May 1, 1928. 1,667,749

E. D. SPOERRI

CABLE CUTTING DEVICE

Filed Aug. 29, 1927

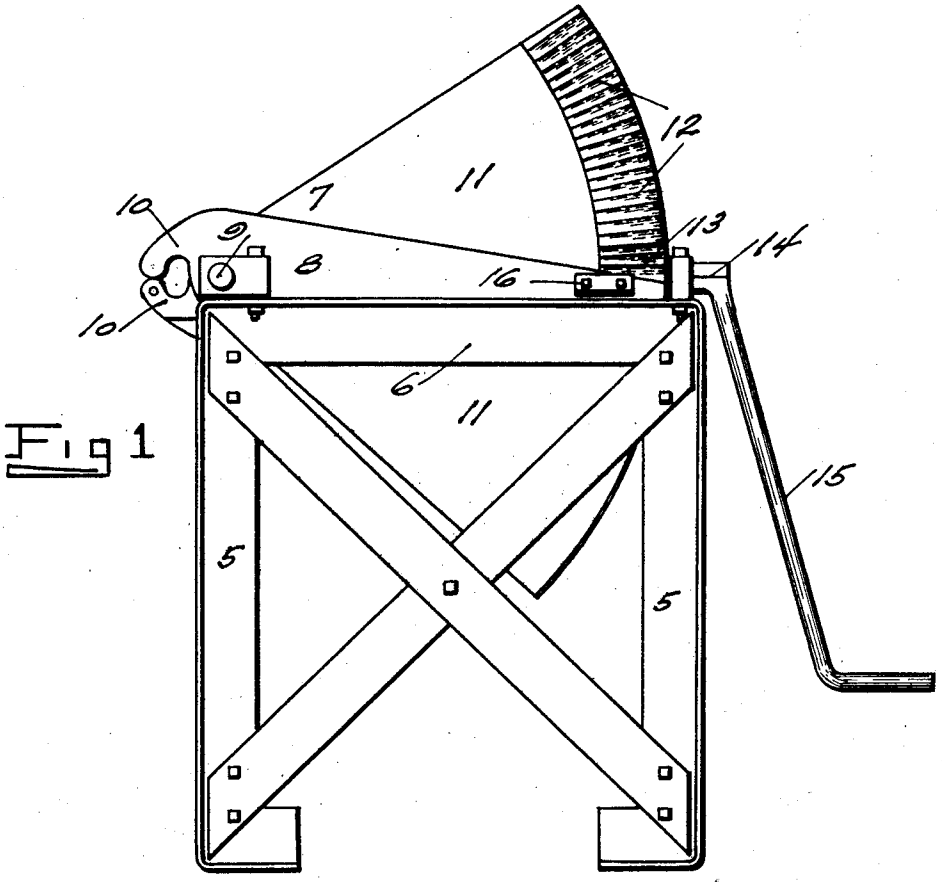


Fig 1

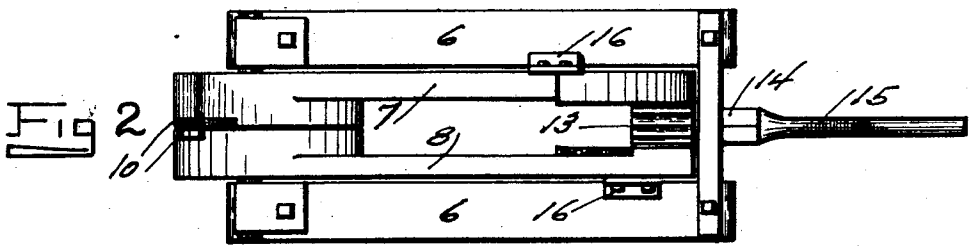


Fig 2

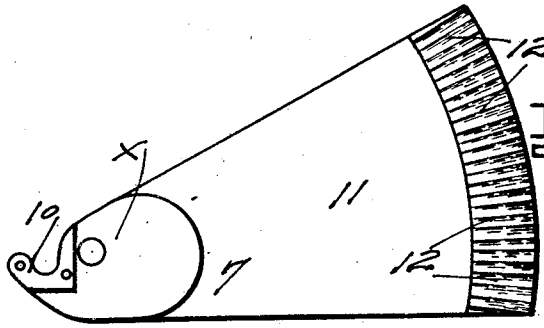


Fig 3

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UNITED STATES PATENT OFFICE.

EUGENE D. SPOERRI, OF OMAHA, NEBRASKA.

CABLE-CUTTING DEVICE.

Application filed August 29, 1927. Serial No. 216,149.

This invention relates to a cable-cutting device which may be used to advantage in connection with the measuring and reeling device shown in United States Patent No. 1,624,633 dated April 12, 1927, and issued to this applicant. However it may be used independently of said patent and may be employed in severing bolts, rods or other metallic articles.

