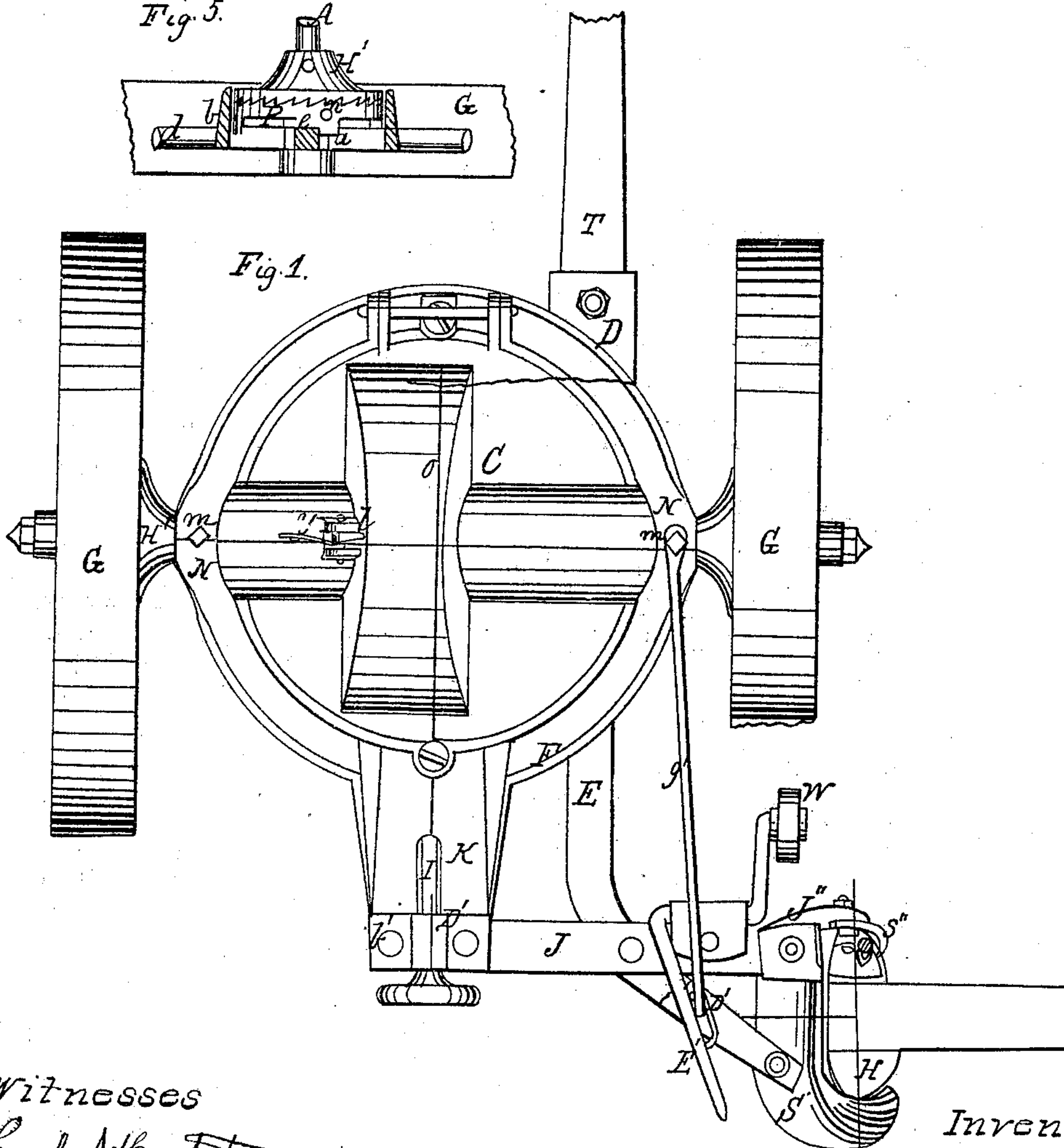
