

No. 759,279.

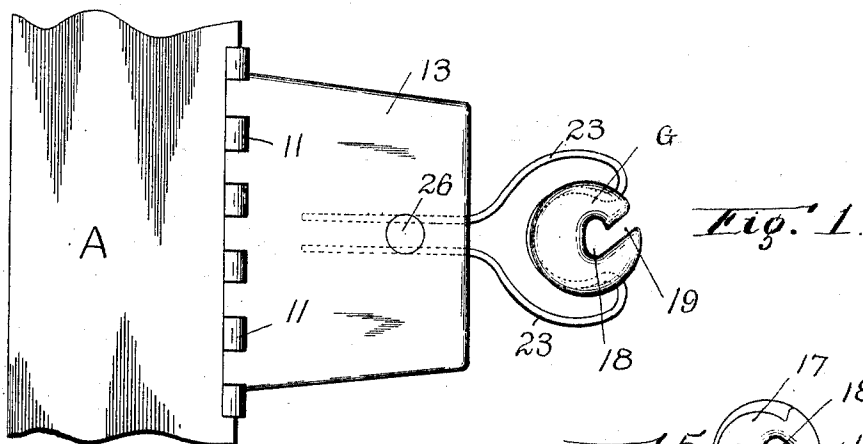
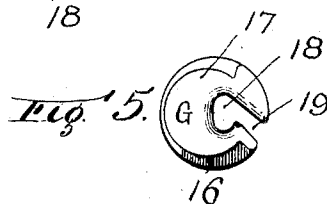
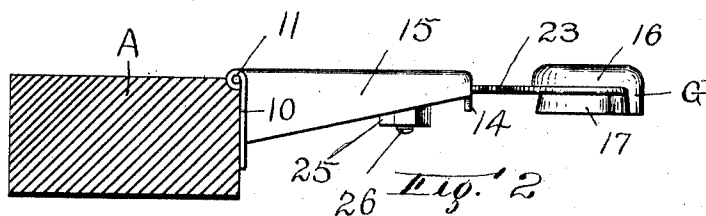
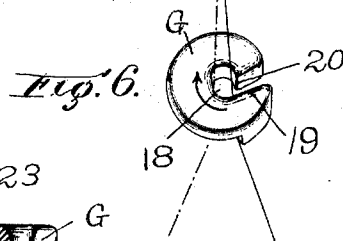
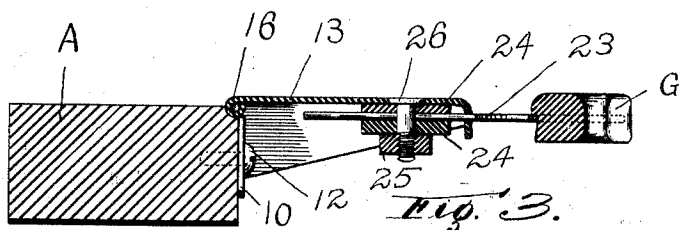
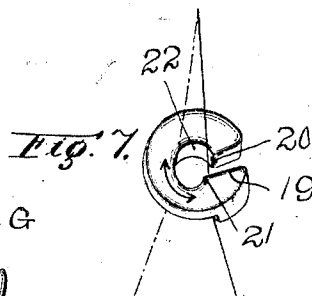
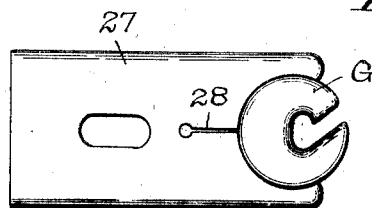
PATENTED MAY 10, 1904.

L. T. HOUGHTON.

THREAD GUIDE.

APPLICATION FILED DEC. 12, 1901.

NO MODEL.



Witnesses.
C. F. Wisson.
M. C. Regan.

Inventor:
L. T. Houghton.

Southgate & Southgate
Attorneys.

UNITED STATES PATENT OFFICE.

LEWIS T. HOUGHTON, OF WORCESTER, MASSACHUSETTS.

THREAD-GUIDE.

SPECIFICATION forming part of Letters Patent No. 759,279, dated May 10, 1904.

Application filed December 12, 1901. Serial No. 85,596. (No model.)

To all whom it may concern:

Be it known that I, LEWIS T. HOUGHTON, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Thread-Guide, of which the following is a specification.

This invention relates to a new thread-guide for spinning or twisting machines and to an improved construction of thread-guide support.

The especial object of this invention is to provide a thread-guide of porcelain or similar material which is so constructed as to prevent the escape of the thread therefrom during the normal operations of spinning or twisting, but which is provided with an open passage for threading up the guide when desired and to provide simple and efficient constructions for detachably holding a thread-guide in place.

To these ends this invention consists of the thread-guide as an article of manufacture and the combinations of parts therewith, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a plan view of a thread-guide and its support constructed according to this invention. Fig. 2 is a side view of the same. Fig. 3 is a transverse sectional view thereof. Fig. 4 is a plan view illustrating a modified form of thread-guide holder. Fig. 5 is a bottom plan view of a thread-guide constructed according to this invention. Fig. 6 is a diagrammatic perspective view illustrating the operation of a thread-guide constructed according to this invention, and Fig. 7 is a similar view illustrating a modified form of thread-guide.

In many forms of spinning and twisting apparatus, especially in connection with spinning or twisting machines for spinning wet fibers, it is desirable to use thread-guides made of porcelain or other similar refractory material which are open at one side, so that they can be easily threaded. The use of this class of thread-guides, however, is objectionable, for the reason that any undue slackness or vibration of the thread will sometimes

cause the same to escape from the open side of the thread-guide, so that machines of this class require constant supervision and attention.

