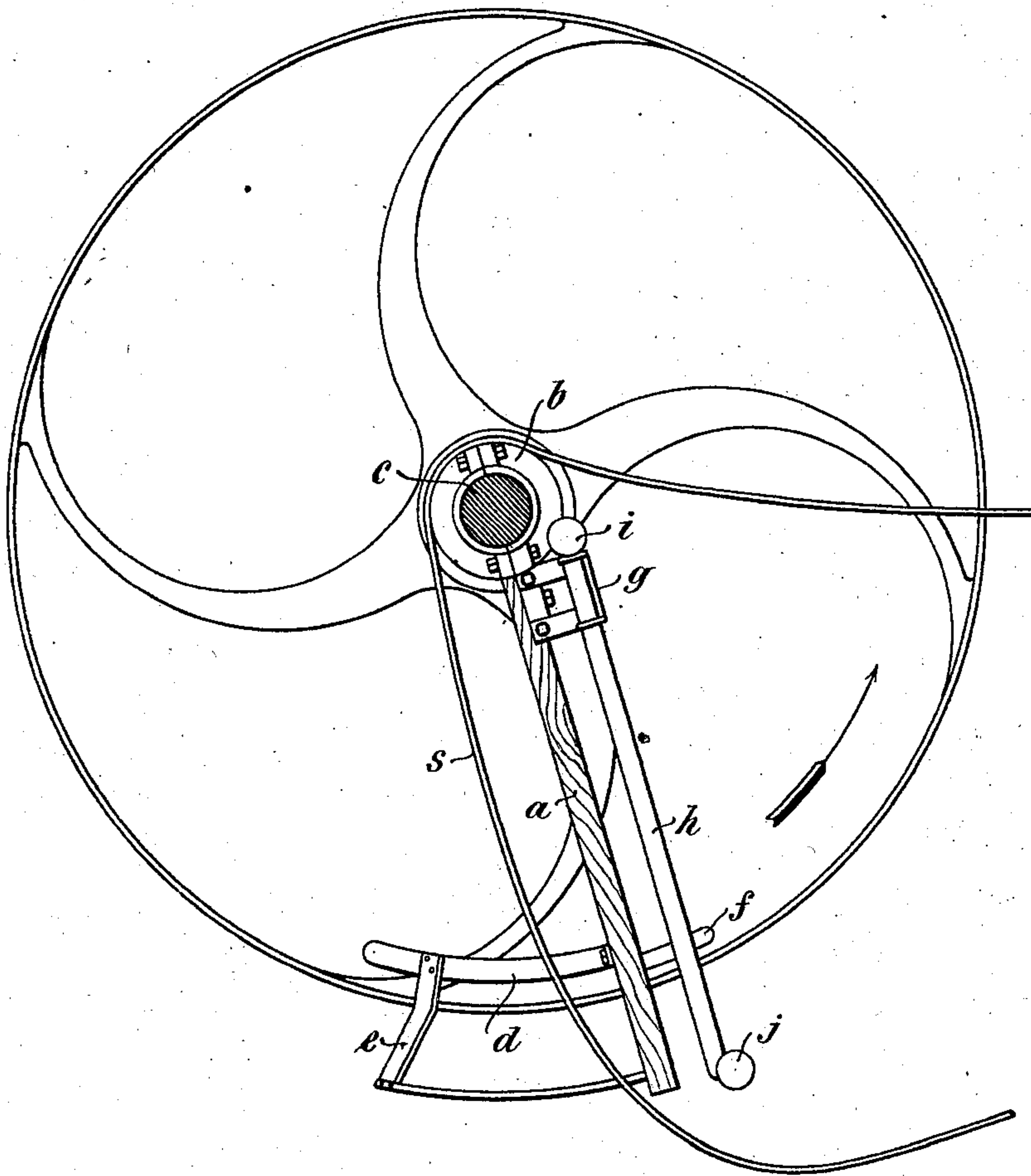
PATENTED FEB. 17, 1903.

A. COULTER.
BELT SHIPPING DEVICE.
APPLICATION FILED APR. 12, 1902.

NO MODEL.

7 SHEETS—SHEET 1.

Fig. 1.