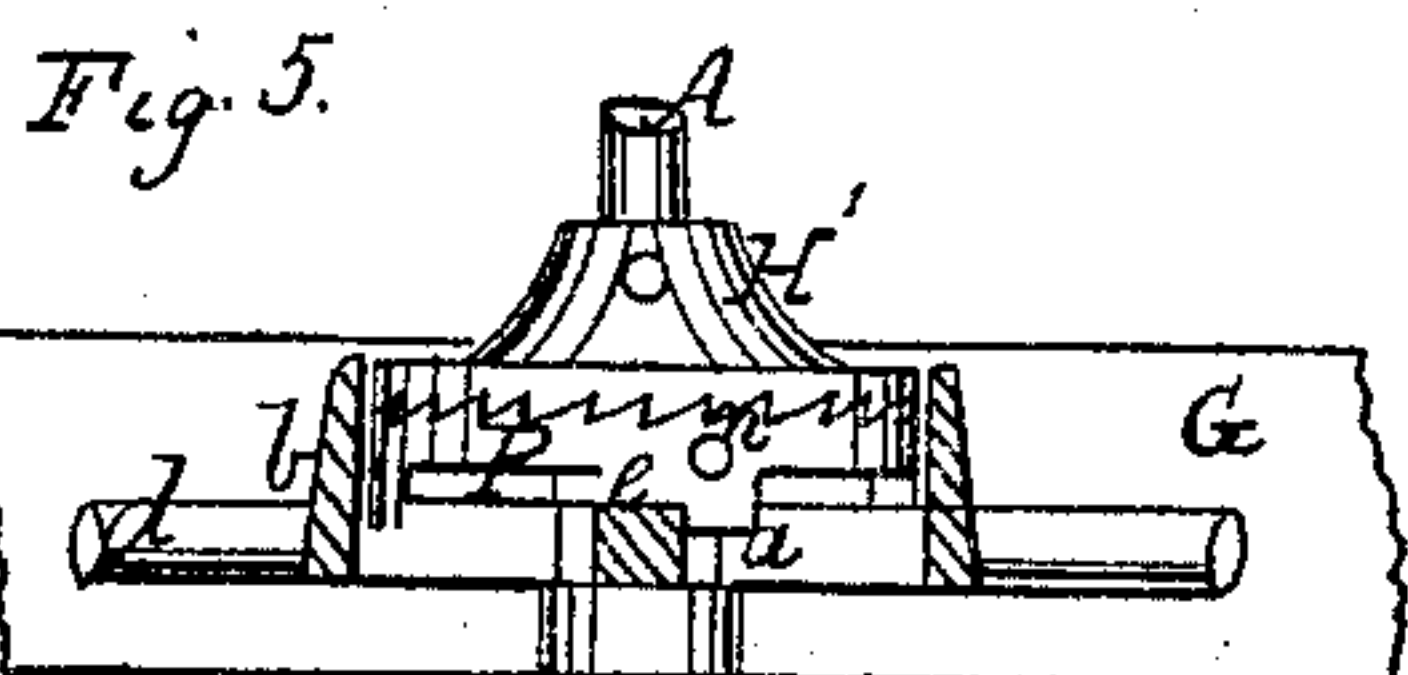
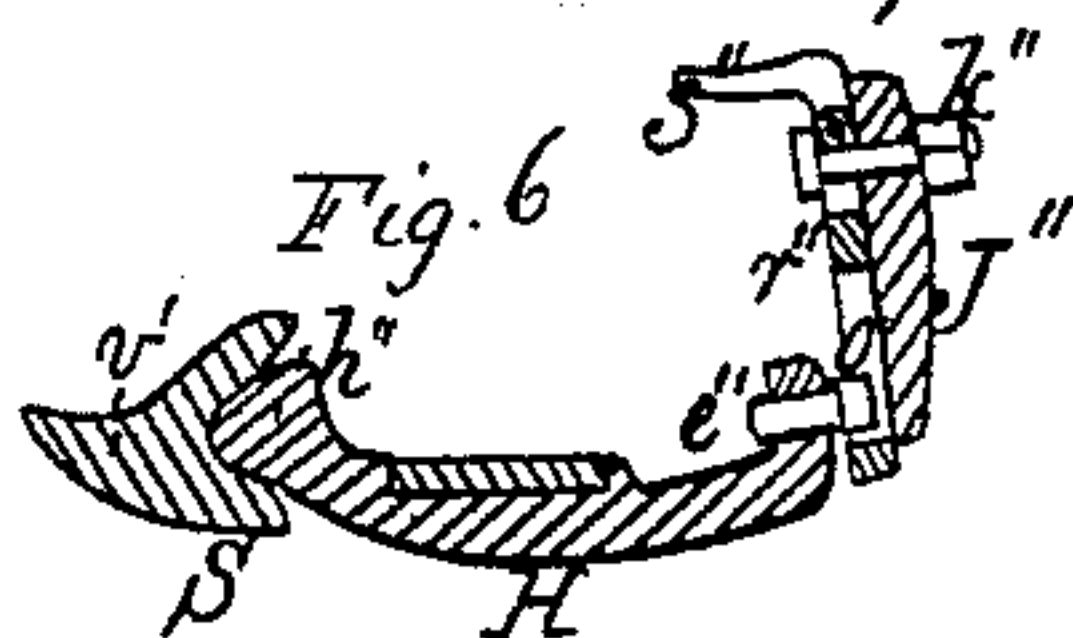
