C. F. SPEIDEL.

FILM WINDING KEY FOR PHOTOGRAPHIC CAMERAS.

APPLICATION FILED MAR. 23, 1914.

1,169,882. Patented Feb. 1, 1916.

Fig. 1

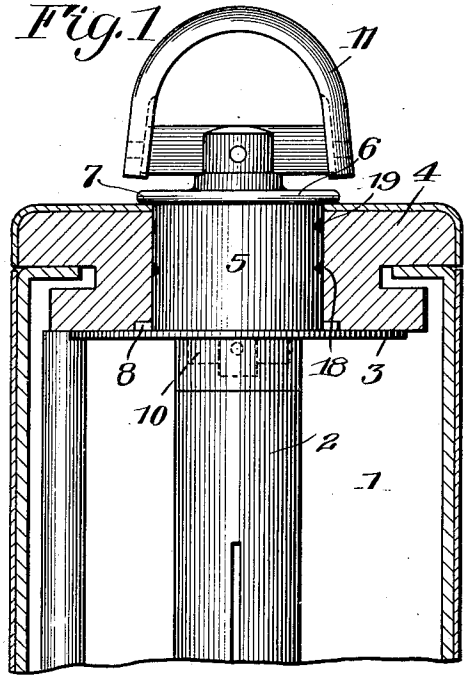


Fig. 2

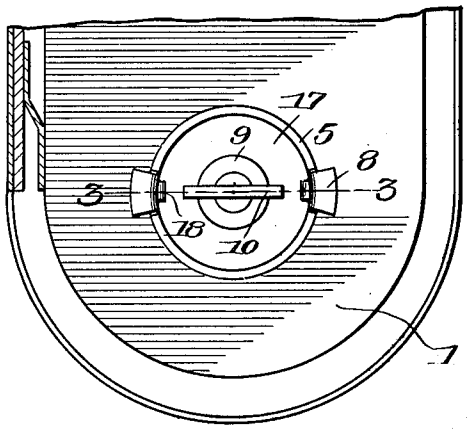


Fig. 3

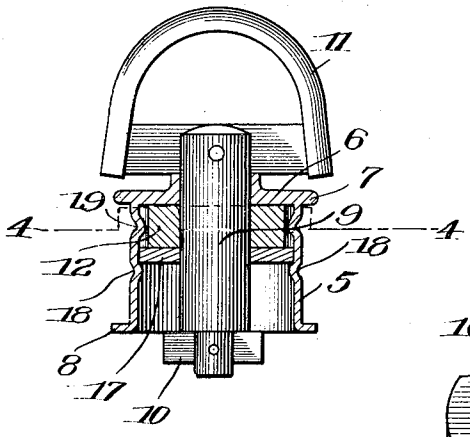


Fig. 4

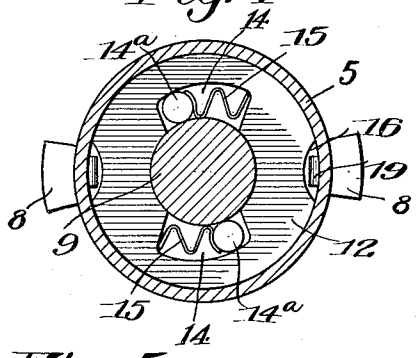
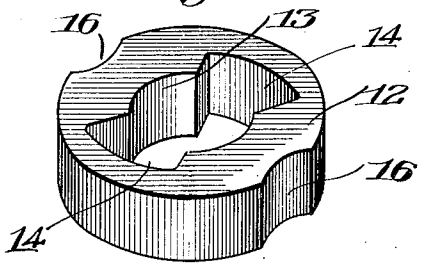


Fig. 5



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FILM-WINDING KEY FOR PHOTOGRAPHIC CAMERAS.

1,169,882. Specification of Letters Patent. Patented Feb. 1, 1916.

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To all whom it may concern:

Be it known that I, CHARLES F. SPEIDEL, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Film-Winding Keys for Photographic Cameras; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to photography and more particularly to photographic roll holding cameras, and it has for its object to provide a simple, cheap and effective form of film winding key of the clutch type which is permitted to rotate only in one direction.

The improvements are directed more particularly to economizing parts and toward promoting the ease with which the parts may be formed and assembled.

To these and other ends the invention consists in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings: Figure 1 is a sectional view through one of the film chambers of a roll holding camera showing in side elevation a winding key mechanism constructed in accordance with and illustrating one embodiment of my invention; Fig. 2 is a bottom or inner plan view of the mechanism taken in section through the chamber; Fig. 3 is an axial section taken substantially on the line 3—3 of Fig. 2; Fig. 4 is a transverse section on the line 4—4 of Fig. 3, and Fig. 5 is a perspective view of the clutch block.

