

(No Model.)

3 Sheets—Sheet 1.

J. GARSED.
ROPE COILING MACHINE.

No. 579,054.

Patented Mar. 16, 1897.

FIG. 1.

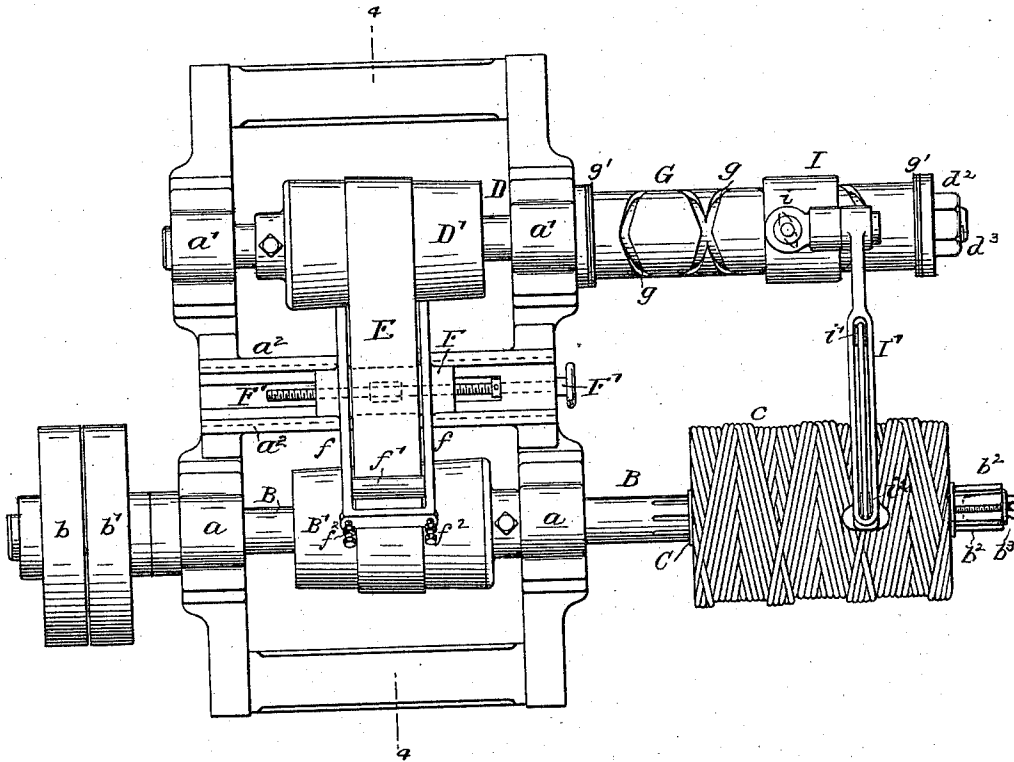
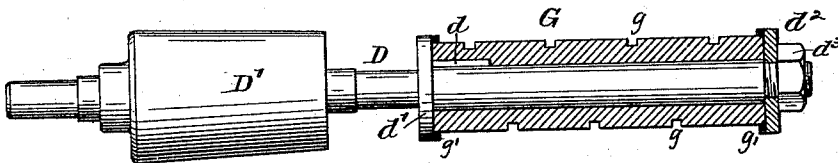


FIG. 5.



Witnesses:
F. D. Goodwin
F. B. Benner

Inventor:
Joshua Garsed
by his Attorneys
Howson & Howson

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FIG. 2.

