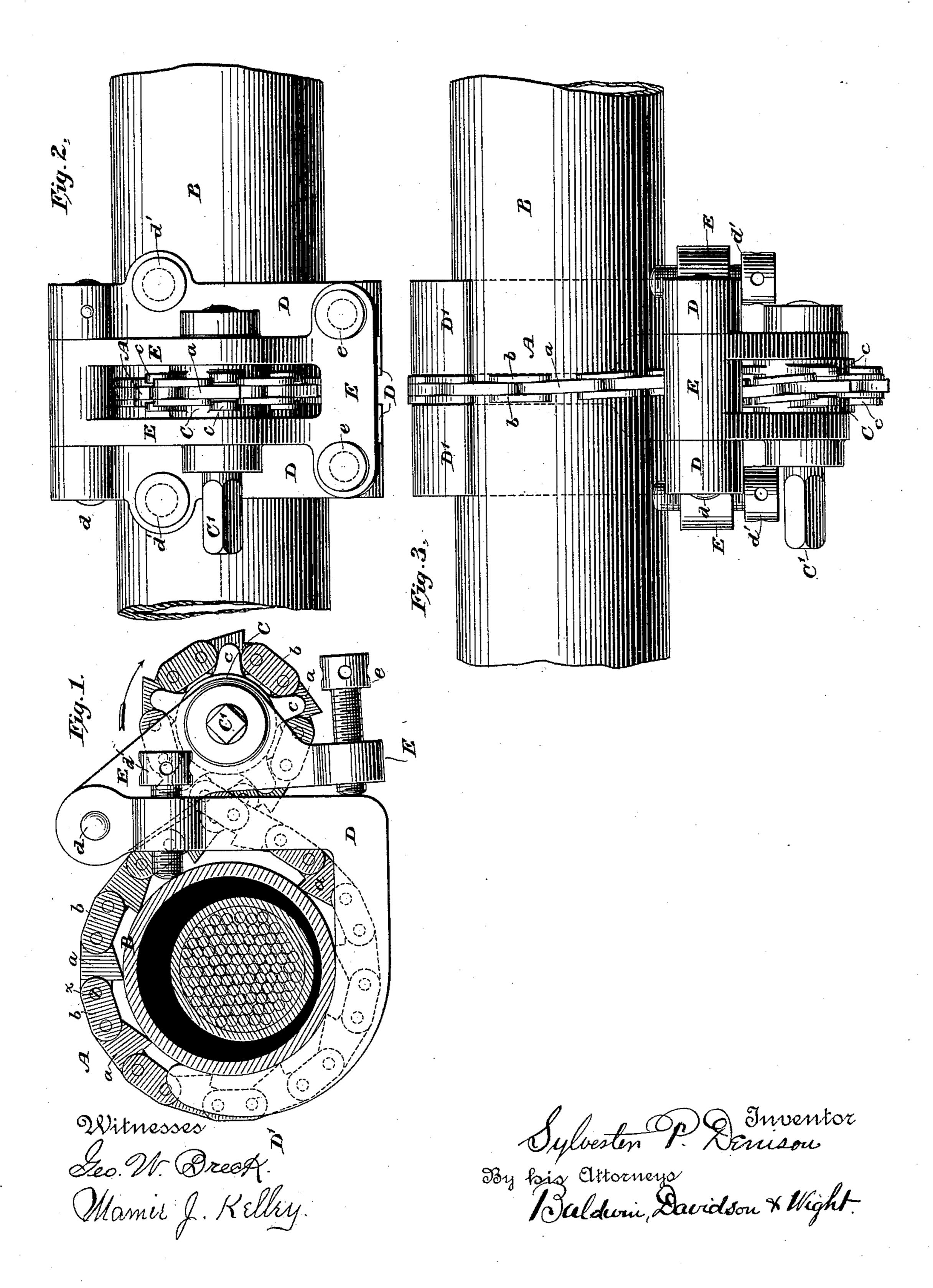
(No Model.)

## S. P. DENISON. APPARATUS FOR CUTTING PIPES.

No. 432,480.

Patented July 15, 1890.



## United States Patent Office.

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## APPARATUS FOR CUTTING PIPES.

SPECIFICATION forming part of Letters Patent No. 432,480, dated July 15, 1890.

Application filed August 10, 1889. Renewed June 23, 1890. Serial No. 356,317. (No model.)