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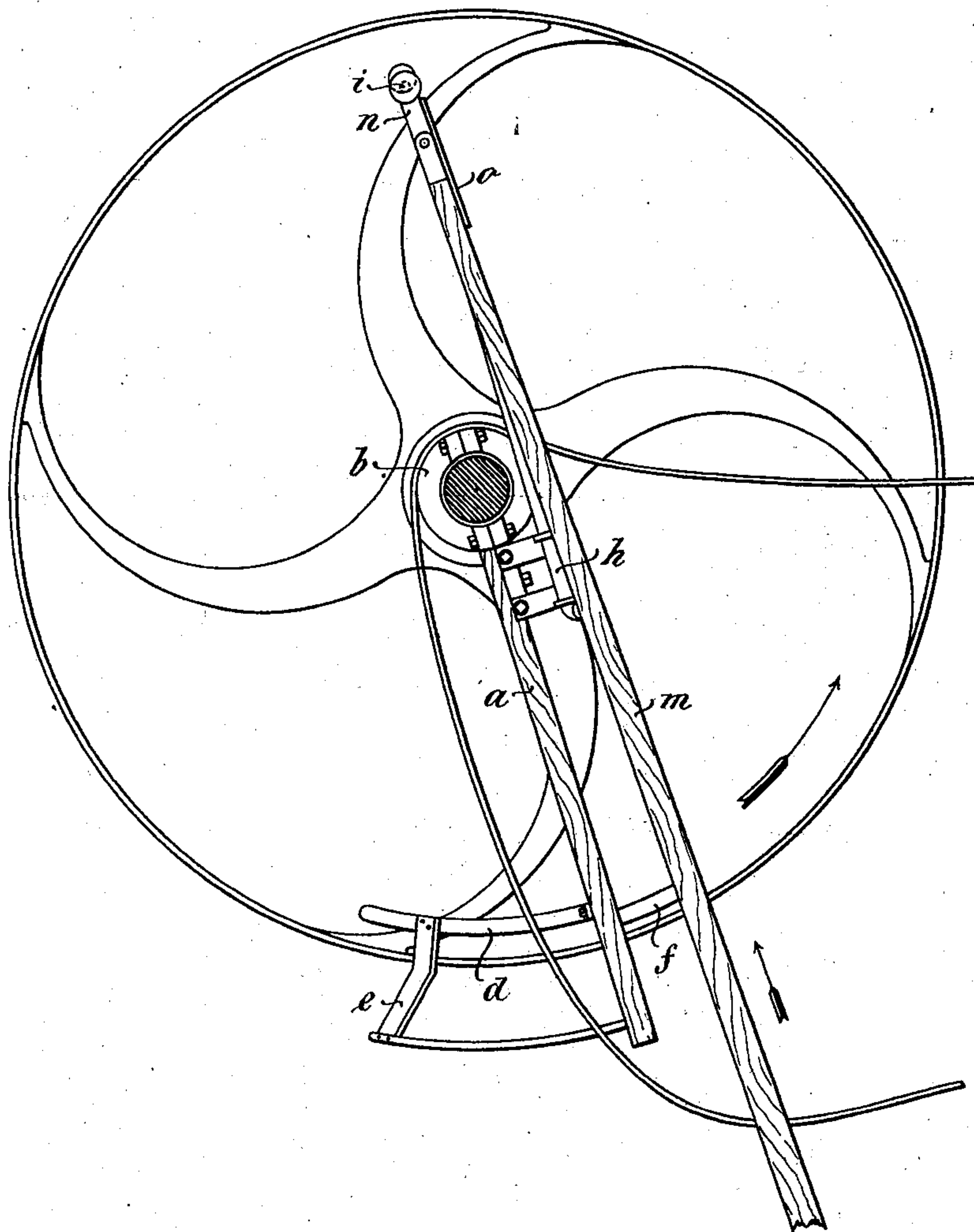
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7 SHEETS—SHEET 2.

Fig. 2.



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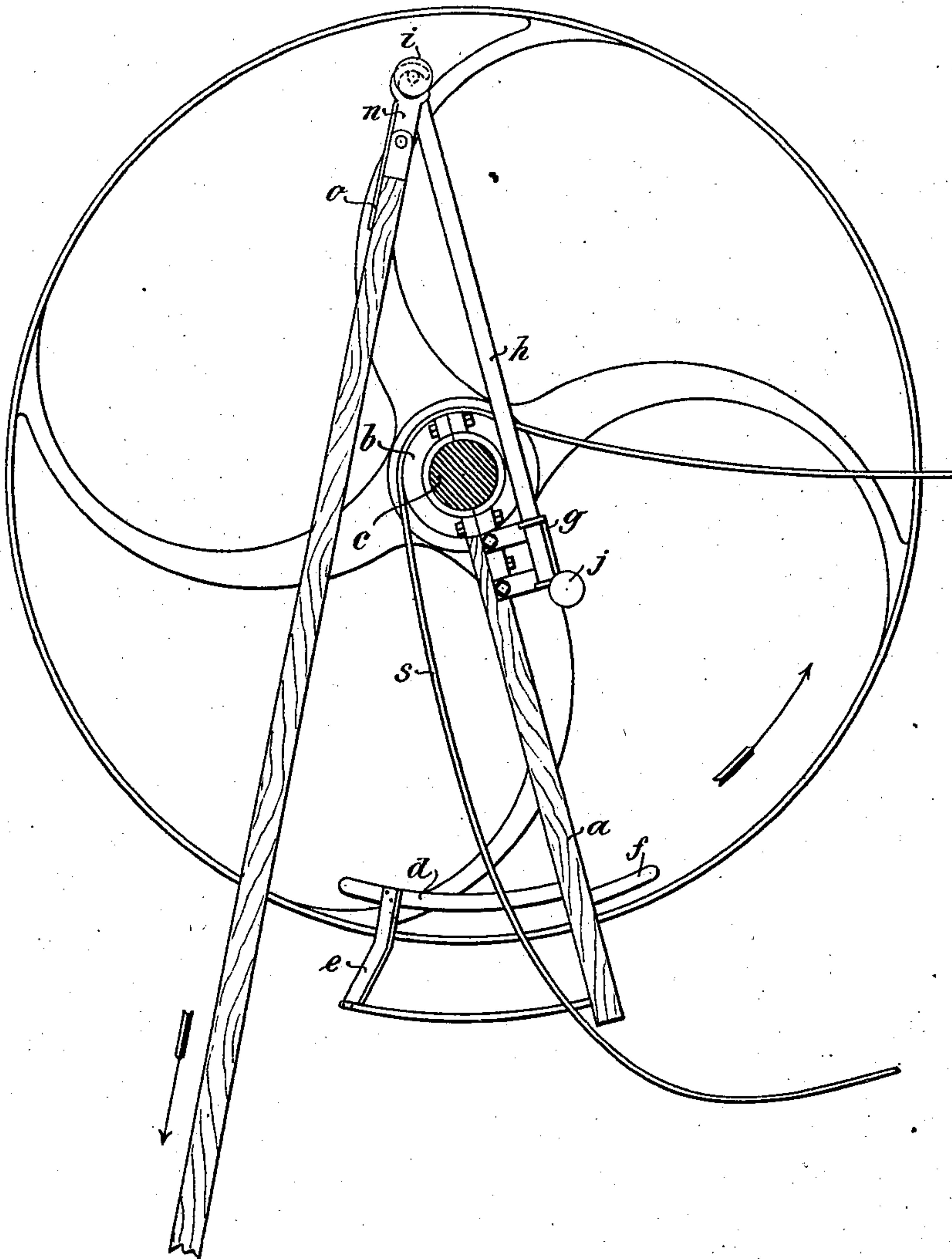
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7 SHEETS—SHEET 3.

