

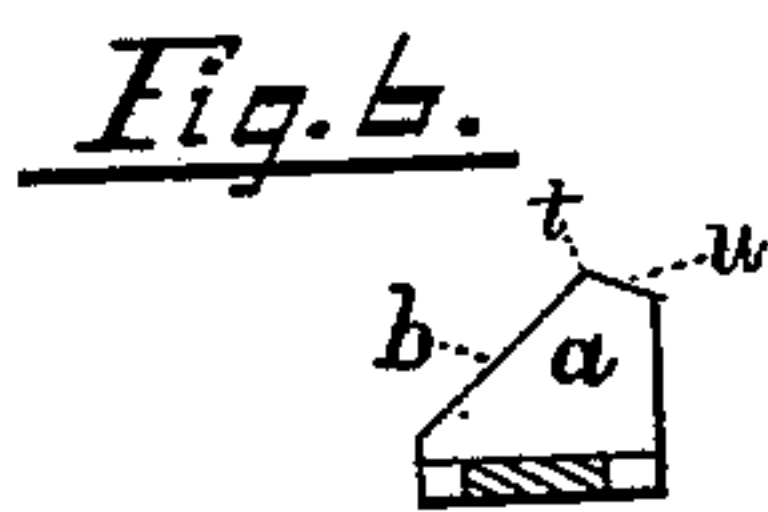
