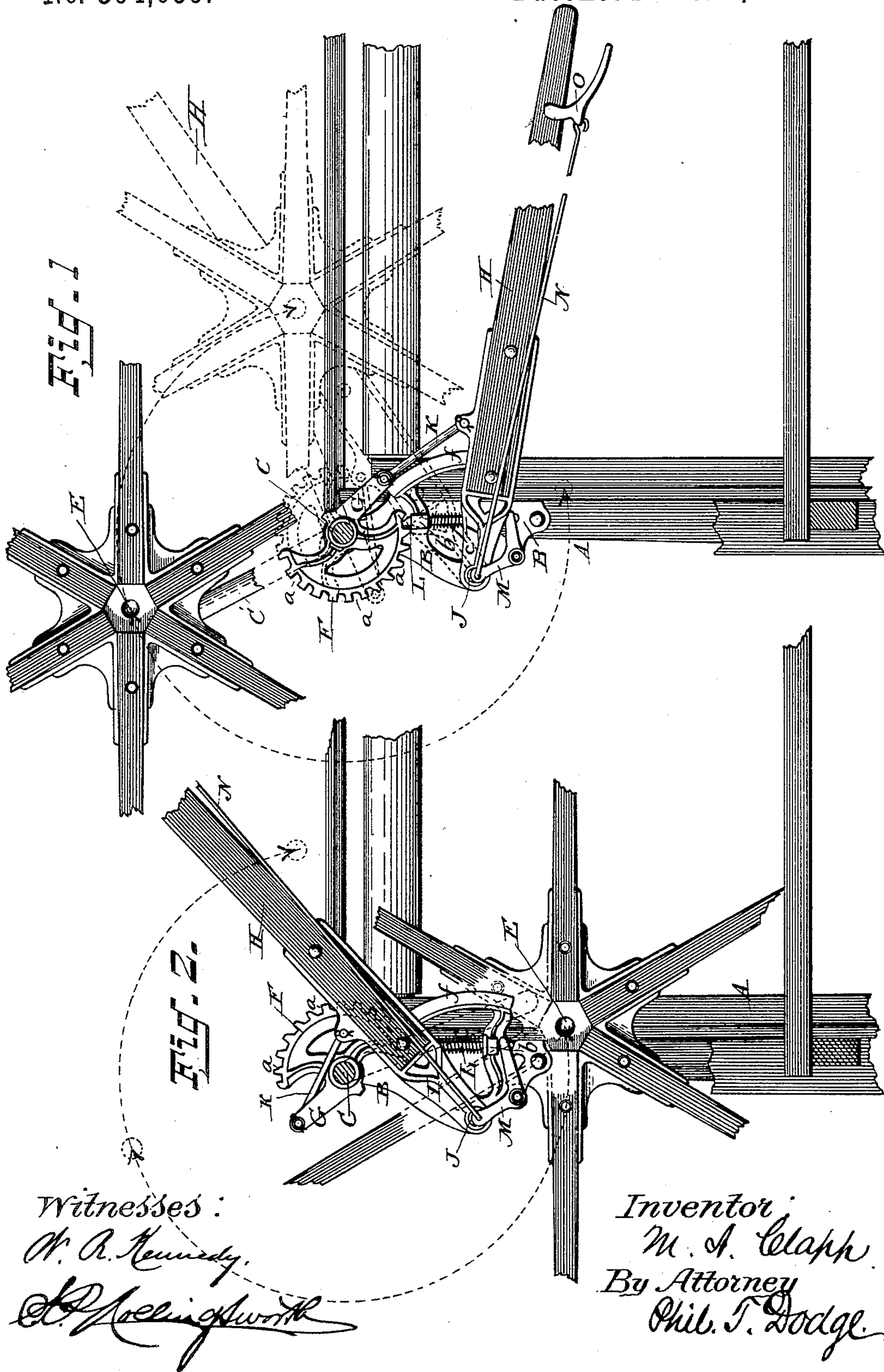


2 Sheets—Sheet 1.

No. 394,059.

