Jan. 30, 1923. 1,443,336

E. ATWOOD.
SWIFT.
FILED AUG. 13, 1921. 2 SHEETS-SHEET 1

Fig. 1.

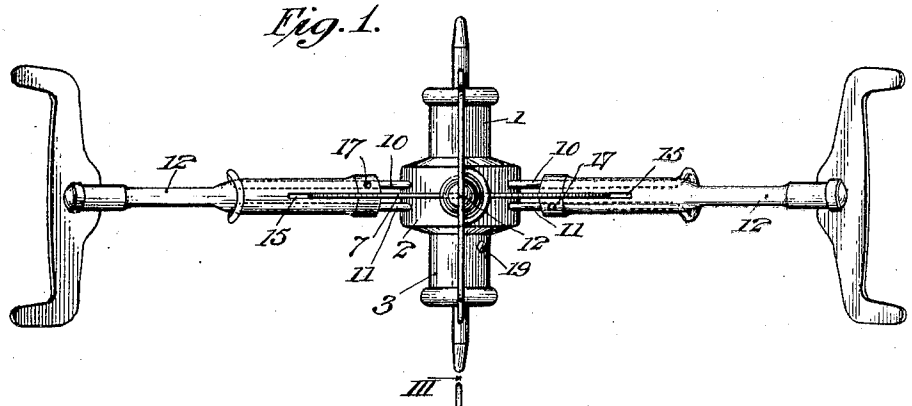
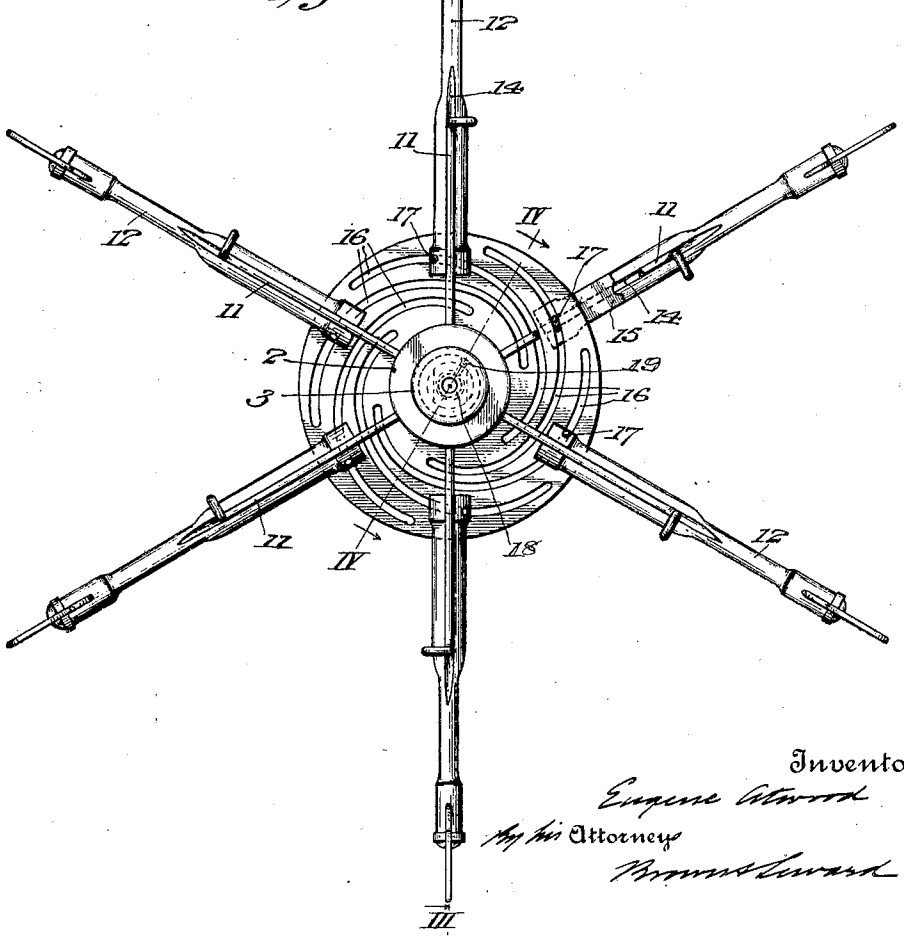


Fig. 2.