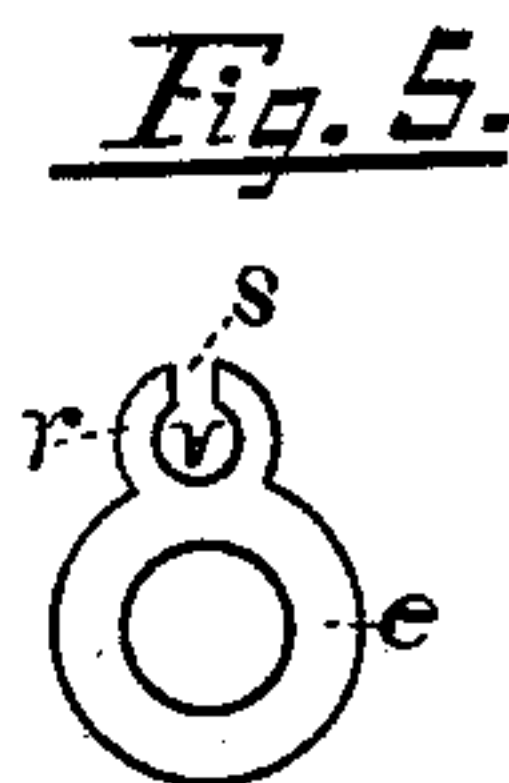
