

J. Wood.
Separating Rope.

N^o 16,858.

Patented Mar. 17, 1857.

Fig. 2.

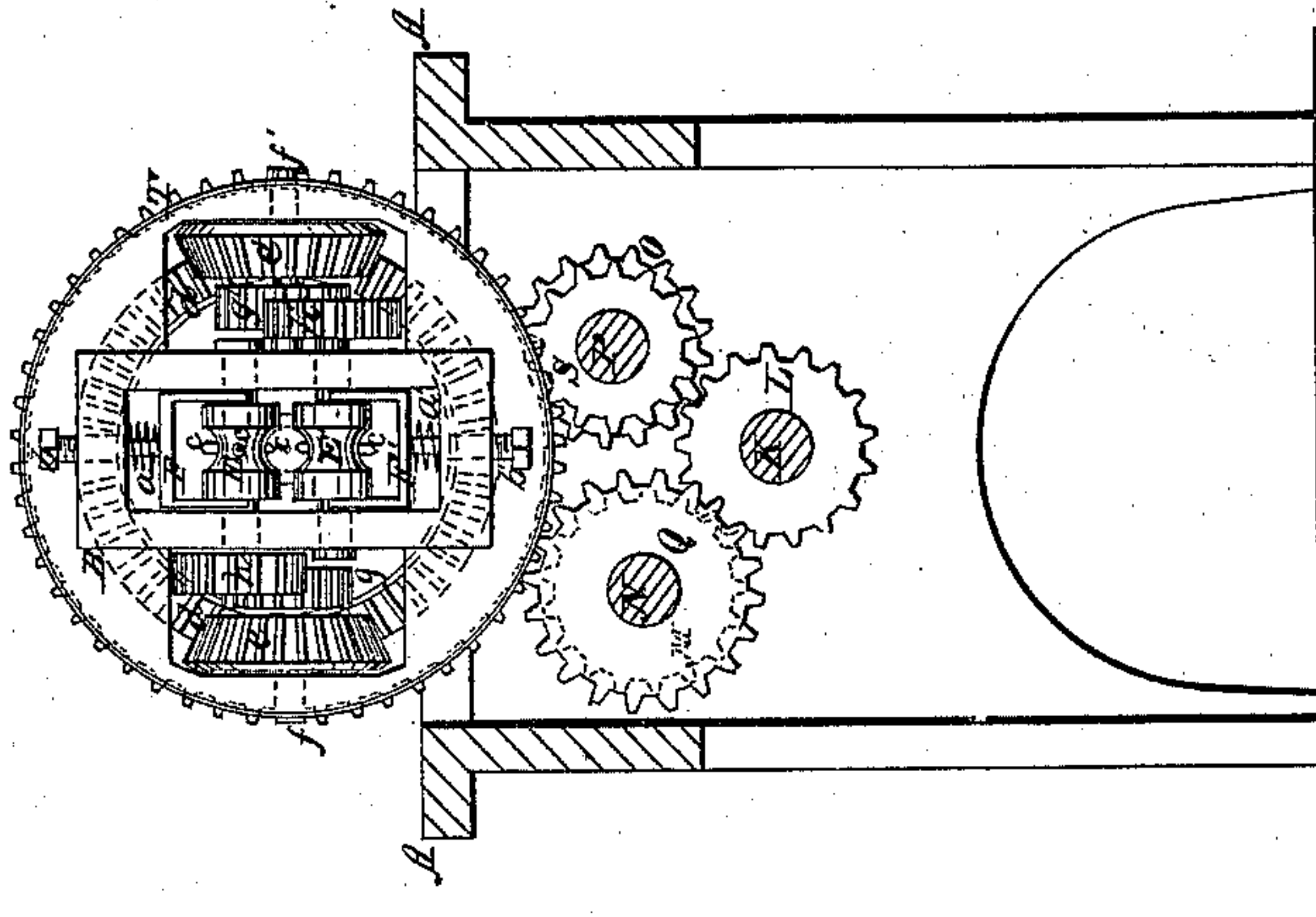
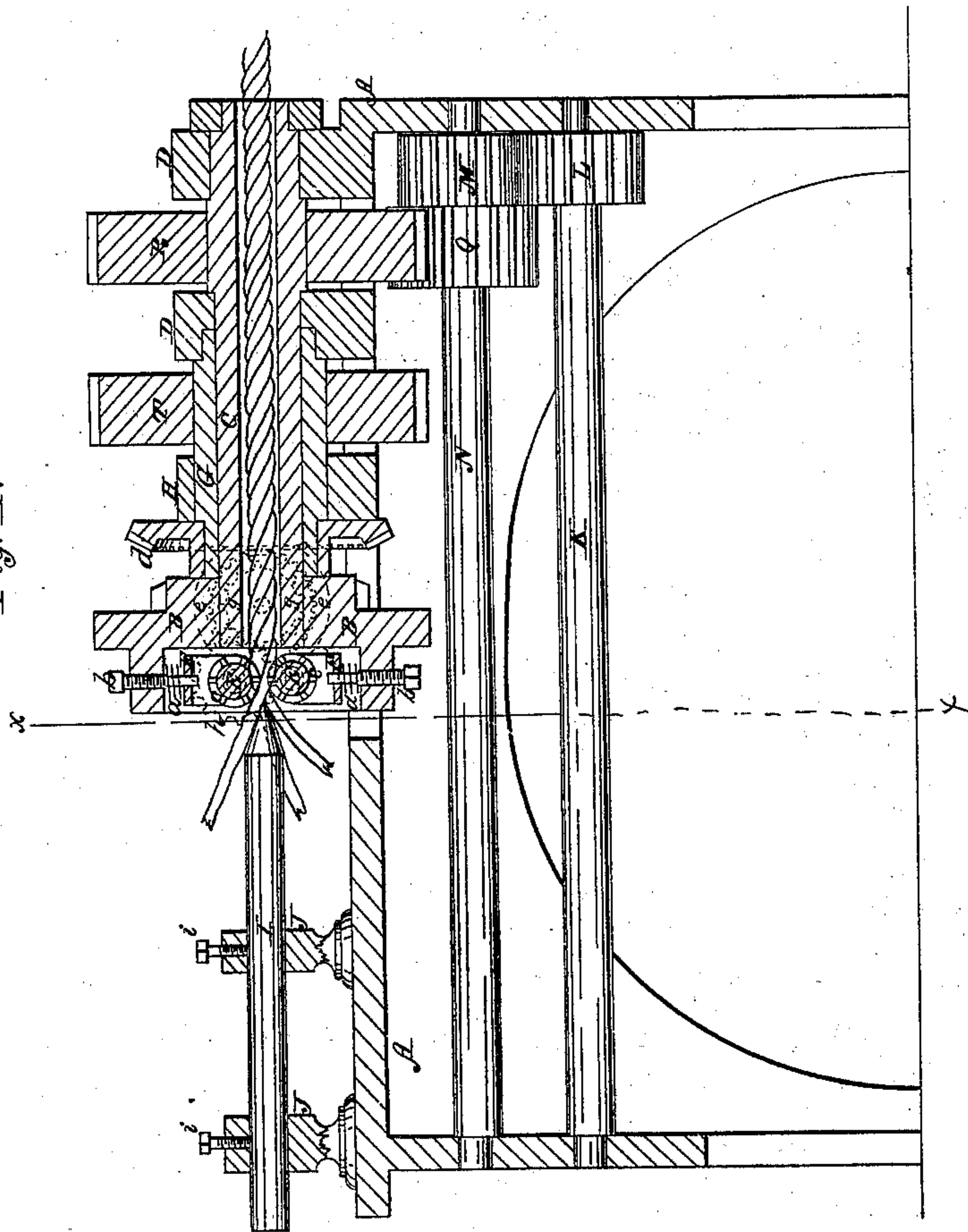


