(No Model.)

E. CABBLE.

CENTRIFUGAL MACHINE FOR EXTRACTING WATER FROM COILS OF WIRE, &c.

No. 348,316. Patented Aug. 31, 1886.

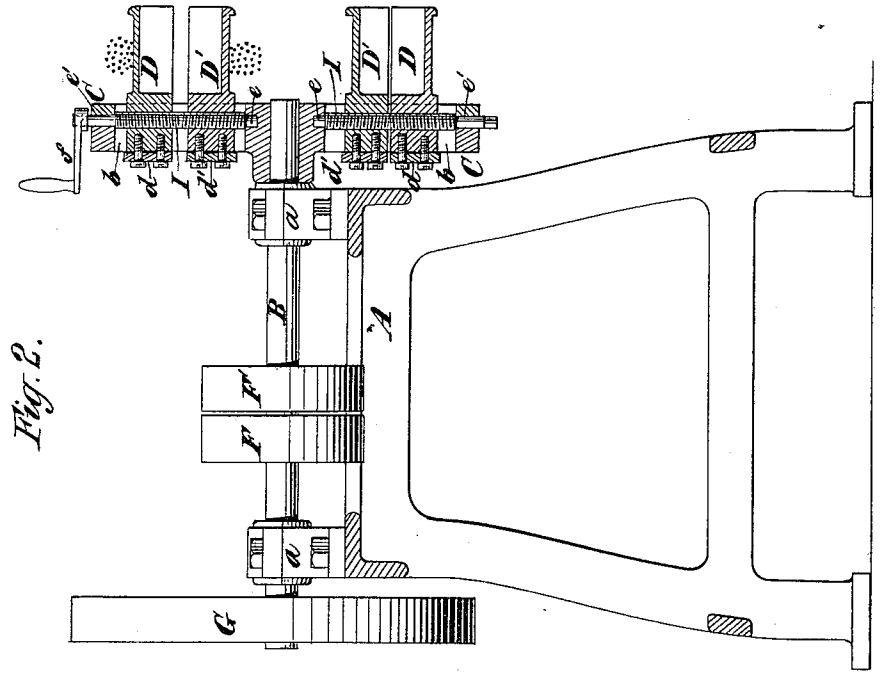

Fig. 2.

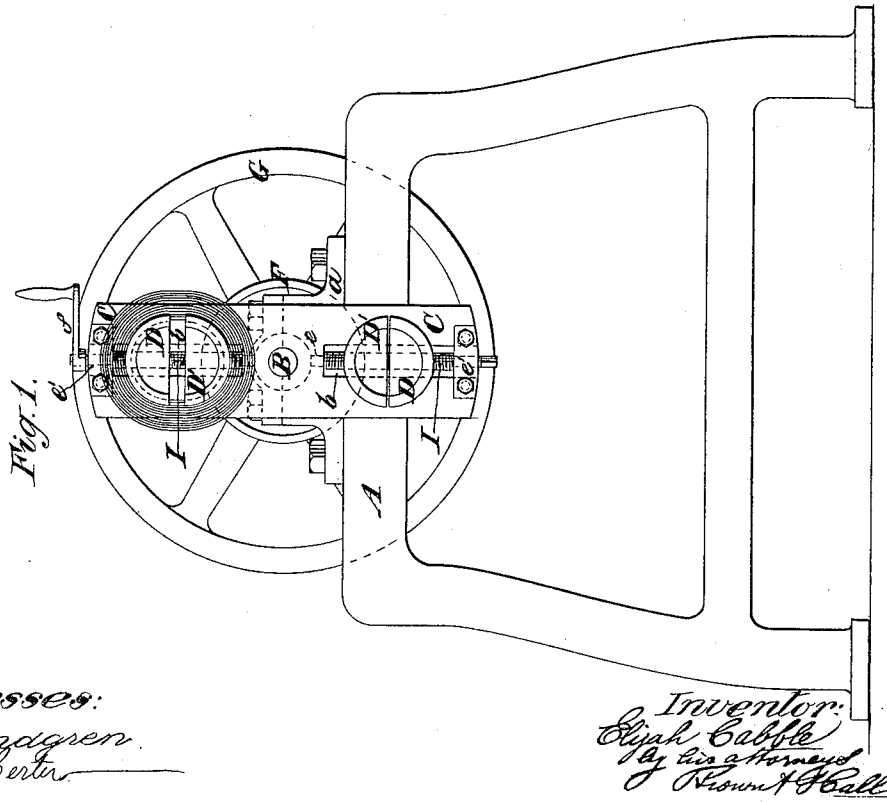

Fig. 1.

