

(No Model.)

C. A. CLAYPOOL.  
FEED GRINDER.

No. 444,742.

Patented Jan. 13, 1891.

Fig. 1.

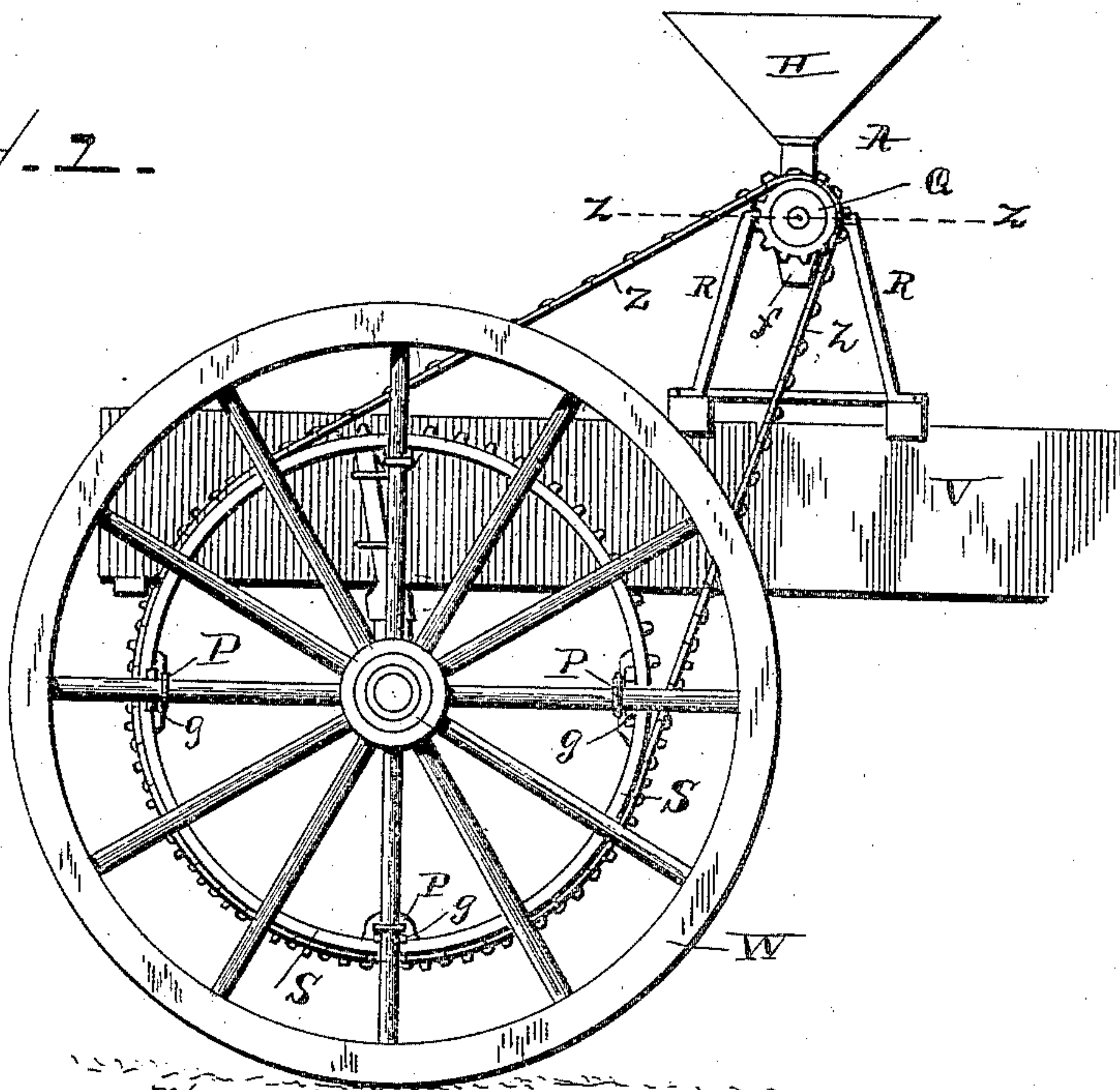


Fig. 2.