The especial object of my present invention is to provide a form of thread-guide of porcelain or similar material which is so constructed as to prevent the thread from escaping from its place therein, and I accomplish this object by providing a thread-guide in which the open passage instead of extending radially into the eye extends in at an angle, so that when the travel is in one direction—for example, in the same direction as the hands of a watch—an inclined or spiral surface will be provided for preventing the escape of the thread as it passes the opening or passage leading out from the eye. For one direction of travel the inclination of the passage would of course be in one direction, while for the opposite direction of travel the inclination of the passage would be in the opposite direction. In some instances, moreover, when it is desired to run the same machine sometimes in one direction and sometimes in the opposite direction I propose to provide a modified form of thread-guide in which one inclined or spiral surface will be provided to prevent the escape of the thread for one direction of travel and a second inclined or spiral surface will be provided for preventing the escape of the thread for the opposite direction of travel.

The thread-guides constructed according to my invention may be cast of porcelain or formed of metal or other material and are preferably provided with a circumferential groove.

As a support for a thread-guide constructed according to my invention I preferably provide a wire fork, as such wire supports or forks can be very cheaply manufactured. For some uses, however, it may be desirable to employ a sheet-metal support, and in either construction I preferably combine the supports for my thread-guides with a sheet-metal thread-board of substantially the same construction as shown described, and claimed in a previous application for patent filed by me.

Referring to the accompanying drawings,

and in detail, A designates a wooden strip, which may be hinged to the frame of a spinning or twisting machine by ordinary hinges in the usual manner. Fastened to the front 5 of the wooden strip A is a sheet-metal strip 10, which may be held in place by means of screws 12. Along its upper edge the strip 10 is provided with integral fingers or projections 11, which are bent back or rolled to 10 form a socket for receiving the wire which forms the hinge-pin of the finger-head. The finger-head, as herein illustrated, is stamped out of a single piece of sheet metal to form a plate or body portion 13, having a depending 15 front flange 14 and side flanges 15. At its rear edge the finger-head is provided with tongues 46, which are bent down and coiled upon themselves to receive the hinge-pin, so that the upper surface of the finger-head will be supported slightly above the wooden strip 20 A. In this application for patent, however, I do not wish to claim the specific construction of finger-head or of the hinge-joint for connecting the same with the finger-head board, 25 as this subject-matter is claimed in an application for patent filed by me April 29, 1901, Serial No. 57,875.

The thread-guide itself, constructed according to my invention as herein illustrated, preferably has a top flange 16 and body portion 30 17, said body portion being preferably tapered to form a groove or recess which is engaged by the support into which the thread-guide is forced.

35 The thread-guide is provided near its center with the ordinary eye 18, and leading from the ordinary eye 18 is a passage 19, which is inclined with respect to a radial line drawn from the center of the eye.

40 The operation of a thread-guide as thus constructed is most clearly illustrated in Fig. 6. As shown in this figure, if the direction of travel is the same as that of the hands of a watch, as indicated by an arrow, the thread 45 after passing the point 20 will engage the inclined or spiral surface forming the side of the passage 19, so as to be guided back into the eye 18 and prevented from escaping therefrom. For the opposite direction of travel the passage 50 opening into the eye of the thread-guide would have the opposite inclination.

In some cases it is desirable to provide a construction which will permit either direction of travel, and I have illustrated such a 55 construction in Fig. 7. As shown in this figure, the edge 20 and inclined surface forming the side of the passage 19 will act substantially as in the construction before described; but when the thread has the opposite direction of travel after passing the edge 21 the 60 thread will engage the spiral surface 22, and by means of this construction the thread will be prevented from escaping for either direction of travel.

65 A support for a thread-guide constructed

according to my invention as herein illustrated preferably consists of a wire 23, bent to form a double fork or spring-socket, into which the thread-guide may be sprung. The 70 arms of the wire support extend through the front flange 14 of the finger-head board and may be clamped in place between clamping-plates 24 by means of a nut 25, threaded onto a screw 26. In some cases, however, 75 when a more rigid construction is desired, a sheet-metal support may be employed, as illustrated in Fig. 4, the body portion of the support being slotted, as at 28, to provide sufficient spring, so that the thread-guide may be 80 snapped into place therein. In this application for patent, however, I do not wish to claim the sheet-metal form of thread-guide support, as I have claimed this subject-matter in an application for patent filed October 18, 1901, 85 Serial No. 79,151.

I am aware that numerous changes may be made in the details of construction of my thread-guide for spinning or twisting machines and in the means for supporting the same. I do not wish, therefore, to be limited 90 to the construction I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. As an article of manufacture, a thread- 95 guide for spinning or twisting machines consisting of a button of solid material having a thread-receiving eye, and a straight-sided non-radial passage opening into the eye, one of the straight sides of said passage having an incline 100 to prevent the escape of thread when the travel is in one direction.

2. As an article of manufacture, a thread- 105 guide for spinning or twisting machines consisting of a disk-shaped button of solid material having a fastening groove or recess on its periphery, and having a thread-receiving eye with a straight-sided non-radial passage opening 110 into the eye, one of the straight sides of said passage having an incline which will prevent the escape of thread when the travel is in one direction.

3. As an article of manufacture, a thread- 115 guide for spinning or twisting machines, consisting of a button of solid material, having an eye and a non-radial passage opening into the eye, one side of said passage forming an incline or spiral surface, which will prevent the escape of the thread when the travel is in one 120 direction; and with a second incline or spiral surface, which will prevent the escape of the thread when the travel is in the opposite direction.

In testimony whereof I have hereunto set my hand in the presence of two subscribing 125 witnesses.

LEWIS T. HOUGHTON.

Witnesses:

LOUIS W. SOUTHGATE,
PHILIP W. SOUTHGATE.