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UNITED STATES PATENT OFFICE.

ELIJAH CABBLE, OF BROOKLYN, NEW YORK.

CENTRIFUGAL MACHINE FOR EXTRACTING WATER FROM COILS OF WIRE, &c.

SPECIFICATION forming part of Letters Patent No. 348,316, dated August 31, 1886.

Application filed March 27, 1886. Serial No. 196,751. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH CABBLE, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Centrifugal Machines for Extracting Water from Coils of Wire, &c., of which the following is a specification, reference being had to the accompanying drawings.

In the manufacture of wire, between the successive drawing operations, the wire, which is in the form of a coil, has to be annealed, and after annealing it has to be pickled and afterward washed and dried before being again drawn. The drying is performed in ovens; but before putting the coils in the oven it is desirable to extract as much of the water as possible, in order to save time and fuel in drying. The common method of extracting the water has been by hand, the workman taking a coil in his hands and swinging it violently. This operation is very laborious, and the beating is apt to throw out the laps of the coils in such manner as to produce kinking and breaking in the subsequent unwinding, and moreover the extraction of the water is very imperfect.

The object of my invention is to provide for the extraction of water from the coils in a more thorough manner and with greater economy by centrifugal force; and to this end my invention consists in the combination, with a rotary shaft and an attached head or arms, of expanding coil-holders attached to said head or arms at a suitable distance from the shaft, for holding the coils while they are caused to revolve rapidly by the rotation of the shaft.

The invention also consists in the combination of certain details hereinafter described and claimed.

Figure 1 is a front view of a centrifugal machine constructed according to my invention. Fig. 2 is a central vertical section of the same at right angles to Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

A designates the framing of the machine, on the top of which are bearings *a* for the rotary shaft B, to which is secured the head C, which may be constructed with two arms, as represented, or with a greater number of the said arms, carrying the expanding coil-holders D D'. The shaft is represented as furnished with fast and loose pulleys F F' and a fly-wheel, G.

The arms of the head C have longitudinal parallel slots *b*, to receive each one of the coil-holders, each of which consists of two members, D D', the principal portions of which, intended to receive the coils, are semi-cylindrical and project in front of the head C in a direction parallel with the shaft. The portions of the said members which enter and fit the slots are squared, and plates *d d'* are screwed to them at the back of the head to confine them to the latter, permitting them to slide freely in the slots lengthwise of the arms.

Within each arm of the head C is arranged longitudinally a screw, I, which extends through the slot, and is confined lengthwise in bearings *e e'*. One portion of this screw has a right-hand thread fitted to a corresponding female thread in one of the members of its holder, and the other portion has a left-hand thread fitted to a corresponding thread in the other member of its holder. The outer ends of the two screws projecting beyond the ends of the arms are squared to receive a suitable handle, *f*, by which to turn them.

To prepare the machine to receive the coils of wire, of which one is represented in Figs. 1 and 2, and designated by *g*, the coil-holders are contracted, as shown in the lower arm of the head C in both figures of the drawings, by turning the screw I in the proper direction. The coils from which the water is to be extrated are then placed over the coil-holders, which are then expanded by turning the screws I in the proper direction to separate their members, as shown in the upper arms in the drawings, far enough to hold the coils tightly. Rapid rotary motion is then given to the shaft B, and the consequent rapid revolution of the coil-holders with the head C causes the expulson of the water from the coils by centrifugal force. When the water has been sufficiently expelled from the coils, the machine is stopped, the coil-holders are contracted, and the coils are removed, to be afterward completely dried in the oven.

Suitable stationary guards of any kind may be applied in proper relation to the arms and coil-holders to prevent the scattering of the

water expelled from the coils and conduct it to a suitable receptacle.

It is obvious that the machine is applicable not only to the extraction of water from wire, but to the extraction of water from any material or fabric in coils.

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

1. The combination of a rotary shaft and an attached head and expanding coil-holders attached to said head at a distance from the shaft, substantially as and for the purpose herein described.

2. The combination of the rotary shaft, the slotted head C, the expanding right and left hand threaded members D D′ of the coil-holders fitted to the slots of the head, and the screws I, each having a right and left hand thread fitted to said members D D′ and confined lengthwise within the slots of the head, substantially as herein described.

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