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Fig. 3.

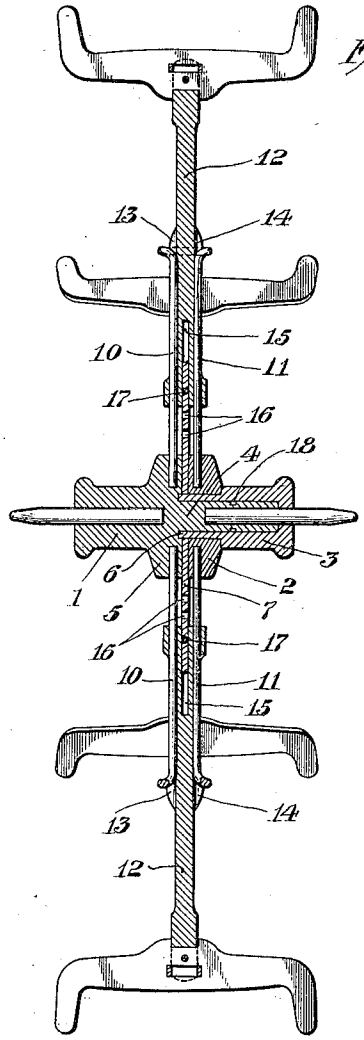


Fig. 4.

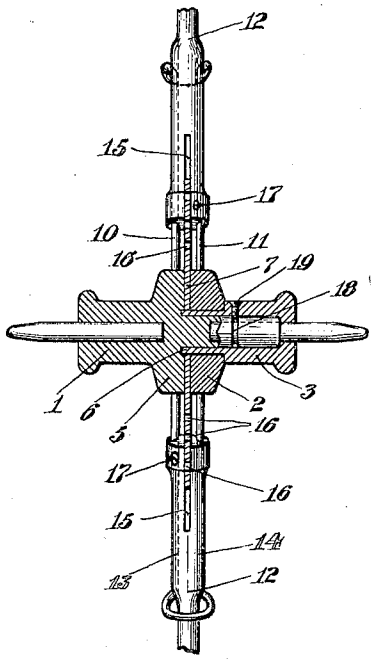


Fig. 5.

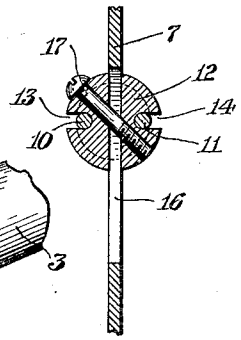
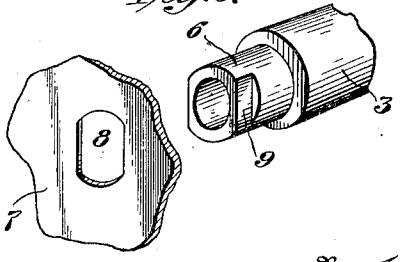


Fig. 6.



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Patented Jan. 30, 1923. 1,443,336

UNITED STATES PATENT OFFICE.

EUGENE ATWOOD, OF STONINGTON, CONNECTICUT, ASSIGNOR TO ATWOOD MACHINE COMPANY, OF STONINGTON, CONNECTICUT, A CORPORATION OF NEW JERSEY.

SWIFT.

Application filed August 13, 1921. Serial No. 492,011.

To all whom it may concern:

Be it known that I, EUGENE ATWOOD, a citizen of the United States, and resident of Stonington, in the county of New London and State of Connecticut, have invented a new and useful Improvement in Swifts, of which the following is a specification.

My invention relates to that class of swifts or reels in which the arms may be simultaneously extended or contracted. The object of my invention is to provide a novel and simple mechanism for accomplishing this result, the structure of the swift or reel at the same time being very strong.

A practical embodiment of my invention is represented in the accompanying drawings, in which

Fig. 1 represents the swift or reel in top plan.

