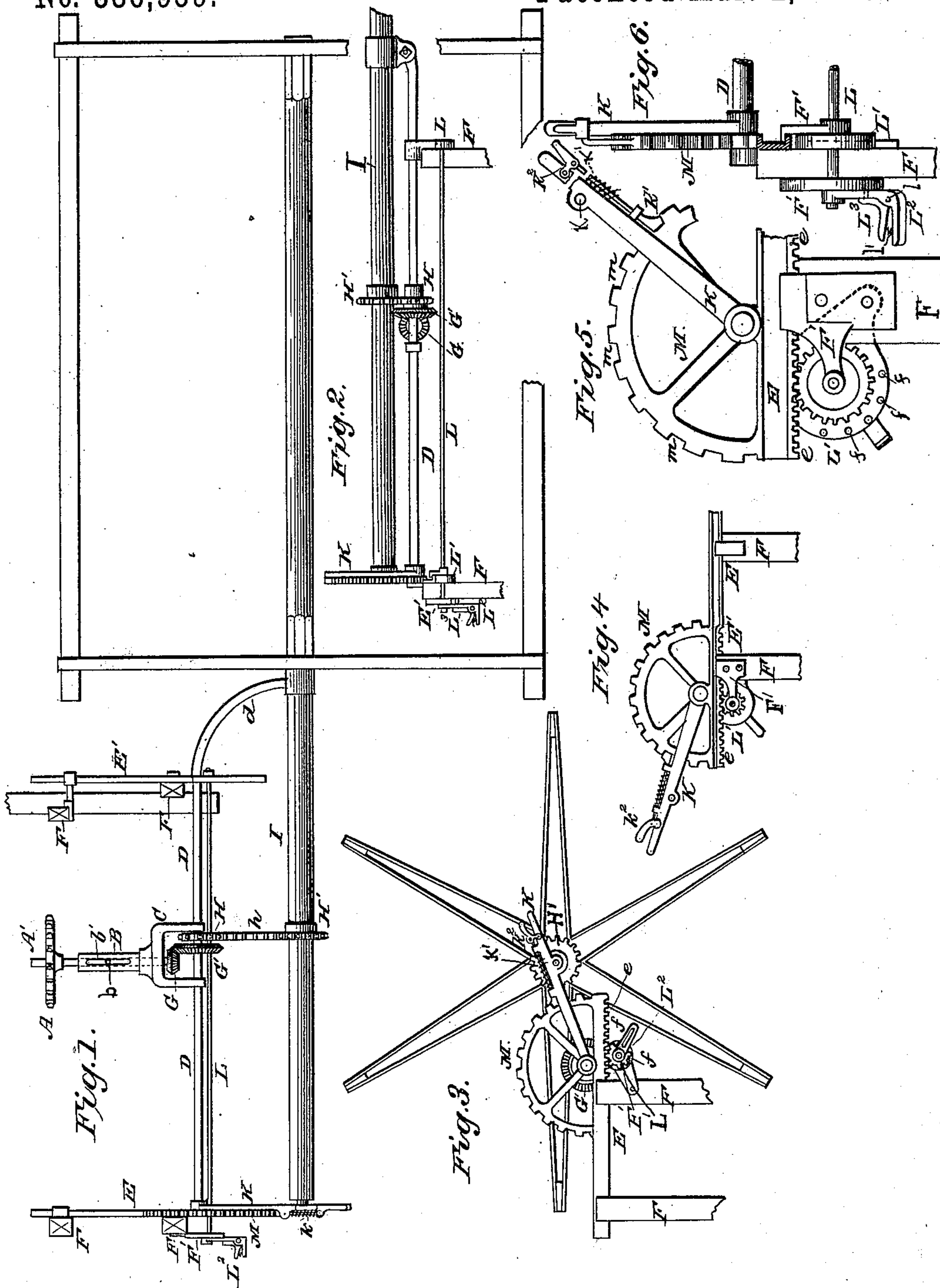


(No Model.)

A. STARK.
HARVESTER REEL.

No. 336,959.

Patented Mar. 2, 1886.



WITNESSES:

Fred. G. Dietrich
William F. Kueners

INVENTOR.

Andrew Stark
By Burton Parker

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ANDREW STARK, OF CHICAGO, ILLINOIS.

HARVESTER-REEL.

SPECIFICATION forming part of Letters Patent No. 336,959, dated March 2, 1886.

Application filed August 4, 1883. Serial No. 102,764. (No model.)

To all whom it may concern:

Be it known that I, ANDREW STARK, a citizen of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Reels for Grain-Harvesters, which are fully set forth in the annexed specification, and the drawings thereunto pertaining, so that therefrom any one familiar with the art to which the said improvements pertain will be able to make and use the same.

