

W. N. O'NEILL & H. PARKER, JR.
YARN DAMPENING DEVICE.
APPLICATION FILED MAR. 14, 1911.

1,015,705.

Patented Jan. 23, 1912.

2 SHEETS—SHEET 1.

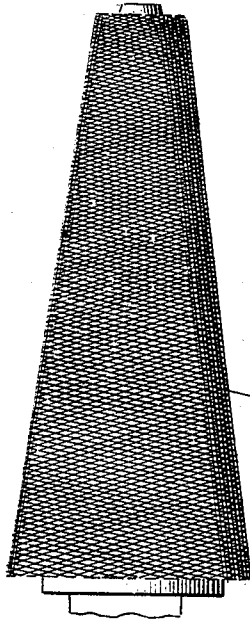


Fig. 1.

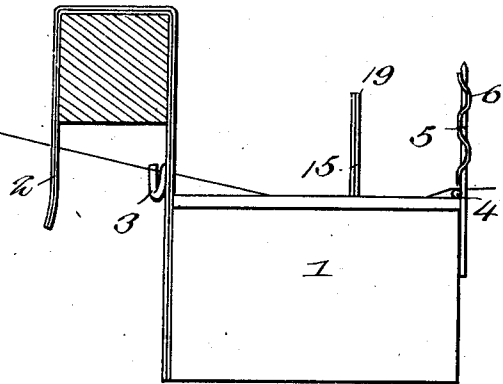
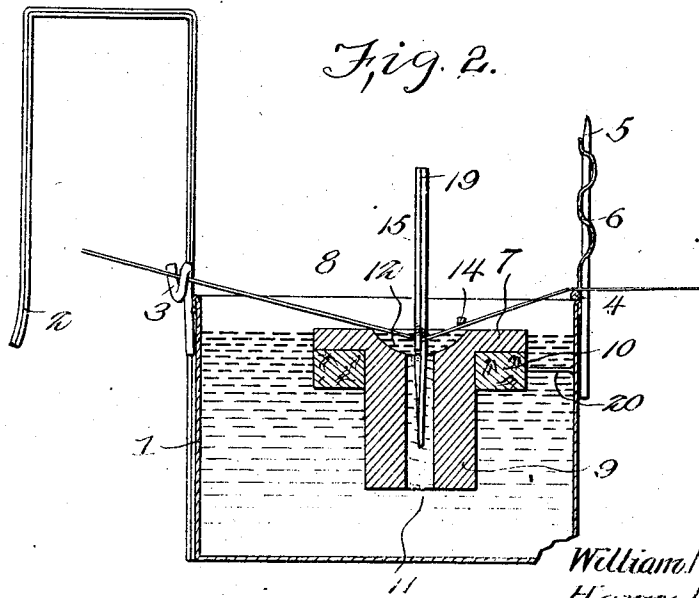


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

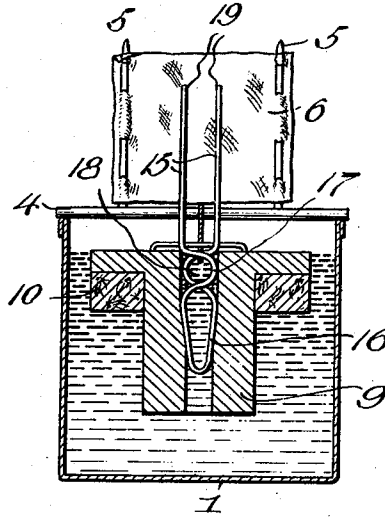


Fig. 4.

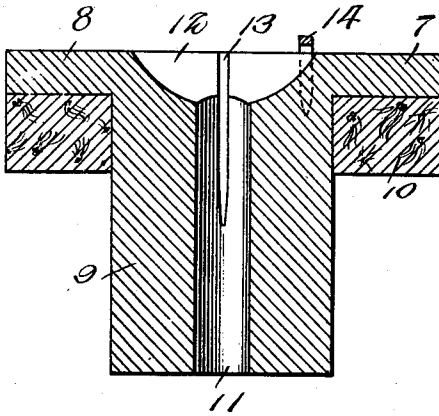
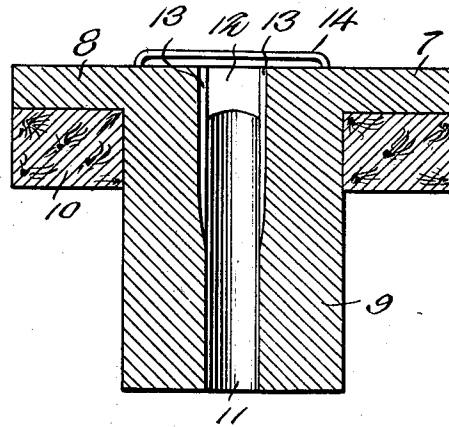