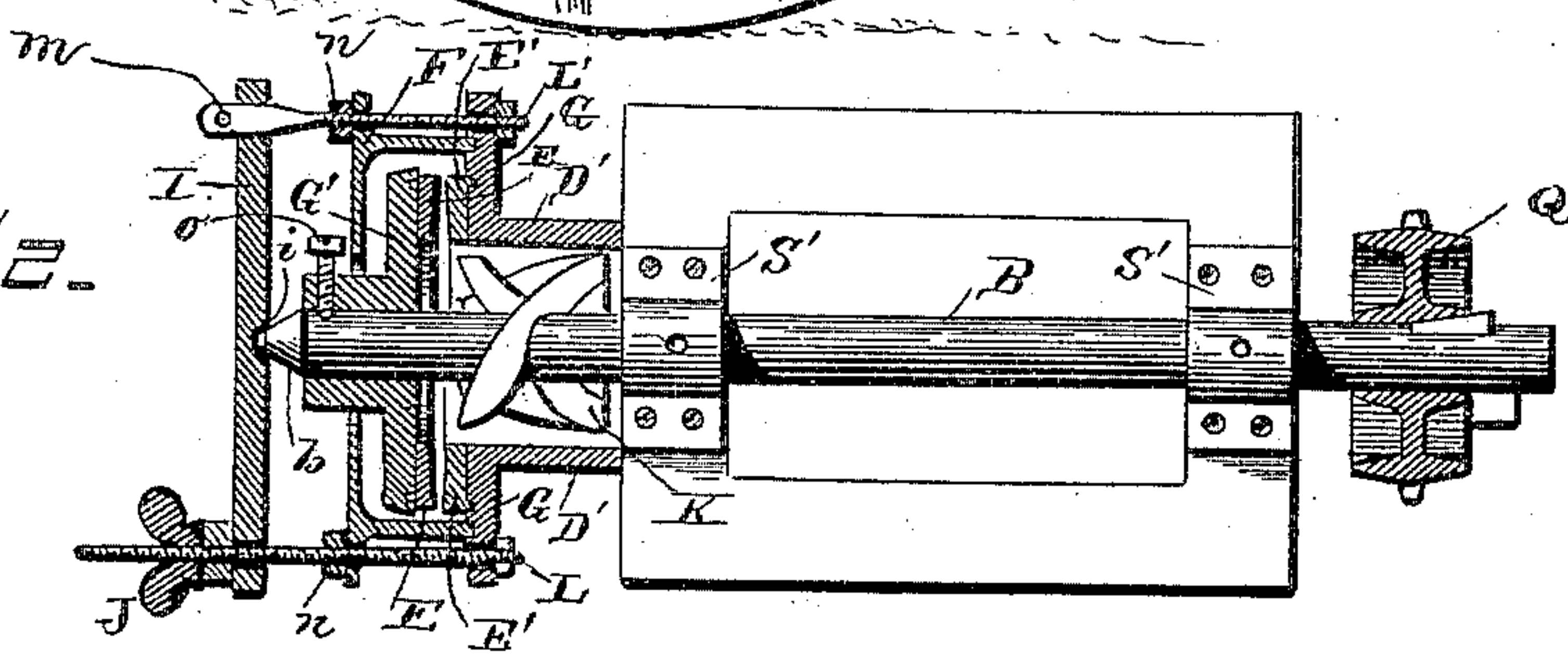
