Dec. 13, 1927. 1,652,787

J. J. McCALLISTER

ATTACHMENT FOR CONING MACHINES

Filed Feb. 23, 1927 2 Sheets-Sheet 1

Fig. 1.

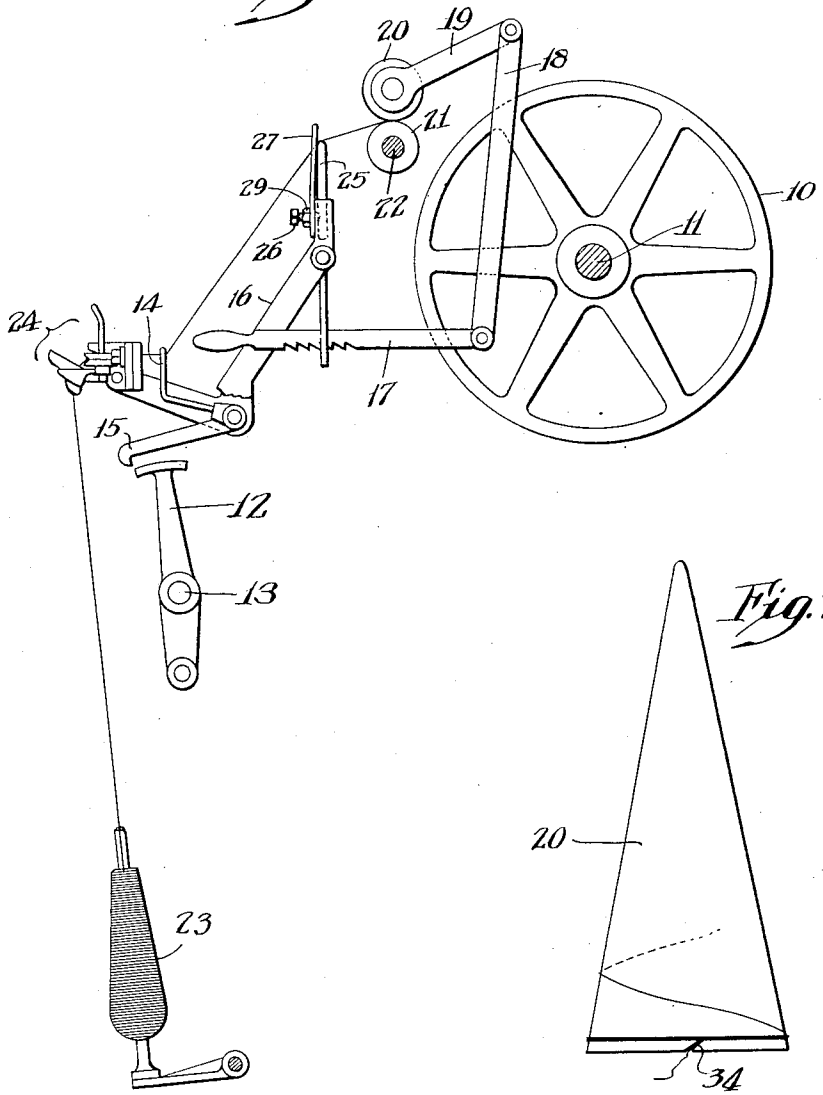


Fig. 7.

Witnesses:
Walter Chism
Nicholas Merrill

Inventor
John J. McCallister
by Joshua R. H. Potts
his Attorney

Dec. 13, 1927. 1,652,787

J. J. McCALLISTER

ATTACHMENT FOR CONING MACHINES

Filed Feb. 23, 1927 2 Sheets-Sheet 2

Fig. 2.

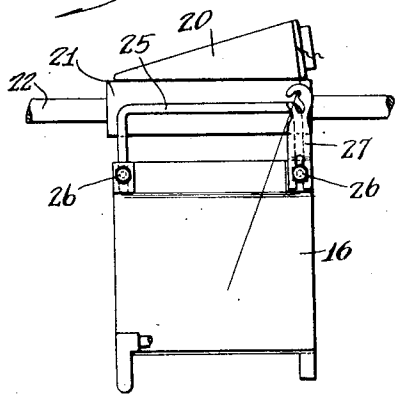


Fig. 5.

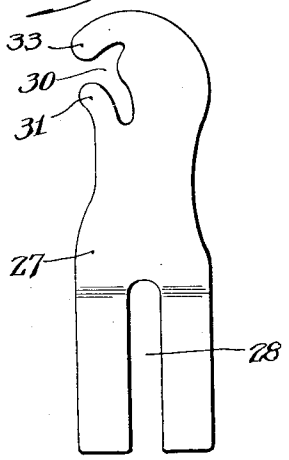


Fig. 6.



