J. H. GATELY.

CLAMP COLLAR.

APPLICATION FILED APR. 7, 1908.

911,124. Patented Feb. 2, 1909.

Fig. 1.

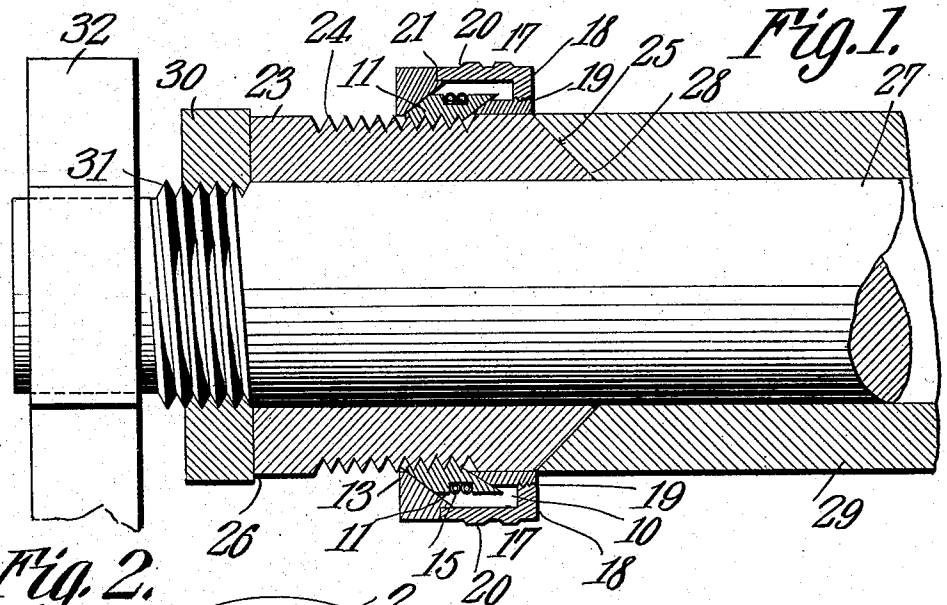



Fig. 2.

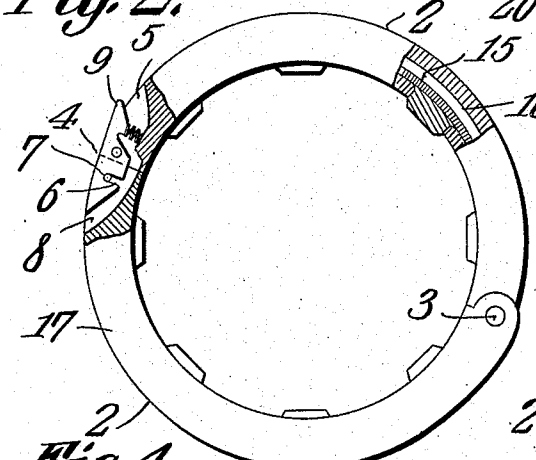



Fig. 3.

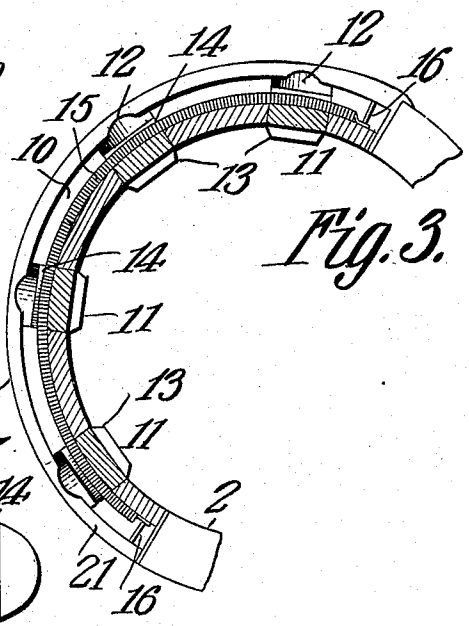



Fig. 4.

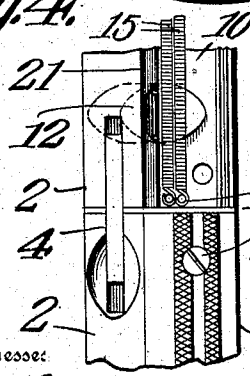



Fig. 5.