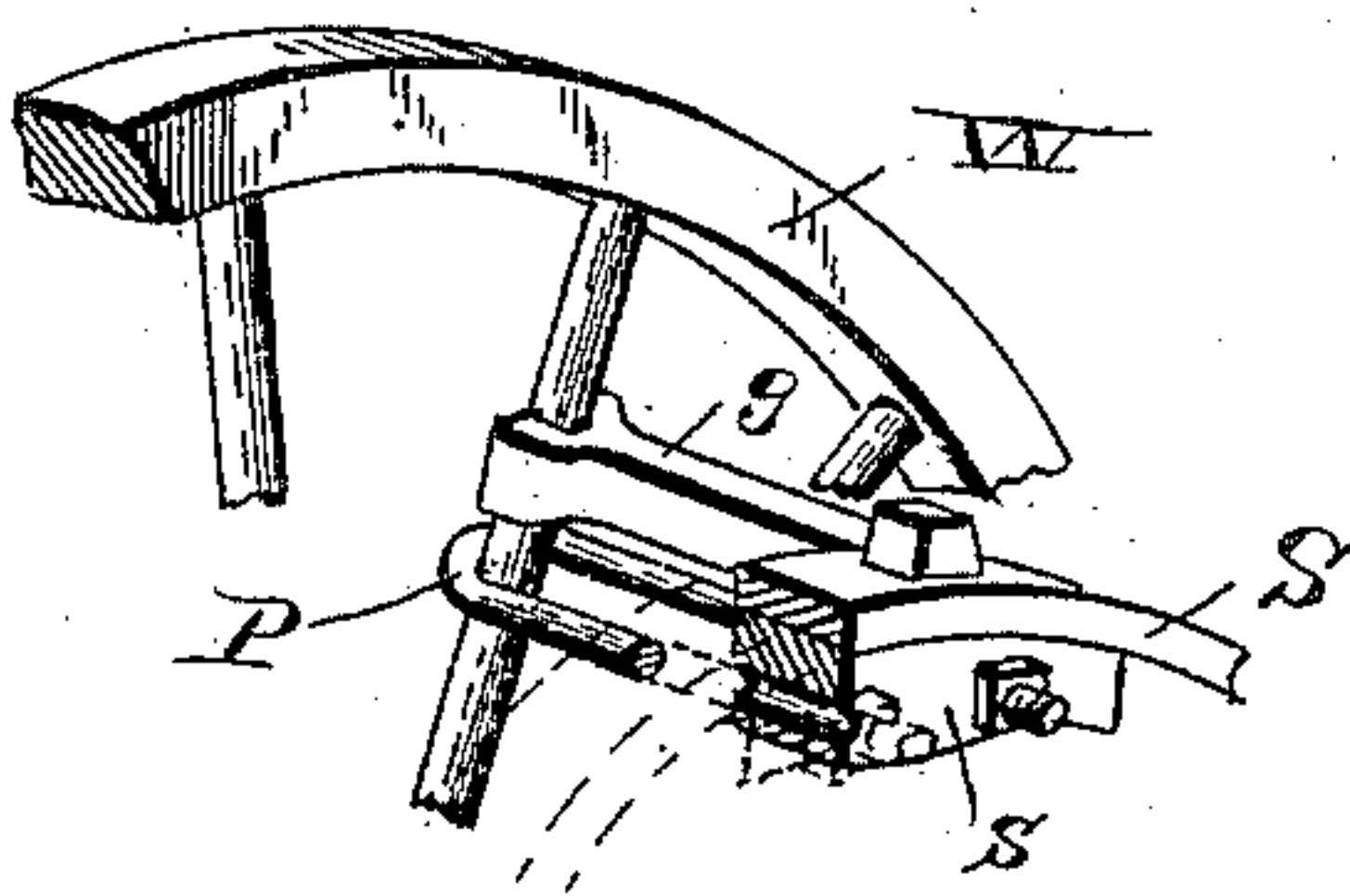