Fig. 3.

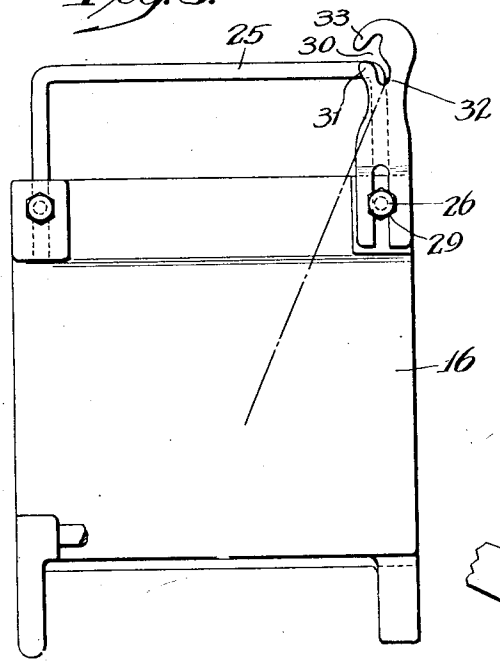
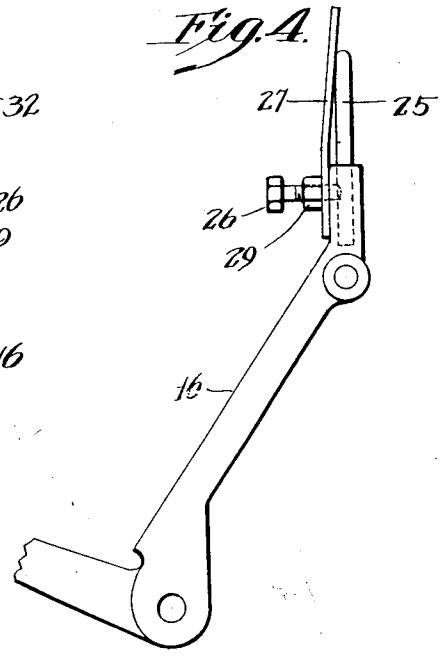


Fig. 4.



Witnesses:
Walter Chism
Wesley P. Merrill

Inventor:
John J. McCallister
by Joshua R. H. Potts
his Attorney.

Patented Dec. 13, 1927. 1,652,787

UNITED STATES PATENT OFFICE.

JOHN J. McCALLISTER, OF CHESTER, PENNSYLVANIA.

ATTACHMENT FOR CONING MACHINES.

Application filed February 23, 1927. Serial No. 170,130.

My invention relates to coning machines and more particularly to an attachment which will enable several concentric turns of yarn to be wound on the base of a spindle before the spindle is filled in the usual manner.

In using yarn from cones for the manufacture of certain goods, it is advantageous to tie the inner end of the yarn on one cone to the outer end of the yarn on another cone so that no delay will be caused when the yarn on the first cone has been exhausted. As yarn is ordinarily wound spirally on cones, it follows that it cannot be unwound from the inner end. In filling cones for this purpose, it is customary to leave an end hanging free from the base of the cone but it is impractical to leave a very long end and, in handling, this end is often broken off.

The object of my invention is to provide means whereby a standard coning machine will be adapted to make a number of concentric turns of yarn on the base of a cone before commencing to wind the yarn spirally thereon.

This object, and other advantageous ends which will be described hereinafter, I attain in the following manner, reference being had to the accompanying drawings in which I have illustrated my device as being attached to a standard coning machine, such as is manufactured by the Foster Machine Company of Westfield, Mass., and have shown only such parts of the machine as is necessary to illustrate how my attachment is mounted and used;

Figure 1 being a fragmentary cross sectional view through a coning machine on which my attachment is mounted,

Figure 2 a fragmentary front view of certain parts shown in Figure 1 and showing several concentric turns of yarn on the base of a cone and the yarn being led from the attachment to start the spiral winding.

Figure 3 is an enlarged view somewhat similar to Figure 2 but showing the yarn held in position for making the concentric turns on the cone, and

Figure 4 an edge view thereof.

Figure 5 is an enlarged plan view, and Figure 6 an edge view of my attachment.

Figure 7 is a view of a cone on which several concentric turns of yarn have been made and showing the yarn starting its spiral path about the cone.

