

(No Model.)

2 Sheets—Sheet 1.

W. P. HALE.
HARVESTER REEL.

No. 372,068.

Patented Oct. 25, 1887.

Fig. 4.

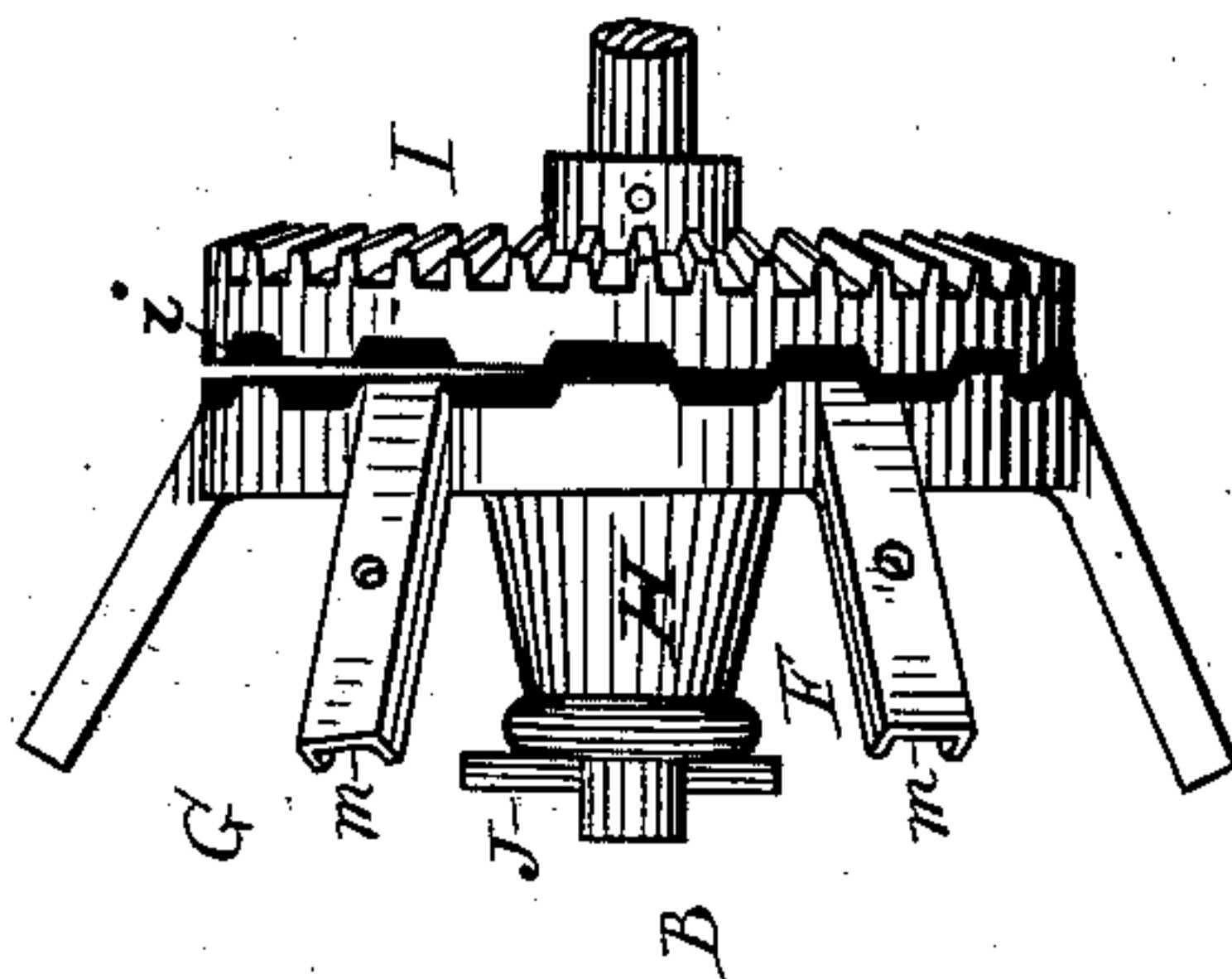
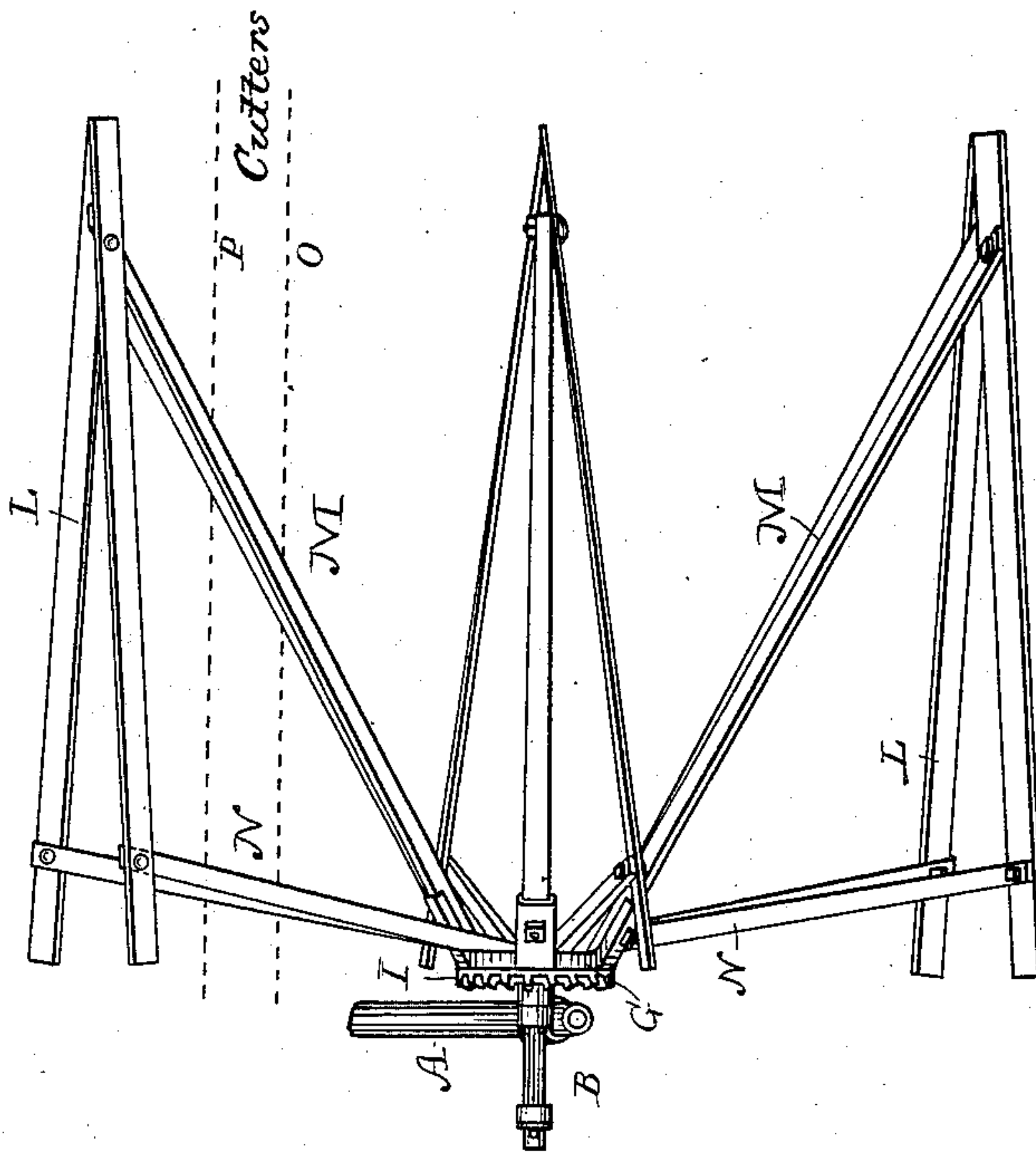