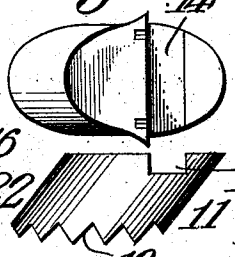



Fig. 6.

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# UNITED STATES PATENT OFFICE.

JOHN HENRY GATELY, OF BELLOWS FALLS, VERMONT.

## CLAMP-COLLAR.

No. 911,124. Specification of Letters Patent. Patented Feb. 2, 1909.

Application filed April 7, 1908. Serial No. 425,740.

*To all whom it may concern:*

Be it known that I, JOHN HENRY GATELY, a citizen of the United States, residing at Bellows Falls, in the county of Windham and State of Vermont, have invented a new and useful Clamp-Collar, of which the following is a specification.

This invention relates to detachable guards to be applied and secured to the winder shaft of paper making machines while in motion to keep the ends of the rolls of paper even, and prevent them from slipping endwise on the winder during the operation of winding.

In a paper machine the paper is wound on a core mounted on a rotatable shaft. It is found in practice that after the roll gets to be of considerable size, it is liable to slip on the core endwise unless it is held by some device placed against the ends thereof. It is found in practice that the slipping of the roll on the core does not take place until after a considerable size is reached, say from five to six inches, at which point it begins to slip, so that at first a guard need not be used. It has been the practice to cause a cord or small rope to be wound up on the revolving shaft tight and snug against the end of the roll of paper. This arrangement is clumsy, difficult of application, liable to fail, and dangerous for the operator as it must be done while the shaft is revolving very rapidly.

The object of this invention is to provide a positive acting guard, which may be easily, quickly and safely applied while the machine is in operation.

Referring to the accompanying drawings, Figure 1 is a side view in longitudinal section of a portion of a core mounted on a winder shaft, and a clamp collar constructed in accordance with this invention, mounted on a collar on said shaft, and secured to said collar at the end of the core. Fig. 2 is a plan view of the clamp collar partly broken away to show its locking catch and the stud chamber. Fig. 3 is a plan view of the clamp collar partly broken away to show the clamping studs and actuating spring. Fig. 4 is an enlarged detail view of the clamp collar at its locking ends and broken away to disclose the stud spring. Fig. 5 shows a plan and side view of one of the studs detached.

In the construction of this invention I provide a collar 1, of brass or any other suitable material, such as iron, steel, and so forth, formed in two parts 2, hinged together at 3, and having its meeting ends provided with a suitable locking snap catch, as for example, the spring actuated locking latch 4, hinged in a recess 5 in one of the members 2, and engaging by means of a notch 6 with a pin 7, in a recess 8 in the other member 2. The latch 4 is curved to conform to the curve of the collar 1, and lies in the recesses 5 and 8, the rear end of the latch 4 having a projection or heel 9 which is adapted to be pressed with the finger to release the latch.

Each of the parts 2 is provided with an annular recess or chamber 10 in which are located studs 11, projecting through openings in the inner face of the collar 1. The studs 11 are elliptical in form as shown in Fig. 5, and have inclined ends. The openings or sockets in which the studs 11 are located are of corresponding shape, and the rear wall of the chamber 10 is formed with upwardly inclined recesses or sockets 12, in which the studs 11 are adapted to move when pressed backwards. By means of the shape of the studs 11, and their sockets, they are adapted in their rearward movement to the narrow space afforded by the chamber 10. The inner ends of the studs are provided with threaded or grooved surfaces 13 and the outer end of each stud is provided with a transverse slot 14 through which extend a pair of elastic cords 15 preferably formed of coiled wire, having their ends fastened to pins 16 in the ends of the chamber 10. By means of the elastic cords 15, the studs 11 are yieldingly held inward in normal position in the openings of the collar, the cords 15 affording an elastic cushioning rear support for the studs 11. While the construction set forth is preferably employed whereby the studs 11 may yield rearwardly in unison, any other suitable elastic or spring connection may be used to permit the studs to yield rearwardly. Each of the chambers 10 is inclosed by an angular cover 17 having the short flange portion 18 held in threaded engagement with the collar 1, at 19, and the main portion 20 seated on a shoulder 21 of the collar 1. The covers 17 are secured in place by any suitable means, as by screws 22. By removing the covers 17, access may be had to the chambers 10 for removal of the cords 15 and studs 11, if necessary.