Referring now more particularly to Figure 1, 10 represents a gear fixed on the main shaft 11 of a coning machine and it is mechanically connected to a trip 12 mounted on a rock shaft 13 by means not shown. A drop wire 14, having a hook part 15 and journalled on a stop motion 16, is supported by the yarn being wound on the cone and is adapted to fall when the yarn breaks and allow hook part 15 to be engaged by trip 12. As trip 12 is rocking on shaft 13, it will force part 15 forwardly and cause the lower part of the rocker stop motion 16 to move forwardly and engage a rack 17 which is hinged to a connecting rod 18. A cone holder 19 is rigidly connected to the upper end of connecting rod 18 and carries a cone 20 which is rotated by contacting with a roller 21 rotated by a shaft 22. Thus when rack 17 is moved forwardly by stop motion 16, cone 20 will be moved out of contact with roller 21 and cease to rotate. Yarn is wound onto cone 20 from a cop 23, mounted on a lower portion of the machine, by leading the yarn through a tension device 24, under drop wire 14 and over a thread bar 25. The parts thus far described are parts of a standard coning machine and form no part of my invention but have been illustrated and described in order that the location and use of my invention may be understood.

Thread bar 25 is mounted in suitable sockets formed in the upper part of stop motion 16 and held in place by set screws 26. My attachment 27 consists of a thin plate, formed as shown in Figure 5, and having a slot 28 adapted to straddle one of the set screws 26 and is held in place on stop motion 16 by a nut 29 threaded on the set screw.

Attachment 27 is provided with an irregular shaped opening 30 and a tongue 31 and is secured to stop motion 16 with the top of tongue 31 level with the top of thread bar 25 and with the lower end of opening 30 disposed parallel with the vertical side of thread bar 25 so as to provide a guideway 32 for the yarn at this point, as shown in Figure 3. Above opening 30, attachment 27 is provided with a curved extension 33 which is adapted to guide the yarn onto thread bar 25 when it is whipped out of guideway 32 by the thread guide (not shown).

Opening 30 extends downwardly and inwardly from the end of tongue 31 to form guideway 32, as above described, and ex-

tends upwardly and inwardly from the end of extension 33 to provide a space into which the yarn may whip when it first feels the impulse of the thread guide, thus tending to prevent the yarn from breaking. The outline of attachment 27 may be as desired but the location and outline of opening 30 is important and should be as shown in Figure 5.

In winding cones for the purpose above described, the end of the thread is engaged in a notch 34, formed in the bottom of cone 20, the cone placed on holder 19 and the yarn led through guideway 32. Rack 17 is then moved inwardly to bring cone 20 in contact with roller 21 which is revolving at a high speed and consequently causes cone 20 to rotate rapidly and wind a number of concentric turns around its base, as shown in Figures 2 and 7. The thread guide is then thrown into operation and the yarn whipped out of guideway 32 by the action of the thread guide and deflected onto thread bar 25 by extension 33. Figure 2 shows the thread as it is about to leave opening 30, and Figure 7 shows approximately the beginning of its spiral path around cone 20. The cone is then filled in the ordinary manner.

In using the filled cone, the yarn is disengaged from notch 34 and as much yarn unwound from the concentric winding as may be desired. It is then tied to the outer end of the yarn on another cone and, in this manner, the yarn on as many cones as desired may be joined together and thus avoid any delay due to the changing of cones.

While I have described my invention as taking a particular form, it will be understood that modifications may be made without departing from the spirit thereof, and hence I do not limit myself to the precise construction set forth, but consider that I am at liberty to make such changes and alterations as fairly come within the scope of the appended claims.

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

1. In a machine adapted to wind yarn spirally upon a cone and having a stop motion, a yarn guiding attachment mounted on the stop motion and adapted to guide a number of concentric turns of yarn upon the cone.

2. In a machine adapted to wind yarn spirally upon a cone and having a stop motion, an attachment mounted on the stop motion, and a guideway formed in the attachment for guiding a number of concentric turns of yarn upon the cone.

3. In a machine adapted to wind yarn spirally upon a cone and having a stop motion and a thread bar, a yarn guiding attachment mounted on the stop motion, a guideway formed in the attachment for guiding a number of concentric turns of yarn upon the cone, and an extension on the attachment for deflecting the yarn onto the thread bar when the spiral winding begins.

4. In a machine adapted to wind yarn spirally upon a cone and having a stop motion, a thread guide and a thread bar; a yarn guiding attachment mounted on the stop motion and having an opening; a guideway formed in the attachment for guiding a number of concentric turns of yarn upon the cone; and an extension on the attachment for deflecting the yarn onto the thread bar when the spiral winding begins; the top of the opening extending above the bottom of the extension to form a relief space to receive the yarn when it is whipped out of the guideway by the action of the thread guide.

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

JOHN J. McCALLISTER.