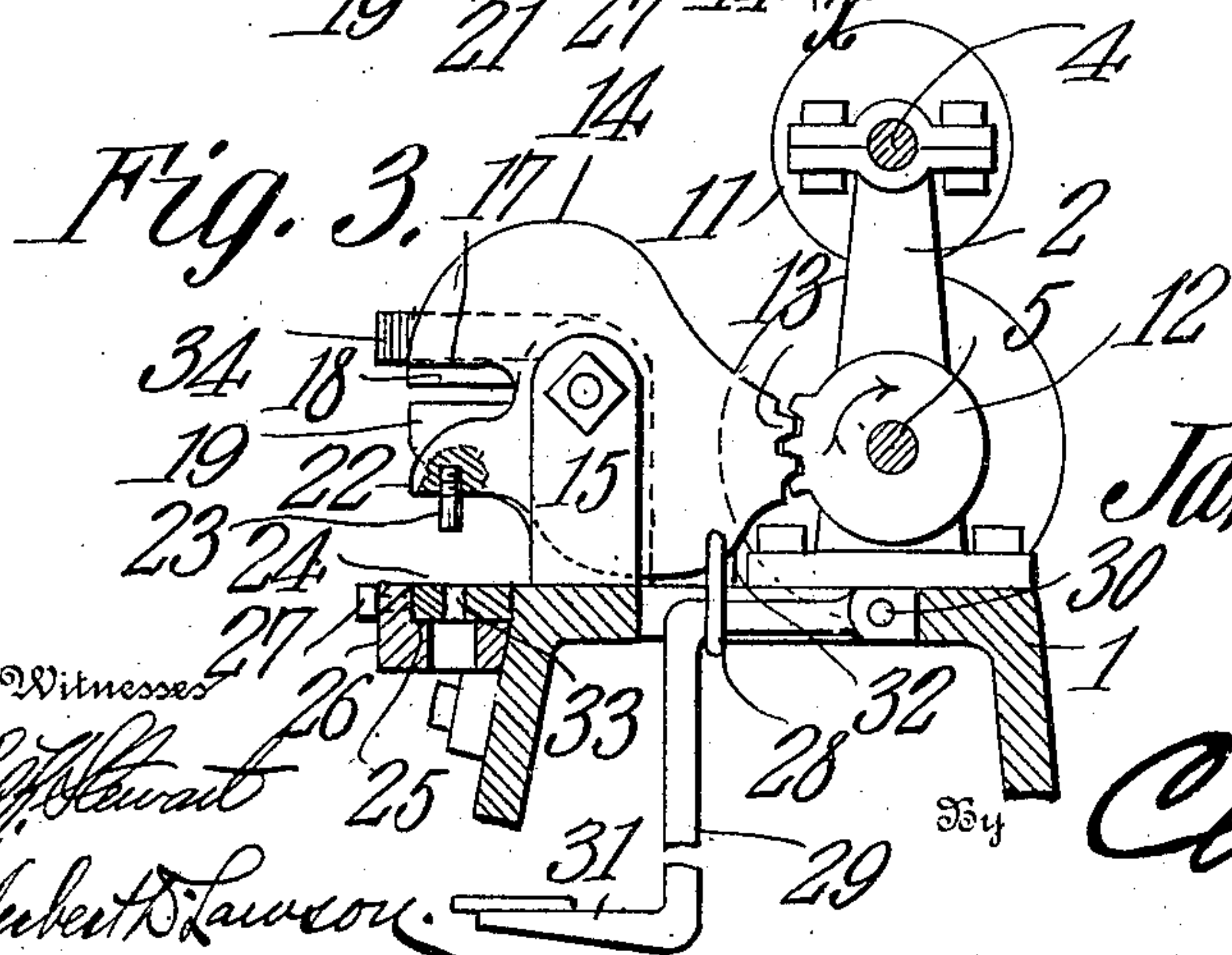
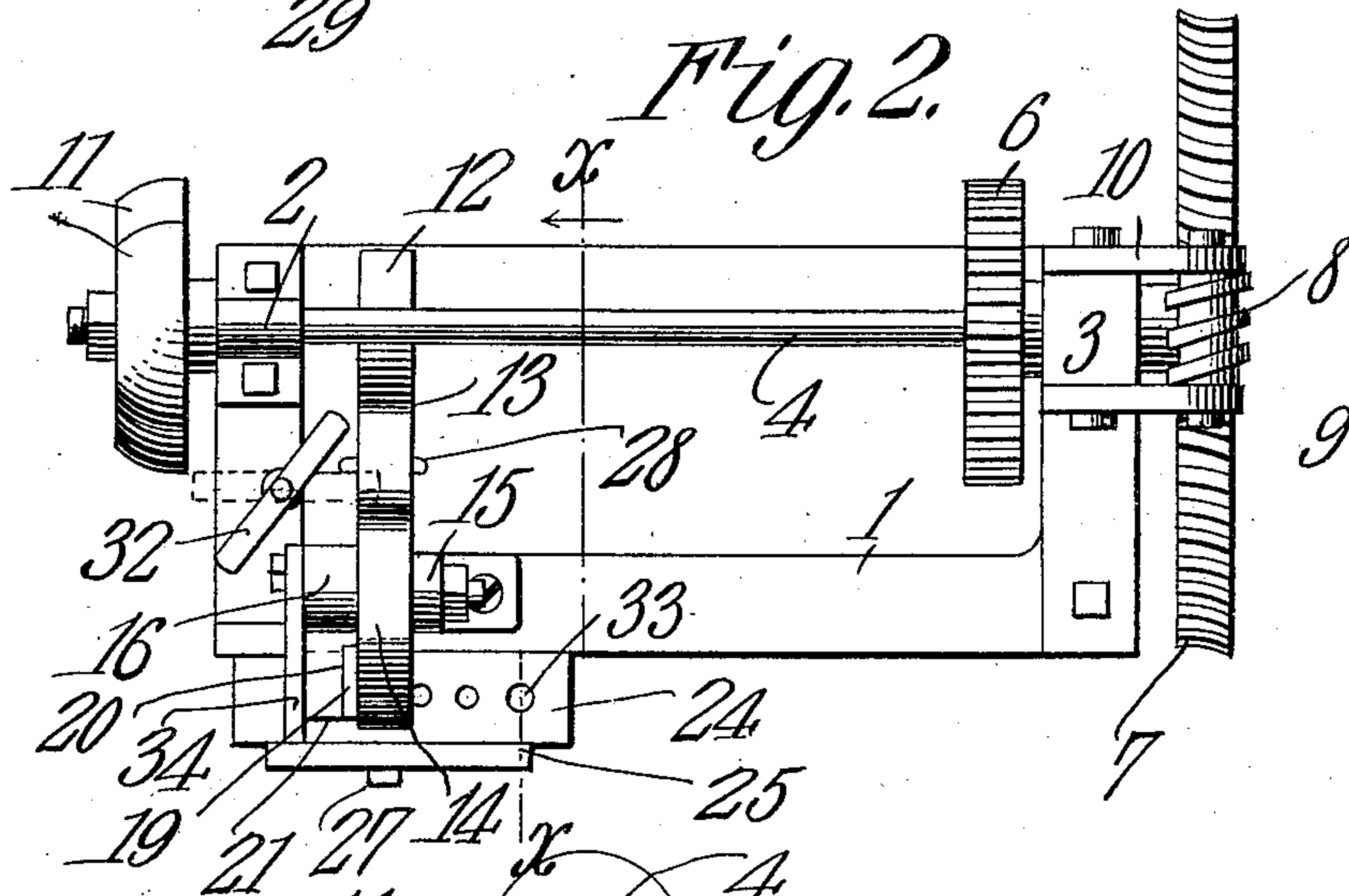