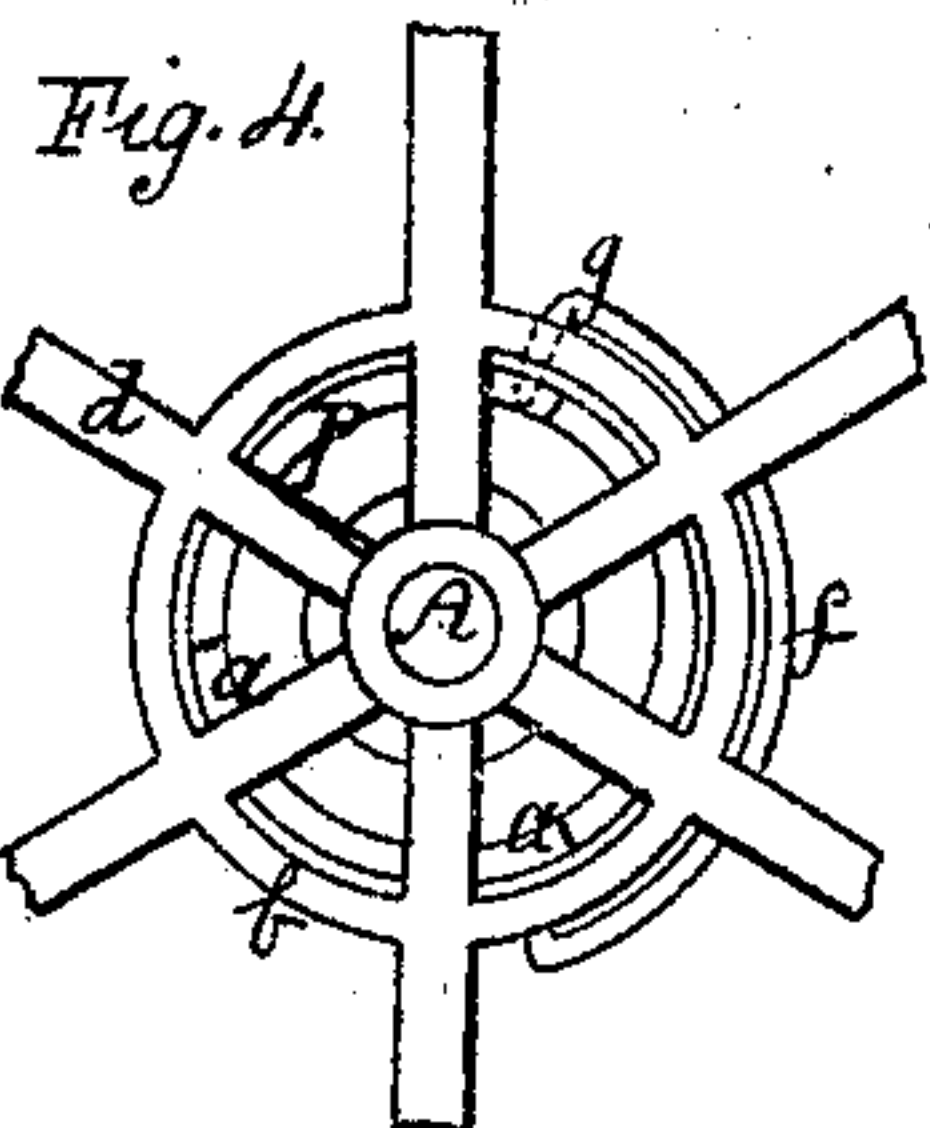


