

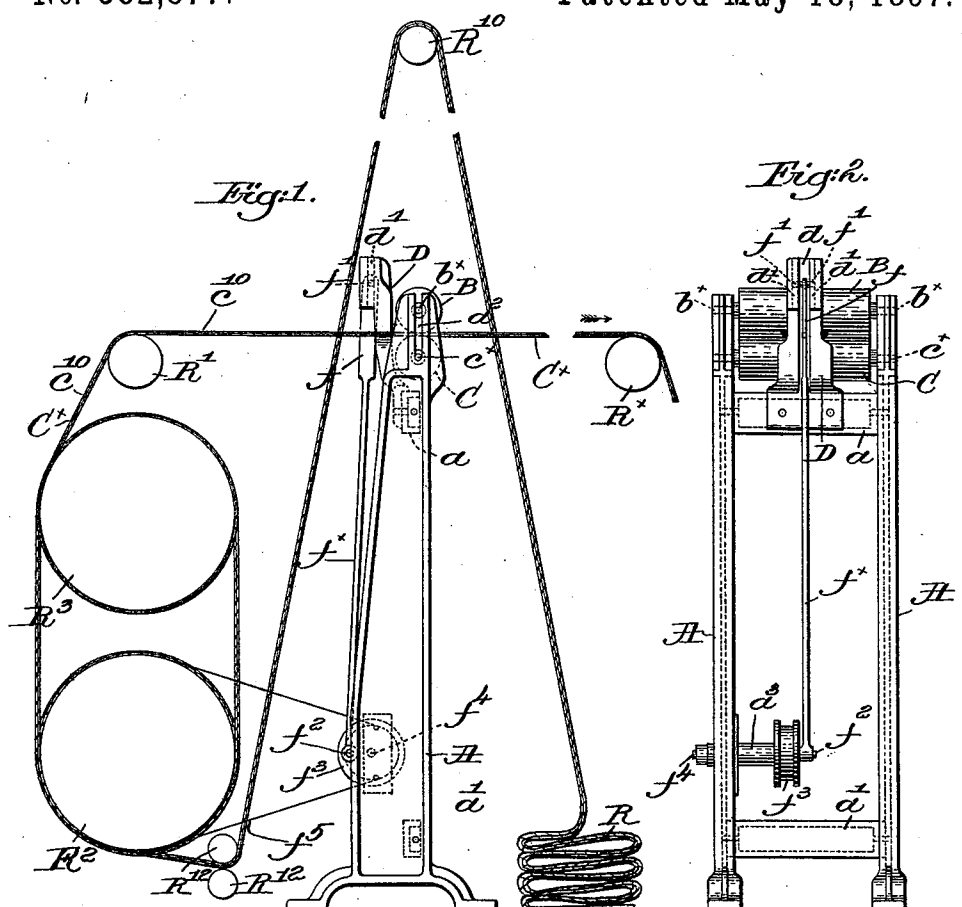
(No Model)

A. E. RHOADES.

APPARATUS FOR REMOVING WRAPPING CORD FROM YARN CHAINS.

No. 582,877.

Patented May 18, 1897.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALONZO E. RHOADES, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO
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APPARATUS FOR REMOVING WRAPPING-CORD FROM YARN CHAINS.

SPECIFICATION forming part of Letters Patent No. 582,877, dated May 18, 1897.

Application filed December 1, 1896. Serial No. 614,065. (No model.)

To all whom it may concern:

Be it known that I, ALONZO E. RHOADES, of Hopedale, in the county of Worcester and State of Massachusetts, have invented an Improvement in Apparatus for Removing Wrapping-Cord from Yarn Chains, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In another application, Serial No. 533,847, I have shown a convenient and effective apparatus for wrapping yarn chains by winding a cord or string spirally around the chain preparatory to bleaching or dyeing processes, the wrapped chain being usually wound into a ball. After bleaching or dyeing it is necessary to remove the wrapping-cord, and this has heretofore been effected in various ways, one of which is to unwind the cord upon a suitable receiver as the chain is moved longitudinally.