Fig. 3.



Witnesses

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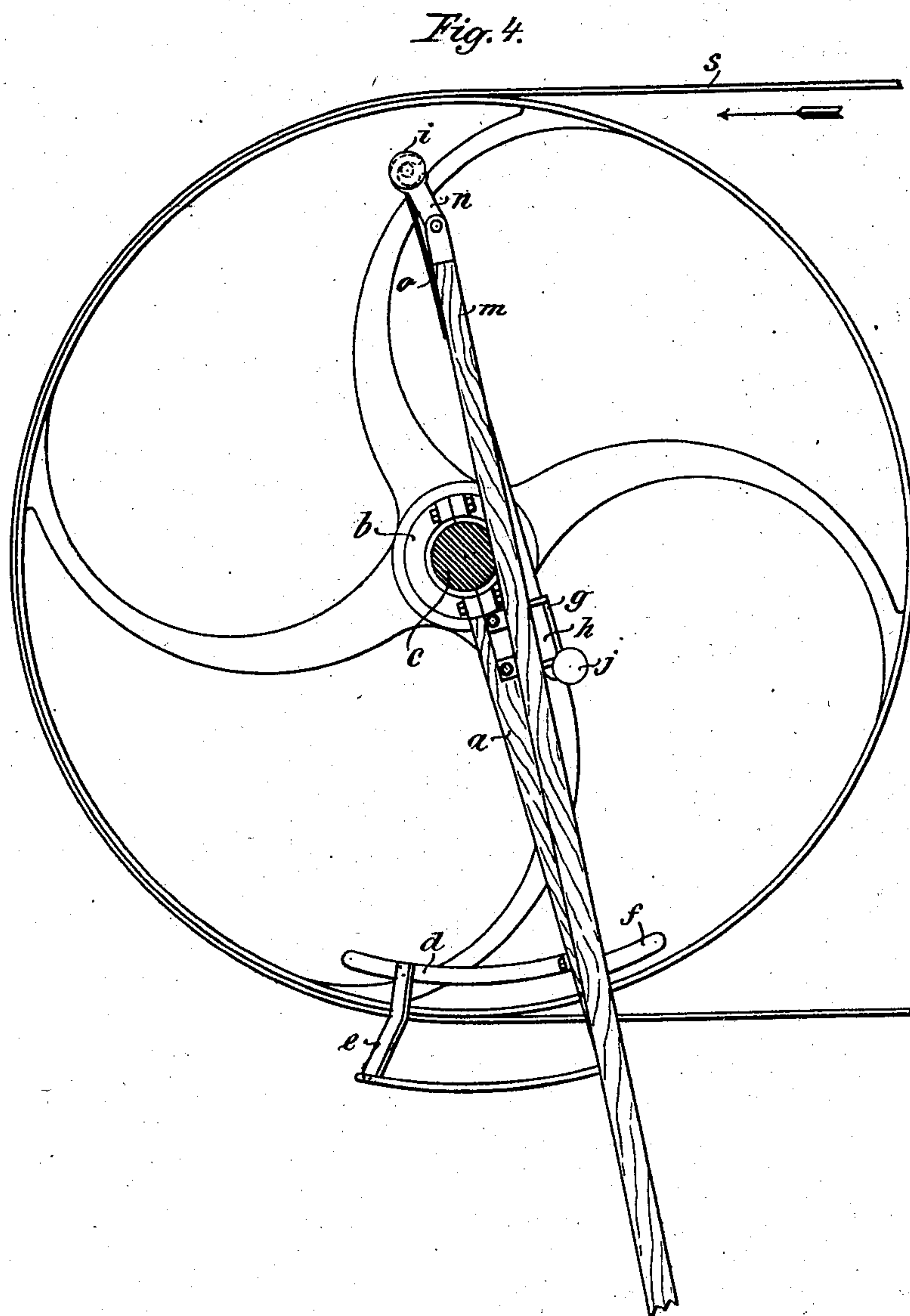
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7 SHEETS—SHEET 4.