Similar reference numerals in the several figures indicate the same parts.

Referring more particularly to the drawings, 1 indicates the film chamber of the camera in which is accommodated the removable film spool 2 having the flange 3, the other end of the spool which is not shown being journaled on a suitable trunnion or center as usual. The end wall 4 of the chamber is bored out to receive a cylindrical cup-shaped socket member or shell 5 having its outer end closed as by the wall 6 and extended at the periphery to constitute a flange 7 which bears against the exterior surface. At the opposite or inner end, ears 8 which are formed up as extensions from the sides of the socket shell are clenched over in an outward direction against the inner surface of the wall so that the latter is clamped between these ears and the flange 6 and the socket is held immovably in place.

The flange 3 of the film spool turns flush with the inner end of the socket shell in the present instance and a stem 9 both rotatably and slidably journaled in the outer wall 6 of the latter has a cross piece or head 10 at its inner end which head, when the stem is thrust inwardly to the fullest extent, in an axial direction, projects beyond the socket and engages within an opening of similar contour in the end of the spool 2 to turn the latter. In the present embodiment, the stem is held in this engaging position merely by friction. At its outer end, the socket carries an exteriorly accessible finger piece or key handle 11 of the usual or any preferred form.

As before indicated, my device is of the clutch type wherein mechanism is provided for turning the spool in only one, and that the winding, direction, its movement being locked in the opposite direction to prevent mistakes leading to unwinding or loosening of the film roll from being made. In the practice of my invention I provide an integral annular clutch block 12 shown in detail in Fig. 5, which block lies at the bottom of the socket shell with one side against the wall 6 and surrounding the stem 9 which it closely fits at 13. Inner recesses 14 on the smaller periphery of the block which are tapered in a circumferential direction in a well known manner are occupied by cylindrical or spherical clutch elements 14^a which are thrust toward the small ends of the recesses by springs 15. The stem may rotate toward the widened ends of the recesses but binds against the clutch elements when it is attempted to reverse this movement. There are also provided outer recesses 16 on the larger periphery of the block that alternate with the inner ones for a purpose that will presently appear.

The other side face of the block is covered by an annular keeper plate 17 which closely fits the interior of the shell and also loosely surrounds the stem. The combined thickness of this plate and the block 12 is only

about half the depth of the shell so that when the stem 9 is pulled longitudinally outward, the head 10 is disengaged from the spool and drawn within the shell and against the plate 17 to an inoperative position. The plate holds the block 12 in place and its important function is to seal or cover the clutch recesses 13 and prevent the clutch elements 14[a] and springs 15 from falling out.

To hold all of the parts in place I simply strike in from the cylindrical walls of the socket shell 5 a plurality of projecting teats 18 and 19 on opposite sides of the keeper plate 17. The outer ones 18 hold the plate in the shell and tightly against the clutch block 12 while the inner ones 19 are so arranged as to occupy the outer recesses 16 of the block and prevent it from turning in the shell, which interlocking is obviously necessary.

It will be seen that a mechanism constructed in accordance with my invention is particularly simple in the number and disposition of the parts and the manner in which they may be formed and assembled. All of them may be either spun, stamped or die cast and in assembling they are simply thrust, in order, into the shell 5, and the latter then put into a press which in one operation forms the projections 18 and 19 and everything is complete.

I claim as my invention:

1. In a spool center, the combination with a casing containing a chamber, a cylindrical socket shell extending through a wall of the casing, and a rotary winding stem extending centrally through and journaled in the socket, said stem being provided at its respective ends with a handle on the exterior of the casing and with a spool engaging head within the chamber, of an annular clutch block within the socket shell surrounding the stem and provided with inner clutch containing recesses and with outer locking recesses, and inwardly extending projections on the socket shell occupying the last named recesses to prevent rotation of the clutch block.

2. In a spool center, the combination with a casing containing a chamber, a cylindrical socket shell extending through a wall of the casing and a rotary winding stem extending centrally through and journaled in the socket, said stem being provided at its respective ends with a handle on the exterior of the casing and with a spool engaging head within the chamber, of an annular clutch block within the socket shell surrounding the stem and provided with inner clutch containing recesses and with outer locking recesses, a keeper plate superposed upon the clutch block to close the clutch containing recesses thereof and means for preventing rotation of the clutch block and for confining the keeper plate comprising a plurality of projections formed by striking in the material of the socket shell on opposite sides of the keeper plate, certain of said projections being arranged to occupy the outer locking recesses of the clutch block.

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