

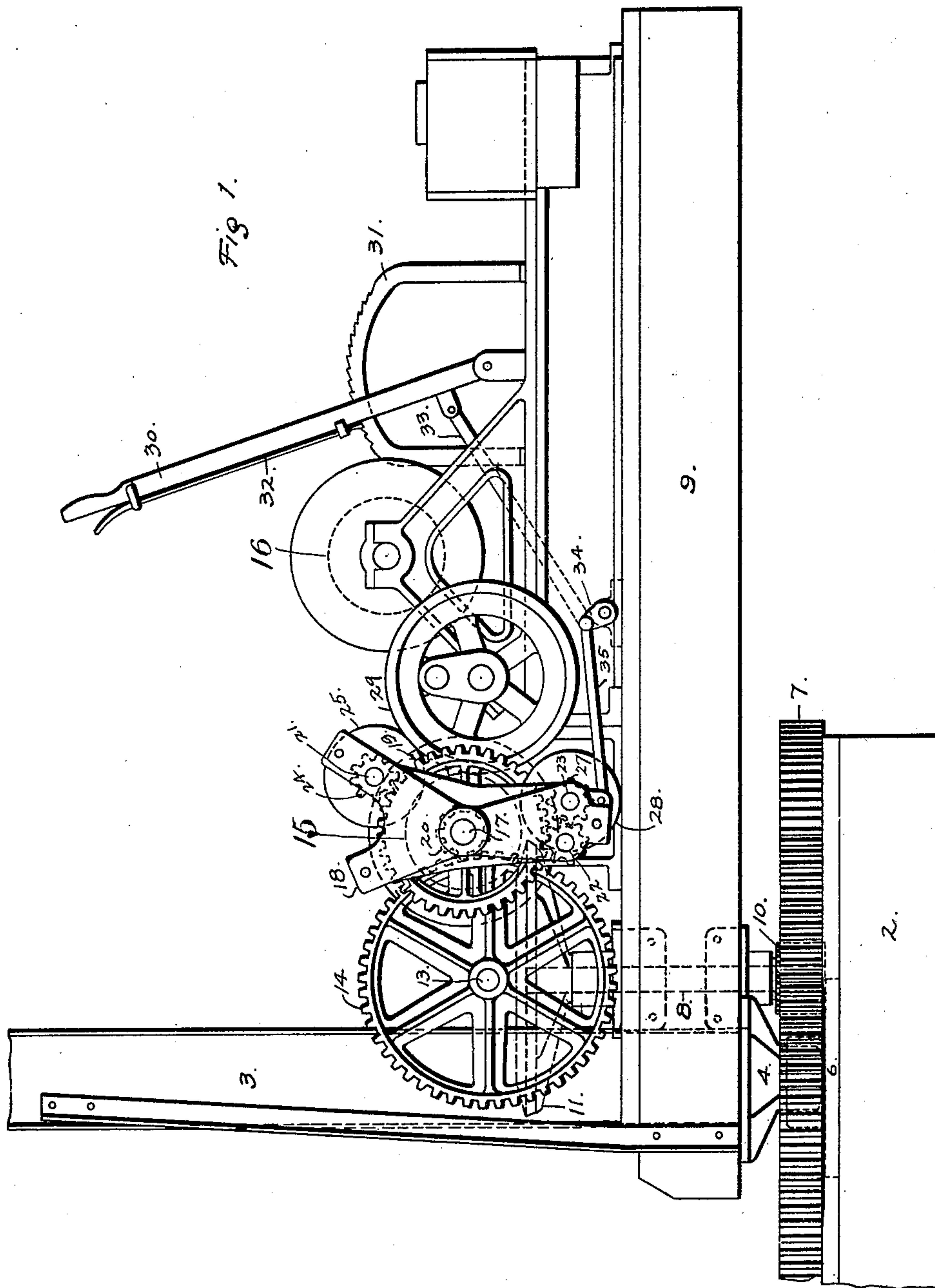
No. 706,027.

Patented Aug. 5, 1902.