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7 SHEETS—SHEET 5.

Fig. 5.

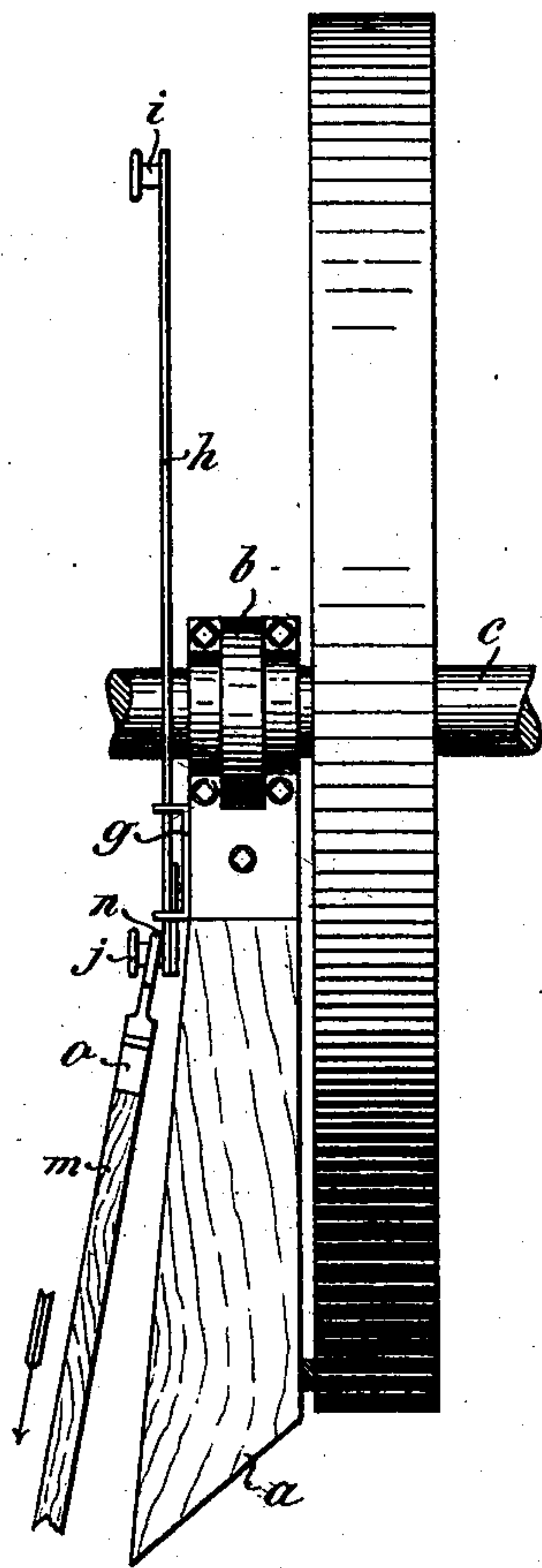


Fig. 6.

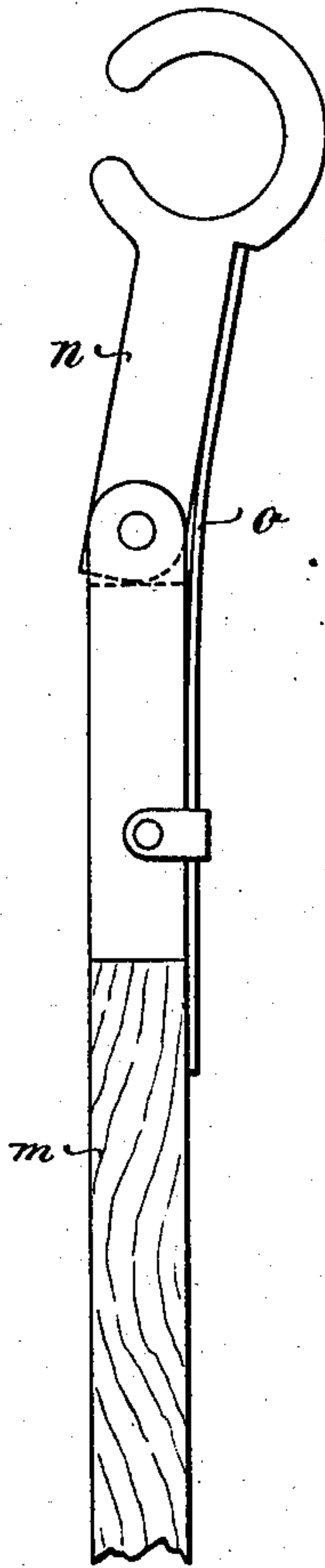
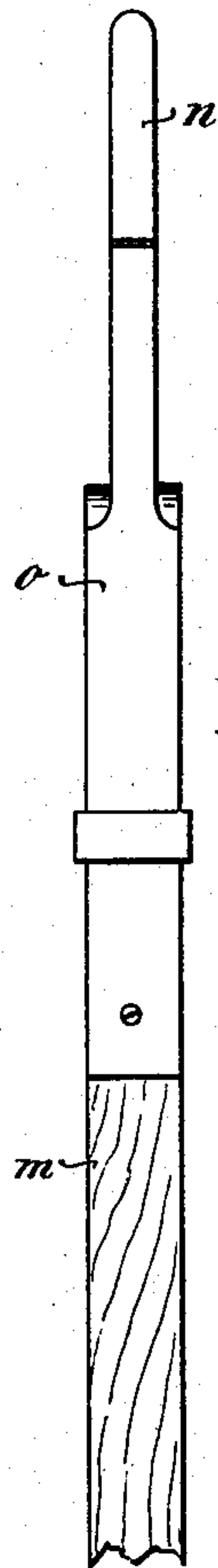


