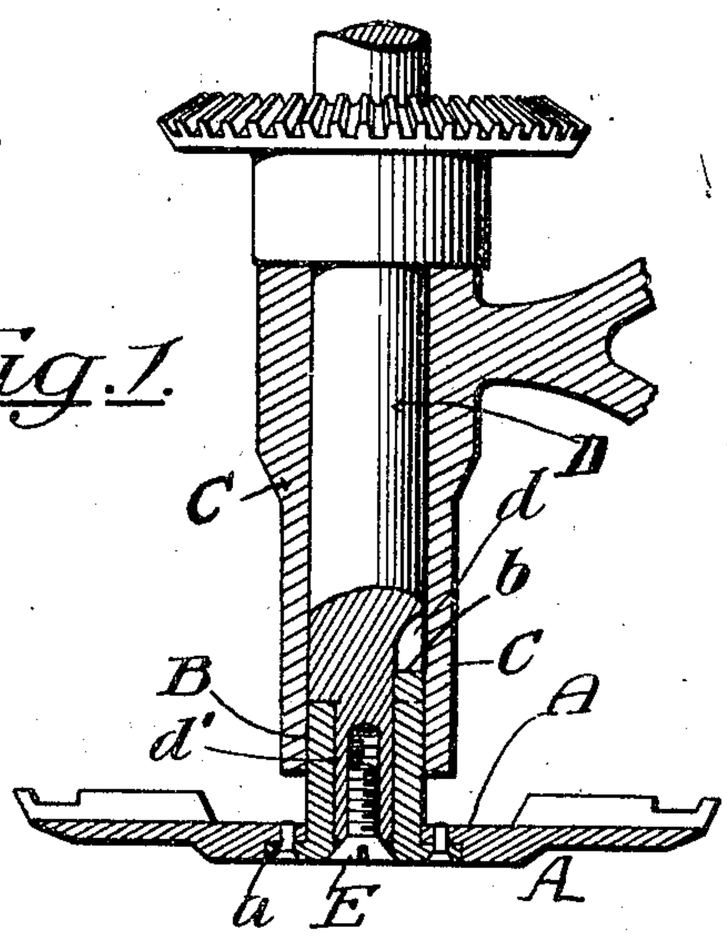
Jan. 2, 1923. 1,441,124

R. W. SCOTT.
KNITTING MACHINE DIAL MOUNTING.
FILED MAR. 4, 1920.

Fig. 1.