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM N. O'NEILL AND HARRY PARKER, JR., OF COLUMBUS, OHIO.

YARN-DAMPENING DEVICE.

1,015,705.

Specification of Letters Patent.

Patented Jan. 23, 1912.

Application filed March 14, 1911. Serial No. 614,331.

To all whom it may concern:

Be it known that we, WILLIAM N. O'NEILL and HARRY PARKER, JR., citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented new and useful Improvements in Yarn-Dampening Devices, of which the following is a specification.

This invention relates to a device for dampening or lubricating yarns or threads on the feed of the same to a knitting machine in order to insure the proper looping of the threads and diminish their liability to break or ravel under the pull of the knitting mechanism, the main object of the invention being to provide a simple and effective device whereby the yarn may be dampened to the desired degree and loss or waste of the dampening liquid obviated.

A further object of the invention is to provide a device which will operate without splashing of the liquid from the reservoir, which may be mounted upon or in close proximity to the knitting machine without liability of the latter being injured or affected by moisture therefrom, which is adapted for the ready connection of the thread therewith and its disconnection therefrom, and which provides for the dampening of the yarn or thread to the precise degree desired.

The invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a side view of a dampener or lubricator embodying our invention. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a vertical transverse section. Figs. 4 and 5 are enlarged detail sections taken at right angles to each other through the float feed device and yarn guide associated therewith.

In carrying our invention into practice, we provide a tank or reservoir 1 to contain the dampening or lubricating liquid, which may be of any desired character. The reservoir is preferably of oblong rectangular form and provided at one end with hooks 2 or other suitable means for attaching it to the knitting machine or any suitable support in proximity thereto. At the said end of the reservoir is also arranged an eye or guide 3 for the yarn or thread, which is employed

when the thread spool is arranged at a higher level than the reservoir. Arranged at the opposite end of the tank is a transverse bearing rib or wiper 4 over which the dampened thread passes to the knitting machine, and a pair of upright supporting pins or arms 5 having pointed free ends, which pins may be employed for supporting a fabric wiper or absorbent strip 6 adapted for operation in conjunction with said wiper rib to take up and absorb from the yarn any excess moisture which may be present therein. The absorbent strip is supported, as shown, by simply impaling it upon the pins, whereby it may be renewed and replaced by a new strip whenever necessary in a ready and convenient manner. By the use of these wipers in conjunction with the float feed dampening device, hereinafter described, the yarn will be dampened only to a sufficient degree to make it readily pliable so that it can be properly handled by the knitting mechanism.

Disposed within the tank is a floating body 7 of such relative size with relation to the tank as to have free movement therein to rise and fall with the dampening or lubricating liquid. This body is preferably composed of a top plate or member 8 having a depending tubular extension 9 and a bottom plate or member 10 secured to the top plate and surrounding said tubular extension. The top plate and its extension are preferably formed in whole or part of a non-absorbent, moisture-shedding material, while the bottom plate is composed of cork or other suitable material having buoyant properties sufficient to support the body 7 in the liquid so that the upper surface of the top plate will be leveled or substantially so with the surface of the liquid. The bore 11 or the tubular extension 9 forms a passage for the feed of the liquid to a well gutter or channel 12 formed in the upper surface of the top plate, and the side walls of said bore and gutter are provided with guide and retaining grooves 13. Extending transversely above the forward end of the gutter is a transverse bar or rib 14 under which the moistened thread preliminarily passes, which bar or rib sustains the thread above the level of the top of the float and operates as a primary wiper. Carried by the float is a thread guide preferably formed of a single piece of spring wire and com-