Fig. 7.



Witnesses:

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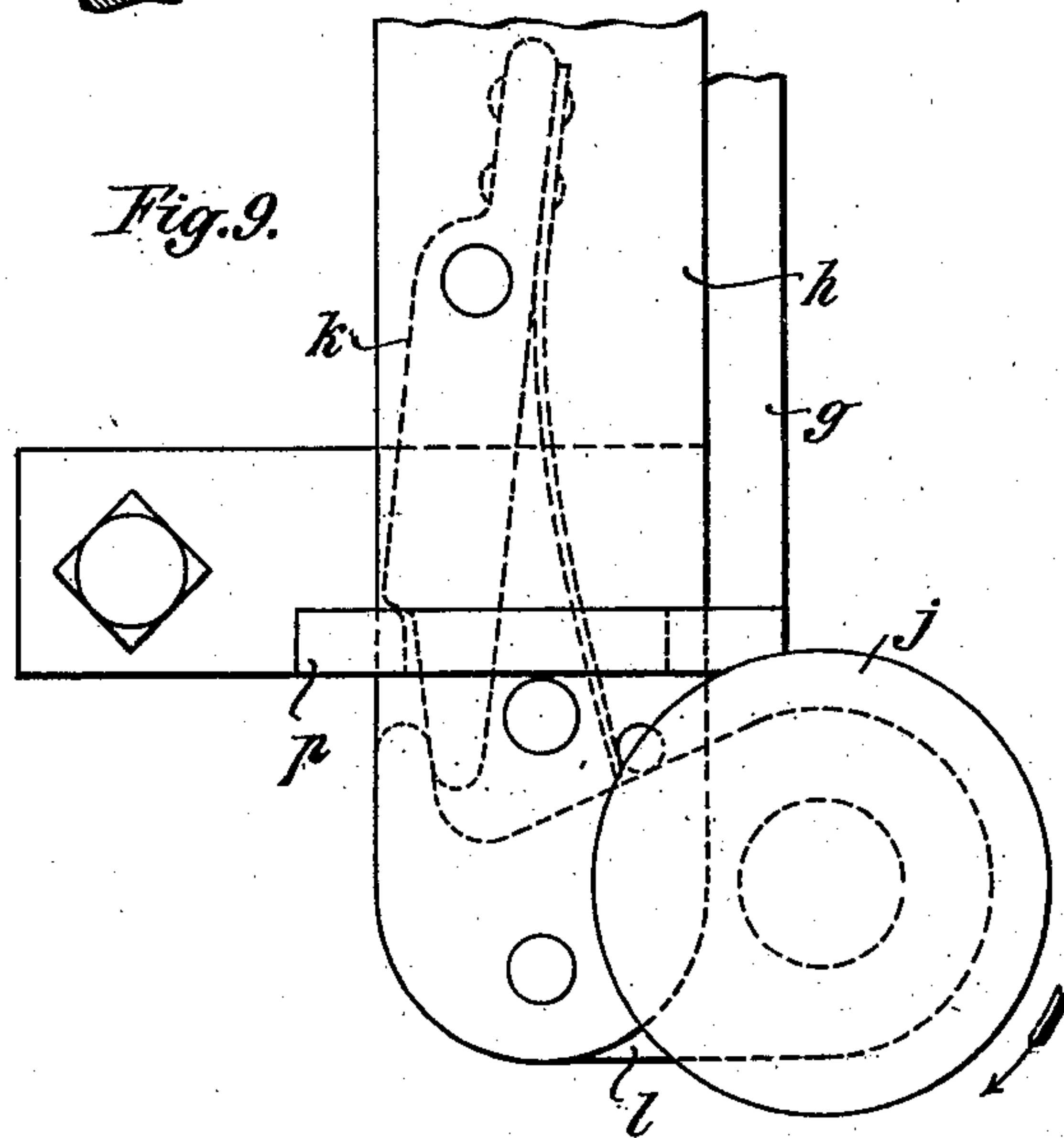