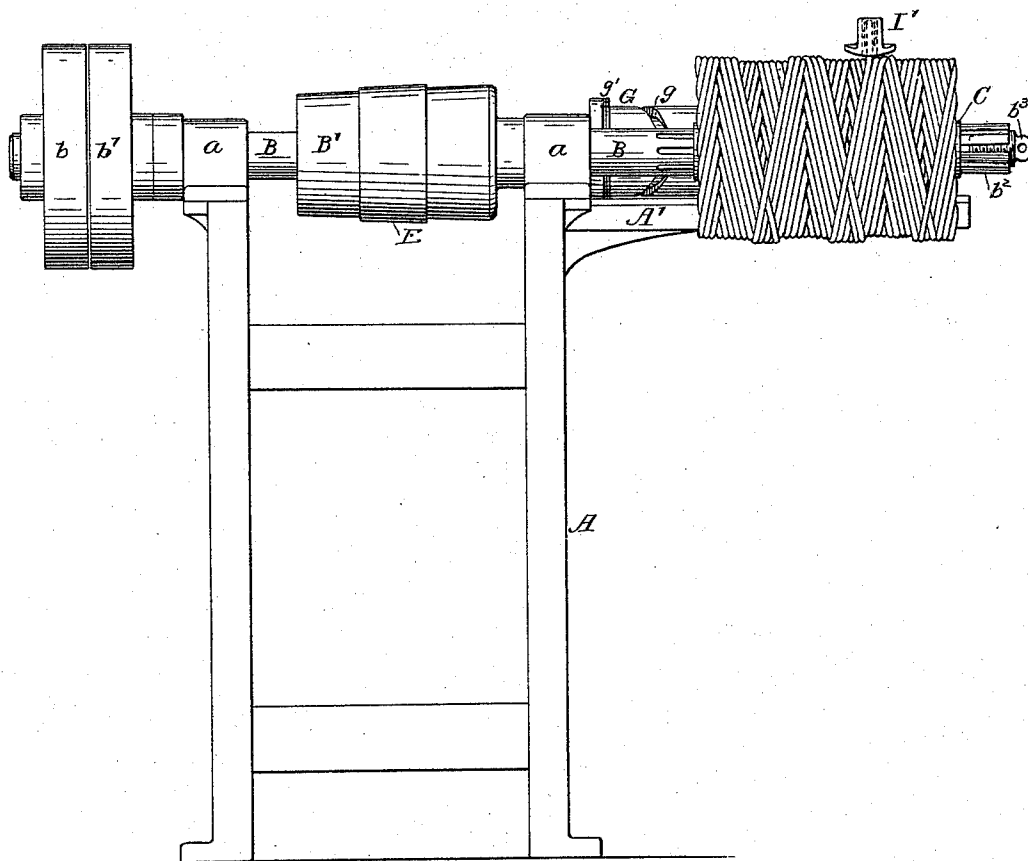
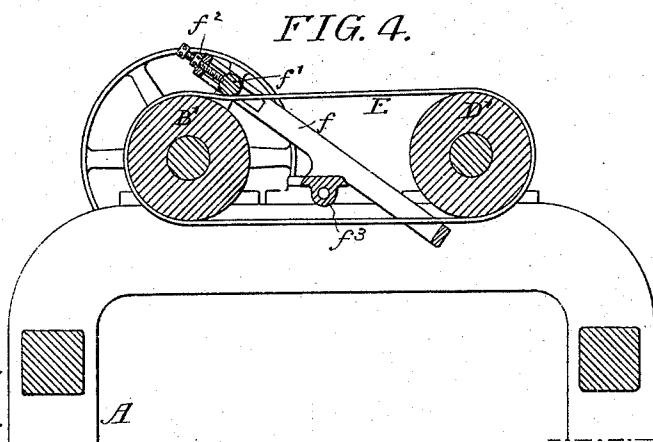


FIG. 4.



Witnesses:

F. R. Goodwin
J. B. Denner

Inventor:
Joshua Garsed
By his Attorneys

Houison & Houison

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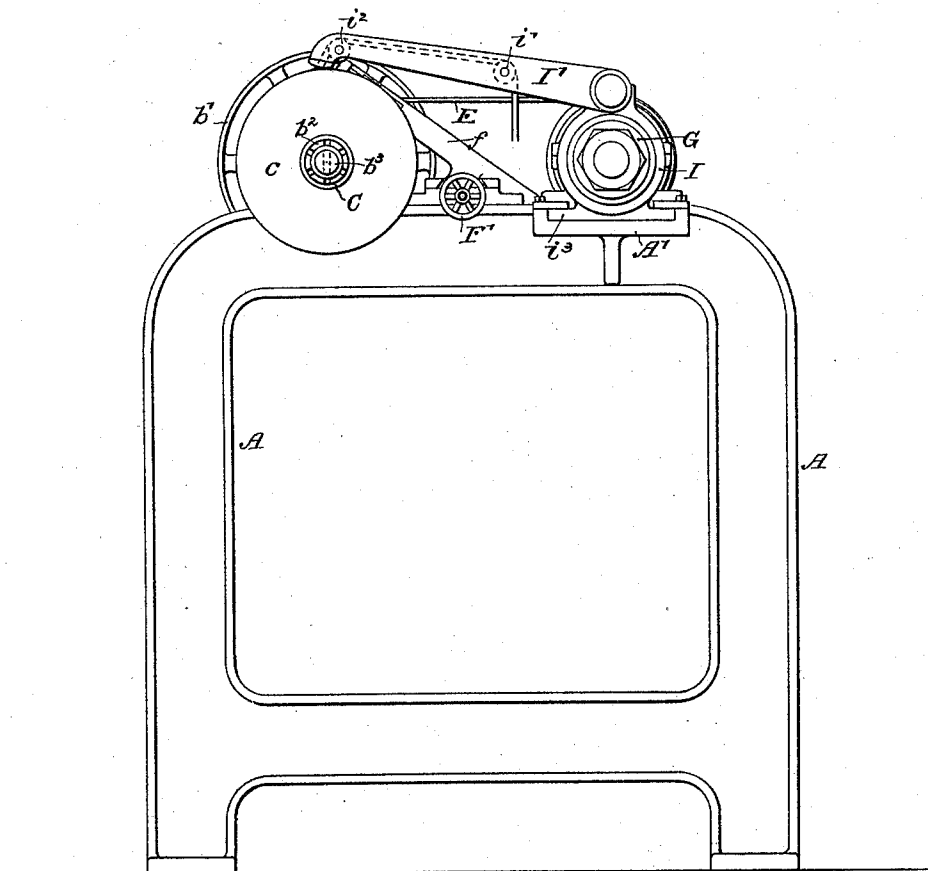
3 Sheets—Sheet 3.

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FIG. 3.



Witnesses:

W. D. Goodwin
F. B. Benner

Inventor:

Joshua Garsed
by his Attorneys
Hawson & Hawson

UNITED STATES PATENT OFFICE.

JOSHUA GARSED, OF PHILADELPHIA, PENNSYLVANIA.

ROPE-COILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 579,054, dated March 16, 1897.

Application filed November 15, 1895. Serial No. 589,097. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA GARSED, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented Improvements in Rope-Coiling Machines, of which the following is a specification.

The object of my invention is to simplify the mechanism of a machine for coiling rope or twine upon tubes.

My invention is based upon the patent granted to me on the 30th day of April, 1895, No. 538,485, for a machine for coiling rope upon tubes.

In the accompanying drawings, Figure 1 is a plan view of my improved machine. Fig. 2 is an end view. Fig. 3 is a side view. Fig. 4 is a sectional view on the line 4 4, Fig. 1. Fig. 5 is a detached view of the cam-shaft with the cam in section.

A is the frame, having bearings *a a* for the driving-shaft B. On one end of this driving-shaft are fast and loose pulleys *b b'*. The opposite end of the shaft overhangs the frame considerably and is split, forming a series of sections *b²*, which can be expanded by a tapered screw-plug *b³*, entering the tapered opening in the end of the shaft. On this split portion of the shaft is mounted a tube C of paper or other suitable material, on which is coiled the rope *c*. (Clearly shown in Fig. 1.)

Secured to the shaft between the bearings *a a* is a cone-pulley B', and on a shaft D, adapted to bearings *a'* on the frame of the machine, is a cone-pulley D'. A belt E passes from one cone-pulley to the other, as shown in Figs. 1 and 4, so that motion is imparted from the shaft B to the shaft D through the belt E.