Fig. 1.



WITNESSES

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William P. Hale

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Fig. 3.

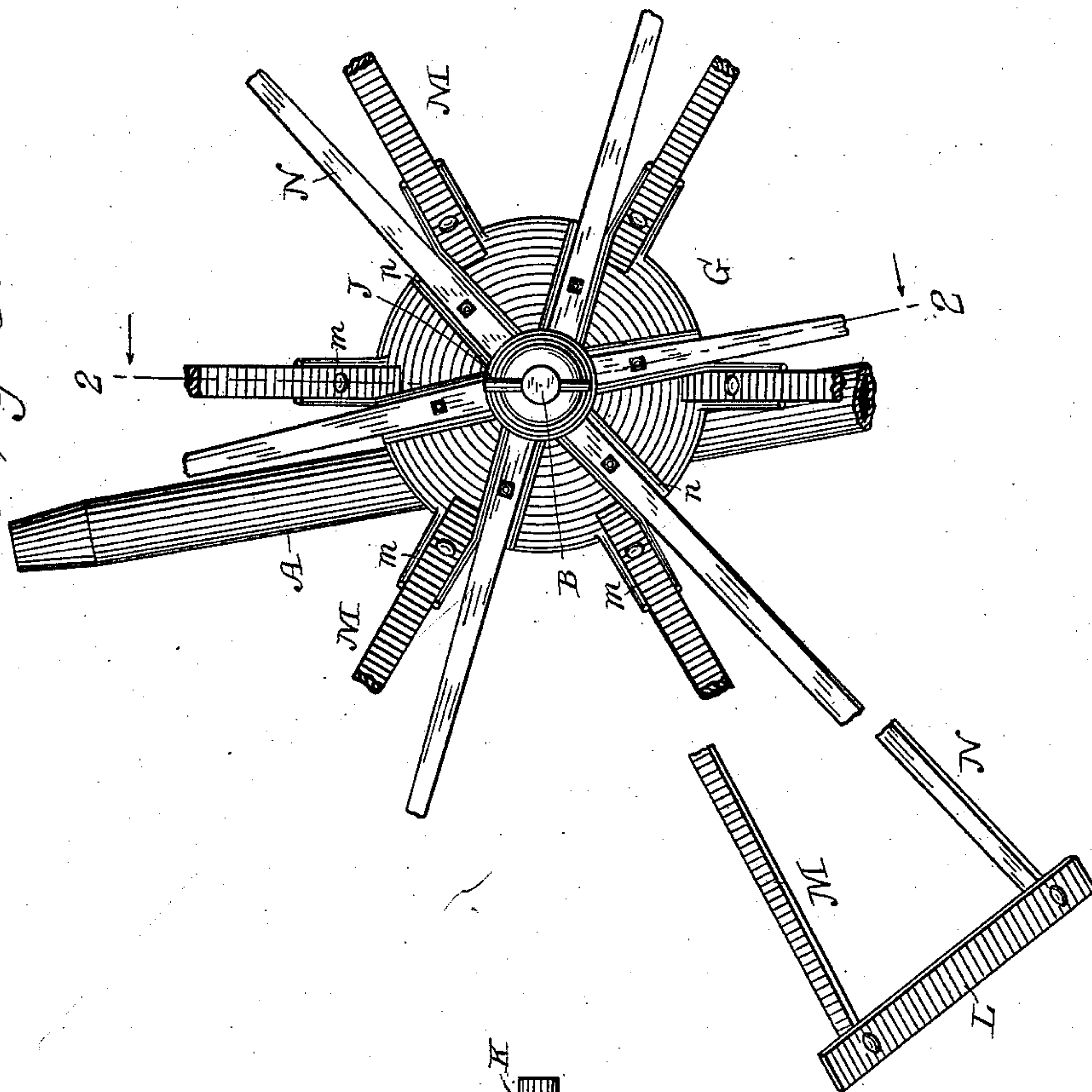
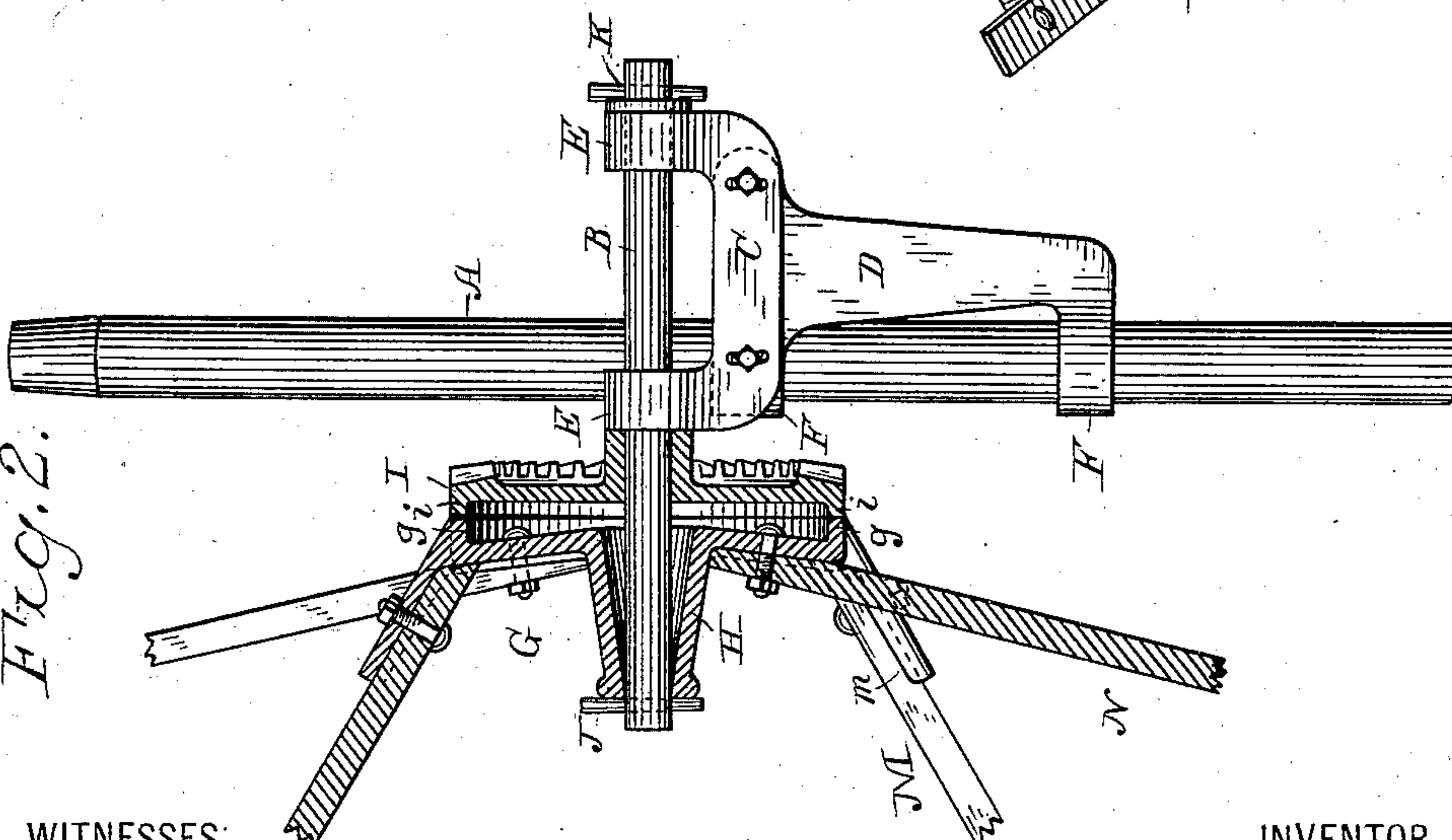