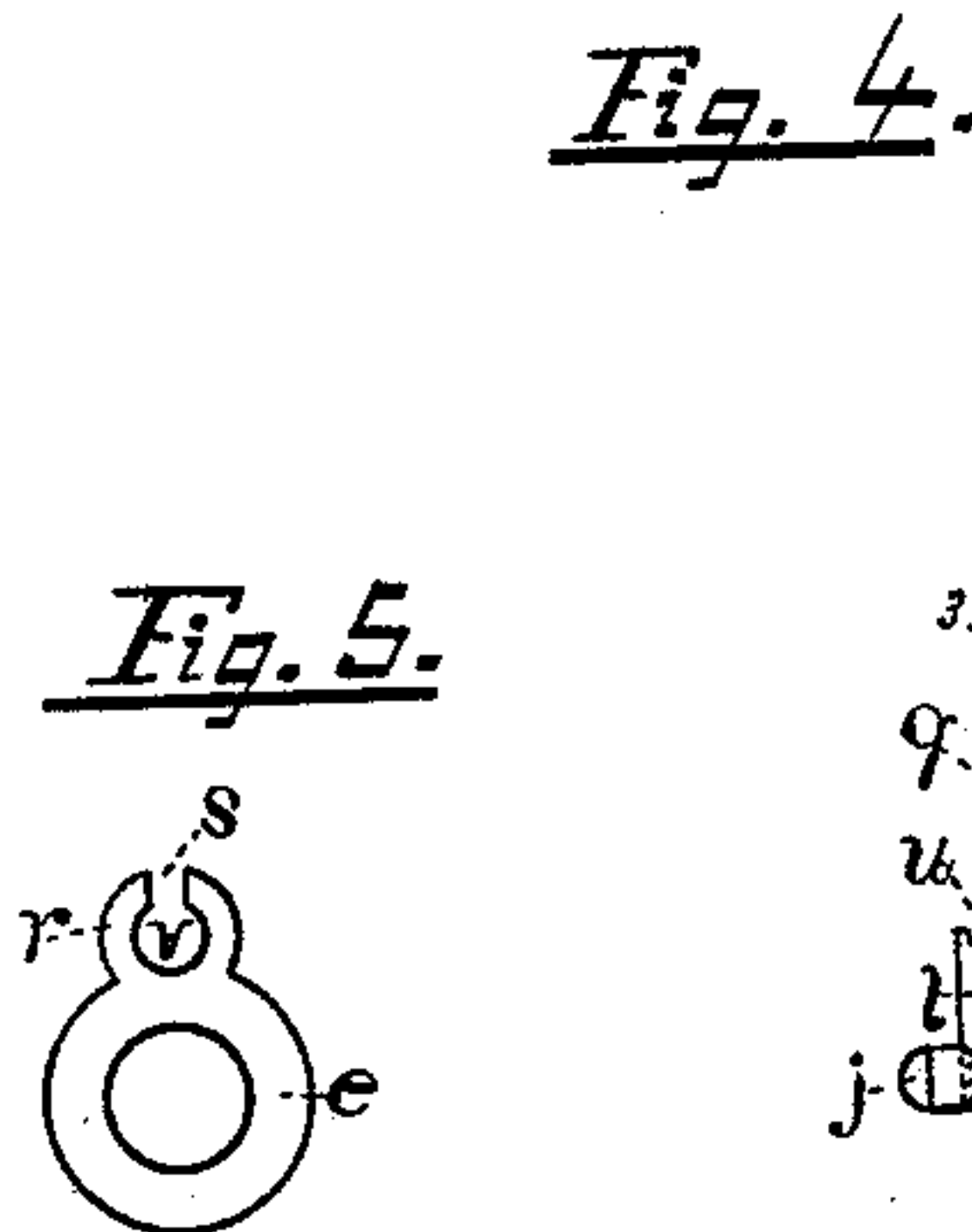
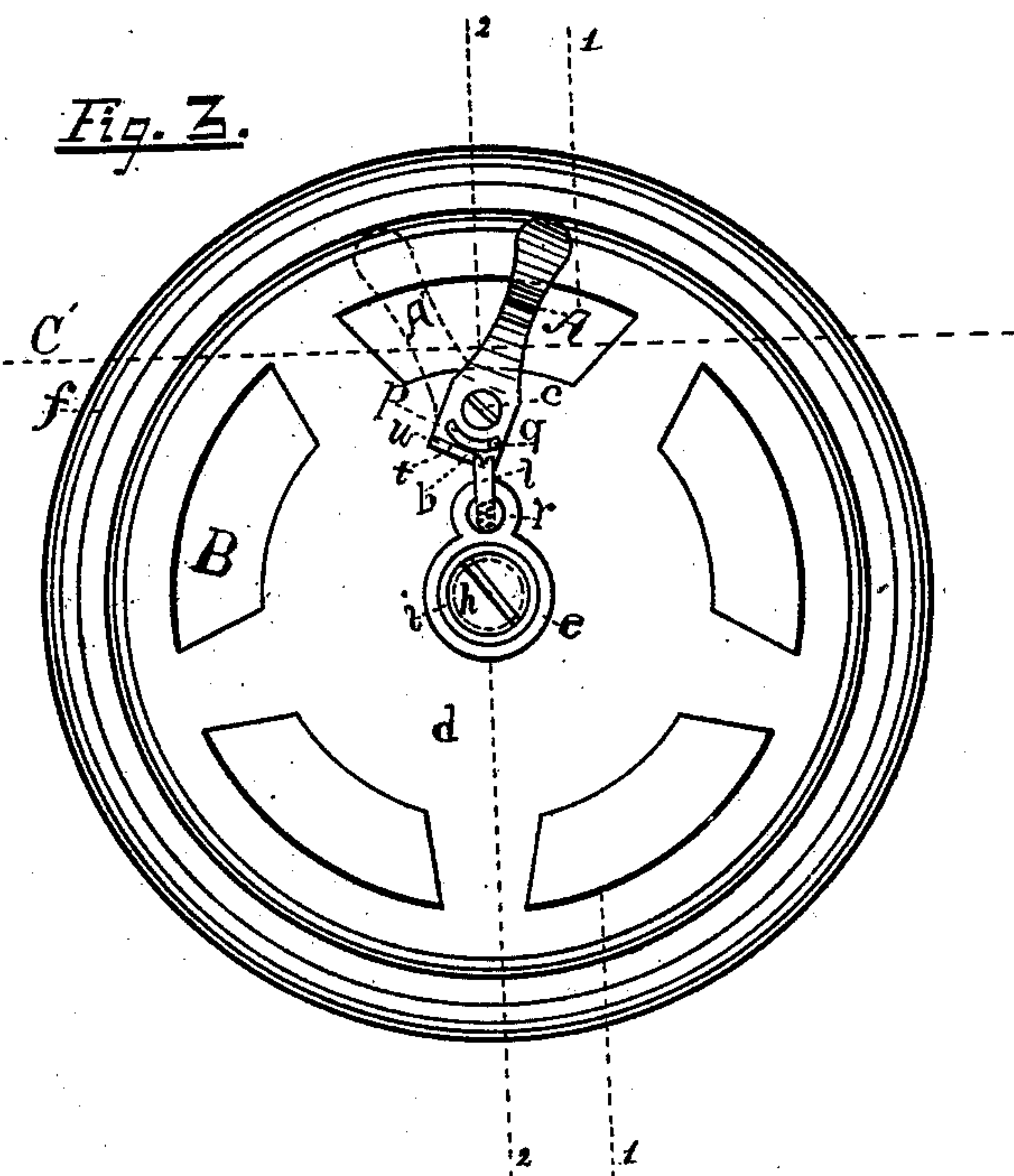