Patented Dec. 4, 1888.



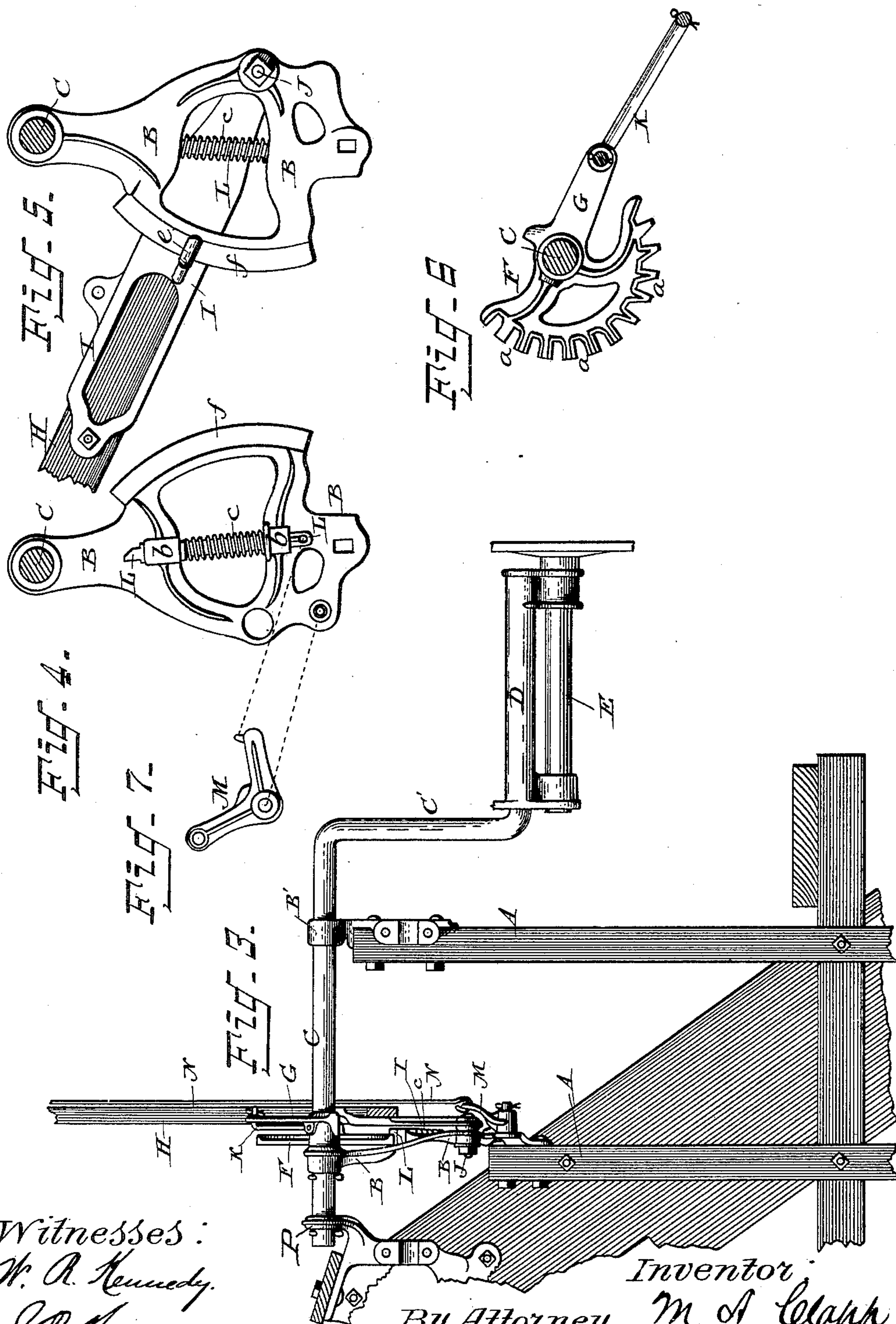
(No Model.)