O. CROSBY.
REVERSING MECHANISM.
(Application filed Sept. 23, 1897.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

H. S. Johnson
Thomas L. Thauwald

INVENTOR

Oliver Crosby

BY

V. D. Mesum

ATTORNEY

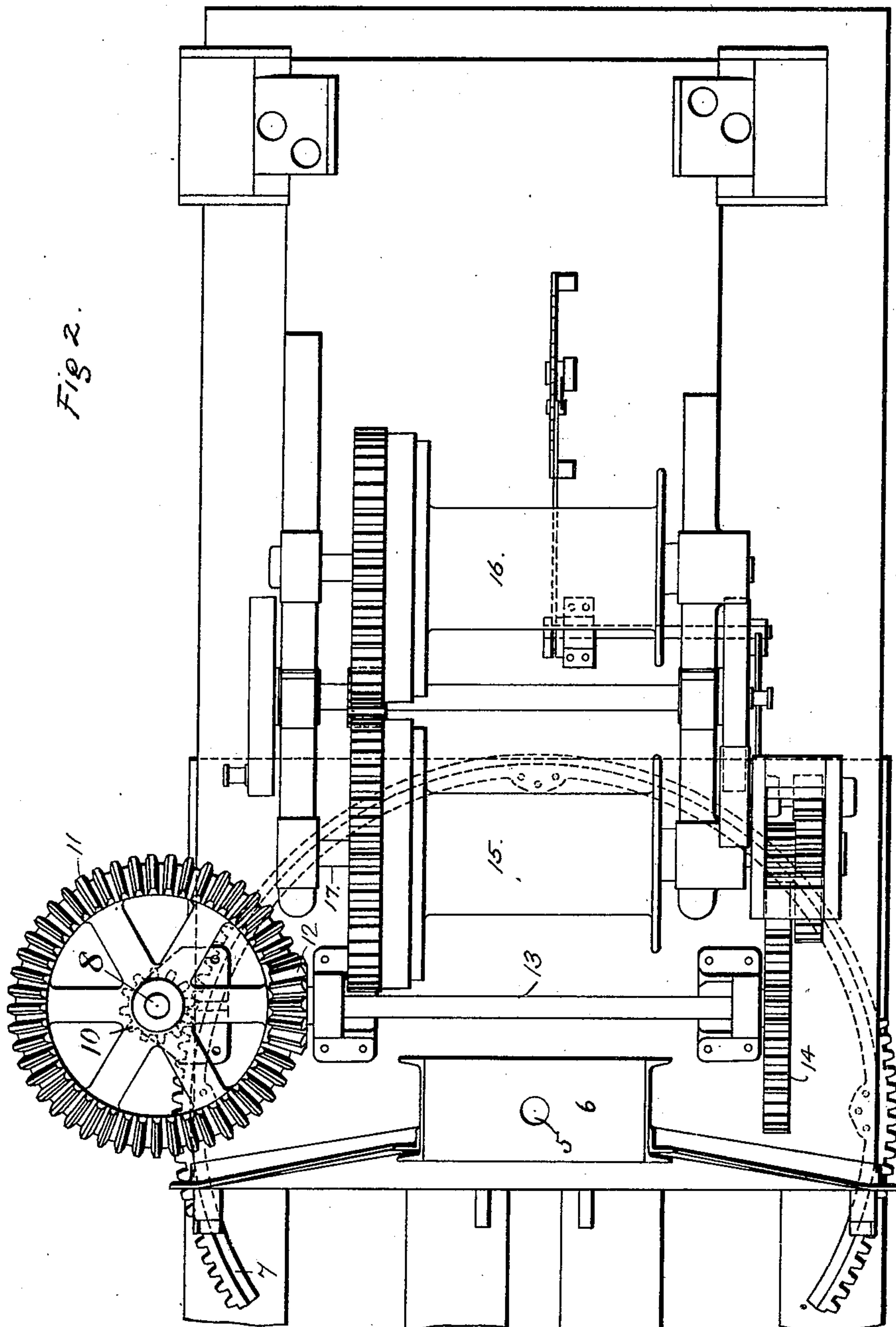
No. 706,027.

Patented Aug. 5, 1902.

