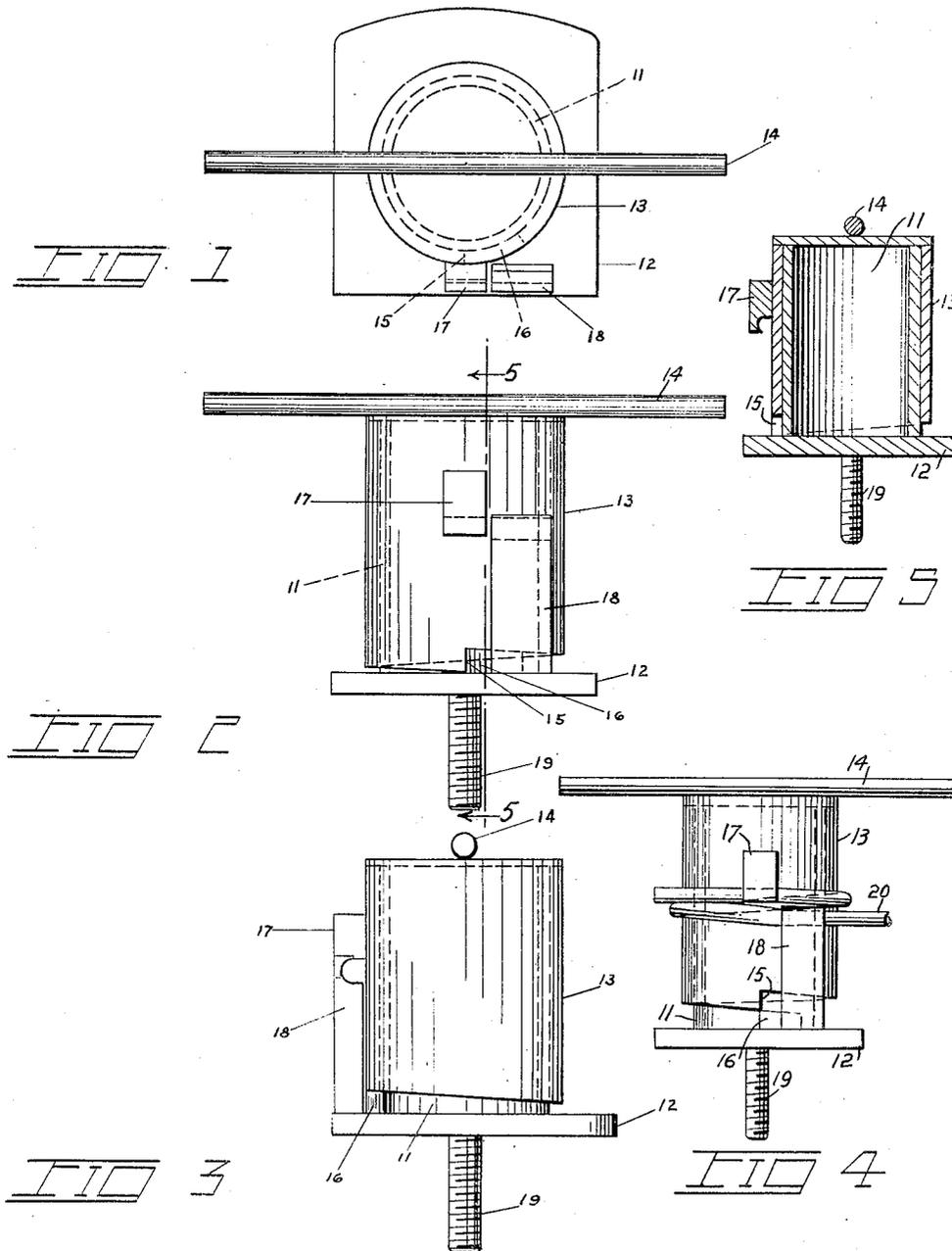


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COILING DEVICE

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COILING DEVICE

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2 Claims. (Cl. 153-67)

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This invention relates to a coiling device, and has for an object to provide a device for accurately and smoothly coiling or looping pipes, tubes, rods and the like.

Another object of this invention is to provide a coiling device of extreme simplicity of construction and operation.

A further object of this invention is to provide a portable coiling device, easily set up and manually operable.