2 Sheets—Sheet 2.

M. A. CLAPP.  
HARVESTER REEL.

No. 394,059.

Patented Dec. 4, 1888.



Witnesses:  
W. A. Kennedy.  
S. H. Hellingworth

Inventor:  
M. A. Clapp  
By Attorney. Phil T. Dodge



# UNITED STATES PATENT OFFICE.

MORTIMER A. CLAPP, OF AUBURN, ASSIGNOR TO THE D. M. OSBORNE & COMPANY, OF NEW YORK, N. Y.

## HARVESTER-REEL.

SPECIFICATION forming part of Letters Patent No. 394,059, dated December 4, 1888.

Application filed March 23, 1887. Serial No. 232,158. (No model.)

*To all whom it may concern:*

Be it known that I, MORTIMER A. CLAPP, of Auburn, in the county of Cayuga and State of New York, have invented certain Improvements in Harvester-Reels, of which the following is a specification.

This invention relates to those organizations in which the horizontal reel-shaft is mounted in a bearing or bearings at the outer end of a crank-arm extending from a rock-shaft, so that the turning of the rock-shaft will have the effect of raising or lowering the reel; and the invention consists in improved means for turning and securing the rock-shaft, as hereinafter described.

In the accompanying drawings, Figure 1 is an elevation of my reel-supporting mechanism, looking from the side of the machine, with the reel in its elevated position, a portion of the reel-supporting crank being broken away to expose other parts to view. Fig. 2 is a similar view with the reel in its lowest position. Fig. 3 is a front elevation of the parts shown in the preceding figures. Fig. 4 is a face view of one of the plates for supporting the rock-shaft and the locking-dog thereon. Fig. 5 is an elevation of the same plate, looking from the opposite side, with the hand-lever pivoted thereon. Fig. 6 is a side elevation of the notched sector-plate and operating-arm mounted on the rock-shaft, together with the link for adjusting the same. Fig. 7 is a side view of the elbow-lever used for operating the dog.

In carrying my invention into effect I mount on the upper ends of two rigid standards, A A, or upon other suitable supports, two stationary bearing-plates, B B', through which I extend horizontally the inner end of a rock-shaft, C, which has its outer overhanging end fashioned into or provided with a crank-arm, C', which carries a bearing or bearings, D, of any suitable form adapted to support and permit the free rotation of the horizontal reel-shaft E. The bearing D shown in the drawings is of an ordinary form now in use, and is not claimed as any part of the present invention. It is bolted to and adjustable around the crank for the purpose of regulating the tension of the reel-driving chain, as usual.

On the rock-shaft there is pinned, bolted,

or otherwise rigidly secured a sector-plate, F, provided in the periphery with a series of notches, *a*. There is also fixed upon the shaft an arm, G, extending in the opposite direction from the sector-plate, as shown in Fig. 6. The plate and the arm are preferably cast in one piece, as shown; but, if preferred, they may be made in separate pieces and secured independently to the shaft. A hand-lever, H, is bolted firmly at its inner end to a plate, I, which is in turn connected by a pivot-bolt, J, to the bearing-plate B, which, it will be remembered, sustains the inner end of the rock-shaft. A link, K, is jointed at one end to the plate of the hand-lever and at the opposite end to the arm G of the rock-shaft. The arm extends rearward from the shaft, while the hand-lever is pivoted at a point below and by preference slightly in advance of the shaft.

The arrangement of parts is such that on raising and lowering the hand-lever, which extends rearward in position to be conveniently grasped by the driver, the link, acting through the arm on the rock-shaft, will turn the latter and through this crank raise or lower the reel.

