

A. PHILIPPI.  
Harvester.

No. 227,126.

Patented May 4, 1880.

Fig. 1.

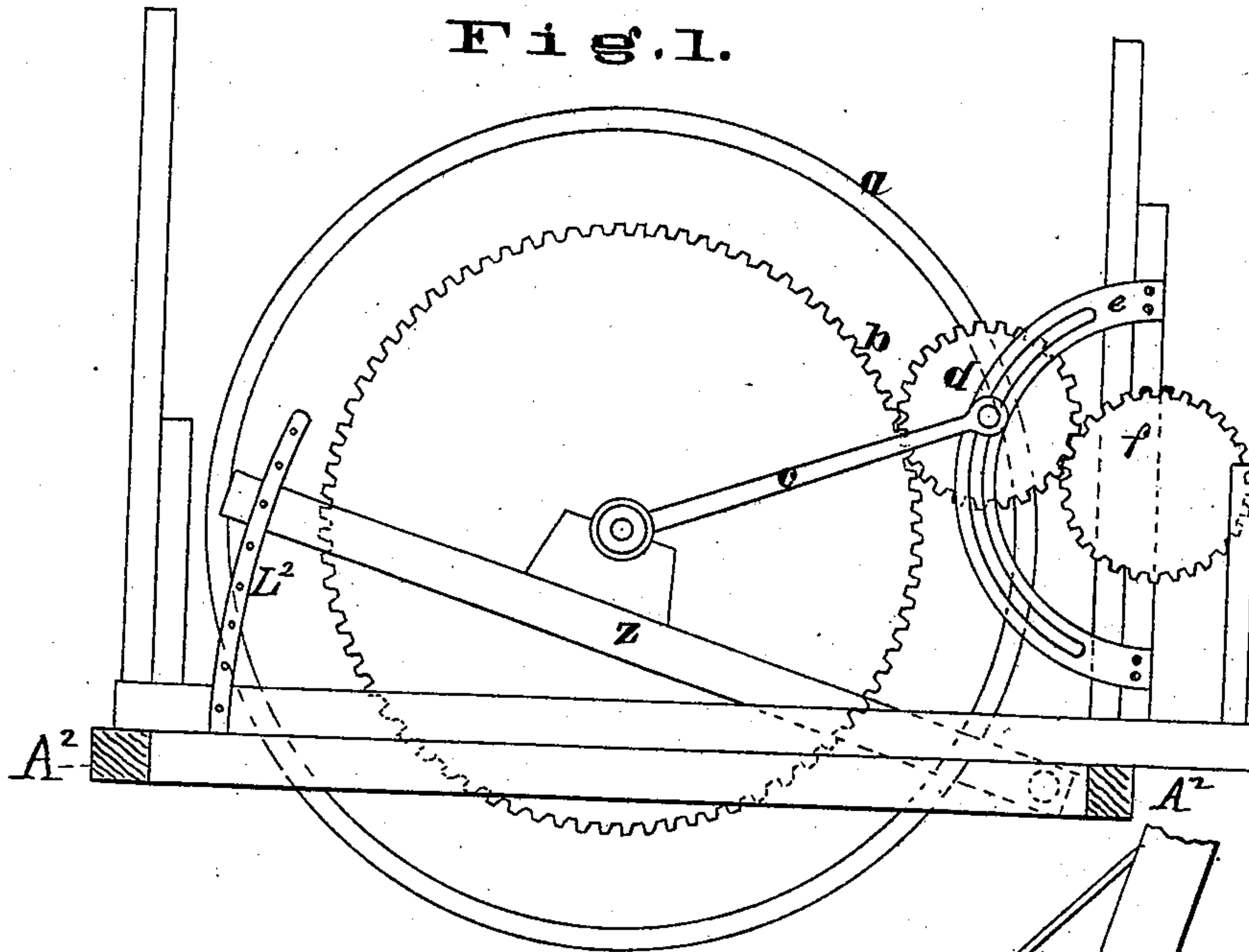
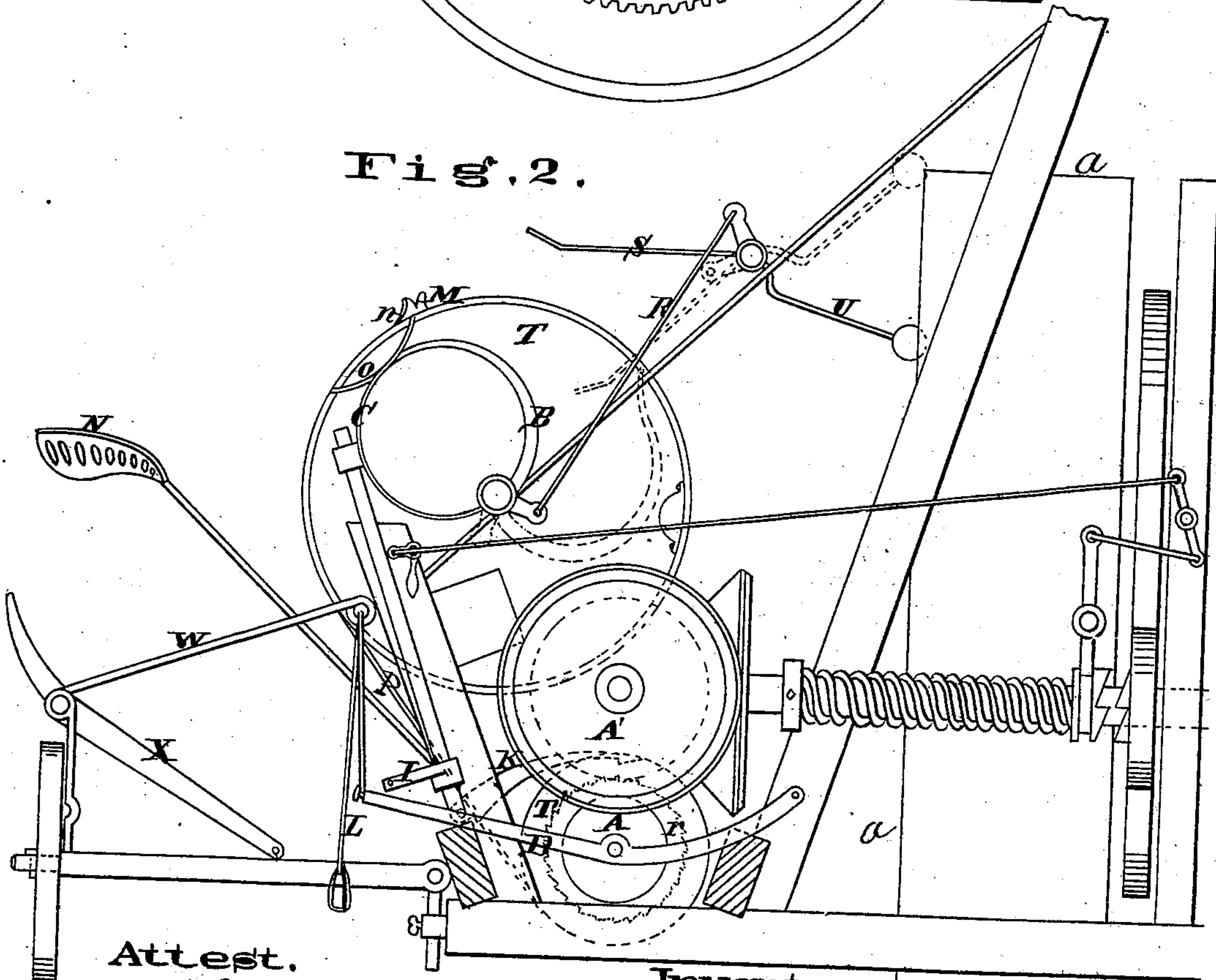