O. CROSBY.
REVERSING MECHANISM.
(Application filed Sept. 23, 1897.)

(No Model.)

3 Sheets—Sheet 2.



WITNESSES:

H. S. Johnson
Henry L. Thawald

INVENTOR

Oliver Crosby

BY

T. J. Merwin

ATTORNEY

No. 706,027.

Patented Aug. 5, 1902.

O. CROSBY.
REVERSING MECHANISM.

(Application filed Sept. 23, 1897.)

(No Model.)

Fig. 4.

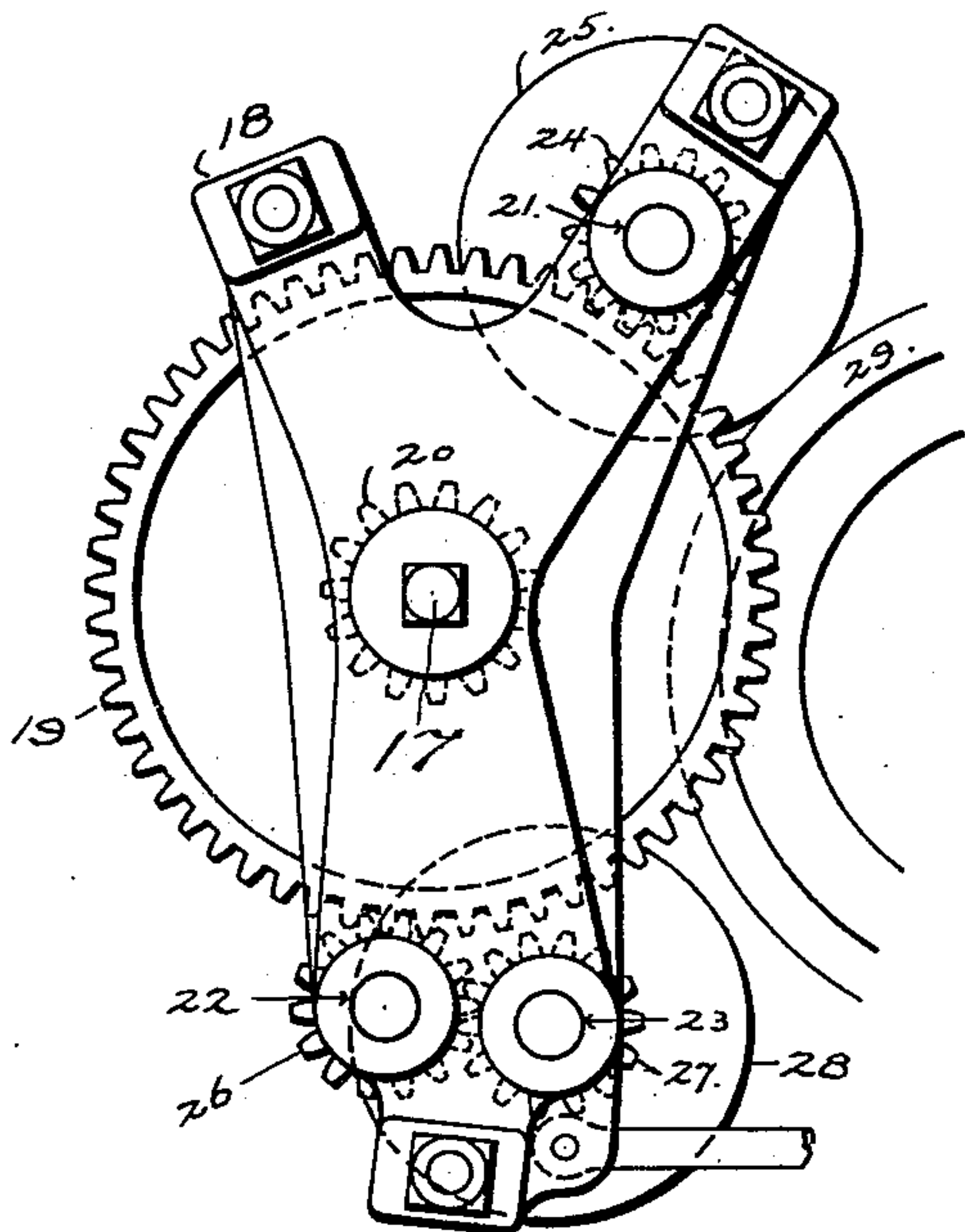


Fig. 3. 3 Sheets—Sheet 3.