The collar 1, constructed as hereinbefore set forth, is adapted to be clamped on a col-

lar 23, formed on its periphery with threads or grooves 24 with which the threads or grooves on the studs 11 are adapted to engage, and hold the collar 1 against longitudinal movement on the collar 23, the elastic cords 15 serving to hold the studs 11 firmly in engagement with the threads 24. The collar 23, which has a smooth bore, is formed with a tapering end 25, and a straight end 26. The collar 23 is slipped over the end of a winder shaft 27, of a paper machine, until its tapering end 25 is seated in the chambered end 28 of a core 29 mounted on the shaft 27. The collar 23 is held against the end of the core 29 by a nut 30 engaging the threaded portion 31 of the end of the shaft 27 extending into and having its bearing in the support 32. The nut 30 is screwed up tight against the straight end 26 of the collar 23, thereby holding the latter firmly against the end of the core 29. The collar 1 may be of any diameter desired to adapt it to the width of the roll of paper against which it bears.

The collar 1 is used as follows:—The collar 23 being screwed on the shaft 27 and held tight against the end of the core 29, the shaft 27 is revolved very rapidly and when the paper wound up on the core 29 has become a roll of considerable size, the collar 1 in open unhinged position is clamped upon the revolving collar 23 and locked by means of its spring catch, the threaded or grooved studs 11 engaging the threads or grooves 24 of the collar 23. In this way the collar 1 may be quickly, safely and surely clamped on the collar 23, in the position as shown in Fig. 1, to be snug against the end of the roll of paper wound on the core 29 and will be held from slipping back, and will prevent the paper from slipping.

By means of a collar constructed as hereinbefore set forth with the yielding threaded studs, a means is provided for quickly and surely clamping and locking the collar in position on the threaded collar on the winder shaft, the yielding threaded or grooved studs slipping into position in engagement with the threads or grooves on the said collar on the winder shaft. The invention broadly contemplates a clamping collar for winder shafts having a spring actuated threaded connection adapted to be clamped upon and locked in position on a rapidly revolving shaft of a paper machine.

What is claimed is:—

1. In a paper winding machine, a core holder having peripheral threads or grooves, a sectional collar adapted to fit over the core holder, and a spring actuated pin carried by the collar and having threads or grooves arranged to engage those of the core holder.

2. A hinged clamping collar for the winding shaft of paper machines, having a series of spring actuated threaded or grooved studs projecting through the inner face of the collar and movable at an angle in their seats.

3. A hinged clamping collar for the winding shaft of paper machines, having a series of yieldably mounted threaded or grooved studs projecting through the inner face of the collar, and a spring latch connection for the sections of the collar.

4. A clamping collar for the winder shaft of paper machines, formed of two hinged sections, each section having an annular chamber with openings on the inner face of the collar, threaded or grooved studs projecting through said openings and slidable therein, and elastic cords disposed in said annular chambers and engaging said studs.

5. A clamping collar for the winder shaft of paper machines, formed of two hinged sections, each section having an annular chamber with openings on the inner face of the collar, and inclined seats behind said openings, threaded or grooved studs having inclined sides, projecting through said openings and slidable therein and in said inclined seats, and springs disposed in said annular chambers and bearing on said studs.

6. A clamping collar for the winder shaft of paper machines, formed of two hinged sections, each section having an annular chamber with removable cover, there being openings in the inner face of the collar, a number of studs, each stud having a threaded or grooved face projecting through said openings, and elastic cords connecting said studs, the latter being detachable from said cords, and independently removable from said chambers.

7. In a paper machine, a winder shaft, and core, a collar having a portion of its periphery threaded or grooved and held against said core, a hinged clamping collar with a snap lock, and a number of spring actuated studs with threaded or grooved faces on the inner surface of said collar, said studs being adapted to yield rearwardly and upwardly and engage the said threaded or grooved collar.

8. In a paper machine, a winder shaft, a core with chamfered end mounted on said shaft, a collar with a smooth bore and threaded or grooved on its periphery mounted on said shaft and having a tapered end engaging the core, a nut threaded on the shaft behind the said collar, and a hinged snap lock clamping collar, having spring actuated studs on the inner face of said collar and engaging the threaded or grooved collar.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN HENRY GATELY.

Witnesses:

MAURICE T. RELIHAN,

PATRICK LAWLOR.