Fig. 1.



UNITED STATES PATENT OFFICE.

JOSEPH WOOD, OF BROOKLYN, NEW YORK.

MACHINE FOR UNMAKING ROPE OR CORDAGE.

Specification of Letters Patent No. 16,858, dated March 17, 1857.

To all whom it may concern:

Be it known that I, JOSEPH WOOD, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Machine for Unmaking Rope or Cordage; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which,—

Figure 1, is a central longitudinal vertical section of the machine. Fig. 2, is a transverse vertical section of the same, in the line x, x , of Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to perform the first stage of the reduction of old rope to its original fiber, viz, to effect the separation of the strands.

It consists in a rotating roller head carrying two feed rollers having their axes arranged perpendicularly to and on opposite sides of its own axis of rotation combined with a pointed mandrel that is arranged in line with the said axis of rotation. The rope being conducted between the rollers, the rotation of the rollers in the head drives the rope upon the point of the mandrel while the rotation of the head upon its own axis gives the rope a rotary motion in contact with the mandrel in the opposite direction to the lay of the rope, by which combined operation the strands are parted in an easy and effectual manner.

To enable others to make and use my invention, I will proceed to describe it with reference to the drawings.

A, is the framing of the machine.

B, is the rotating roller head, keyed or otherwise firmly secured to one end of a hollow shaft C, which is fitted to rotate in bearings D, D, on the top of the framing A.

E, E¹, are the feed rollers which have their axes arranged parallel with each other and transversely or perpendicularly to the axis of the shaft C, at about equal distances from the center thereof.

F, F¹, are two sliding pieces of metal fitted to the head B, and each containing the two bearings for one of the rollers. These sliding pieces F, F¹, have spring a, a^1 , and set screws b, b^1 , applied to their backs to give an elastic pressure to the rollers to make them bite upon and accommodate

themselves to the varying size of the rope to be unmade. The rollers are grooved and have short teeth c, c , in the bottoms of the grooves to bite the rope firmly.

I, is the pointed mandrel which is placed in line with the axis of the shaft C, with its pointed end entering or nearly entering between the feed rollers E, and is held stationary by set screws i, i , or their equivalents, in two standards J, J, erected upon the top of the framing A.

G, is a sleeve fitted to the exterior of the shaft C, and working in a bearing H, on the top of the framing A, and in one half of the foremost bearing D. This sleeve carries a bevel gear d , which gears with two bevel gears e, e^1 , on shafts f, f^1 , which are arranged within the rotating roller head radially to the center thereof—and on opposite sides thereof. To the two bevel gears e, e^1 , are attached two spur pinions g, g^1 , which gear with two other pinions h, h^1 , one upon each of the feed rollers E, E¹.

K, is the driving shaft of the machine, intended to have rotary motion imparted to it in any convenient manner and carrying a spur pinion L, which gears with a pinion M, on a shaft N, and also with a pinion O, of similar size to M, on a shaft P, and thus serves to drive both the shafts N, and P. The shaft N, is furnished also with a pinion Q, which gears into a spur gear R, that is fast upon the shaft C, and the shaft P, is furnished with a pinion S, smaller than Q, which gears with a spur gear T, of the same size as R, that is fast upon the sleeves G, and by these means the shaft C, and the sleeve G, are caused to receive rotary motion both in the same direction, but the sleeve G, slower than the shaft C, and in consequence of the difference of velocity between the said shaft and sleeve, the bevel gear d , is caused to give motion to the bevel gears e, e^1 , which, through the pinions g, g^1 , impart motion to the pinions h, h^1 , and thus drive the feed rollers.

The operation of "unlaying" or separating the strands is as follows—The rope, which is shown in red color in Fig. 1, being cut into proper short lengths is conducted through the shaft C, to the rollers E, E¹, and the shaft with the roller head rotating in the opposite direction to the lay of the rope, and the rollers E, E¹, rotating in the proper direction to draw the rope through the shaft and force it upon the

point of the mandrel I, cause the opening and perfect unlaying of the strands by the entry of the mandrel into the center of the rope while the rope has a rotary motion.

5 It is proper to remark that the relation between the velocity of the motion of the feed rollers and the rotation of the shaft C, should approximate in some degree to the twist of the rope, but by adjusting these
10 relative velocities to suit rope having an average amount of twist, a sufficiently near approximation to the less and greater degrees of twist will be obtained.

The machine illustrated, represents my
15 invention fully, but in practice I propose to have in the same machine several roller

heads and mandrels, the motion to be imparted from one shaft C, and sleeve G, to another, throughout the whole series, by intermediate gearing.

I disclaim the invention of the revolving roller head itself and its use for any other purpose than that of unmaking rope but

What I claim as my invention and desire to secure by Letters Patent, is:

The combination of the rotating roller head and the pointed mandrel to operate in the manner and for the purpose set forth.

JOSEPH WOOD.

Witnesses:

HENRY T. BROWN,
W. TUSCH.