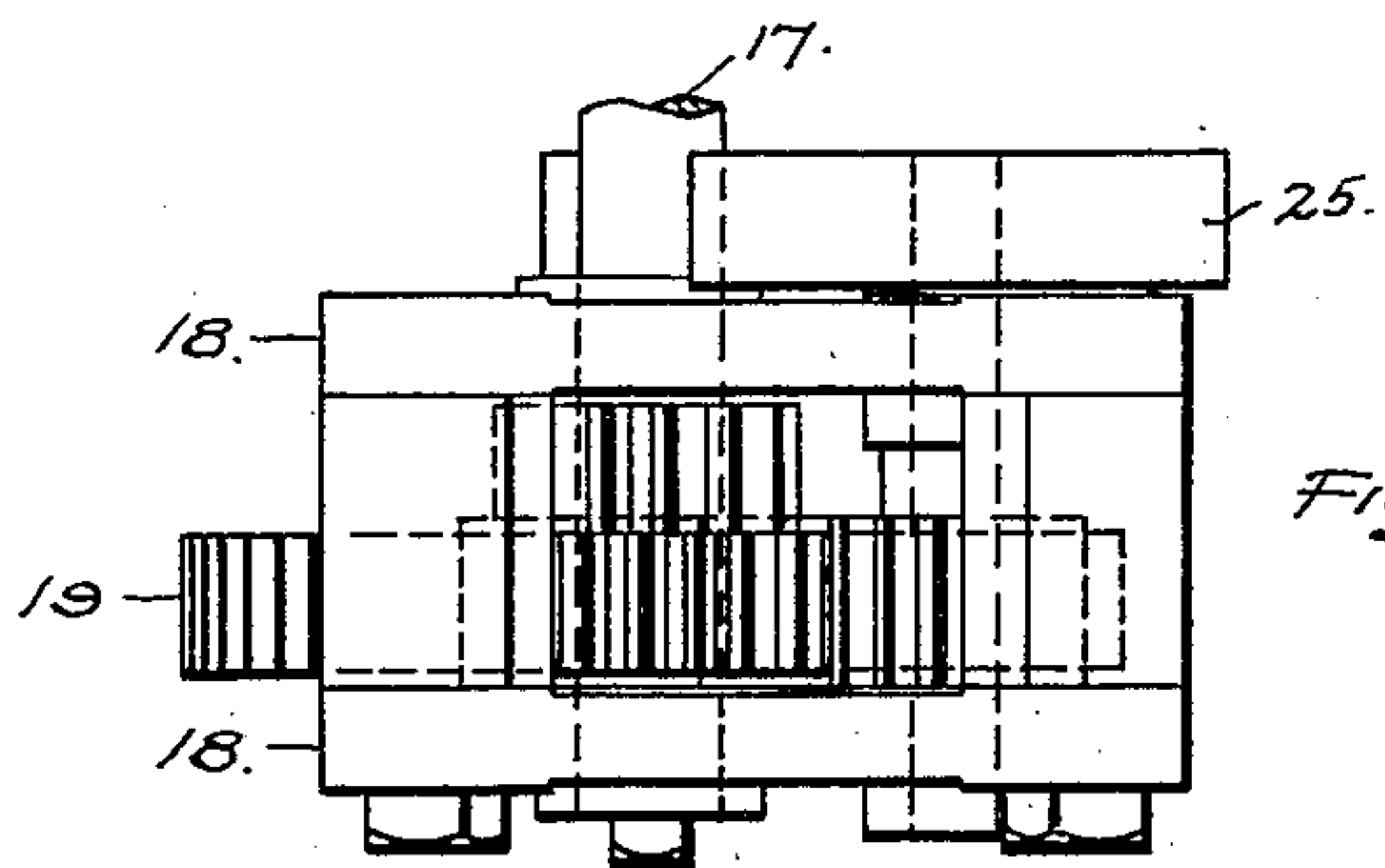
