

P. MEYER.
 SPRING ROLL.

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1,271,194.

Patented July 2, 1918.

Fig 1

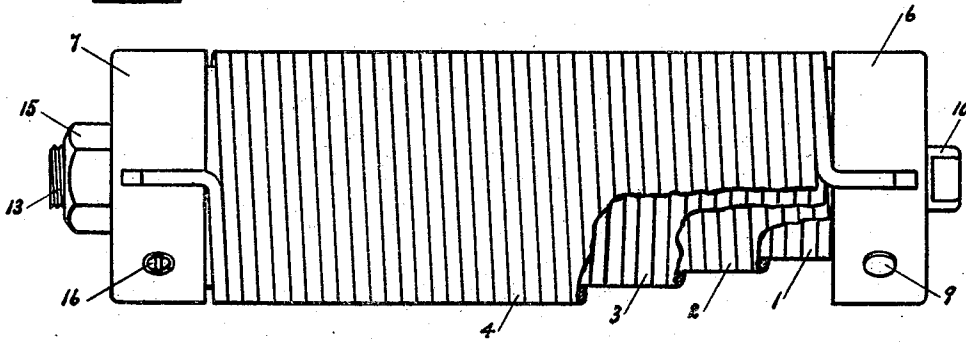


Fig 2

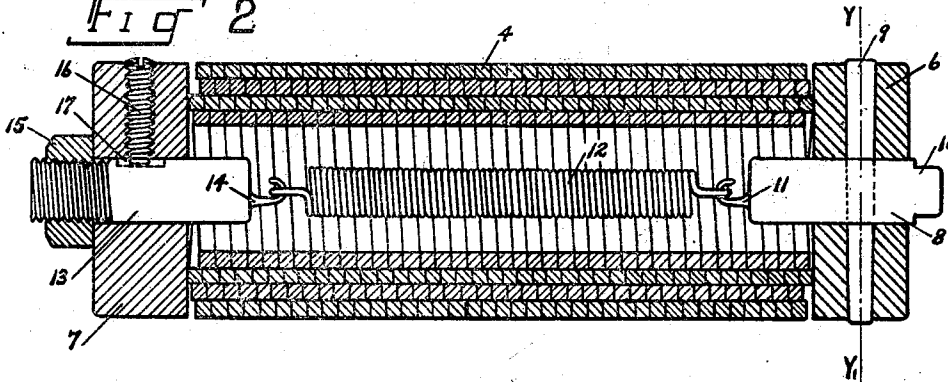
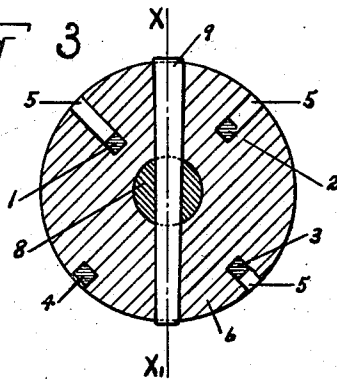


Fig 3



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SPRING-ROLL.

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To all whom it may concern:

Be it known that I, PETER MEYER, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in a Spring-Roll, and do hereby declare the following specification, taken in connection with the drawings forming part of same, to be a full, clear, concise, and exact description of the invention, so as to distinguish it from other inventions and to enable any person skilled in the art to which it appertains or with which it is most nearly connected to make, construct, and use the same.

This invention relates primarily to a spring or flexible roll and more particularly to a roll adapted for use in a hide splitting machine.

The invention contemplates as its primary object, a roll sufficiently flexible to readily conform to an uneven and continually varying surface of an article passing between a set of rolls.

It is well known in the hide splitting industry that the surfaces of hides vary greatly in their unevenness and if the proper care is not exercised in splitting the requisite number of splits is not attained.

In machines where the maximum number of splits is obtained from each hide, it has been found that splits are not uniform in thickness in the different splits nor in the same split.

The present invention provides a means which readily adapts itself to the varying irregularities of hides and other similar articles to produce a maximum number of splits which are substantially uniform in thickness throughout and relatively to each other.

Another object is to provide a spring roll which can be rotated in any direction by applying power at either or both ends without impairing or destroying the structure of the roll.

Another object is to provide a flexible means for connecting the end members of the spring roll.