This invention consists in new mechanism for adjusting the reel of a harvesting-machine, and in details of construction, which are hereinafter fully described, and particularly set forth in the claims.

Figure 1 is a plan. Fig. 2 is a front elevation. Fig. 3 is a side elevation of the reel at nearly the lowest point of its vertical adjustment and about midway in its horizontal adjustment. Fig. 4 is a side elevation on the side opposite to that shown in Fig. 3 showing details of the adjusting devices. Fig. 5 is also a side elevation showing fuller details of the same parts shown in Fig. 4. Fig. 6 is a front elevation of the same.

A is a sprocket-wheel fixed on and giving motion to the shaft A', which is journaled in the frame of the reaper.

B is a sleeve on the shaft A'. It is driven by the shaft by means of the pin *b*, rooted in said shaft, engaging in the slot *b'* in the sleeve B. It is itself journaled in the bracket C, which is pivoted on the rock-shaft D, which is pivoted in the slide-bars E and E', which are supported in guides secured to suitable uprights or stanchions, F, on the machine.

G is a bevel-pinion fixed to the end of the sleeve B and meshing with the gear-wheel G', revolving loosely on the rock-shaft D, and having secured to it and revolving with it the sprocket-wheel H. At the inner end the shaft D is bent ninety degrees into an arm, *d*, and to the extremity of this arm is journaled, in a proper bearing, the reel-shaft I. At the other end of the rock-shaft D is pinned fast the lever-arm K, in which at *k* the outer end of the reel-shaft I is journaled.

H' is a sprocket-wheel fixed on the reel-shaft I between its bearings and connected by a chain, *h*, to and driven by the sprocket-wheel H.

The slide-bars E and E' are each provided on the under edge with a rack, *e*.

To the supporting-stanchions F are secured the brackets F', (shown only at the stubble end,) affording bearings for the shaft L, carrying the pinions L', engaging with the racks *e*. The outer face of the bracket F' is provided with a circular series of notches or holes, *f*, and to the outer end of the shaft L is fixed a crank, L², carrying the spring-pawl or detent L³, adapted to engage in the holes *f*, and so secure the pinions L' and the slide-bars E and E' in any desired position. This detent or pawl is in the form of a bell-crank lever pivoted at its angle *l* to the angle of the crank-lever, and forced into engagement with the notches F' by the spring *l'* under its heel.

M is a notched segment fixed upon the upper edge of the slide-bar E, its center of curvature being the axis of the rock-shaft D. At the same center is also fixed the lever-arm K, having its spring-detent K' forced down by the spring *k'* into engagement with the notches *m* of the segment M, and having the finger-lever K², for the purpose of withdrawing the detent in the usual manner of such devices, as fully shown in the drawings.

By rotating the shaft L, by means of the crank L², the pinions L', engaging with the racks *e*, move them forward and back and adjust the reel horizontally at any desired distance from the sickle, and by swinging the lever K over the segment M, both a vertical and horizontal adjustment is secured.

By means of the detent L³, engaging in the holes *f* on the bracket F, and the detent K', engaging the notches *m* on the segment M, the reel is securely held in any position.

As the horizontal distance of the rock-shaft D is varied by the adjustment of the rack-bars E and E', as described, sleeve B slides on the shaft A', being still driven by the engagement of the pin B in the slot *b'*, and as the vertical adjustment is made only by the rotation of the reel-shaft about the axis of the rock-shaft D, the distance between the sprocket-wheels H and H' is unvarying, and the connection is maintained through the chain *h*, whatever be the position of the reel.

I claim—

1. In combination, substantially as herein.

before set forth, the reel, the reel-shaft, a rock-shaft having arms containing the bearings for the reel-shaft, sliding supports, wherein such rock-shaft is journaled in such manner that it
5 may be rocked through an arc whose chord is horizontal, suitable slide-bearings for said sliding supports, and means for sliding them back and forward on such bearings, whereby
10 the reel may be adjusted vertically by swinging either through the forward or rear half of said horizontal arc, and may be adjusted horizontally by sliding said supports.

2. The side bars, E and E', having the cog-racks *e e*, and the notched segment M, in combination with the rock-shaft D, lever-arms *d*

and K, the reel-shaft supported in said arms, the shaft L, provided with the pinions L', and suitable detents to retain the pinions L' and the lever-arm K in any desired position relative to the cog-racks and the segment, respectively, substantially as and for the purpose set forth. 20

And in testimony that I claim the foregoing as my invention I have hereunto set my hand, in the presence of two witnesses, at Chicago, 25 Illinois, this 11th day of July, A. D. 1883.

ANDREW STARK.

Attest:

L. W. NOYES,
A. S. MOORE.