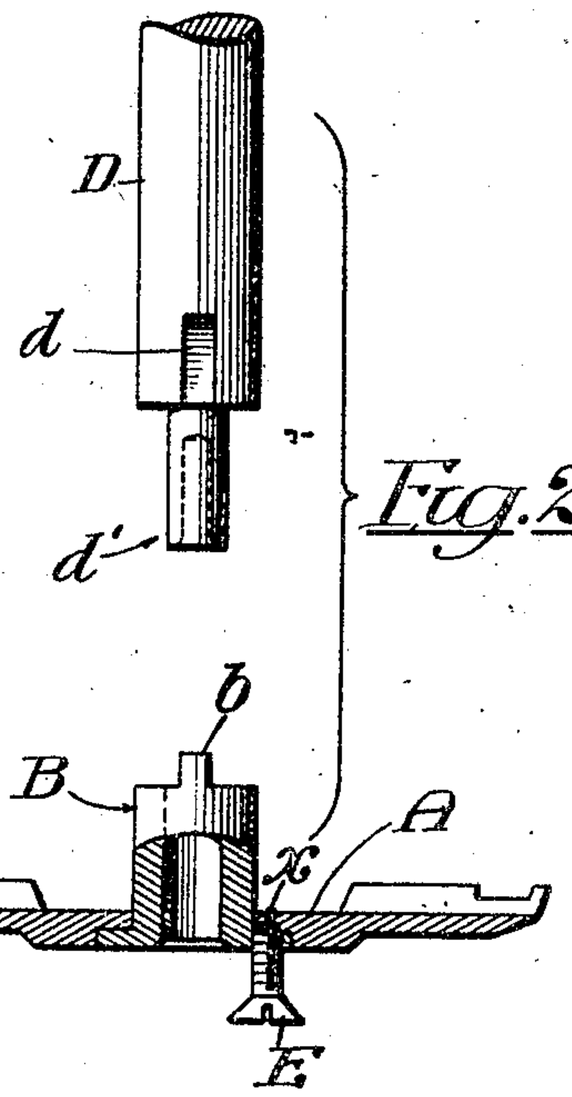
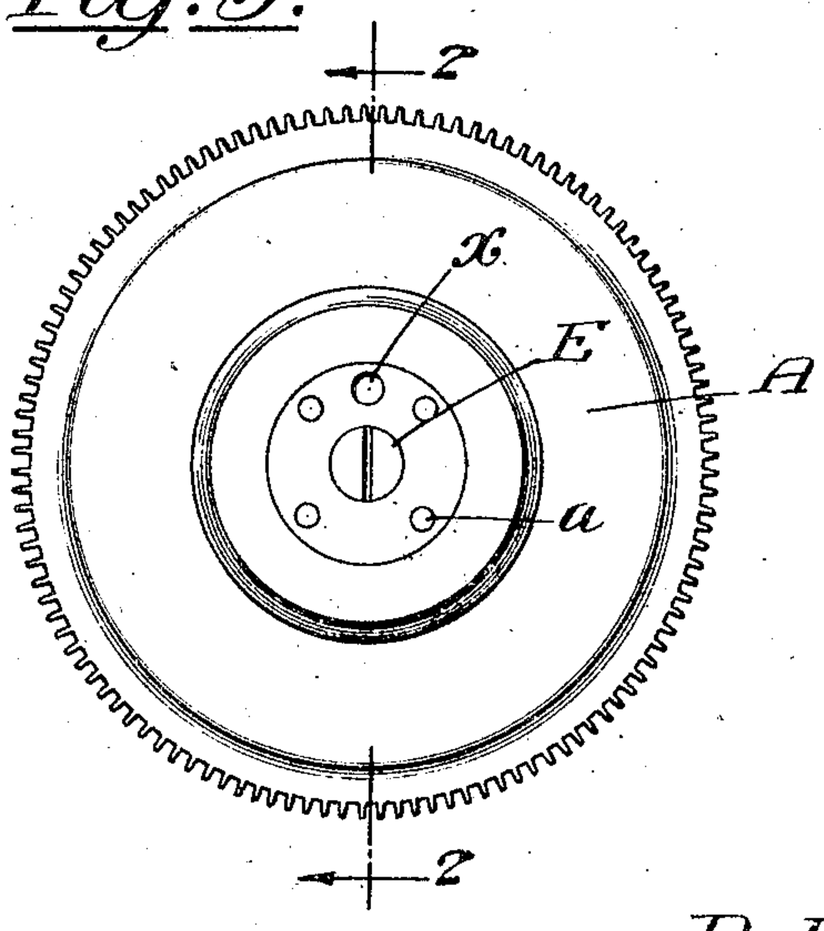


Fig. 2.

Fig. 3.



Inventor
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Patented Jan. 2, 1923. 1,441,124

UNITED STATES PATENT OFFICE.

ROBERT W. SCOTT, OF BABYLON, NEW YORK, ASSIGNOR TO SCOTT AND WILLIAMS, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF MASSACHUSETTS.

KNITTING-MACHINE DIAL MOUNTING.

Application filed March 4, 1920. Serial No. 363,136.

To all whom it may concern:

Be it known that I, ROBERT W. SCOTT, a citizen of the United States of America, residing in Babylon, in the county of Suffolk, in the State of New York, have invented certain new and useful Improvements in Knitting-Machine Dial Mountings, of which the following is a specification.

My invention relates to knitting machines of that class in which an instrument carrying dial is supported on the lower end of a spindle, and the object of my invention is to provide an improved means of securing the dial to the spindle so that when in position the dial will be firmly secured to the spindle in a definite position and yet can be readily removed and correctly replaced by an unskilled operator.