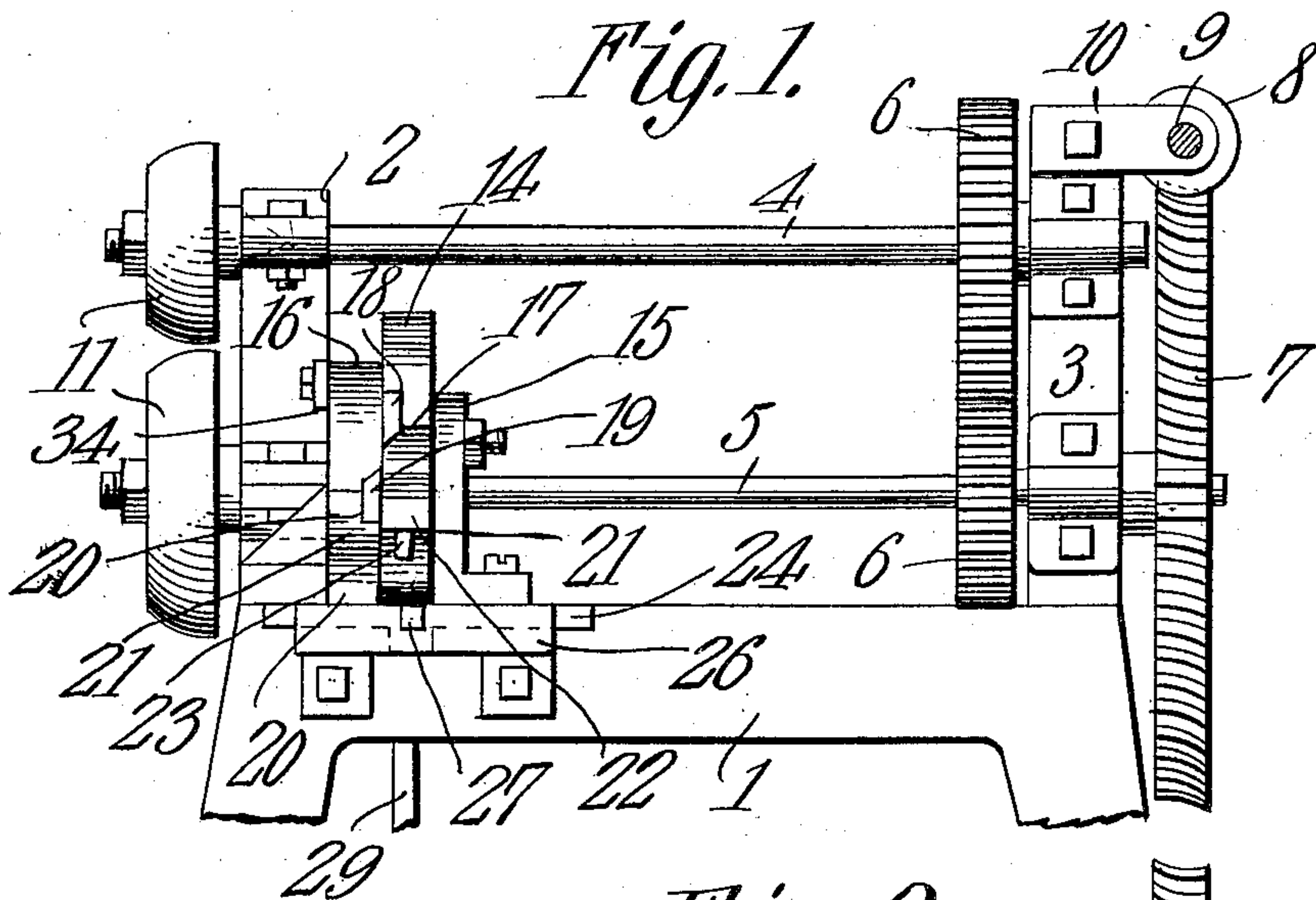


