J. S. BARNES & N. E. SHERWOOD.

STRAND GUIDE FOR ROPE MAKING MACHINES.

APPLICATION FILED JUNE 24, 1913.

1,154,905. Patented Sept. 28, 1915.

FIG. 2.

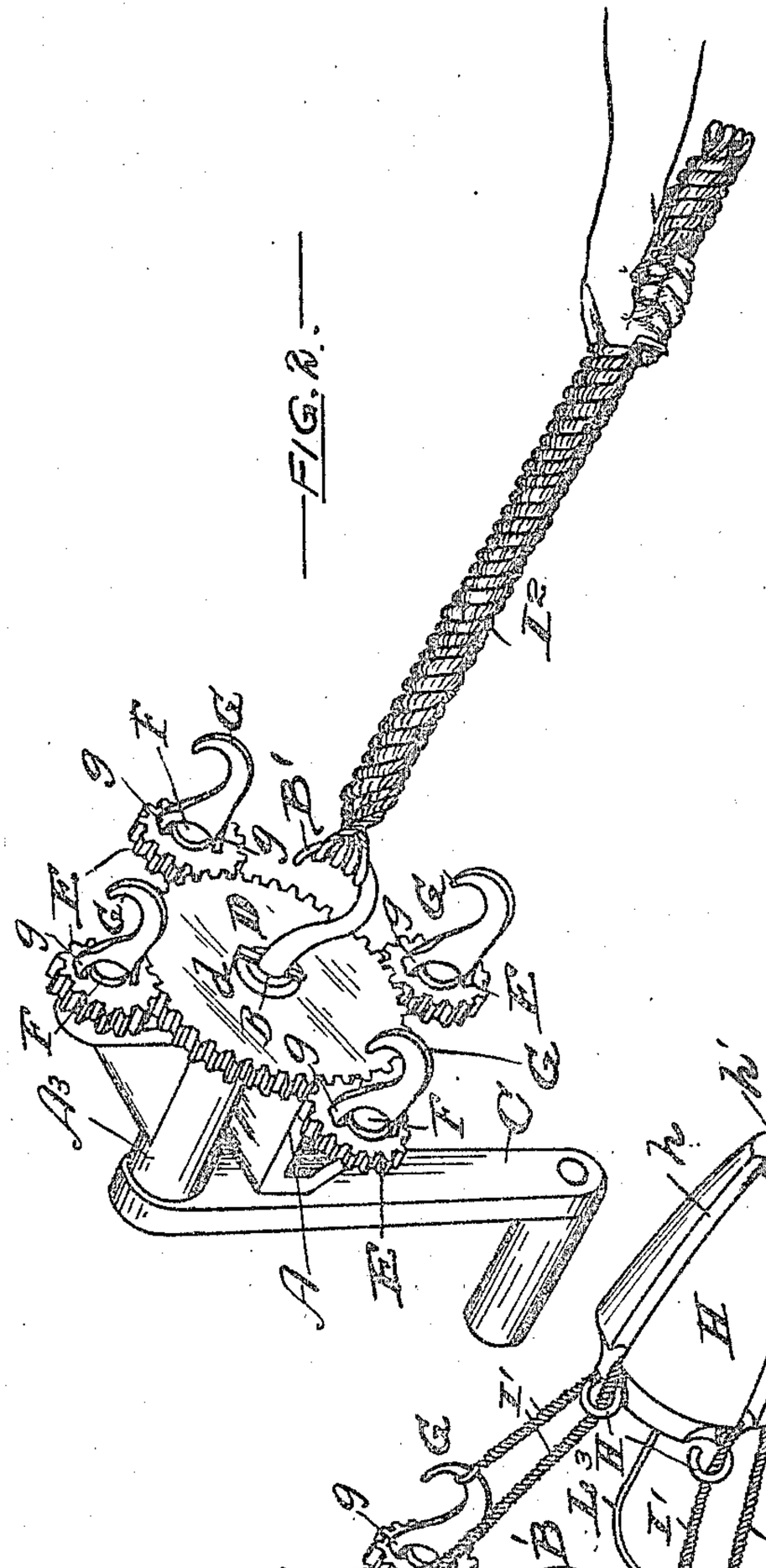
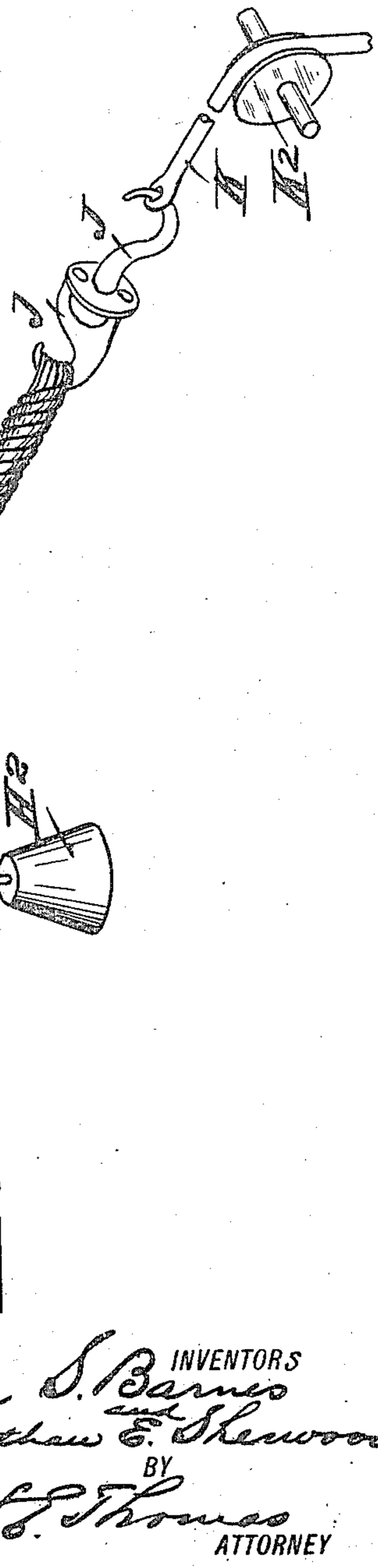


FIG. 1.