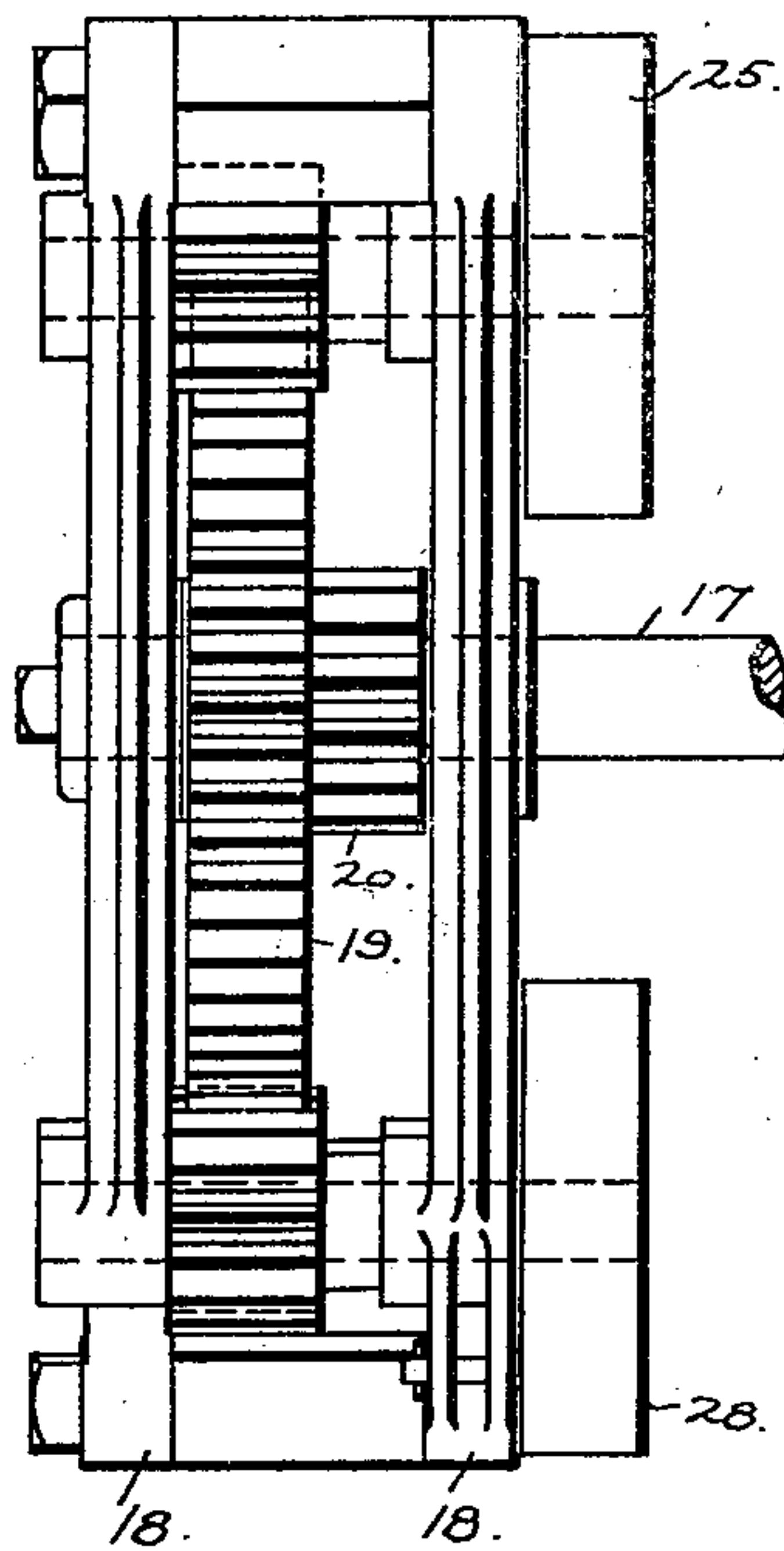