Adapted to transverse ways *a²* on the frame is a shifter-carriage F, having arms *f f*, which extend on each side of the belt E, as shown in Fig. 4, and mounted on the upper portion of the shifter is a roller *f'*, adjustable in slots in the arms *f f* by means of set-screws *f²*, so that more or less pressure can be applied to the belt E to take up the slack.

The carriage F has a threaded lug *f³*, with which engages a handled screw F', mounted in the frame of the machine, so that on turning this screw the carriage can be moved transversely to change the speed of the shaft D in relation to the shaft B.

The shaft D extends considerably beyond the frame parallel with the shaft B, and mounted on this shaft is a double screw-cam G, splined to the shaft by the feather *d* and confined between a flange *d'* on the shaft and a washer *d²*, held in place by a nut *d³*, adapted to the screw-threaded end of the shaft. The groove *g* in this double screw-cam is continuous and formed, as clearly indicated in the drawings, Fig. 1, so that the carrier will be reciprocated as the shaft revolves.

Sliding on the screw-cam is a carrier I, having a tongue *i*, projecting in the groove *g*. The tongue is double-ended and pivoted to the carrier in the ordinary manner, so that it will travel first in the forward groove and then shift to the return-groove.

Extending from the carrier I is an arm I', having two rollers *i' i²*, around which the rope passes to the drum or spool on the shaft D, the arm extending to a point directly above the center of the shaft, as clearly indicated in the drawings.

Projecting from the frame of the machine directly below the shaft D is a bracket A', having ways in which travels the projecting portion *i³* of the carrier I, so that the carrier is prevented from turning with the shaft.

I place elastic buffers *g' g'* at each end of the cam G to act as cushions for the carrier and to help the carrier forward as it comes to the end of its throw in either direction.

The operation of the machine is as follows: A drum C is secured to the split portion of the shaft B, motion is imparted to the shaft B and to the shaft D from the shaft B through the belt E, and the carrier I is reciprocated by the cam G, so that its arm will have a reciprocating motion the full length of the drum or spool, the carrier being held from turning by the guides in the cam. Thus as the shafts revolve the rope or twine is coiled upon the drum in the manner indicated in the drawings, the coils being so arranged that the portions at the edges are interlocked with the body of the rope, so that after the rope is coiled these portions will not fall away, but the coil will be perfectly rigid, and can be shipped without the use of flanged spools.

To remove the finished coil of rope from the machine, all that is necessary is to remove the screw-plug *b³* and the shaft will be reduced

in diameter sufficiently to allow the ready removal of the drum with the rope thereon.

To regulate for different thickness of rope, all that is necessary is to adjust the belt by shifting the carriage F, so that the movement of the cam will be sufficient to lay the strands of rope one directly back of the other.

In order to make different widths of coils of rope, I substitute screw-cams of different lengths for the one on the shaft D by simply removing the nut and washer and then detaching the screw-cam. These cams may be kept in stock and are made interchangeable, so that no time is lost in adjusting the machine for different widths of coils of rope and for rope of different diameters.

I claim as my invention—

1. The combination of the driving-shaft B, the driven shaft D, the said shaft B adapted to receive the drum on which the rope is to be coiled, a cam on the shaft D, a carrier adapted to be reciprocated by the said cam, conical pulleys oppositely arranged on the shafts B and D, a belt passing from one pulley to the other, a carriage F adapted to transverse ways

on the bed of the machine, a screw for adjusting said carriage longitudinally with respect to the cone-pulleys, said carriage having arms extending on each side of the belt, with an adjustable pressure-roller carried by the arms and adapted to rest against the belt, substantially as described.

2. The combination in a rope-coiling machine, of the driving-shaft B, carrying the drum on which the rope is to be coiled, a driven shaft D parallel with the shaft B and having a double screw-cam thereon, buffers at each end of the screw-cam, a carrier controlled by said screw-cam and having an arm over which the rope passes, cone-pulleys on each shaft, a belt passing around said pulleys and means for adjusting said belt longitudinally of the cone-pulleys, substantially as described.

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

JOSHUA GARSEED.

Witnesses:

WILL A. BARR,
JOS. H. KLEIN.