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N^o 82253

Patented Sep. 15, 1868.



Witnesses
Fred. A. Bartlett
Wm. C. Loughborough

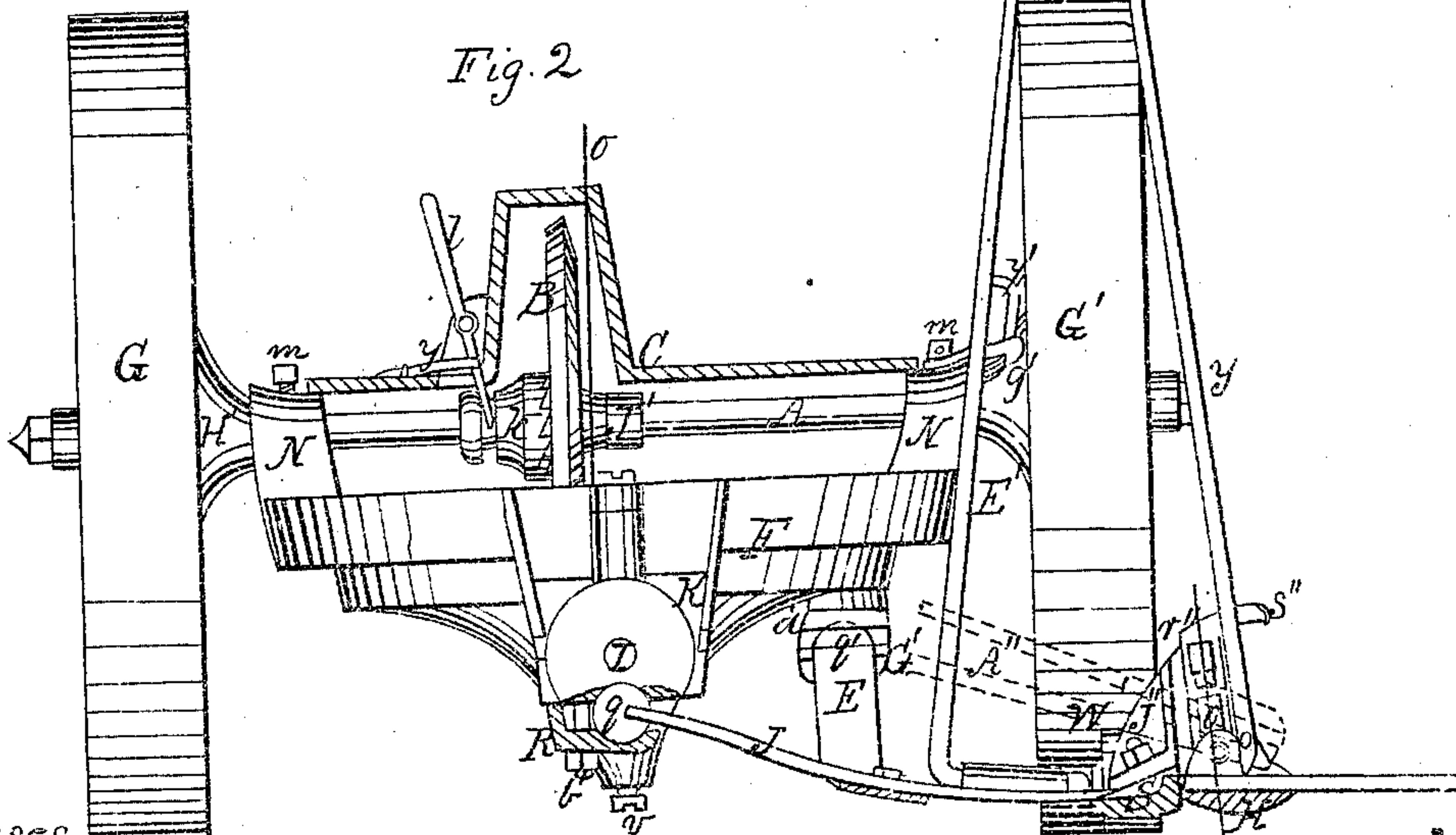
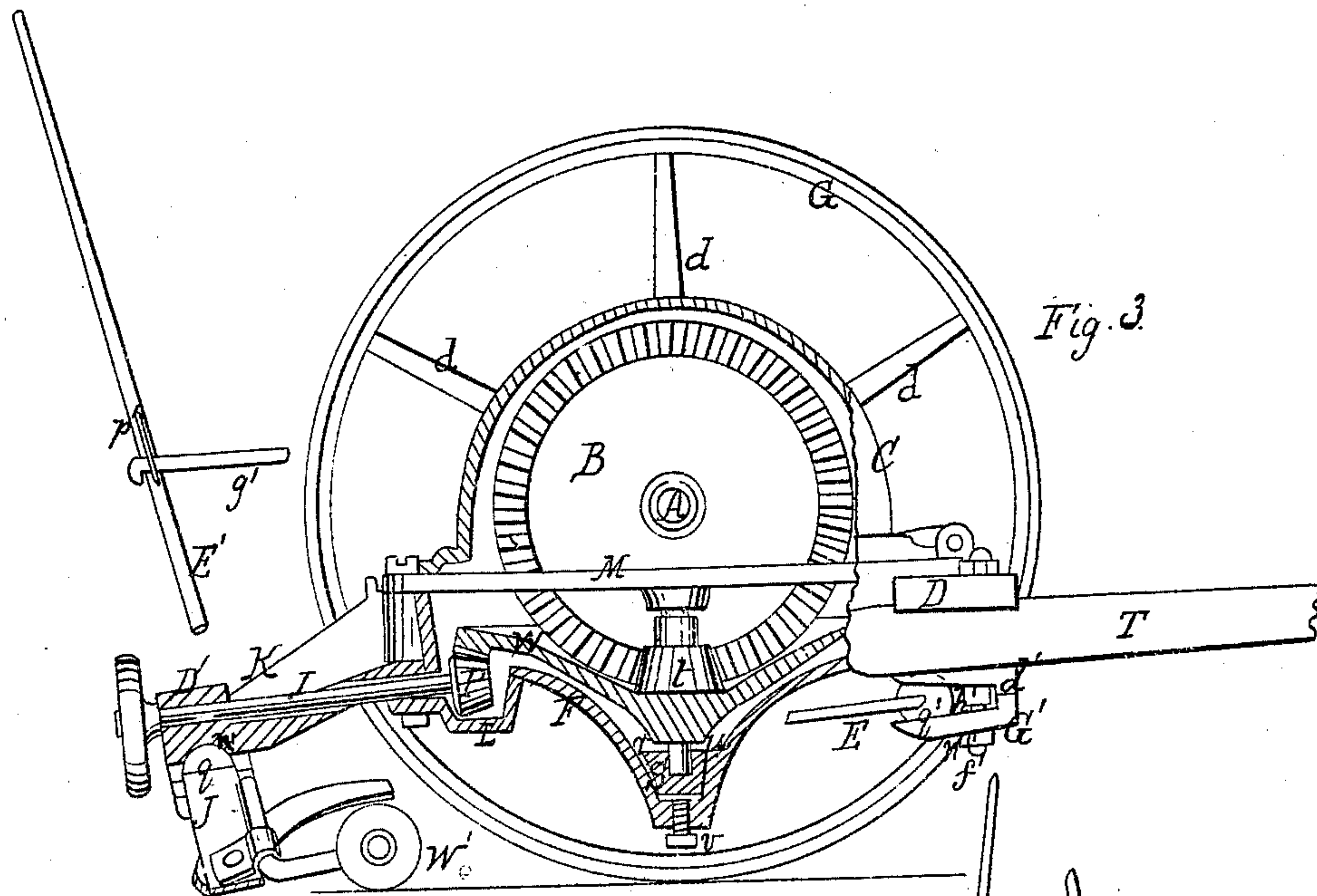
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UNITED STATES PATENT OFFICE.