Another object is to provide an adjustable connection between the end members of the roll.

The invention comprises a spring or flexible roll made by closely winding a helical spring in one direction, then super-imposing a series of windings in alternately oppo-

site directions, suitably securing the ends of said windings in members provided at either end of said roll, and connecting said end members by a flexible and adjustable means.

Other objects will be apparent from, and are incorporated in the annexed drawings, and in the following description which sets forth in detail, certain contrivances embodying means, constituting however, but one of the various mechanical forms in which the principle of the invention may be used.

The novelty of the invention will be readily understood from the drawings, which show a construction for practising the invention in its preferred form, and from the following description thereof, and is more specifically pointed out and distinctly claimed in the claims annexed to said description.

In the drawings:

Figure 1 is a side elevation of the invention.

Fig. 2 is a sectional view through XX₁ of Fig. 3.

Fig. 3 is a sectional view through YY₁ of Fig. 2.

Referring particularly to the drawings, the spring or flexible roll consists of a series of superimposed closely wound wires. The inner convolutions of wire 1 are wound in one direction and the adjoining convolutions of wire 2 are wound in an opposite direction. The convolutions of wire 3 and 4, also alternate in direction.

The ends of the different wires are suitably fastened in the slots 5 provided in the end members or flanges 6 and 7, thereby preventing the unwinding.

The convolutions of wire 1 are formed by closely winding the wire about a cylindrical shaft of suitable size, then securing the ends of said wire in the flanges 6 and 7. The convolutions of wire 2 are then wound in an opposite direction and the ends secured in said flanges. In a similar manner convolutions 3 and 4 are formed and secured whereupon the shaft upon which the wires have been wound is withdrawn.

The flange 6 is provided with a cylindrical member 8 which is inserted after the winding and is secured to said flange 6 by the pin 9. One end of said cylindrical member 8 is provided with a clutch 10 by means of which rotary motion may be imparted to the spring roll from any suitable source. The other end of said cylindrical member 8 is ar-

ranged with a hook 11 for one end of a tension spring 12.

The flange 7 is provided with a screw threaded member 13 slidably arranged therein and provided with a hook 14 for the other end of the tension spring 12. A nut 15 engages the threaded member 13 and is arranged adjacent to the flange 7. By means of the nut 15 the tension of the spring 12 can be varied to suit the requirements. A screw 16 in the flange 7 engages a slot 17 in the screw threaded member 13 to prevent turning of said threaded member. The tension spring 12 extends throughout the entire length of the spring roll and is arranged so as to substantially coincide with the axis of the convolutions of wire.

The series of superimposed wire convolutions can be varied in number to change the degree of flexibility. The drawings show four wires which is the number of windings best suited for splitting hides.

Having described my invention I claim as new and desire to secure by Letters Patent:

1. A roll consisting of a series of superimposed convolutions of wire wound alternately in opposite directions, a flange at each end of said roll in which the ends of the wires are secured, and a flexible connection between said flanges.

2. A roll consisting of a series of superimposed convolutions of wire wound alternately in opposite directions, a flange at each end of said roll in which the ends of the wires are secured, and an adjustable connection between said flanges.

3. A roll consisting of a series of super-

imposed convolutions of wire wound alternately in opposite directions, a flange at each end of said roll in which the ends of the wires are secured, and a tension member connecting said flanges.

4. A roll consisting of a series of superimposed convolutions of wire wound alternately in opposite directions, a flange at each end of said roll in which the ends of the wires are secured, a flexible tension member connecting said flanges, and means to adjust said member.

5. A roll consisting of a series of superimposed convolutions of wire wound alternately in opposite directions, a flange at one end of said roll, a second flange at the other end of said roll, each of said flanges having secured therein the ends of the wire, a member secured to said first mentioned flange, an adjustable member arranged in said second mentioned flange, and a spring connecting said members.

6. A roll consisting of a series of superimposed convolutions of wire wound alternately in opposite directions, a flange at one end of said roll, a second flange at the other end, each of said flanges provided with slots wherein the ends of the wires are secured, a member secured to said first mentioned flange and provided with a clutch key, an adjustable member arranged in said second mentioned flange, and a connection between said members.

Signed this twenty-first day of November, 1917.

PETER MEYER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."