I have devised a simple apparatus for removing the wrapping-cord by severing the cord with a suitable cutter as the chain is moved longitudinally, such apparatus forming the subject-matter of this invention.

Figure 1, in side elevation, represents an apparatus for removing the wrapping-cord embodying my invention; and Fig. 2 is a left-hand front elevation thereof.

A suitable frame, comprising upright sides A A and cross-girths $a a'$, is longitudinally slotted at its upper end at a^2 , Fig. 1, to receive the journals b^x and c^x of two rolls B and C, between which the yarn chain C^x is passed as it is drawn over a guide-roll R^x by any suitable mechanism. (Not shown.)

The wrapped chain in the form of a loose coil, as at R, Fig. 1, is passed over an overhead pulley R^{10} and then down between rolls R^{12} , near the floor, after which it is passed several times around the drums $R^2 R^3$ and led over a guide-roll R' to and between the presser or friction rolls B and C.

At the front of the apparatus an upturned guide-bracket D is secured to the cross-girth a , as herein shown, the said bracket forming an obstacle to separate the chain, which is halved as it is drawn along with the guide in the center.

A thin cutting blade or knife f , having lateral ears or projections f' to slide in the guides d' , is secured to or forms a part of a carrier f^x , shown as a rod pivoted at its lower end on a crank-pin f^2 , projecting from the inner face of a sheave or pulley f^3 , fast on a shaft f^4 , rotatably mounted in a bearing a^3 on the inner face of one of the side frames A, rotation being imparted to the pulley f^3 by a belt or band f^5 , Fig. 1, from any suitable source of power, as the drum R^2 . The free end of the wrapped chain is divided and the divided parts pass along at each side of the bracket D, with the knife or cutter f between said parts, and the apparatus is set in operation.

Rotation of the sheave or pulley f^3 gives a reciprocating motion to the knife, as well as a slight back-and-forth movement in the direction of the length of the chain, the outwardly-turned edge of the knife acting upon the spiral coils of the wrapping-cord c^{10} and severing them as the chain is drawn along through the apparatus past the knife or cutter, the presser-rolls B and C preventing the unwrapped chain from spreading as it leaves the knife.

It will be understood that the numerous yarn ends composing the chain lie in parallelism without twisting or crossing each other, so that they will not be cut by the knife, but will divide into two parts at the knife and will pass along at each side thereof while the cord c^{10} is severed in short lengths or pieces, which will drop off or be dislodged in the subsequent separation of the chain into its component yarn ends.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an apparatus for removing wrapping-cord from yarn chains, a vertically-slotted fixed guide on the opposite sides of which the separated chain passes as it is moved longitudinally, a thin, longitudinally-movable cutting-blade, having lateral ears at its upper end, to enter the slots of the guide, and means to reciprocate the blade in the plane of and through the chain, to sever the spirally-wound wrapping-cord, in front of the guide, substantially as described.

2. In an apparatus for removing wrapping-

cord from yarn chains, presser-rolls and a guide past which the chain is moved longitudinally, a cutting-blade in front of said guide, and means to reciprocate it and move
5 it back and forth in the plane of and through the chain, to sever the spirally-wound wrapping-cord, the presser-rolls being located behind the guide, to prevent the parts of the chain from spreading laterally, substantially
10 as described.

3. In an apparatus for removing wrapping-cord from yarn chains, guide-rolls over which the chain passes, a vertical guide past which the chain is moved longitudinally, said guide
15 being located between the rolls, a cutting-

blade movable up and down through the chain in the plane thereof, means on said guide to direct the upper end of the blade, a reciprocating blade-carrier, and a rotating pulley to which its lower end is eccentrically
20 connected, whereby the spirally-wound wrapping-cord is engaged and severed, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of
25 two subscribing witnesses.

ALONZO E. RHODES.

Witnesses:

HERBERT S. MANLEY,
GEO. OTIS DRAPER.