prising a pair of resilient arms 15 connected at their lower ends to provide a pair of diverging gripping jaws 16 adapted to engage the grooves 13 to support the thread guide in position. Above these jaws the wire is formed with oppositely bent and crossed loops or offsets 17 to provide an eye or guide passage 18 for the feeding thread, and above said loops the free ends of the wire are projected in divergent relation to form finger pieces 19. By compressing these finger pieces the spring jaws 16 may be retracted or drawn inwardly toward each other to free them from engagement with the grooves, allowing the guide member as a whole to be detached or adjusted vertically to raise or lower the eye 18 so that the feeding thread may be caused to dip to a greater or less extent in the liquid contained in the gutter, whereby the amount of moisture taken up by the thread may be varied and controlled. The forward end of the float is provided with suitable stop pins or projections 20 to engage the front wall of the tank and thus limit the forward movement of the float under the pull of the feeding thread.

In operation, it will be apparent that the thread may be engaged with and disengaged from the eye or passage by simply sliding it downwardly or upwardly between the arms of the guide member, and that in its passage through the dampening device it will take up more or less moisture from the gutter or well according to the position of adjustment of the eye, whereby provision is made for dampening the thread to approximately the exact degree required and for varying the amount of saturation according to the character of the thread to be treated. If, however, too much moisture should be taken up by the thread, all of the excess moisture will be expressed and absorbed by the wiper ribs and absorbent strip, so that the thread will pass to the knitting machine softened to the extent only to insure its free looping under the action of the knitting mechanism. As the supply of liquid is consumed and lowers in the tank, it will be apparent that the float will descend therewith to maintain the same amount of liquid at all times in the gutter, and that agitation of the contained liquid will be avoided, thus preventing all loss or waste from the splashing of the liquid over the sides of the tank, such as occurs in dampening devices of the character employing dampening rollers. Cleanliness of operation is thus insured and injury to the yarn and knitting mechanism from the dampening liquid avoided.

Having thus described the invention, we claim:—

1. A thread moistening or lubricating device comprising a liquid reservoir, and a float arranged within the reservoir to rise

and fall with the liquid therein, said float being provided with means for guiding the thread and bringing the same into contact with a portion of the liquid.

2. A thread moistening or lubricating device comprising a liquid reservoir, a float arranged within the reservoir and provided with a well, and a thread guide arranged to conduct the thread in contact with the liquid contained in the well.

3. A thread moistening or lubricating device comprising a liquid reservoir, a float arranged within the reservoir, and provided with a well communicating with the body of liquid below the top thereof, and a thread guide arranged to conduct the thread across the top of the well and into contact with the liquid contained therein.

4. A thread moistening or lubricating device comprising a liquid reservoir, a float arranged within the reservoir and provided with a well, and a thread guide adjustable with relation to the surface of the liquid contained in the well.

5. A thread moistening or lubricating device comprising a liquid reservoir, a float arranged within the reservoir and having a well in its top and a feed passage leading therefrom for the feed of the liquid thereto, and a thread guide having a split eye for the insertion and removal of the thread and adjustable with relation to the surface of the liquid contained in the well.

6. A thread moistening or lubricating device comprising a reservoir, a float arranged within the reservoir and provided with a well communicating with the body of liquid in the reservoir, a thread guide carried by the float, and means for relieving the thread of excess liquid.

7. A thread moistening or lubricating device comprising a reservoir, a float arranged within the reservoir and provided with a well communicating with the body of liquid in the reservoir, thread guiding means carried by the float, a wiper upon the reservoir in the path of movement of the moistened thread, and means upon the reservoir for supporting an absorbent fabric for contact with the moistened thread.

8. A thread moistening or lubricating device comprising a reservoir, a float arranged within the reservoir and provided in its upper surface with a well and having a passage leading downward therefrom for the feed of the liquid thereto, and a thread guide detachably and adjustably supported by the float and having a split eye for the passage of the thread across the surface of the well.

9. A thread moistening or lubricating device comprising a liquid reservoir, a float arranged therein and having a well in its upper face and a feed passage leading downward therefrom for the supply of liquid

thereto from the reservoir, and a thread
guide having spring jaws to engage the
wall of the well and passages for adjust-
able connection therewith, finger pieces for
5 detracting said jaws and cross portions
forming a split eye for the passage of the
thread.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

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Witnesses:

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