Fig. 2.



Attest.

J. M. McDougal  
N. G. Rainey

Inventor.

Alexander Philippi

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Fig. 3.

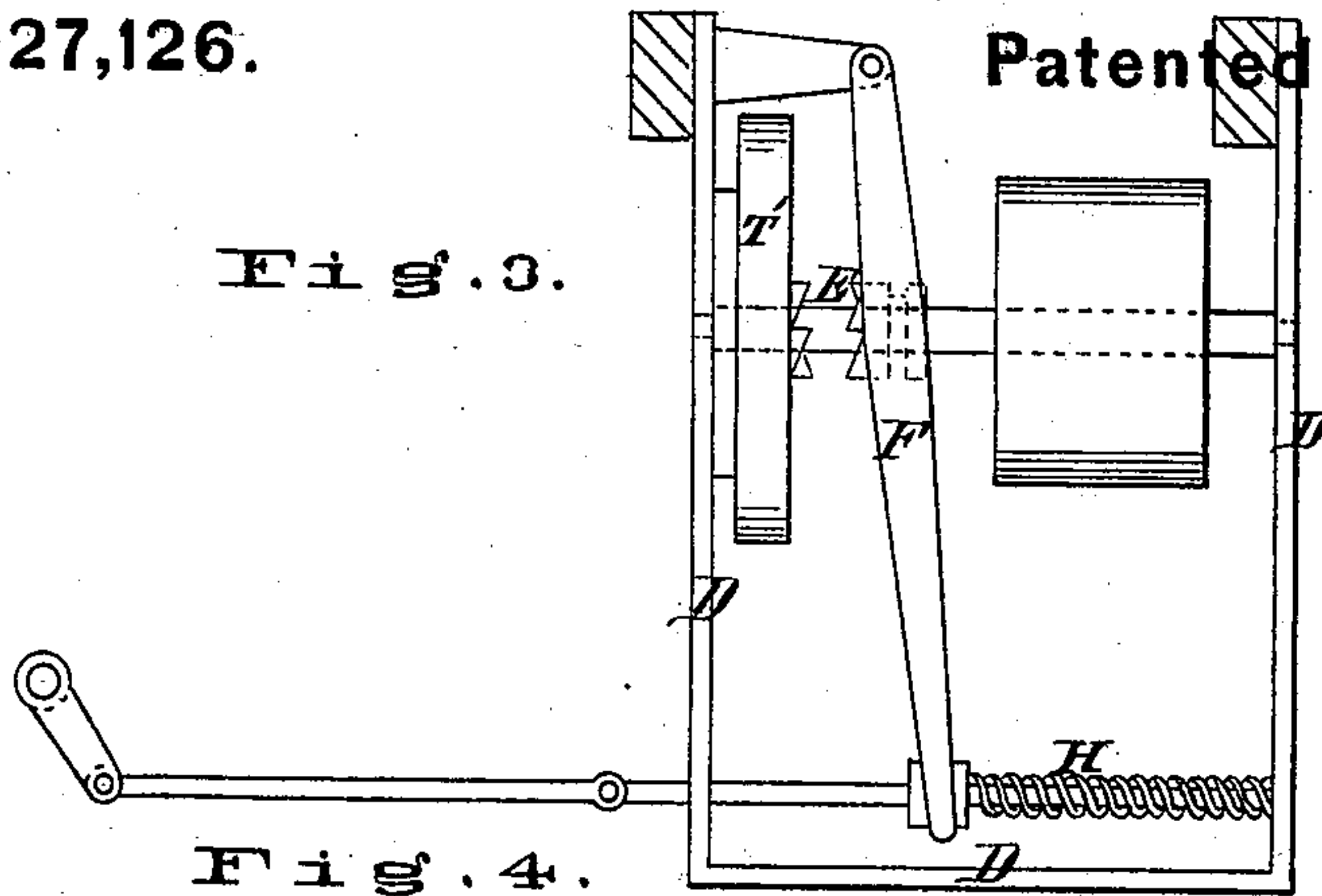
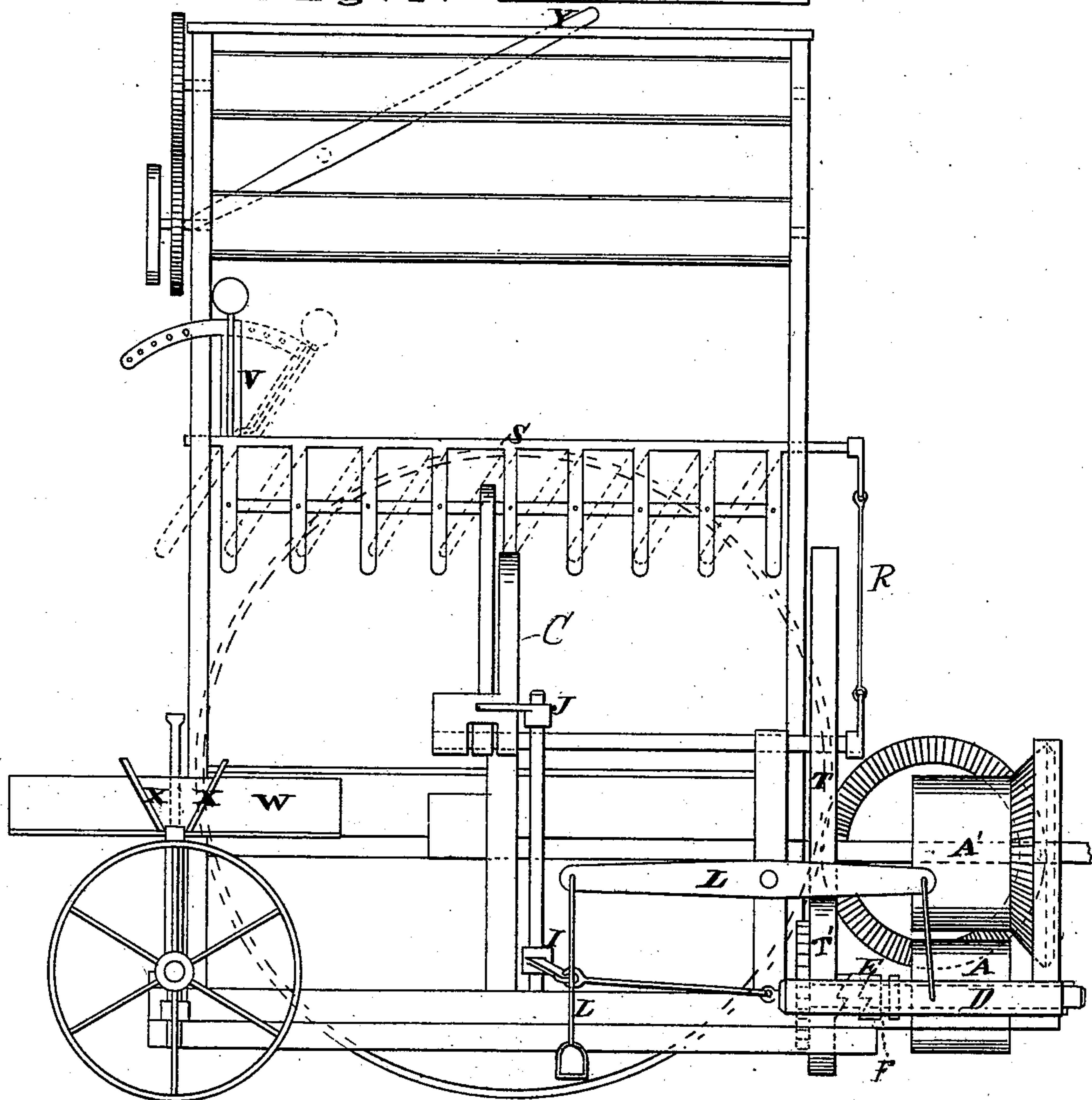