To lock the rock-shaft and the reel in position, I mount in guides *b*, formed on the bearing-plate B, a sliding dog or pawl, L, surrounded by a spiral spring, *c*, which urges it upward and keeps it normally in engagement with the notched plate F of the rock-shaft, thereby locking the shaft firmly in position. In order that the operator may conveniently control this dog while operating the hand-lever, I pivot to the bearing-plate B an elbow-lever, M, one end of which is jointed to the lower end of the dog, while the opposite end, lying at a point coincident with the axis of the hand-lever, or substantially so, is connected to a rod, N, which extends thence to a thumb-latch, O, pivoted on the outer end of the lever, so that the operation of the latch will disengage the dog and leave the parts free to be moved by the hand-lever. If desired, the latch O may be omitted and the end of the rod made of suitable form to be conveniently grasped and moved by the operator. In place of the rod and elbow-lever any other equivalent means extending from the



dog to the outer end of the hand-lever may be employed to control the dog.

During the operation of the machine the reel is used in a forward position between the two extremities of movement represented in Figs. 1 and 2. When the machine is to be transported from place to place, it is desirable to turn the reel backward or inward over the platform. This is accomplished by first lowering the reel to the position indicated in Fig. 2, and then giving the hand-lever a sharp downward movement, the effect of which is to swing the reel upward and rearward with impetus sufficient to carry the crank over the center, whereupon the reel will descend by gravity to the position indicated by dotted lines in Fig. 1, its descent being controlled by the hand-lever acting through the link upon the arm G, which at such time swings upward toward the front, as shown. The reel being in this position, it is again turned forward for action by throwing the lever suddenly downward from the position shown in dotted lines, Fig. 1, to a lower position, this action causing the reel to be thrown suddenly forward, so that it will gravitate to the front. This arrangement of parts for throwing the reel to the rear is not broadly claimed herein, being made the subject-matter of a separate patent, No. 377,372, dated February 7, 1888.

In order to prevent lateral motion of the hand-lever, I provide its plate I with a lip, e, arranged to engage over the edge of a curved lip, f, on the plate B, as shown in Fig. 5. It will be observed that the bearing-plate B serves to sustain one end of the rock-shaft to support the hand-lever, the locking-dog, and the dog-operating lever. While it is preferred, for various reasons, to retain this construction, it is to be distinctly understood that the dog and the lever may be otherwise supported.

In order to give increased stability to the structure, I may use in connection with the rock-shaft an additional bearing-plate, P, formed and bolted to the elevator-frame of the harvester, as represented in Fig. 3.

I am aware that hand-levers for adjusting

harvester-reels are commonly provided with locking dogs or pawls engaging notched plates, and to such arrangement I lay no claim.

It is to be noted that in my organization the cranked rock-shaft and its connections admit of the reel being raised and lowered, also of its being reversed or drawn rearward beyond the operative position, and, further, that the sustaining locking devices are introduced directly between the cranked shaft and the cranked shaft-bearings, so that the hand-lever and its connections are entirely relieved from strain when the parts are locked.

Having thus described my invention, what I claim is—

1. The horizontal rock-shaft mounted in fixed bearings and having the cranked overhanging end, in combination with the reel-shaft mounted in bearings on said cranked end, the notched plate F, and arm G, attached rigidly to and extending in opposite directions from said rock-shaft, the hand-lever mounted on a fixed axis below the rock-shaft, the link connecting said lever, as shown, with the arm G, the dog mounted on the fixed support and engaging the notched plate, and the dog-operating devices extending to the outer end of the lever, whereby the vertical adjustment and reversal of the reel are permitted.

2. The rock-shaft provided with the reel-sustaining crank, the notched plate, and the arm, in combination with the hand-lever, the link connecting the lever with said arm, the locking-dog mounted on the frame and engaging the notched plate, the elbow-lever mounted on the frame and connected with the dog, the rod extending from the elbow-lever to the outer end of the hand-lever, and means for operating said rod.

In testimony whereof I hereunto set my hand, this 17th day of February, 1887, in the presence of two attesting witnesses.

MORTIMER A. CLAPP.

Witnesses:

T. M. OSBORNE,  
J. FRANK DAVIS.