

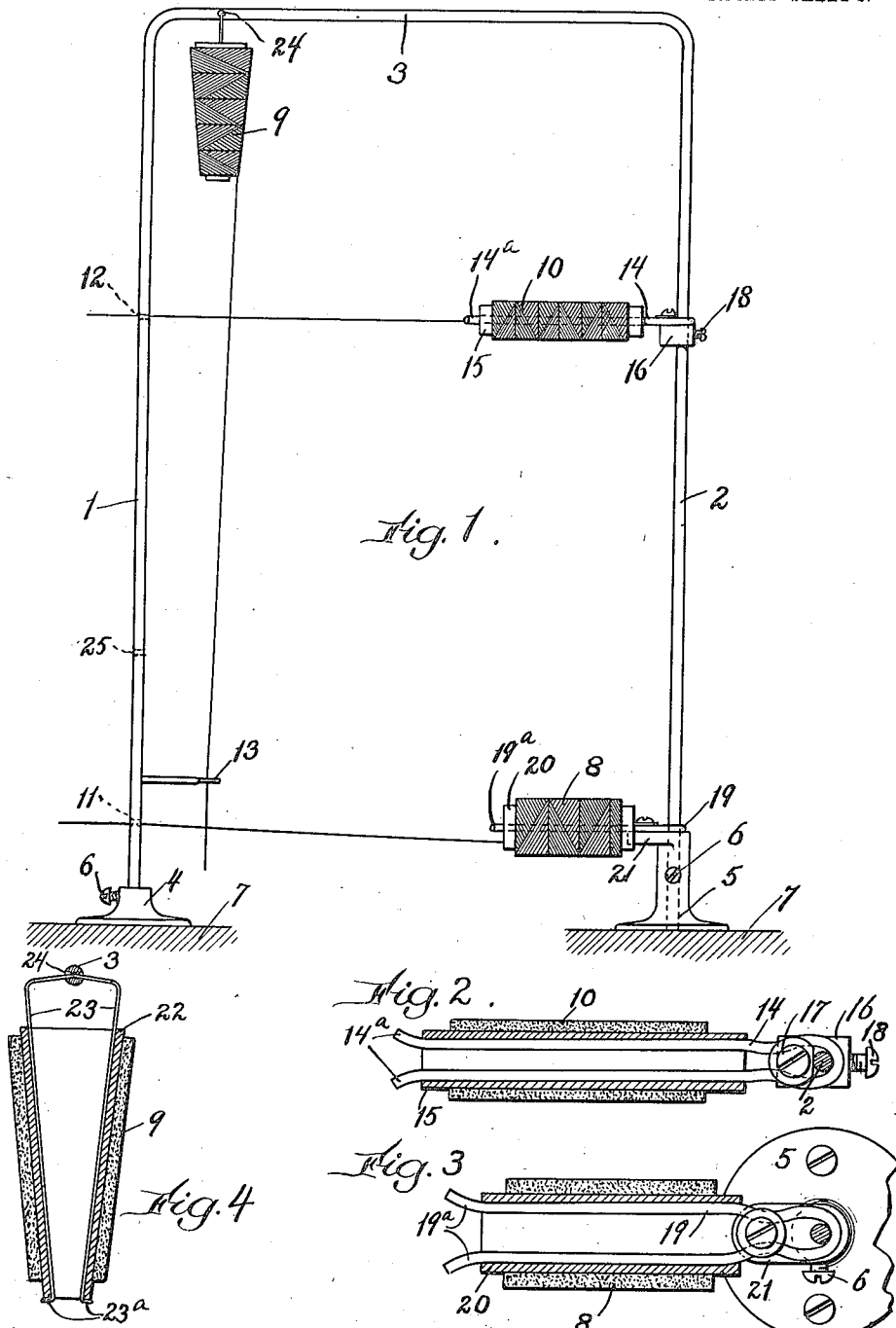
J. MAITLAND.
THREAD STAND.

APPLICATION FILED SEPT. 12, 1911.

1,060,198.

Patented Apr. 29, 1913.