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STRAND-GUIDE FOR ROPE-MAKING MACHINES.

1,154,905. Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed June 24, 1913. Serial No. 775,588.

Be it known that we, JOHN S. BARNES and NATHAN E. SHERWOOD, citizens of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented certain new and useful Improvements in Strand-Guides for Rope-Making Machines, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to rope making machines and particularly to a strand-guide therefor.

One object of the invention is to provide a strand-guide embodying among other characteristics a frusto-conical body having a bore and strand receiving grooves and a depending handle to which a weight is attached to hold the strand-guide against rotation with means to regulate the tension of the strands in the grooves.

Other objects and advantages will later appear.

In the drawings: Figure 1 is a perspective view showing the strand-guide threaded preparatory to twisting the strands around a wire core. Fig. 2 is a perspective view showing several twisted strands disconnected from the hooks they normally engage when being twisted and connected to a central hook to finish the twisting operation.

Referring now to the letters of reference placed upon the drawings:—A is a frame which may be secured to a suitable support in any suitable manner.

A^3 denotes a hub in which the shaft B is journaled and which shaft has a hook B′, there being an operating crank C secured to the outer end of the shaft whereby it may be manually actuated.

D indicates a driving gear mounted on the drive shaft B.

d denotes a transverse pin set in the shaft and lodged in a recess formed in the hub of the gear D, thereby securing the gear to the shaft and providing against its lateral movement.

E denotes a plurality of pinions in mesh with the main driving gear and journaled on stub shafts or bolts F set in radiating arms of the frame.

G are hooks preferably formed of sheet metal, having a bifurcated shank, the tines *g* of which are secured to the pinions E in any suitable manner.

H is a strand guide approximately cone-shaped, having a plurality of peripheral grooves *h* running longitudinally to receive the binder twine or strand wires I, forming the cable and with a central bore *h′* for the passage of a wire or other core around which the strands may be wrapped.

H′ is a depending handle for manually controlling the device, and H^2 is a weight suspended from the end of the handle,—the object of the latter being to prevent the rotation of the strand guide due to the tension of the twisting rope should the handle be released by the operator.

H^3 are adjustable tension hooks in line with the grooves *h*, through which the strands I′ of the cable I^2 pass.

J, J, are a pair of swivel hooks, one of which receives the strands of the cable, the other being connected with a rope or belt K from which is suspended a weight.

K^2 is a pulley or sheave over which the rope or belt K passes.

The device being secured to a suitable support, binder twine or yarn is threaded through one of the grooves in the strand guide H, under its adjustable hook H^3 to one of the several hooks G, thence back through the grooves *h* in the strand guide to the swivel hook J,—which is located at a sufficient distance from the twisting device to construct the required length of rope. The twine is looped back and forth from the hook J through the grooves in the strand guide to the several hooks G, to provide the required number of threads desired for each strand. The tension on the several threads of each strand being regulated by the adjustable hooks H^3, the device is then put in operation by manually rotating the crank arm C, the main driving gear D actuating the several pinions thereby twisting the individual threads of yarn or twine into strands. The rotation of the gears being continued, the several strands are twisted together beyond the contracted end of the strand guide, and as the strands are twisted together the guide is gradually forced forward by the twisting strands toward the hooks G as will be readily understood. Upon the strand guide reaching a

point near to the hooks G, the several strands are removed from the hooks G and are looped over the central hook B′ of the drive shaft, as indicated in Fig. 2. The end of the cable is then grasped by the operator to hold it against rotation and the twisting gear is again operated which serves to twist the strands more tightly together, thereby effecting the completion of the finished rope.

If it is desired to construct a cable having a metallic or other core, the wire or other core L, is threaded through the central bore h' in the strand guide, as indicated in Fig. 1, the threading of the yarn or twine over the hooks G and the twisting of the threads into strands being effected as previously described. Upon the completion of the twisting of the yarn into strands, the several strands are twisted around the central core by a further operation of the crank arm C as indicated in Fig. 2 of the drawings. Upon the strand guide being forced up close to the hooks, the strands are disengaged from the hooks G and looped over the central hook as indicated in Fig. 1, the cable being completed by grasping the end of the rope, the strands being then twisted close to the hook and tightly together in the manner previously described.

Having thus described our invention, what we claim is:—

In a device such as described, a strand guide adapted to be supported by the strands to be twisted and including a frusto-conical body having spaced longitudinal guide grooves therein for receiving the strands to be twisted, and a central longitudinal bore formed therein and extending therethrough, a depending handle attached to the strand guide, a weight attached to the handle for holding the strand guide against rotation, and hooks in the end of the strand-guide at the inner ends of the longitudinal grooves, the hooks being adjustable in the inner end of the strand guide for engaging the strands in said grooves and regulating the tension thereof.

In testimony whereof, we sign this specification in the presence of two witnesses.

JOHN S. BARNES.
NATHAN E. SHERWOOD.

Witnesses:
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SAMUEL E. THOMAS.