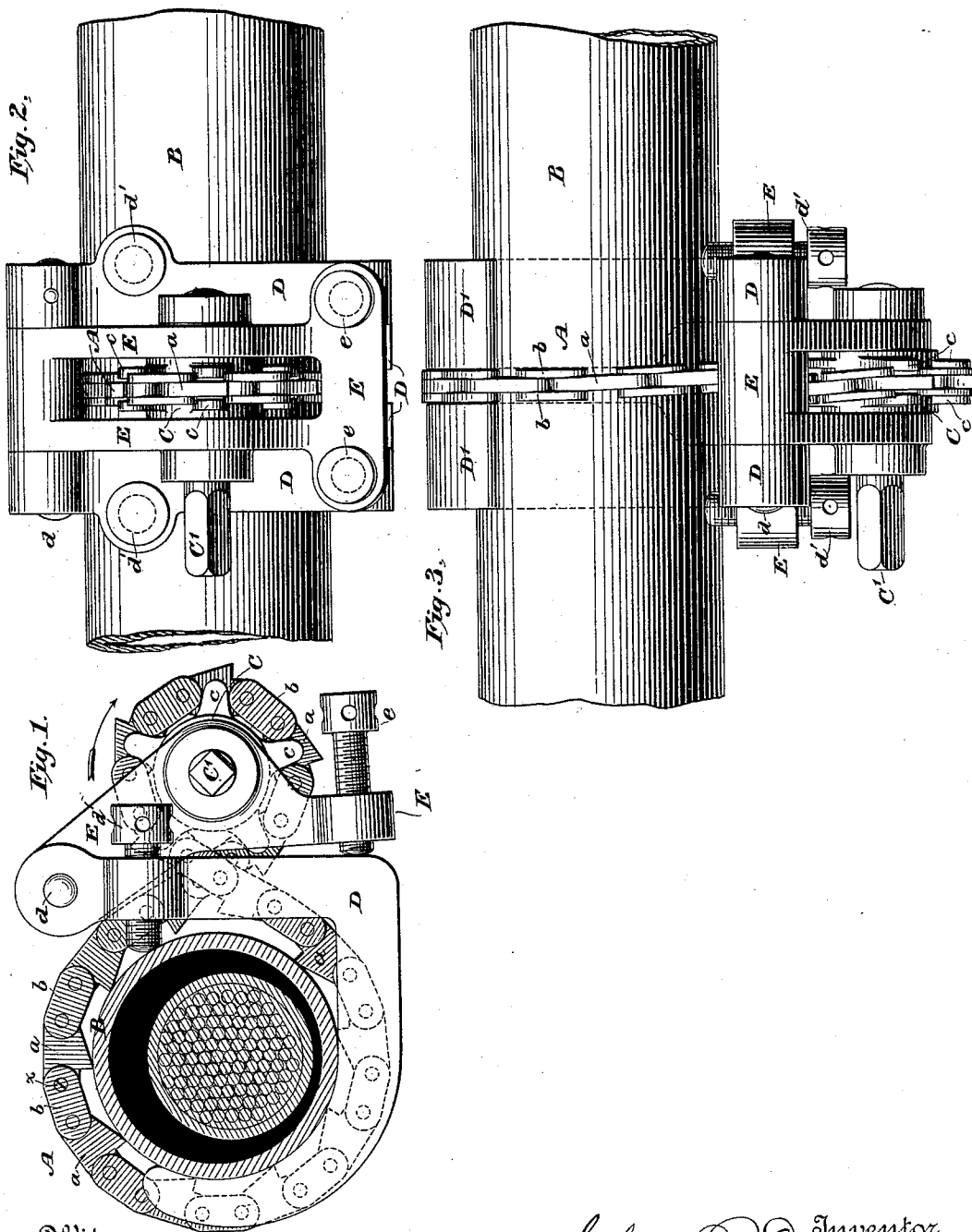


(No Model.)

S. P. DENISON.
APPARATUS FOR CUTTING PIPES.

No. 432,480.

Patented July 15, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

SYLVESTER P. DENISON, OF BROOKLYN, NEW YORK, ASSIGNOR TO GEORGE R. THOMPSON, OF PHILADELPHIA, PENNSYLVANIA.

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 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
30 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
35 *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 ad-
40 justed 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
50 the pipe by screw-bolts *d'* working in the two

yokes. The sprocket-teeth *c* on the wheel C pass 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 sprocket-pulley 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
75 times the bolts *d'* are loosened and the frame 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 sidepieces, between which a pipe may be clamped, and clamping de-
90 vices, substantially such as described, adapted to clamp a pipe between the opposite sidepieces.

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-pulley.

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.

5. The combination, substantially as set 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:

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