Further objects and advantages of this invention, as well as its construction, arrangement and operation, will be apparent from the following description and claims in connection with the accompanying drawing, in which,

Fig. 1 is a plan view of a device embodying the principles of this invention;

Fig. 2 is a front elevation of the device of Fig. 1;

Fig. 3 is a side elevation of the device of Fig. 1;

Fig. 4 is a front elevation of the device shown upon completion of the coiling of a tube; and

Fig. 5 is a section taken on the line 5-5 of Fig. 2.

As shown in the drawing, the device comprises a pivot stud 11, centrally mounted upon and extending from a base plate 12. Enclosing and rotatably mounted on stud 11 is a tubular form 13, the top end of which can be closed and provided with a handle 14. The lower end of form 13 is cut to spiral or helical shape, the ends of the lower surface being joined by offset portion 15, substantially parallel to the axis of form 13.

The helical lower end of form 13 rests upon a wedge 16, extending from base plate 12 adjacent pivot stud 11. A grip cleat 17 projects from the side of form 13, and a guide cleat 18 extends upwardly from base plate 12. Grip cleat 17 and guide cleat 18 are arranged and disposed to be substantially adjacent and in operative alignment when offset portion 15 adjoins wedge 16. Attachment means can be provided to facilitate anchoring the device to a work table, such as stud 19 projecting from the lower surface of base plate 12.

The device is utilized in the following manner; The device is affixed to a stable work platform in any convenient location, as by means of stud 19. With the device in the position shown in the drawings, with offset portion 15 adjoining wedge 16 and with cleats 17 and 18 in adjacency and operative alignment, a length of tube or rod to be coiled is inserted under and through the cleats 17 and 18. If a straight end projecting from the coil is desired, it can be provided by allowing the desired length to extend beyond grip cleat 17.

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Form 13 is then caused to rotate relative to pivot stud 11 by means of handle 14. It will be apparent that relative rotation is possible in but one direction, that separating offset portion 15 from wedge 16 and separating grip cleat 17 from guide cleat 18. The rotation of form 13 will cause the work to be gripped by grip cleat 17 and to be bent about form 13, the work being pulled through guide cleat 18.

Upon rotation relative to pivot stud 11, form 13 will be caused to advance longitudinally with respect to pivot stud 11 and thereby become spaced from base plate 12 by the action of the lower helical end of form 13 bearing upon wedge 16. This action coils the workpiece 20 at a lead or pitch, enabling formation of a perfect coil of constant diameter. Upon the completion of substantially one complete revolution, as shown in Fig. 4, form 13 will have advanced substantially the length of offset portion 15, enabling grip cleat 17 to clear guide cleat 18. When more than one revolution has been completed, and offset portion 15 has passed wedge 16, the form 13 will be maintained in its proper longitudinal position with respect to guide cleat 18 by the already coiled portion of the workpiece. The coiling can then be carried out to any extent desired by merely continuing to rotate handle 14, the length of coil that can be attained being limited only by the length of form 13 between grip cleat 17 and its lower helical end. This length, it will be apparent, can be made as great as desired.

The form 13 can be shaped to give any desired inside coil diameter and coil length, and cleats 17 and 18 are desirably shaped to conform to the outer diameter of the workpieces intended to be operated upon. In the embodiment illustrated in the drawings when a coil of adjacent loops is desired, the length of offset portion 15 is desirably made equal to the outside diameter of the workpieces.

Various modifications and changes can be made in the subject device without departing from the scope of the invention.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

I claim:

1. A coiling device comprising a platform, a stud extending from said platform, a tubular form rotatably mounted on said stud, the end of said form adjacent said platform being of helical shape, a handle on the opposite end of said form,

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a wedge on said platform adjacent said stud, said wedge being positioned and adapted to bear upon the helical end of said form, a guide cleat extending from said platform, and a grip cleat extending from said form, said grip cleat being positioned to be in adjacency and operative alignment with said guide cleat when said form is in a position of maximum proximity to said platform.

2. A coiling device comprising a platform, a stud extending from said platform, a tubular pipe form rotatably mounted on said stud, the end of said form adjacent said platform being of helical shape, a wedge on said platform adjacent said stud, a surface of said wedge being positioned and adapted to bear upon the helical end surface of said form, a guide cleat extending from said platform, and a grip cleat extending from said form, said grip cleat being positioned to be in adjacency and operative alignment with said guide cleat when said form is in a position of maximum proximity to said platform.

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