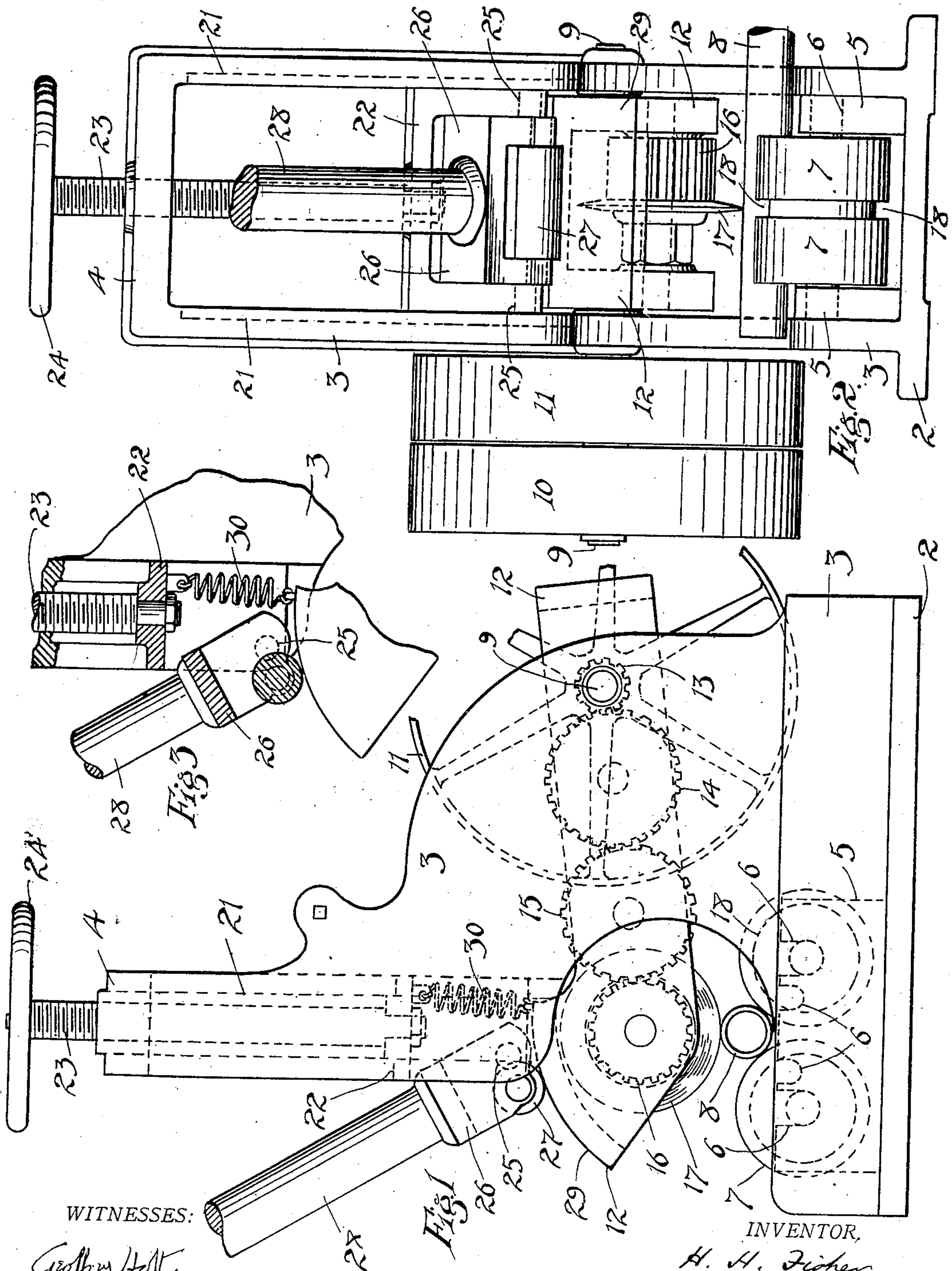


No. 891,156.

PATENTED JUNE 16, 1908.

H. H. FISHER.  
PIPE CUTTING MACHINE.  
APPLICATION FILED DEC. 16, 1907.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HERBERT H. FISHER, OF SAN FRANCISCO, CALIFORNIA.

## PIPE-CUTTING MACHINE.

No. 891,156.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed December 16, 1907. Serial No. 406,812.

*To all whom it may concern:*

Be it known that I, HERBERT H. FISHER, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Pipe-Cutting Machines, of which the following is a specification.

The object of the present invention is to provide a pipe cutting machine which will be simple in construction, and convenient, rapid, and easy of operation.

In the accompanying drawing, Figure 1 is a side view of the machine, the handle being broken away; Fig. 2 is a front view of the same; Fig. 3 is a detail sectional view of a part thereof.

Referring to the drawing, the main or stationary frame of the machine has a base 2, sides 3, and a top 4. Between the sides and upon the base are plates 5 having open-topped bearings 6 for supporting rollers 7, adapted to support the pipe 8, to be cut. Two sets of bearings 6 are here shown, which may be used interchangeably, one for large rollers, such as herein shown, and the other set for smaller rollers, when required.