Fig. 3.



Witnesses

*H. L. Orand*

*Charles A. Claypool* <sup>Inventor</sup>

By *his* Attorneys,

*M. L. Hollander*

*C. A. Snow & Co.*



# UNITED STATES PATENT OFFICE.

CHARLES A. CLAYPOOL, OF SPENCER, IOWA.

## FEED-GRINDER.

SPECIFICATION forming part of Letters Patent No. 444,742, dated January 13, 1891.

Application filed June 24, 1890. Serial No. 356,568. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. CLAYPOOL, a citizen of the United States, residing at Spencer, in the county of Clay and State of Iowa, have invented a new and useful Feed-Grinder, of which the following is a specification.

This invention relates to grinding-mills, and more especially to that class thereof in which vertical burrs or grinding-stones are employed; and the object of the said invention is to provide a device adapted for grinding feed or other material.

The invention consists of a mill and connections of the specific character hereinafter more fully described.

In the drawings forming a part of this specification, Figure 1 is a side elevation of a portion of a wagon, showing my improved grinding-mill mounted thereon. Fig. 2 is a horizontal section through the mill, taken on the line  $z z$  of Fig. 1. Fig. 3 is a perspective detail showing the manner in which the sprocket-wheel is attached to the wagon-wheel.

Referring to the said drawings, the letter A designates my improved grinding-mill, supported upon legs R, which in the present instance are mounted upon the body V of an ordinary farm-wagon.

In bearings S' upon the frame-work carried by the legs R is journaled a horizontal shaft B, which passes through a casing D', surmounted by a hopper H, and in the casing D' upon the shaft B is located a spiral feed-worm K, by means of which the grain or other material that is fed into the hopper and passes down into the casing D' is fed to the burrs. The outer end of the casing D' is extended laterally, as at G, and through the ends of the lateral extensions G are passed bolts L and L'. The outer end of the latter bolt is bifurcated and provided with a wooden pin  $m$ , and a bar I is seated behind this pin and passed at its other end loosely over the other bolt L, being retained in proper position by a thumb-nut J. The center of the bar I is provided with a step  $i$  to receive the reduced conical end  $b$  of the main shaft B.

G' is a disk whose hub is mounted upon the shaft B and retained in position by a set-screw  $o$ , as shown in Fig. 2, and to the inner face of this disk is secured the outer burr E.

The inner burr is carried by the laterally-extending arms G of the casing D'. It will thus be seen that as the grain is fed to the hopper it passes into the casing and is carried therein by the feed-worm K into the burrs. After it is ground between the latter it drops through a funnel-mouth  $f$  at the lower side of the drum F, the latter surrounding the burrs and disks and having ears engaging the bolts L L' and held in position by nuts  $n$ . Whatever the speed of rotation of the shaft B and the burr E, the feed-worm K will be rotated at the same speed, and hence whatever the amount of grinding that is done by this mill the feed to the burrs will correspond. The fineness of the feed can be regulated by adjusting the hand-nut J, which tightens or loosens the tension on the shaft B and carries the disk G' and outer burr E toward the inner burr, as will be understood, the shaft B sliding in its bearings S' longitudinally.

On the opposite end of the shaft B is mounted a pulley Q, which may be plain, but is preferably a sprocket-wheel, as shown, and over this pulley passes a chain Z, which runs over a sprocket-wheel rim S, carried upon one of the main wheels W of the wagon. It will thus be seen that when the wagon is driven along the road and the wheel W turns rotary motion will be imparted to the shaft B and the mill will be operated. By this construction I avoid the employment of an expensive tread-mill or other machinery for driving the mill, and if a certain amount of grain or feed is to be ground it is put in the wagon, a team of horses hitched thereto, the team driven down the road a short distance and back, the grain being meanwhile fed into the hopper, and when the wagon stands again at the point of starting the grain will be ground. The band S may then be removed from the wheel and the mill A taken from the wagon-body, after which the wagon may be used for other purposes.

Referring more especially to Fig. 3, the band S is located inside the wheel W and is clamped to several of the spokes thereof by ordinary clips P, the bends of the clips embracing the spokes and their ends passing through blocks  $s$ , carried inside the band, and having nuts inside said blocks. The band is held at a suitable distance from the spokes by lugs



or bars *g*, whereby when the chain *Z* is applied over the band *S* and over the wheel *Q* it will not strike the rim of the wagon-wheel *W*. This rim *S* may be removed from the wagon-wheel by simply disengaging the clips from the spoke of the wheel, and when in place it will in no way injure the wheel. A greater or less speed may be given the shaft *B* by driving faster or slower or by employing wheels *Q* of different sizes, and more power can be employed when necessary by hitching more horses to the wagon.

The use of the wooden pin *m* I consider highly advisable, in order that when a stone is fed with the grain or feed into the worm *K* and is passed between the burrs before it will break the machine or any of its parts this pin *m* would give way and allow the burrs to separate.

What I claim is—

In a grinding-mill, the combination, with the mill proper and a wagon supporting it, of the band *S*, having blocks *s* on its inner face, clips *P*, passing through said blocks and adapted to engage the spokes of a wagon-wheel *W*, lugs *g*, projecting outwardly from said band and adapted to rest against said spokes, and the chain *Z*, leading from said band to the sprocket-wheel *Q* of the mill, the whole constructed substantially as and for the purpose hereinbefore set forth.

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

CHARLES A. CLAYPOOL.

Witnesses:

W. S. BEMIS,

P. W. MADDEN.