An object of the invention is to provide such an arrangement of parts that the device will be convenient in operation for cutting steel cables of all usual diameters.

Another object is to provide shear-blades of such form that the cutting will be accomplished without bending, twisting or displacing any of the strands of the cable.

Still another object is to provide such an arrangement of parts that an unusual degree of power may be developed within the limits of a small space, said parts to be few and simple, durable in use and convenient in manufacture.

With the foregoing objects in view and others to be mentioned hereinafter the invention presents a new and useful construction, combination and arrangement of parts as described herein and claimed, and as illustrated in the accompanying drawing, it being understood that changes may be made in form, size and proportion of parts and minor details without departing from the spirit of the invention as claimed.

In the drawing, Fig. 1 is a front or side view of the device. Fig. 2 is a plan view of the same. Fig. 3 is a side view of a combined shear-blade and segment.

Referring now to the drawing for a more particular description, numeral 5 indicates a frame preferably of rectangular form in plan and having a pair of side-plates 6.

In order that the objects first mentioned may be maintained I provide a pair of lever-arms 7 and 8, these being mounted to swing from a pivot-pin 9 which is disposed transversely of and is mounted in the frame near one end thereof.

Each lever-arm is provided with a longitudinally curved cutter-blade 10, these cutter-blades being at one of the ends of said arms closely adjacent to the pivot-pin 9, the remaining part of each lever-arm preferably being of fan-shape, as indicated at 11 and provided at its end with segmentally arranged teeth 12.

The lever-arms with their fan-shaped parts and segmentally arranged teeth mentioned are disposed in the frame between the side-plates 6, said teeth being at the inner sides of the lever-arms or fan-shaped parts 11.

Numeral 13 indicates a pinion which is disposed between the fan-shaped parts 11, its teeth being in engagement with the teeth 12, said pinion being mounted upon a wrist-pin 14 which is journalled in the frame, and by means of a crank 15 the pinion may be rotated for moving the lever-arms and their shear-blades.

It will be noted that the distance of the teeth 12 from the pivot-pin 9 greatly exceeds the distance of the shear-blades 10 from said pivot-pin, and therefore the degree of power applied to the fan-shaped arms 11 at the ends where the teeth 12 are located will be sufficient to sever steel cables readily, regardless of the diameters of the cables.

In operation, the pinion when rotated will cause swinging movements of the lever-arms, their movements being in reverse directions. The crank may be moved in one direction to cause the shear-blades to move outwardly from each other. The cable or other article to be severed may then be placed between the shear-blades. The crank 15 is then swung in a reverse direction to cause the shear-blades to move toward each other for severing the cable.

It will be understood that, when assembling the parts, the pinion is disposed midway between the upper and lower ends of the rows of teeth 12, the result being that when the shear-blades are completely separated to permit a cable to be inserted therebetween, one of the fan-shaped parts 11 will be elevated and the other part 11 will be moved downward, said arms moving reversely in arcs, the center of said arcs being the pivot-pin 9.

Numerals 16 indicate stop-lugs, and one of these lugs is secured to each fan-shaped part 11, on the outer side thereof near its upper edge, and in operation when a part 11 of a lever-arm has been swung downwardly a required distance, its lug 16 will engage a side-plate 6 of the frame, to prevent any further downward swinging movement thereof, and on account of this construction the teeth of the pinion will be maintained in engagement with the teeth 12 of the segmentally ar-

ranged teeth 12 of said fan-shaped parts 11 without any attention of an operator.

It will be noted that the shear-blades 10 are disposed outwardly of one of the ends of the frame 5, and that the lugs 16 are disposed in the vertical plane of the sideplates 6 of the frame, these features being of advantage in operation. The parts 11 of the lever-arms 7 and 8 are preferably of fan-shape for the purpose of providing a strong support for the rows of segmentally arranged teeth 12.

The inner flat faces x of the lever-arms 7 and 8, adjacent to their pivotal mounting, are of ample area. These faces x are in contact with each other at all times, and on account of the construction the lever-arms will be maintained parallel with each other, and the teeth 12 will be maintained in engagement with the teeth of the pinion.

I claim as my invention:—

In a cutting device for the purposes described, an upright rectangular frame, a rotatable wrist-pin journalled in the frame, a pinion carried by the wrist-pin, a pair of lever-arms pivotally mounted in the frame, each arm being provided outwardly of and closely adjacent to its pivotal mounting with a shear-blade, that part of each arm opposite to its shear-blade and pivotal mounting being of fan-shape and provided with segmentally arranged teeth in engagement with said pinion.

In testimony whereof, I have affixed my signature.

EUGENE D. SPOERRI.