Fig. 4.



Attest.

J. M. McDougal  
W. G. Rainey

Inventor.

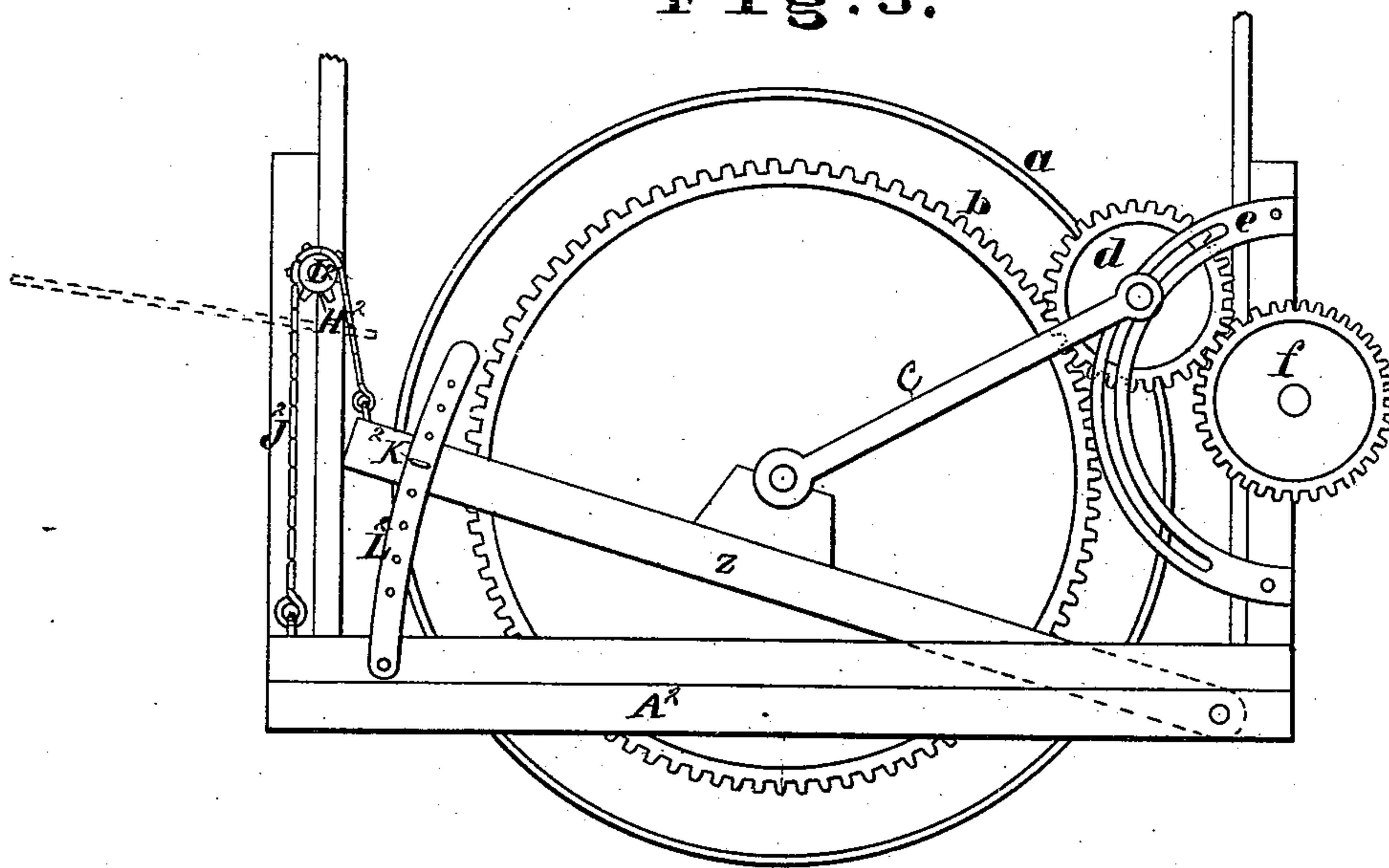
Alexander Philippi

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Fig. 5.



**Attest.**

Charles Pickles  
M. G. Rainey

**Inventor.**

Alexander Philipppe  
By Julius Longal  
his attorney



# UNITED STATES PATENT OFFICE.

ALEXANDER PHILIPPI, OF ST. LOUIS, MISSOURI.

## HARVESTER.

SPECIFICATION forming part of Letters Patent No. 227,126, dated May 4, 1880.

Application filed June 16, 1879.

*To all whom it may concern:*

Be it known that I, ALEXANDER PHILIPPI, of the city of St. Louis, State of Missouri, have invented new and useful Improvements in Harvesters, of which the following is a specification.

The invention relates to such harvesters as cut, gather, and bind the grain.

The accompanying drawings show the binder attachment and the gearing of the drive-wheel. The reaper-blade, platform, and elevator are such as are in common use.

In the drawings, Figure 1 represents the main or drive wheel and its gearing; Fig. 2, a side elevation of the binder attachment and gatherer; Fig. 3, the hinged frame and its levers; Fig. 4, the front elevation of the binder attachment.

The elevator drops the grain onto rack S, which rack delivers the grain into the compressing-hook B at the will of the tying operator. This rack is so constructed that by setting the adjustable guide V the middle of the grain will fall within the hook B, the fingers of the rack being hinged and capable of moving laterally, as is indicated by the dotted lines, it being controlled by the guide V. This is a great advantage in binding short grain, as the binding will be around the middle of the sheaf.

When the grain is delivered into the hook B the operator, by levers L L, raises the frame D, which brings friction-rollers A A' in contact, thereby giving motion to loose sheave T', which, by cord P, turns the sheave T and causes the hook B to compress the grain while he ties the twine. Segment C is loose upon its shaft, and when the compressing-hook comes forward the segment retires and presses against lever J, which lever, by means of arms I and F, disengages the coupling-clutch E.