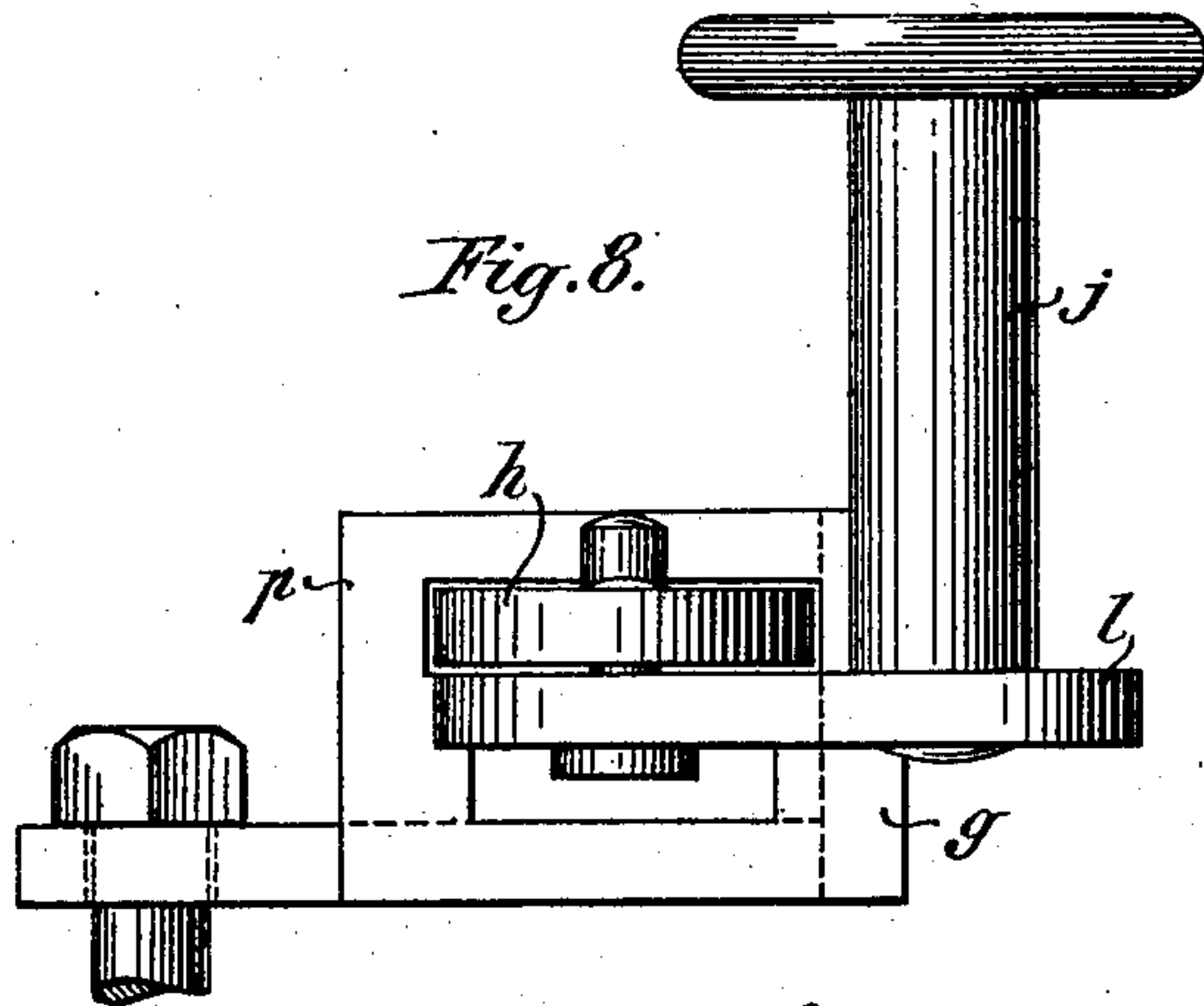
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NO MODEL.

7 SHEETS—SHEET 6.



Witnesses:

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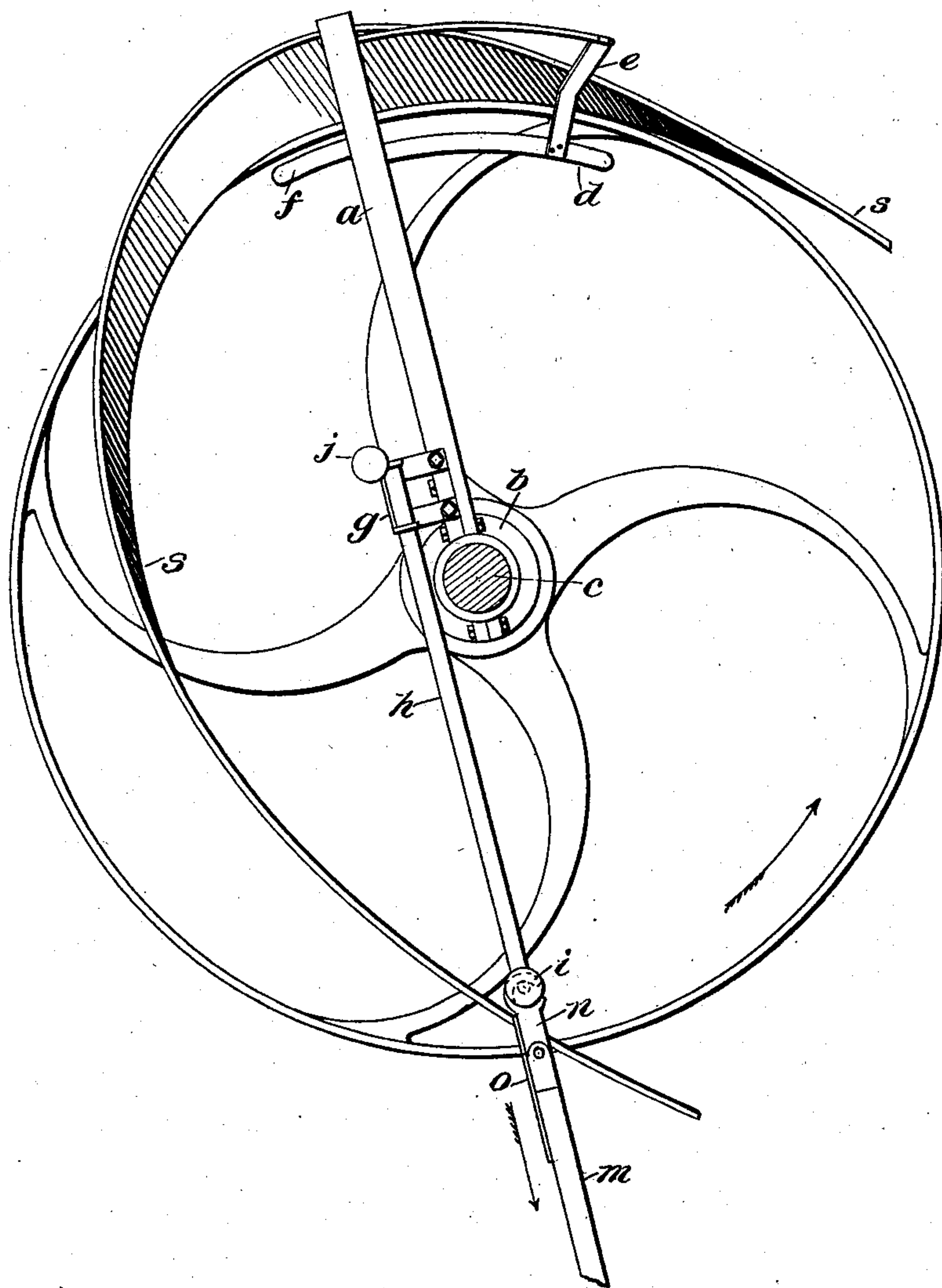
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APPLICATION FILED APR. 12, 1902.

NO MODEL.

7 SHEETS—SHEET 7.

Fig. 10.



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UNITED STATES PATENT OFFICE.

ANDREW COULTER, OF MITAU, RUSSIA.

BELT-SHIPPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 720,566, dated February 17, 1903.

Application filed April 12, 1902. Serial No. 102,606. (No model.)

To all whom it may concern:

Be it known that I, ANDREW COULTER, manager of spinning factory, a subject of His Majesty the King of Great Britain, residing at Regherstrasse 7, Mitau, Kurland, in the Empire of Russia, have invented new and useful Improvements in Belt-Shipping Devices, of which the following is a clear and exact specification.

My invention relates to a belt-shipping device of the construction wherein the belt is operated upon by a bevel or oblique-ended bar provided with curved arms and arranged rotatably on the pulley-shaft.

The object of this invention is to facilitate and to assure the action of the shipping-bar, and consequently the operation of the belt, and particularly to perfect the belt-shipper so that the latter is not an obstacle in the way of unshipping the belt or of adjusting or shipping it again. For this purpose the belt-shipper carries a slide-rod movable in guides on the bearing, the rod being provided with two pivots for receiving a specially-formed operating-bar. The latter has no fork, but is provided with a resilient hook, the opening of which is placed laterally, so as to engage with one or the other of the pivots. The lower pivot of the slide-rod is provided with a resilient pawl. This construction of the belt-shipper and its operating-rod allows the shipper to maintain such a position while the belt is on the pulley and during its unshipping that it cannot cause any disturbance, while at the same time its handling during the shipping of the belt is easy and safe.

In the drawings, Figure 1 is a side view of the pulley with the shipper in its initial position. Fig. 2 shows the same parts in a preparatory position of the shipper. Fig. 3 shows the same parts as in position at the beginning of the shipping operation. Fig. 4 shows the parts as they appear immediately after the shipping operation has been completed. Fig. 5 is an end view of the pulley and of the shipping device, showing the parts in a position when the slide-rod is brought back to the initial position shown in Fig. 1. Figs. 6 and 7 show a side and an end view of the operating hooked rod on an enlarged scale, and Figs. 8 and 9 show an end view and a side view of the lower part of the slide-rod with the resili-

ent pawl in natural size. Fig. 10 is a side view of the pulley and belt-shipper after a partial completion of the operation of shipping the belt.