Fig. 5.

WITNESSES:

H. S. Johnson
Myron L. Phauwald

INVENTOR.

Oliver Crosby

BY

T. S. Mearns

ATTORNEY

UNITED STATES PATENT OFFICE.

OLIVER CROSBY, OF ST. PAUL, MINNESOTA.

REVERSING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 706,027, dated August 5, 1902.

Application filed September 23, 1897. Serial No. 652,684. (No model.)

To all whom it may concern:

Be it known that I, OLIVER CROSBY, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Reversing Mechanisms, of which the following is a specification.

My invention relates to improvements in reversing mechanisms, its object being to provide means for reversing the rotation of the mast of a derrick or other normally continuously-operated part; and it consists in the features of construction hereinafter more particularly described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of my improvement shown attached to an ordinary hoisting-engine and derrick-mast. Fig. 2 is a plan view of the same. Fig. 3 is a detail plan view of the reversing-gear. Fig. 4 is a detail side elevation of the same, and Fig. 5 is a detail end elevation of the same.

In the drawings, 2 represents the base or bed upon which the structure is mounted; 3, the derrick-mast, having a foot 4 fitted with a pivot turning in the hole 5 of the block 6, anchored upon the base 2. Also secured rigidly upon the base 2 is the bull-gear 7. The vertical shaft 8 has suitable journal-support upon the platform 9, carried by the derrick, the shaft being provided with a pinion 10, meshing with the gear 7, and the top of the shaft being fitted with the bevel-gear 11, which meshes with a pinion 12, carried by the counter-shaft 13. The other end of this shaft carries a gear 14. Also mounted upon the platform 9 are the hoisting-drums 15 and 16. Upon the shaft 17 of the hoisting-drum 15 is mounted the double frame 18, which oscillates upon the shaft in the operation of the mechanism. Also mounted loosely upon the shaft 17, within the frame 18, is the gear 19, to which is rigidly connected the pinion 20, meshing with the gear 14 upon the counter-shaft 13. Also journaled in the frame 18 are the shafts 21, 22, and 23. Upon the shaft 21 is the pinion 24, meshing with the gear 19, and the shaft 21 also carries the friction-wheel 25. Upon the shaft 22 is mounted the pinion 26, meshing with the gear 19 and also with the pinion 27, mounted upon the shaft 23. Also secured upon the shaft 23 is the

friction-wheel 28. 29 is one of the crank-disks of an ordinary hoisting-engine, with the periphery of which the friction-wheels 25 and 28 are brought alternately into bearing contact by means of the mechanism hereinafter described, whereby motion of the crank-disk in one direction may be employed to impart reverse motion at will to the foregoing-described gear.

30 is the reversing-lever, provided with the ordinary quadrant 31 and catch 32. To this lever is connected the reach-rod 33, which runs to the rocker arm or crank 34, with which also is connected the reach-rod 35, the other end of which is connected to the oscillating frame 18. It will thus be seen that when the crank-disk 29 is being driven by its engine in one direction by throwing the lever 30 backward or toward the mast the disk 25 is brought into bearing contact with the crank-disk and motion thereby transmitted through the connected gear to the bull-gear 7 and the mast, with its platform 9 rotated in one direction. By throwing the lever 30 forward or to the right a reverse motion is given to the derrick and its platform.

I claim—

1. In combination the driven and driving parts, the interposed oscillating frame having radial arms, a pair of friction-wheels carried one by each of said arms, pinions carried by said friction-wheels and a gear arranged between said pinions, as and for the purpose set forth.

2. In combination, the driven and driving parts, an interposed frame adapted to oscillate upon a central shaft, friction-wheels mounted on the opposite ends of said frame, and adapted to be engaged by the driving part, a gear loosely mounted on said shaft, a pinion actuated by one of said friction-wheels and intermeshing with said gear, and a pair of pinions actuated by the other friction-wheels and similarly engaging with said gear, and an operative connection between said gear and the part to be driven.

In testimony whereof I affix my signature in presence of two witnesses.

OLIVER CROSBY.

Witnesses:

H. S. JOHNSON,

MINNIE L. THAUWALD.