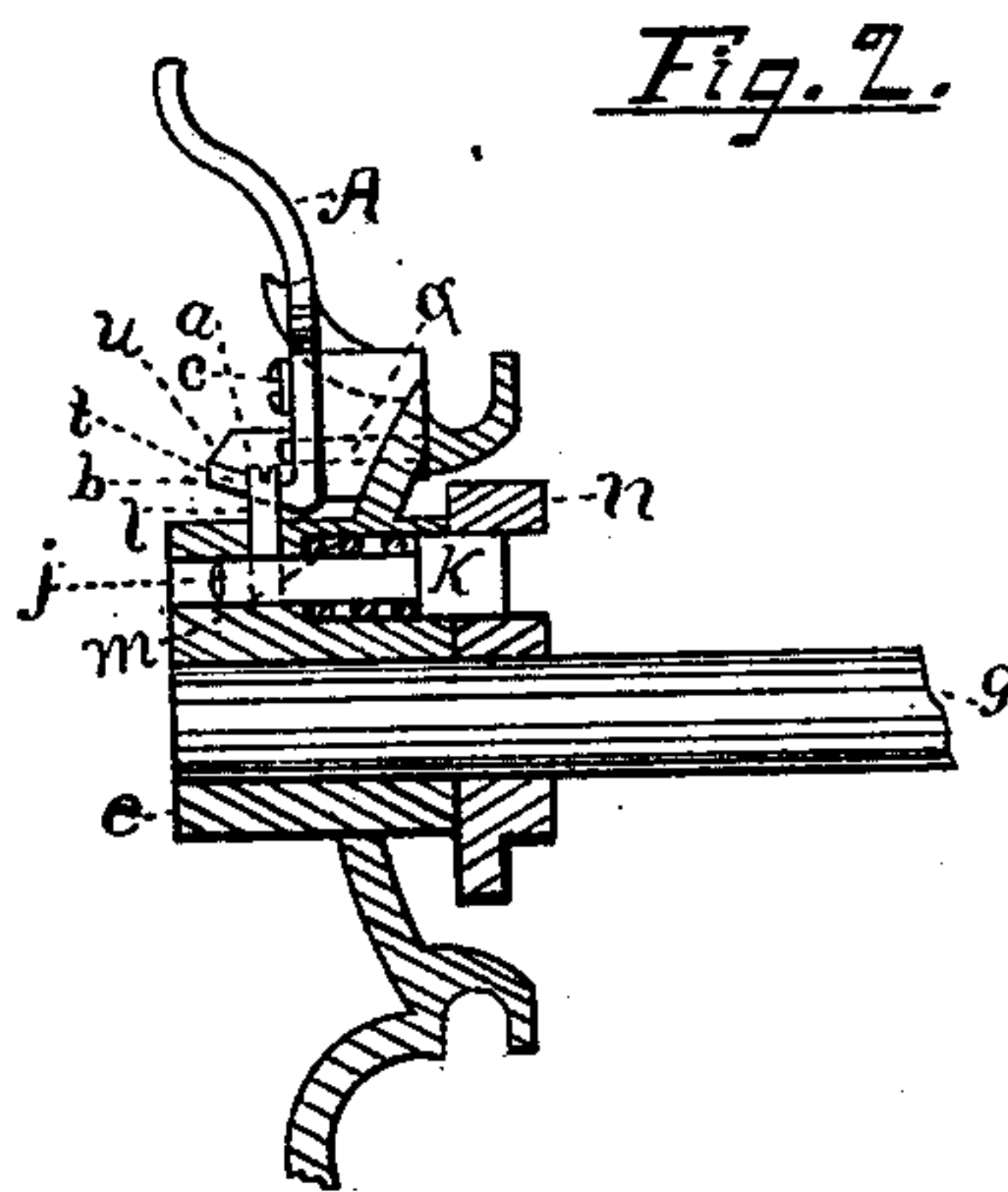