The shipper *a*, consisting of a beveled bar of known construction, (see Fig. 5,) turns loosely with its bearing *b* around the shaft *c*, its lateral position being secured by an adjusting-ring (not shown) fixed within the bearing on the shaft. The bar *a* carries the parts *d*, *e*, and *f*, which prevent the belt from slipping during the shipping operation. The bearing *b* is provided according to the present invention with a guide *g*, in which is movably fitted a sliding rod *h*, carrying at its upper and lower ends studs or pivots *i* and *j*, provided with enlarged heads. The lower pivot *j* is not arranged rigidly upon the bar *h*, but on a catch-lever *l*, Figs. 8 and 9, pivotally arranged on the bar *h* and engaging with a spring-pawl *k*. On pushing the bar *h* upwardly, Fig. 2, the pawl *k* springs over the lower part *p* of the guide *g*, and thus prevents the slide-bar from descending. The disengagement of this locking device is automatically effected by means of the hooked rod *m* when the slide-rod *h* is drawn in the direction of the arrow, as shown in Fig. 5, since the catch-lever *l* tends to turn about its pivot and its catch presses the pawl *k* against the action of its spring, thus releasing the pawl and allowing the rod *h* to slide through the slot of the guide part *p*. The hooked rod *m*, Figs. 6 and 7, carries a hook *n*, the opening of which corresponds with the diameter of the pivots *i* and *j* and is arranged laterally. The hook *n* is hinged and is under the influence of a flat spring *o*, arranged on the side of the hook opposite to that of its opening.

The operation of the device is as follows: The belt *s* being unshipped, the shipper is in the position shown in Fig. 1, in which the belt rests upon the circumference of the bearing *b* of the shipper *a*. Then the upper pivot *i* of the slide-rod *h* is engaged by the hooked rod *m* and pushed upward, as shown in Fig. 2, until the pawl *k* is brought in engagement, as aforesaid, and the rod *h* is prevented from descending. Hereupon the upper pivot *i* is engaged by the hooked rod *m* from the opposite side, as shown in Fig. 3, and by pulling the rod *m* downward and then pushing it up-

ward the shipper is brought from the position in Fig. 3 successively into the positions shown in Fig. 10 and Fig. 4. By turning the shipper in the said manner the belt *s*, which during the operation is prevented from slipping by the parts *d e f*, is shipped by means of the beveled end (see Fig. 5) of the bar *a* onto the pulley, as shown in Fig. 4, while the shipping-bar has the tendency to further turn in the direction of rotation of the pulley and to carry with it the hooked rod *m*. The operator holding the rod *m* would consequently feel a strong shock in his hands, which shock under certain circumstances would throw the rod out of his hands or injure him. As, however, the friction in the bearing and the momentum of inertia is utilized for bending the spring *o* of the hook *n*, a shock or dangerous pull is prevented and the power exerted upon the hooked rod is yieldingly compensated. In case the slide-rod *h* should remain in the position shown in Fig. 4 inconveniences could occur during the unshipping of the belt, as the latter could be caught by the bar, and instead of falling on the bearing *b* it would be caught and damaged. After the release of the upper pivot *i*, therefore, the lower pivot *j* is engaged with the hooked rod *m* and pulled down, as shown in Fig. 5, so that the pawl *k* is thrown out of engagement, as above described, and the slide-rod *h* brought back into its initial position, as shown in Fig. 1.

What I claim is—

1. A belt-shipping device comprising a shipper-bearing loosely mounted on the shaft of a

pulley, a rotary bevel-ended shipping-bar fixed radially to said shipper-bearing, a rod slidably mounted on the shipping-bar and provided with two studs on its upper and lower end, respectively, the upper stud being arranged rigidly and the lower being pivotally hinged, a resilient pawl hinged on the slidable rod, and means carried by the hinged stud for engaging the pawl when said stud is drawn downwardly, substantially as set forth.

2. A belt-shipping device comprising a shipper-bearing loosely mounted on the shaft of a pulley, a rotary bevel-ended shipping-bar fixed radially to said shipper-bearing, a rod slidably mounted on the shipping-bar and provided with two studs on its upper and lower end, respectively, the upper stud being arranged rigidly and the lower being pivotally hinged, a resilient pawl hinged on the slidable rod, and means carried by the hinged stud for engaging the pawl when said stud is drawn downwardly, in combination with a rod having hinged to its end an annular hook with a lateral opening, and a spring arranged on the side opposite the opening of the hook to yieldably maintain it in approximate alignment with the rod, substantially as set forth.

In witness whereof I have hereunto set my hand, in the presence of two witnesses, at Riga, March 20, 1902.

ANDREW COULTER.

Witnesses:

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JAMES E. PRIESTLY.