Fig. 2 represents the same in side elevation.

Fig. 3 represents a cross section taken in the plane of the line III—III of Fig. 2.

Fig. 4 represents a detail section taken in the plane of the line IV—IV of Fig. 2.

Fig. 5 represents, on an enlarged scale, a detail view showing the pin and slot connection between the movable arm member and cam plate, and

Fig. 6 represents an enlarged detail perspective view showing a portion of one of the hub members and a portion of the cam plate to illustrate the interlocking connection between the two.

The hub of the swift or reel has two members, one of said members comprising the sections 1 and 2, the other member being denoted by 3. The part 1 of one of the hub members is provided with an axial extension 4 which projects into a central recess in the hub member 3. This part 1 is also provided with an enlarged portion 5 corresponding to the part 2. The hub member 3 is provided with a reduced central projection 6 on which the part 2 of the other hub member is loosely mounted. The end of this extension 6 is interlocked with a cam plate 7 which is located between the part 2 and enlarged portion 5 of one of the hub members. In the present instance, I have shown this interlocking connection as comprising a flattened central hole 8 in the cam plate adapted to receive a flattened portion 9 of the extension 6 of the hub member 3.

Each of the radial arms of the swift or reel has an inner relatively fixed member and an outer relatively movable member The relatively fixed inner arm member is shown as comprising a substantially U-shaped wire, the inner ends of the branches 10 and 11 of which are seated in the enlargement 5 and part 2 respectively, of one of the hub members. The shank 12 of the outer arm member is provided with longitudinal grooves 13 and 14 within which are seated the branches 10 and 11 of the inner arm member, whereby the outer arm member is guided in its movements as the arm is extended and contracted.

It will be noted that the outer arm member is bifurcated at its inner end to provide a slot 15 for receiving the cam plate 7. It will also be noted that the branches 10 and 11 of the relatively fixed inner arm are located upon opposite sides of the said cam plate.

This cam plate 7 is provided with a series of overlapping cam slots 16, one for each radial arm, and each movable arm member is provided with a pin 17 which passes through its slot 16 into the branches at the inner end of the movable arm member. These cam slots are herein represented as spiral slots. The hub members may be relatively interlocked by providing the axial extension 4 with a circumferential groove 18 into which the inner end of a screw 19 projects, said screw being carried by the hub member 3.

From the above description it will be seen that the two hub members are relatively rotatable and that the cam plate is interlocked with one of the hub members so that the relative rotary movement of one of the hub members with respect to the other will cause the extension and contraction of the radial arms of the swift or reel through the pin and slot connections between the cam plate and the said radial arms.

The structure which I have described is a very simple and strong one for ensuring the extension and contraction of the arms to the desired degree. It is understood that any suitable interlocking arrangement between one of the hub members and the cam plate may be employed.

It is evident that various changes may

be made in the construction and arrangement of the several parts without departing from the spirit and scope of my invention; hence I do not wish to be limited to the particular embodiment herein shown and described, but

What I claim is:

1. A swift or reel comprising radial arms having relatively fixed and movable members, and a relatively rotatable cam plate projecting into the movable arm members and having cam slots, said movable arm members having pins in said slots whereby the arms may be extended and contracted.

2. A swift or reel comprising radial arms having fixed and movable members, a hub having two rotatable members, and a cam plate fixed to one of the hub members and projecting into the movable arm members and having cam slots, said movable arm members having pins in said slots, whereby the arms may be extended and contracted.

3. A swift or reel comprising radial arms having relatively fixed and movable members, a hub having two relatively rotatable members, the relatively fixed arm members comprising substantially U-shaped wires having the inner ends of their branches seated in one of the hub members, said outer arm members having grooves for receiving said branches, and a cam plate fixed to the other hub member and projecting into the movable arm members, said cam plate having cam slots and said movable arm members having pins in said slots, whereby the arms may be extended and contracted.

In testimony, that I claim the foregoing as my invention, I have signed my name this 4th day of August 1921.

EUGENE ATWOOD.