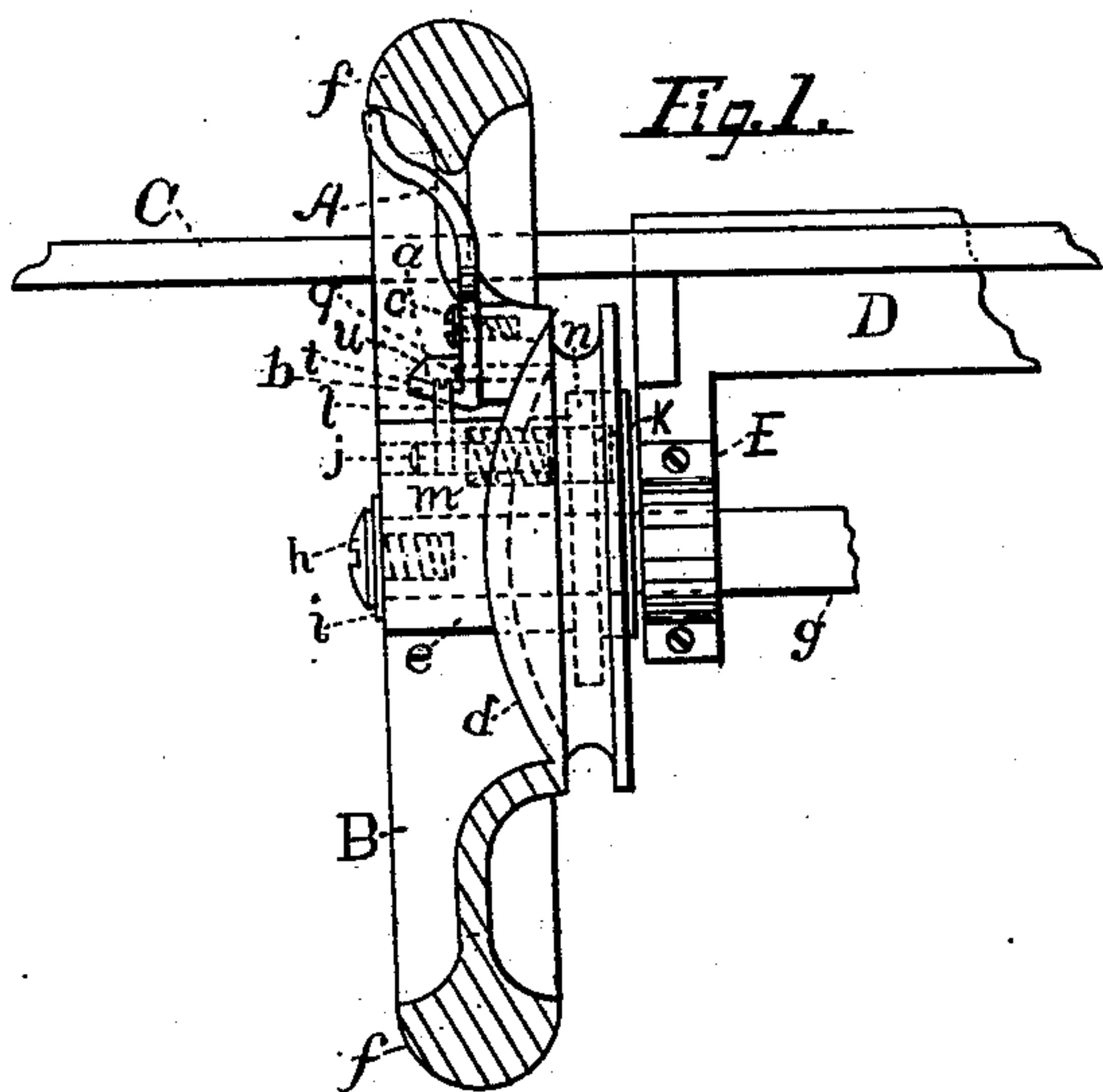
(No Model.)