To regulate the compression of the grain the spiral spring H operates against the levers F, I, and J. The loose sheave T' has a ratchet-wheel attachment, r, upon which the catch-lever or pawl K is engaged when frame D is in its raised position and the clutch E has been disengaged by the levers J, I, and F, thus holding the sheave T in its forward position, thereby causing the compressing-hook B

to hold the grain in its compressed state until the operator has finished his tie.

To disengage the pawl K the operator raises his foot from stirrup-lever L and the hinged frame D drops to its natural position.

Sheave T is so constructed that when sheave T' is freed by the lowering of the frame D it will return to its former position. This is caused by a weight attached to (or it may be a part of the sheave) the opposite side to cord P. When this sheave T turns back the compressing-hook B retires, and the rack S is also operated upon by means of cord R, causing it to deliver more grain into hook B.

The operator sits upon seat N and cuts and ties the twine. The twine he cuts by means of the blade attachment M upon the segment C. The putting of the twine around the grain is done by the compressing-hook, which has a tube attachment for the twine to pass through.

When the twine is cut it fastens upon the hook. As the compressing-hook retires the twine is drawn out through the tube and the grain falls down upon the twine; then the compressing-hook comes forward and brings the twine over to the hook and blade attachments.

The tying operator controls the whole binding operation by means of levers L L. By pressing down upon levers L L frame D rises and brings friction-rollers A A' in contact, which sets the hook B, compressing the grain.

If the tying is completed by the time segment C detaches the coupling-clutch E by means of levers J, I, and F, then the operator lets frame D drop, which frees loose sheave T', and hook B turns back in natural position, at the same time cord R will cause rack S to deliver more grain; but should the operator not have his tie made when coupling E is disengaged he will keep frame D raised, and then catch K will hold sheaves T' T and hook B in the same condition they were when catch E was disengaged, thus giving the operator time to make his tie. After the tie is completed the operator slides the sheaf onto the gatherer attachment, which is composed of the platform W and the pronged releasing-lever X, which hold the sheaves until the driver releases them by pressing on lever Y, which may be connected to X by a cord.



The main or drive wheel *a* has a spur-wheel, *b*, which, in combination with *c*, *d*, *e*, and *f*, drives the whole machinery.

The frame *Z* is so constructed that the whole machine may be raised or lowered as desired. When the machine is raised or lowered the cog-wheel *d* will move up or down, as the case may be, and yet the gearing will be complete. The arm *c* being attached to the axles of drive-wheel *a* and spur-wheel *d*, and the semicircular slotted guide *e* being equidistant from the axle of spur-wheel *f* at every point of its arc, the relative positions of the axles of spur-wheels *b* and *d* and *d* and *f* are preserved, and their gearing will be complete at any point the machine may be raised or lowered.

To raise and lower the machine a small lever, *H*<sup>2</sup>, can be passed through the open links of the chain *J*<sup>2</sup>, which is shown in the drawings, Fig. 5; or the lever may be passed over a pin projecting from the upright panel of the machine, and then underneath the end of the hinged frame *Z*, and when said frame is raised or lowered to the proper height the key *K*<sup>2</sup> can be passed through the holes of the segment *L*<sup>2</sup> and into the frame *Z*, thereby holding it in the position desired. This mode of raising and lowering the machine is so simple that it can be worked by most any boy twelve years of age.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a harvester, the friction-rollers *A* and *A'*, in combination with the sheaves *T* and *T'*, compressing-hook *B*, and segment *C*, substantially as and for the purpose set forth. 35

2. The loose sheave *T'*, cord *P*, sheave *T*, and cord *R*, in combination with the rack *S*, substantially as and for the purpose set forth. 40

3. The rack *S*, in combination with its controlling-lever *U* and adjustable slotted guide *V*, substantially as and for the purpose set forth.

4. In a harvester, the combination of the levers *J*, *I*, and *F*, spring *H*, clutch *E*, loose sheave *T'*, and its ratchet-wheel attachment *r*, pawl *K*, the hinged frame *D*, and the levers *L* *L*, substantially as and for the purpose set forth. 45 50

5. In a harvester, the combination of the main frame *A*<sup>2</sup>, segment *L*<sup>2</sup>, the hinged frame *Z*, arm *c*, drive-wheel *a*, its cog-wheel attachment *b*, gear-wheels *d* and *f*, and guide *e*, substantially as and for the purpose set forth.

ALEX. PHILIPPI.

Witnesses:

J. M. McDUGAL,  
W. G. RAINEY.