9 indicates a main shaft, carrying fast and loose pulleys 10, 11, and having pivotally mounted thereon a swinging frame 12 which can thus swing upon said shaft 9 between the sides 3 of the frame of the machine. Secured upon said main shaft within said swinging frame is a pinion 13, which meshes with a gear wheel 14, which meshes with a second gear wheel 15, which in turn meshes with a third gear wheel 16, all of said gear wheels 14, 15, 16, being mounted on shafts journaled in said swinging frame, so that any movement of the swinging frame upon the main shaft does not affect the operative relation of the train of gear wheels. Secured to the last named gear wheel 16 is a rotary cutter 17, which rotates over grooves 18 formed in the rollers 7.

It will be seen that by the above construction the cutter disk will receive the proper rotary motion from the main shaft, whatever be the angular position of the swinging frame.

The inner surfaces of the sides 3 are grooved to form side guides 21 for a traveling yoke-shaped carrier 22, said carrier 22 being movable vertically by means of a screw 23 screwed through the top of the frame and having a handle 24 by which it can be so screwed. In said sliding carrier is pivoted,

as shown at 25, a second yoke-shaped frame 26, which carries an anti-friction roller 27, and has attached thereto a lever arm 28. The free end of the swinging frame 12 is formed with a curved upper surface 29 upon which said roller can bear down to depress said frame 12, and thereby to force the edge of the cutter disk into the pipe. Said carrier 22 and swinging frame 12 are connected by a spring 30, which serves two purposes, to raise the swinging frame with the carrier, and to restore the lever arm 28 to its normal position when not in use.

The operation of the device will be readily understood from the foregoing description. The pipe having been placed in position upon the rollers 7, and the swinging frame having, by means of the screw 23, the motion of which is transmitted through the roller frame 26 to said yoke 12, been depressed until the edge of the cutter disk is in contact with said pipe, the operator then pulls down the lever 28. Because the pivot of the roller is very near to the pivot of the roller frame 26 in the traveling carrier 22, the force thus exerted by the operator, when transmitted to the roller, is so greatly increased, that a comparatively small amount of force applied to said lever arm is sufficient to cut the pipe. Upon releasing the lever the parts immediately assume their position in readiness for the next operation.

I claim:—

1. A pipe cutting machine comprising a cutter disk, a swinging frame therefor, a train of gears carried by said frame for operating said cutter disk, a vertically movable frame, a lever pivotally secured to said latter frame, and a roller carried by said lever and adapted to engage said swinging frame, substantially as described.

2. A pipe cutting machine comprising a cutter disk, a swinging frame therefor, a train of gears carried by said frame for operating said cutter disk, a vertically movable frame, a lever pivotally secured to said latter frame, a roller carried by said lever and adapted to engage said swinging frame, and a spring connecting said lever and swinging frame, substantially as described.

3. In a pipe cutting machine, the combination of a stationary frame provided with means for supporting a pipe, a shaft, a frame swinging on said shaft, a cutter disk pivotally supported by said frame, gearing operatively connecting said cutter disk with said



shaft, the stationary frame having vertical guideways, a carrier vertically movable in said guideways, a vertically movable screw, for depressing said carrier, a pressure frame 5 pivotally mounted in said carrier, a lever connected thereto, a device carried by said pressure frame, adjacent to the pivot of the lever and adapted to bear upon the free end of the swinging frame, and a spring connected 10 at one end to said latter frame, and at the other end to a part movable with the carrier, to raise said swinging frame to said carrier, substantially as described.

4. In a pipe cutting machine, the combination of a suitable stationary frame provided with means for supporting a pipe, a shaft, a frame swinging on said shaft, a cutter disk pivotally supported by said frame, a train of gears, operatively connecting said 20 cutter disk with said shaft, the stationary frame having vertical guideways, a carrier movable in said guideways, a screw for depressing said carrier a yoke-shaped roller frame pivotally mounted in said carrier, a 25 lever attached thereto, a roller pivoted in said roller frame, and adapted to bear upon the free end of the swinging frame, and a spring connected at one end to said latter

frame and at the other end to a part movable with the carrier, to raise said swinging frame to said carrier, substantially as described. 30

5. In a pipe cutting machine, the combination of a suitable stationary frame provided with means for supporting a pipe, a shaft, a frame swinging on said shaft, a cutter disk pivotally supported by said frame, a train of gears, operatively connecting said cutter disk with said shaft, the stationary frame having vertical guideways, a carrier 40 movable in said guideways, a screw for depressing said carrier a yoke-shaped roller frame pivotally mounted in said carrier, a lever attached thereto, a roller pivoted in said roller frame, and adapted to bear upon 45 the free end of the swinging frame, and a spring connected at one end to said latter frame and at the other end to the roller frame, substantially as described.

In testimony whereof I have hereunto set 50 my hand in the presence of two subscribing witnesses.

HERBERT H. FISHER.

Witnesses:

FRANCIS M. WRIGHT,  
D. B. RICHARDS.