E. FLATHER.

Balance Wheel Pulley for Sewing Machines.

No. 235,146.

Patented Dec. 7, 1880.



Witnesses:

George D. Phillips
Albert H. Stillman

Inventor

Edward Flather

UNITED STATES PATENT OFFICE.

EDWARD FLATHER, OF BRIDGEPORT, CONNECTICUT.

BALANCE-WHEEL PULLEY FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 235,146, dated December 7, 1880.

Application filed May 14, 1880. (No model.)

To all whom it may concern:

Be it known that I, EDWARD FLATHER, of Bridgeport, county of Fairfield, and State of Connecticut, have invented a certain new and useful Improvement in Balance-Wheel Pulleys for Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the method of operating and controlling the locking or driving bolt in sewing-machines which are constructed with a balance-wheel pulley loosely mounted on the driving-shaft and running independent thereon, for the purpose of winding the bobbin.

My invention consists of a cam-lever attached to the perpendicular face of the pulley, and oscillating freely thereon, engaging with the locking-bolt, operating and controlling the same.

My invention is an improvement on the device for the same purpose filed by me November 28, 1879, which consisted of a thumb-pin attached to the locking-bolt, and engaging with an incline plane cut or formed on the hub of the pulley, by means of which the bolt was operated. This device was intended to be used on machines with the pulley above the table.

My present improvement is intended for machines with the pulley below the table, a portion of the rim only extending above; and it consists in attaching a cam to the perpendicular face of the pulley, provided with a handle projecting above the table to be within convenient reach of the operator.

To more clearly understand my invention, reference is had to the drawings accompanying this specification, and forming a part thereof, in which—

Figure 1 represents a view of the pulley. A is the cam-lever, having lateral projections *a*, and provided with incline *b*, to operate the locking-bolt. The cam-lever A is secured, by the screw *c*, to the perpendicular face *d* of pulley B, between the hub *e* and rim *f*. The rim *f* is shown in section, (represented by the dotted lines 1 1, Fig. 3.) The pulley B is mounted on the shaft *g*, and held in place by the screw *h* and washer *i*. C represents the table; D,

the bed of the machine, with the hanger E extending below the table supporting the shaft *g*.

Fig. 2 represents a more comprehensive view of the pulley, showing a sectional view of the hub, (represented by the dotted lines 2 2, Fig. 3.) *j* is the locking-bolt, having head K. *l* is the locking-bolt pin. One end is attached to the locking-bolt, the other engaging with the incline *b* of cam *a*. *m* is a spiral spring on the bolt *j*, between the head K and pin *l*. *n* is the flange secured to the shaft *g*, and provided with recess for the head K of locking-bolt *j*, for transmitting motion to the machine.

Fig. 3 is a plan view of the pulley, showing position of the cam-lever. The dotted line C represents the line of the table, showing a portion of the lever A projecting above.

Fig. 4 is a perspective view of the cam-lever A, the handle bent to conform in shape to the inner face of the pulley-rim *f*. *o* is the hole for the screw *c*, on which the lever swings. *p* is a transverse slot for the reception of the stop-pin *q*, projecting from the perpendicular face *d* of the pulley, and operating as a stop to the lateral travel of the cam-lever A.

Fig. 5 is an end view of the pulley-hub *e*, having projection *r* and hole *v* for the locking-bolt *j*. The slot *s* is provided to accommodate the horizontal movement of the locking-bolt pin *l* when operated by the cam-lever.

The operation of the device is as follows: The position of the cam-lever A, Fig. 3, thrown to the right of the dotted center line, 1, represents the pulley locked. The pin *l* is at the lowest point of the incline *b* of the cam *a*, and the stop-pin *q* at the extremity of the transverse slot *p*. To withdraw the bolt the lever is carried over to the dotted position A', forcing the pin *l* up the incline *b* until it passes the highest point, *t*, and rests on the bevel *u*. Its further progress is checked by the stop-pin *q* at the other extremity of the slot *p*. A view of the cam-lever is shown at Fig. 6, showing section of handle represented by dotted line 3, Fig. 4. The edge *u* is beveled to allow the pin *l* to rest on a position lower than the point *t*, to prevent any sudden jar releasing the pin and accidentally locking the pulley. The machine is so adjusted that when the lever is perpendicular and the handle above the table

in a position for locking or unlocking the pulley the needle-bar is at its highest point, and in a position to change, if necessary, the needle, shuttle, or presser-foot.

5 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 In combination with the locking-bolt and pulley, a cam-lever attached to the perpendicular face of the pulley, one end of said lever

projecting above the table, the other having lateral projection to form the cam and engage with locking-bolt, said lateral projection provided also with beveled edge to support locking-bolt when withdrawn, all substantially as described, and for the purpose set forth. 15

EDWARD FLATHER.

Witnesses:

GEORGE D. PHILLIPS,
ALBERT W. STILLMAN.