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM P. HALE, OF BROCKPORT, NEW YORK.

HARVESTER-REEL.

SPECIFICATION forming part of Letters Patent No. 372,068, dated October 25, 1887.

Application filed May 17, 1886. Serial No. 202,366. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. HALE, of Brockport, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Harvester-Reels, of which the following is a specification.

My object is to provide for preventing injury of the reel in event of its contact with an unyielding obstacle; and my improvements consist, as hereinafter specified by the claims, in a peculiar way of mounting the reel-head so that it is yieldingly held in frictional contact with its driver.

In the accompanying drawings, which show a suitable embodiment of my improvements, Figure 1 is a plan or top view, with dotted lines indicating the position of the cutters. Fig. 2 is a view, partly in rear elevation and partly in section, on the line 2 of Fig. 3, with parts broken away. Fig. 3 is a side elevation. Fig. 4 is a plan view representing a modification.

A reel-post, A, inclined as usual, and suitably supported by being secured at its lower end at or near the inner front corner of the grain-platform of the harvester, supports a horizontal reel shaft, B, by way of a carrying-bracket made in sections C D. The reel-shaft passes through bearing-arms E E of the section C of the carrying-bracket, and the section D of this bracket has arms F F, by which it engages the reel-post. The reel-shaft-carrying section C is adjustably connected with the section D, so that it may be set to properly support the shaft.