No. 878,048.

PATENTED FEB. 4, 1908.

J. I. DEPEW.
SHEARING AND PUNCHING MECHANISM.

APPLICATION FILED AUG. 5, 1907.



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UNITED STATES PATENT OFFICE.

JAMES I. DEPEW, OF LOUP CITY, NEBRASKA.

SHEARING AND PUNCHING MECHANISM.

No. 878,048.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed August 5, 1907. Serial No. 387,131.

To all whom it may concern:

Be it known that I, JAMES I. DEPEW, a citizen of the United States, residing at Loup City, in the county of Sherman and State of Nebraska, have invented a new and useful Shearing and Punching Mechanism, of which the following is a specification.

This invention relates to shearing and punching mechanism and is particularly designed for use in connection with the mechanism described and claimed in Patent No. 806,244, granted to me on December 5, 1905.

The object of the invention is to provide simple and efficient mechanism for cutting metal and the like, said mechanism having means whereby it can be quickly placed in operative relation with the driving mechanism of the machine.

Another object is to provide punching means also designed to be operated by the same mechanism, said punching and shearing mechanism working in unison.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a front elevation of the machine, a portion of the supporting frame being removed. Fig. 2 is a plan view. Fig. 3 is a section on line $x-x$, Fig. 2.

Referring to the figures by characters of reference, 1 designates a supporting frame on which are arranged standards 2 and 3. Journaled within these standards are upper and lower shafts 4 and 5 each of which has a gear 6 and the two gears mesh so that motion may be transmitted from one shaft to the other therethrough. A large worm gear 7 is connected to one end of the shaft 5 and is engaged by a worm 8 located upon a drive shaft 9 which is journaled in brackets 10 extending through the standards 3. Disk grinding wheels or rollers 11 or other suitable devices may be fastened to the shafts 4 and 5 at their other ends.