2 SHEETS—SHEET 1.



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Inventor:
John Maitland
By Wight, Brown, Dunbar & Gray
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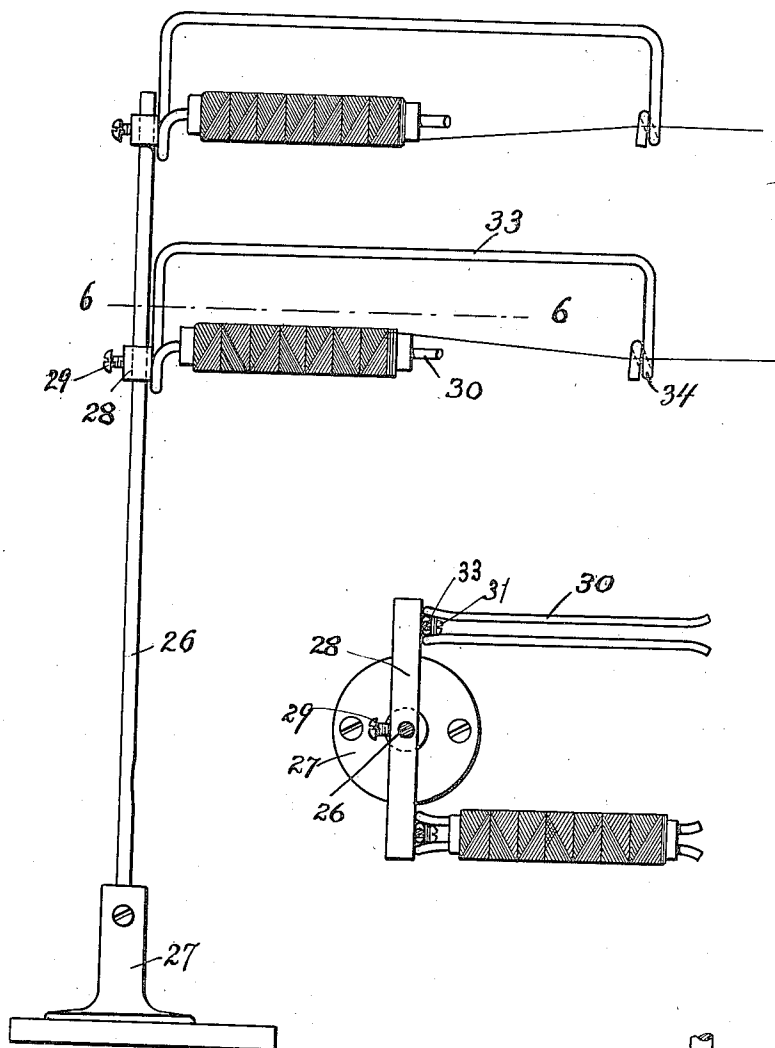


Fig. 5.

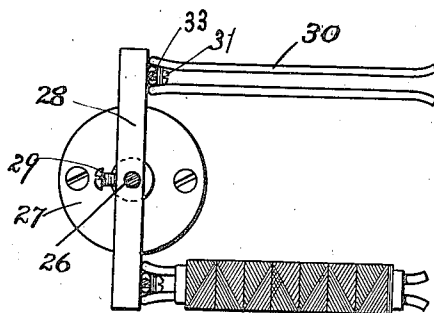


Fig. 6.

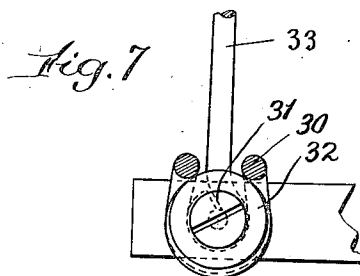


Fig. 7.

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UNITED STATES PATENT OFFICE.

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THREAD-STAND.

1,060,198.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed September 12, 1911. Serial No. 648,907.

To all whom it may concern:

Be it known that I, JOHN MAITLAND, of Swampscott, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Thread-Stands, of which the following is a specification.