My invention is particularly useful in knitting machines of the type illustrated in my Patent No. 1,232,958, dated October 29, 1918, and in which a vertical spindle carries a horizontal dial with a series of radially movable knitting instruments. The spindle and dial are mounted in a frame, hinged on a pivot at the rear of the machine, so that the dial can be swung up from its working position. Whether such a machine is used for knitting inturned welts or for making ribbed fabric and changing from ribbed knitting to plain knitting, it is desirable that the operator shall be able to remove the dial from its spindle, when it thus has been swung up from working position, in order that the instruments carried by the dial can be inspected and broken parts removed. Heretofore the practice has been to use a dial with a hub on its lower face and to secure the dial to its carrying spindle by a tapering cross-pin driven through holes in the hub and spindle. The ordinary operator is not skilled enough to be relied on to drive out this pin with a punch and then attach the dial in its proper position with the dial in exact register with the cylinder. In addition the hub projecting on the lower face of the dial was liable to interfere with the yarn floated under it at each revolution in certain operations. It may be mentioned that the transfer bits or needles, as the case may be, which are carried by the dial are frictionally held in the radial grooves in the dial either by being slightly bent or by being provided with resilient tails, so that if the dial were readily removable from its spindle, it could be handled with safety by an unskilled operator while an examination was being made or broken parts were being replaced.

In the accompanying drawing

Fig. 1 is a vertical section illustrating my improvement;

Fig. 2 is a view partly in section, showing the dial detached from its spindle;

Fig. 3 is an underside view of the dial.

In my improvement, the dial A is provided with a hub B projecting on its upper side, instead of its underside. This hub is of a diameter to fit snugly within the lower part of the bearing C for the spindle D. The lower end d^1 of the usual spindle D is reduced to about half its diameter and is bored out at its end and threaded to receive a screw E. The hub is made with an interior diameter to fit snugly onto the reduced end of the spindle D, and the hub is also provided with a key or like projection *b*. The shaft immediately above its reduced end is provided with a keyway *d* into which the key *b* will fit with accuracy.

A screw hole *x* is tapped into the underside of the dial of a size to receive the screw E to the extent of a few turns.

When it is necessary to remove the dial from its spindle for purposes such as already mentioned, the dial frame is first swung up on its hinge out of working position and with its underside exposed. Then by means of an ordinary screw-driver, the screw E, which has held the dial securely in position on the spindle, is removed and is then introduced for a few threads into the hole *x*. The screw thus affords the operator a handle by which the dial may conveniently be pulled off the end of the spindle. Whenever it is necessary to put the dial back on the spindle, the key *b* and key-way *d* insure an accurate positioning of the dial in correct register with the cylinder. The construction described incloses the joints within the bearing *c* and so protects them from lint or dirt, which would tend to throw the parts out of proper relation to each other.

The dial A is preferably made separate from the hub B and the two may be secured together by rivets *a*. There are two advantages in making dial and hub separate. In the first place the dial part is precisely the same as in existing dials, which have hubs

on the under face, and the new hub B being of the same diameter as the spindle D, which formerly entered a corresponding opening on the upper face of the dial, it is only necessary to remove the old hub from the underside of the old dial and counterbore the under face of the dial to receive the flange of the new hub B, which can then be rivcted or otherwise secured to the dial to complete the converse side.

In making a dial with hub of the old construction, it was necessary to use a drop forging, whereas in making the dial of my described construction, the dial portion may be formed by punching or the flat circular pieces may be cut from a bar of steel.

I claim as my invention:

1. A knitting machine having an instrument dial, a carrying spindle for the dial and means to secure the dial to the spindle with ready detachability, the dial being free from projections on its underside, so as not to interfere with floated yarns, as and for the purpose described.

2. A knitting machine having an instrument dial free from projections on its underside, so as not to interfere with floated yarns, and a hub on its upper face in combination with a spindle to which the dial is detachably secured.

3. A knitting machine having an instrument dial with a hub projecting on its upper face and free from projections on its underside so as not to interfere with floated yarns, in combination with a spindle to which the dial is detachably secured with a key joint.

4. A knitting machine having a dial with a hub projecting on its upper face in combination with a spindle to which the dial is detachably secured and a bearing for the spindle covering the joint between the hub and spindle.

5. A knitting machine having a dial with a hub projecting on its upper face in combination with a carrying spindle having a reduced end onto which said hub is sleeved with a key joint, and a securing screw detachably holding the dial and hub to the spindle.

6. A knitting machine having a dial in combination with a carrying spindle, to the end of which the dial is secured by a screw, the dial having on its under face a separate tapped hole to receive said securing screw, which can then serve as a handle to remove the dial from the spindle.

In testimony whereof I have signed my name to this specification.

ROBERT W. SCOTT.