A reel-head, G, having a flaring or funnel-like hub, H, is mounted to rotate about the reel-shaft, and a reel-driver, I, is also mounted to rotate about the reel-shaft. As shown, this driver is a bevel-toothed gear-wheel; but obviously the driver may be of any suitable equivalent construction adapted to be rotated in well-known way. The reel-driver shown is to be rotated by a bevel-pinion engaging its teeth and supported and actuated in suitable way. The hub of the driver comes against or close to one of the arms E of the section C of the reel-carrying bracket, and at the opposite side or face of the driver it is provided with an annular peripheral flange, *i*. The reel-head G is formed with an annular face-flange,

g, at its periphery to correspond with the flange *i* of the driver, and when these faces are parallel with each other they may be separated so as to leave a slight space between the face-flanges of the driver and the reel-head when the hub of this head is in contact with the cross-pin J at one end of the reel-shaft. This pin and another detachable cross-pin, K, at the other end of the shaft, provide for keeping the parts in place while admitting of their removal. As in this instance shown, the reel bats or beaters L are connected with the reel-head by the inclined supporting and bracing arms M and N, as presently to be described.

It will be seen that by separating the reel-head and its driver by a slight space between them, and having the hub of the head flaring, as shown, so as to have bearing-contact with the reel-shaft at its outer or smaller end only, provision is made for the slight tilting or canting of the head on its shaft by the weight of the reel and its natural tendency to swing toward the reel-post. In this way the upper portions of the faces of the head and its driver are separated and their lower portions brought in contact, with sufficient friction between them to insure the rotation of the reel with the driver under ordinary circumstances, while providing for the sudden stoppage of the reel when unyielding obstacles are encountered by it, at which times the lower faces of the driver and reel separate against the force exerted by the weight of the reel to hold them together. After clearing an obstacle the reel again at once resumes its rotation.

In the modification shown by Fig. 4, yieldingly-engaging inclined teeth and notches are provided upon the contact faces of the reel-head and driver to increase friction between them, and thus with greater certainty guard against their inopportune disengagement.

The reel-beaters, as represented, are so arranged that instead of approaching the platform and cutters parallel thereto they are inclined, so that each beater, while pressing the grain back to the cutters, is nearer them at its inner end than at its outer end, the grain being acted upon first next the inner or heel end of the cutters, as will readily be understood from inspection of Fig. 1, in which the dotted lines O P are intended to show the position of

the cutters, the line O indicating the points of the cutters and the line P their rear ends. Each beater is supported by connection with the reel-head by two arms, M and N. The
5 long arm M is secured to the beater near its outer end, and the short arm N is secured to it near its inner end. Each arm M is secured to the reel-head by way of a short inclined socket-arm, *m*, extending from the periphery
10 of the head, and a bolt and nut, and each arm N is secured to the inclined outer surface of the head by a socket, *n*, and a bolt and nut.

By the above construction it will be seen that the inclined beaters act upon the grain
15 in such way as not only to force it into the cutters and back upon the platform-carrier when cut, but also to incline the grain slightly toward the outer end of the platform, so that as the stalks fall upon the carrier the heads are
20 farther from the inner end of the platform than are the butts, and consequently the butt-ends of the stalks have less distance to travel with the carrier than the heads, (the heads, as is well known, travel faster with the carrier than
25 the butts,) and the grain will be presented to

the inner end of the platform in straighter and better condition for binding than when the cut stalks are forced directly backward upon the carrier.

I claim as of my own invention—

1. The combination of the reel-shaft, horizontal, or nearly so, the reel-driver, and the reel-head rotated by frictional contact with the driver, and having the hub adapted to rock or to be tilted in a plane transverse to
35 that of its revolution, substantially as and for the purpose set forth.

2. The combination of the reel-shaft, horizontal, or nearly so, the reel-driver having the peripheral face-flange, the reel-head having
40 the peripheral flange and the flaring hub, the reel-beaters, and the supporting and bracing arms connecting them with the reel-head, substantially as and for the purpose set forth.

In testimony whereof I have hereunto sub-
45 scribed my name.

WILLIAM P. HALE.

Witnesses:

E. TARBOX,
WM. F. ROSS.