The present invention relates to means employed mainly in factories employing power-driven sewing machines with a plurality of needles, for holding the spools of thread to supply the needles. With such machines as buttonhole machines, where two needles and a looper are employed, and with other types of machines employing even more than that number of needles in simultaneous action, it is necessary to provide some means for holding a supply of thread for each spindle. Accordingly my invention relates to stands for holding the thread supply of such machines, and the improvements in such stands.

Another aspect of the invention relates to the devices or means forming a subsidiary part of the thread stand as a whole, by which the individual quantities or supplies of thread are supported and held ready for thread to be drawn therefrom.

A prime object of that improvement in the holding device is to enable tubes or quills upon which thread is wound to be applied to and used with the stand instead of the usual wooden spools most generally in use at the present time. That is to say, one of the objects of my invention has been to enable an increased use of thread wound upon tubes instead of spools to be made in factories equipped with power sewing machines.

In the accompanying drawings, Figure 1 represents an elevation of one form of my improved thread stand adapted primarily to be used with a buttonhole sewing machine. Fig. 2 is a plan view of a holding element or device forming a part of the thread stand adapted to support and retain the tube on which thread is wound, the tube and winding of thread being shown in section. Fig. 3 is a similar view showing a slightly modified form of such holding device. Fig. 4 is another modified form of tube-holder adapted to be used to support a conical tube, or, as it is called, a quill. Fig. 5 is an elevation of another form of thread-holder designed for sewing machines other than those for finishing buttonholes, and including a plu-

rality of needles. Fig. 6 is a sectional plan view on line 6—6 of Fig. 5. Fig. 7 is a fragmentary sectional view and front elevation of one of the thread-holding devices shown in Fig. 5.

The same reference characters indicate the same parts in all the figures.

The thread stand is adapted to be mounted upon a bench or any other supporting surface on which the sewing machine is mounted, and to be placed in such proximity and otherwise in such relation to the machine that the thread from the various individual holders may be led in the most convenient manner to the needles which such thread supplies are respectively adapted to feed. The stand shown in Fig. 1 consists of two uprights, 1 and 2, a cross piece 3, and bases 4 and 5. Conveniently the uprights and cross piece may be made integral from a single rod or wire bent into the form of an inverted U. The opposite ends of such rod or wire constitute the foot portions of the respective uprights which are set into the bases and secured therein by suitable means, as set screws 6. The bases are preferably screwed or otherwise secured to the table or bench indicated at 7, which supports the stand and the sewing machine.

The stand shown in Fig. 1 is designed, as previously mentioned, to feed thread to a machine for sewing buttonholes and is provided with three thread supplies. One of them, shown at 8, is a cord which is laid around the edges of the buttonhole as a filling for the finishing thread, another, indicated at 9 provides the thread for the finishing bead on the front of the piece in which the buttonhole is made, and a third at 10 supplies the thread for the finish at the back of the piece. The supplies 8 and 10 are supported on the upright 2 and the threads drawn therefrom are led through eyes 11 and 12 respectively in the opposite upright 2, and thence to the machine. The third supply is suspended from the cross piece and passes through an eye 13 which projects laterally from the upright 1. The locations of the thread-holders and eyes are such as to enable the various threads to be held above the bench and to pass in the most direct manner possible to the machine, without snarling.

I prefer to construct the holding devices for the individual thread supplies of such a character that they may take thread wound

upon cylindrical or conical tubes, such as can be cheaply made of pasteboard or the like, instead of on wooden spools, and to that end I have made an improvement in these holders which constitutes one of the principal features of the present invention. These individual holders are all substantially identical in principle, but differ from one another slightly in detail.

The holder for the thread supply 10 is indicated at 14 and is shown in detail in Fig. 2. Such holder consists of two arms substantially parallel to one another and resilient so that they may be pressed together, and when released will spring apart. Their outer ends 14^a are bent away from one another. Thus when a tube 15 carrying the supply of thread is placed over the holder to such an extent that the ends 14^a protrude from the tube, such ends are caused by the resilience of the arms to spring apart and overlies the end of the tube, thus resisting withdrawal of the tube. This resistance is greater than the strength of the thread, so that under ordinary conditions the thread will be drawn from the tube without dislodging the latter from the holder, and if it should become snarled so as not to run smoothly from the tube, will break before dislodging the tube.