To all whom it may concern:

Be it known that I, Sylvester P. Denison, of Brooklyn, county of Kings, and State of New York, have invented an Improved 5 Apparatus for Cutting Electrical Conduit-Pipes, of which the following is a specification.

The object of my invention is to provide for cutting a continuous pipe transversely without cutting through or into a cable lying 10 therein.

The apparatus is specially designed for use in connection with another apparatus shown and described in an application filed by me August 10, 1889, Serial No. 320,555, for cutting 15 longitudinal slits in pipes, the combined object of the two apparatuses being to cut out a section of a continuous pipe containing a cable of electrical conductors for the purpose of making lateral or house connections there-20 with without injuring the cable; but obviously the invention is not limited to such special use.

The subject-matter claimed is hereinafter

specified.

In the accompanying drawings, Figure 1 is 25 a side elevation showing the pipe and contained cable in section; Fig. 2, a side or end elevation from a different point of view, and Fig. 3 a plan view of the apparatus as shown in Figs. 1 and 2.

I employ an endless-chain cutter A, made up of a series of cutters a, connected by pairs of links b. At x the chain is separably joined by means of a screw-bolt to enable it to be passed around the pipe B and pulley C.

The frame D, as shown, consists of two parallel yokes having ends D', with curved faces embracing one side of the pipe, their opposite portions being arranged on the other side of the pipe and joined at the ends by a bolt 40 d. Between the ends of the yoke D the sprocket-pulley frame E is at one end hinged upon the bolt d and the opposite end carries two screw-adjusting bolts e, one bearing against each of the yokes D. By means of these bolts the swinging frame may be adjusted from and toward the yoke-frame D to tighten the cutter-chain that passes over the

sprocket-wheel C, having its bearing in the

swinging frame. The frame D is clamped to

The sprocket-teeth c on the wheel Cpass between the ends of adjoining pairs of the links b, connecting the cutters a. The endless-chain cutter is passed around the sprocket-pulley in a direction reverse to that 55 in which it is passed around the pipe, being crossed, as shown, and as a consequence the cutters which bear upon the pipe are turned outwardly on the sprocket-wheel. The shaft C' of the sprocket-pulley is squared, as shown, 60 to receive a key or crank for revolving it. The chain cutter travels, as will be seen, between the adjacent faces of the yokes D, which form a guide for it. The chain cutter, being separable at the point x, is applied 65 around the pipe and sprocket-wheel and its ends connected, as shown in the drawings. The yoke-frame D being clamped upon the pipe by means of the bolts d', the sprocketpulley frame is adjusted to give the required 70 tension to the chain cutter by means of the bolts e, and the sprocket-wheel is rotated by a key or crank applied to its squared end, and the cutters act upon the pipe. At proper times the bolts d' are loosened and the frame 75 shifted, so that the cutters may act uniformly upon all parts of the pipe.

Changes may of course be made in details of construction; but those shown are preferred.

I claim as my invention—

1. The combination, substantially as set forth, of the frame, securing devices, substantially such as described, for attaching it to a pipe, and an endless-chain cutter.

2. The combination, substantially as set 85 forth, of an endless-chain cutter, a wheel over which the chain of cutters passes, a frame in which the wheel is mounted and which is provided with opposite side pieces, between which a pipe may be clamped, and clamping de- 90 vices, substantially such as described, adapted to clamp a pipe between the opposite side pieces.

3. The combination, substantially as set forth, of a frame, devices, substantially such 95 as described, for connecting it with a pipe, a rotatable sprocket-pulley mounted in an adjustable bearing, and an endless-chain cutter that passes around the pipe and sprocket-50 the pipe by screw-bolts d' working in the two pulley.

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4. The combination, substantially as set forth, of the parallel yokes adapted to embrace a pipe, an endless-chain cutter traveling between said yokes, a rotatable sprocket pulley, around which the chain cutter passes, and an adjustable swinging frame, in which the pulley is mounted, hinged to the yokes.

forth, of a frame D, adapted to embrace a pipe, the sprocket-pulley, and the endless-

chain cutter crossed and passing around the pulley in a reverse direction to the direction in which it passes around the pipe.

In testimony whereof I have hereunto subscribed my name.

SYLVESTER P. DENISON.

Witnesses:

EDWARD C. DAVIDSON,

MAMIE J. KELLEY.