The parts heretofore described constitute no part of the present invention but merely features of the construction disclosed in the patent heretofore mentioned.

The present invention consists of combined punching and shearing apparatus designed to be used with said mechanism. This appara-

tus consists of a mutilated gear 12 keyed or otherwise secured to the shaft 5 and this gear is designed to mesh with teeth 13 extending from the rear end of a jaw 14 pivotally mounted between standards 15 and 16 which extend upward from the frame 1. This jaw has a recess 17 in one face thereof and within which is secured a blade 18 designed to cooperate with a corresponding blade 19 secured within a recess 20 in a stationary jaw 21 extending forward from the standard 16. A lip 22 extends from the jaw 14 and below blade 18 and extending downward from this lip is a punching die 23 designed to cooperate with a die plate 24. This blade is adjustably mounted within a recess 25 formed in a bed 26 secured to the frame 1 and a set screw 27 or other device may be employed for locking the die plate in any position to which it may be adjusted.

A loop 28 is connected to jaw 14 near the teeth 13 and extending through this loop is an L-shaped lever 29 pivoted as at 30 to frame 1 and having a forwardly extending treadle 31 at its lower end. This lever and treadle are for the purpose hereinafter set forth. A locking strip 32 is pivotally mounted on the frame 1 and is designed to swing under jaw 14 to hold it out of operative position.

When it is desired to use the machine strictly for grinding purposes the gear 12, which rotates in the direction of the arrow in Fig. 3, will raise the toothed end of the jaw 14 whereupon the strip 32 can be swung under the jaw so as to prevent it from swinging downward into engagement with gear 12. The two shafts 4 and 5 can then be rotated without operating the shearing and punching mechanism. When it is desired to operate the shears the strip 32 is swung out of engagement with jaw 14 and treadle 31 is pushed downward so as to bring the teeth 13 into the path of the teeth of gear 12. Said gear will therefore swing the jaw while the teeth are in mesh and cause the blades 18 and 19 to cut the material placed therebetween. After the cutting operation has taken place the jaw 14 can be brought downward so that the teeth 13 will again be engaged by gear 12, treadle 31 being employed for this purpose. For punching metal or the like the same operation is carried out with the exception of course that the material to be punched is placed between the die 23 and plate 24. As shown in Fig. 2 the die plate is

preferably provided with openings of different sizes such as indicated at 33. The punching die 23 is preferably detachably connected to lip 22 in any suitable manner
5 as by screwing it thereinto. In order that the metal or other material while being cut may be prevented from buckling a retaining strip 34 is preferably bolted or otherwise fastened to the standard 16 and is designed
10 to extend over the material being cut and prevent it from swinging upward while the blades 18 and 19 are cutting into the material.

What is claimed is:

1. In a machine of the character described
15 the combination with a fixed jaw and a pivoted jaw cooperating therewith; of revoluble means for actuating the pivoted jaw in one direction, and manually operated means for shifting the jaw into engagement
20 with the revoluble means.

2. In a machine of the character described the combination with a fixed jaw and a pivoted jaw; of revoluble means for actuating the jaw in one direction, manually operated means for shifting the jaw into en-
25 gagement with said revoluble means, and means for locking the jaw out of engagement with the revoluble means.

3. In a machine of the character described
30 the combination with a pivoted member and teeth upon said member; of a revoluble mutilated gear disposed to mesh with and shift said member in one direction during the rotation of the gear, and means for shifting
35 said member into engagement with the gear.

4. In a machine of the character described the combination with a pivoted member, and means for supporting material in the path of said member to be operated upon thereby; of a revoluble actuating element disposed to
40 intermittently engage the pivoted member and shift it in one direction, and manually operated means for shifting said member in the opposite direction.

5. In a machine of the character described
45 the combination with a pivoted member, and means for supporting material in the path of said member to be operated upon thereby; of a revoluble actuating element disposed to intermittently engage the pivoted member
50 and shift it in one direction, manually operated means for shifting said member in the opposite direction, and means for locking said member against movement in one direction.
55

6. In a machine of the character described the combination with a pivotally supported combined punch and shear and teeth extending therefrom; of a revoluble mutilated
60 gear disposed to mesh with said teeth once during each rotation of the gear, and means for shifting said teeth into engagement with the gear.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature
65 in the presence of two witnesses.

JAMES I. DEPEW.

Witnesses:

EUGENE HENRY,
R. H. MATHEW.