The arms of the holder 14 may be mounted in any manner suitable to hold them resiliently in approximate parallelism, and at the necessary distance apart. Preferably the arms are formed of a single piece of springy wire bent double, as shown in Fig. 2, and secured to a block 16 by a clamp screw 17 and washer. The block is apertured to receive the upright 2 and is adjustably secured to the latter by a set screw 18. In order to give greater security to the holder 14, the bend in the latter is so placed as to surround the upright 2.

The holder 19 for the thread supply 8 is substantially identical with the holder 14, but differs in detail therefrom only sufficiently to enable it to hold a tube 20 of less length and greater diameter than the tube 15. The ends 19^a of the legs or members forming this holder are bent apart in the manner described. This holder is also formed with a bend which surrounds the upright and is secured to a block 21 or its equivalent, but in this particular arrangement the block is formed integrally with the base 5 and consists of an arm projecting therefrom. There is no reason, however, except convenience of construction, to prevent such arm or block from being made and applied in the same manner as the block 16.

It is to be understood that my invention is not limited to the particular manner of attaching the arms which together form the holders 14 and 19 respectively to the supporting blocks, since they

may be connected in the manner shown in Figs. 5, 6 and 7 presently to be described, or in any other manner. It would not be a departure from the invention to make the arms as separate pieces and drive or screw their ends into the carrying blocks.

The holder for the thread supply 9 is shown in detail in Fig. 4 and is so made as to support a conical or tapering tube 22, also called a quill, in such a manner that the thread may be drawn from the smaller end thereof. This holder 23 is preferably a wire small enough to be passed through an aperture or eye 24 in the cross piece 3. The side members or legs thereof converge correspondingly to the taper of the quill and their outer ends 23^a are bent outward. This particular form of holder is here used in order that mercerized cotton may be used for the thread supply 9. This particular material necessitates a downward draft and a tapered quill, so that the thread will draw easily therefrom and an especially great length must be provided between the supply and the eye. The same stand is also adapted to provide silk thread for finishing the button hole on the face of the garment, and to this end I have provided a holder similar to the holder 14 adapted to mount a tube wound with silk. The block 16 only for this holder is shown. An eye 25 is formed in the upright 2 through which this thread may be drawn.

The stand illustrated in Fig. 5 is designed to provide thread for machines using a plurality of needles, but not being necessarily adapted for finishing buttonholes. This stand consists of a single upright 26 rising from a base 27 which is secured to the table or bench, and supporting one or more blocks 28, adjustably mounted on the upright and secured by set screws 29. Such blocks may have the form of arms projecting on each side of the upright, as shown in the plan view (Fig. 6). Thread tube holders 30 are secured upon the blocks 28, there being one, two or more of such holders on each block. These holders are formed substantially as shown in Fig. 2 with parallel resilient arms or members having outwardly turned ends and formed of stiff, springy wire bent double. The wire at the bend, however, is additionally bent into a plane at right angles to the plane of the parallel arms, this being done in order that a single clamp screw may serve to secure both the holder and an arm carrying a guiding eye upon the block. Such clamp screw is shown at 31 and passes through the U-shaped bend of the holder. One or more washers 32 underlie the head of the screw and bear against the holder.

33 represents an arm from which one end is bent down and provided with an eye 34 in front of the thread tube through which the thread is led. The other end of the arm

is bent down and formed with an eye placed within the bend of the thread holder. The clamping screw 31 passes through such eye. It will be understood that such bending of the arm enables the eye to be placed in axial alinement with the thread tube, while the arm itself is offset between its ends out of the way of the tube. As will be readily understood this form of thread stand can be made to hold thread for sewing machines having any number of needles from one up to the maximum.

I claim—

A thread holder comprising a block hav-

ing an aperture adapted to receive a standard, arms formed of a wire bent double arranged on said block with its bend surrounding the aperture, and a clamping device extending from the block between the arms near the aperture and overlying the arms, said arms being adapted to enter a thread tube.

In testimony whereof I have affixed my signature, in presence of two witnesses.

JOHN MAITLAND.

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