THOMPSON C. SEBRING, OF MILFORD, MICHIGAN, ASSIGNOR TO IRA A. HEBBARD, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 82,253, dated September 15, 1868.

To all whom it may concern:

Be it known that I, THOMPSON C. SEBRING, of the town of Milford, county of Oakland, and State of Michigan, have invented certain new and useful Improvements in Grain and Grass Harvesters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a top view of my invention. Fig. 2 is a rear elevation of the same, the cover C of the gearing case or frame F being shown in a vertical section, as also the shoe S and the pivoted clutch-bar head H. Fig. 3 is a vertical section of the machine, taken in the direction of the line *o* in Figs. 1 and 2. Fig. 4 is a side elevation of the hub and central portion of the driving-wheel, showing the arrangement of the clutch. Fig. 5 is a top view of the same parts, showing their relative arrangement vertically, with the clutch *p* thrown into gear. Fig. 6 is a vertical section of the cutter-bar head and its connection, taken in the plane of the line *x* in Figs. 1 and 2.

Similar letters of reference indicate like parts.

The object and nature of this invention are mainly as follows, viz: providing an effectual preventive of side draft, which is done by making the two carrier-wheels of unequal diameter, the left-hand wheel being made the smaller, and therefore made the driver; in the peculiarly-constructed cast-iron frame, which also acts as an inclosing-case for the gearing, and forming bearings for the same; also, the employment of spherical joints for hinging the cutter-bar braces to the main frame; and in the peculiar construction of the ratchet for the driving-wheel, and also, the manner of hanging and adjusting the cutter-bar head.

To enable others to make and use my invention, I will describe its construction and operation.

The carrier or ground wheels G and G' are made similar to those in common use, except that the left-hand wheel G is made about one

inch smaller in diameter than the other, which causes that one to act as the driver, by turning or revolving faster than the other.

The driving-wheel ratchet is composed of the ratchet-hub H', which is keyed to the axle-shaft A, and an annular pawl, *p*, ratcheted on one side, to match the hub H', and the other side provided with two or more projecting lugs, *a*, Figs. 4 and 5. On the rear sides of the lugs is a short inclined plane, *e*. These lugs reach between the spokes of the ground-wheel, and the circular pawl is retained in a central position by the projecting flange or rim *b*, cast to the spokes. When the wheel turns forward, the spokes *d* ride upon the inclined planes *e* to the position shown in Fig. 4, striking the shoulder of the lug *a* and forcing the pawl firmly into gear with the ratcheted collar or hub H'. When the wheel turns backward the spokes change their position to the thin section of the pawl or ring *p*, which permits its teeth to slip past those of the hub H'.

It will be seen that this ratchet is operated without the use of any springs. They may be thrown out of gear, and locked in that position when desired, if the machine is to be drawn any considerable distance without cutting, by using a spring, *f*, Fig. 4, attached to the rim *b*, the end *g* being in the hole *h*, Fig. 5; or it may be placed in front of the teeth, so as to hold it out of gear.

The main frame F is suspended from the ground-wheel or axle A, as seen in Figs. 1 and 2. The bevel-wheel B (seen in Figs. 2 and 3) is hung loosely upon this shaft between two collars, only one of which, J', Fig. 2, is shown, the other being covered by the sliding clutch *k*, which is feathered to the shaft.

I make the frame F of cast-iron, in circular form, as seen in Fig. 1, and having a sort of conical or funnel-shaped bottom, Figs. 2 and 3. There is a bracket or offset, D, to which the tongue T is attached, and also one of the drag-bars E of the cutter-bar. From the rear side projects the hanger K, for the support of the outer end of the crank-shaft I. The rear cutter-bar brace J is hinged to the under side of this hanger. There may be detachable

boxes on the axle under the set-screws *m*, the said screws being employed to take up the wear and screw the boxes in position. There is an opening cut through the under side of the case or frame *F*, to receive the end of the crank-shaft *I* and the pinion *P*, Fig. 3. This opening is entirely covered by the case or cap *L*, which also acts as the journal-box cap for that end of the shaft. There is a sort of saucer-shaped bevel-wheel, *W*, hung within the case or frame *F* upon a vertical axis, the upper bearing being in the cross-bar *M*, provided for that purpose, and the lower journal resting in the step or box's. This is provided with a lug, *r*, to fit between the lugs cast within the cavity of the frame.

There are three lugs or projections, *u*, in the frame, and the lug of the box or step *s* will fit between any two of them, which will afford a triple wear by the different settings of the same box or step. The step rests upon and is adjusted by the set-screw *v*.

The bevel-pinion *t* may be cast with the wheel *W*. The cavity below the bevel-wheel *W*, and also the wheel itself, may be filled with oil or any other lubricator desired, and remain until worn out.

The cap *C* is hinged to the frame in front, as shown in Figs. 1 and 3. The hand-lever *l* is pivoted to the cover or cap *C*. The lower end of the lever is forked, and rests in the groove in the sliding clutch *k*, Fig. 2. The lever is kept in either adjustment by the spring *y*, which may be V-shaped at its bearings against the lever; or there may be a suitable spur on the cover, requiring a side movement of the lever when a change is to be made, as well as the forward and backward movement.

The braces *E* and *J* are provided, at the end connecting with the frame, with a ball or spherical head, as shown in Figs. 2 and 3. The brace *E* is secured to the frame *F* by the same bolt that attaches the tongue *T*, and is shaped as shown in Fig. 1, and connected to the rear end of the shoe *S*. The brace *J* is nearly straight, and is hinged under the hanger *K*, and bolted to the front end of the shoe *S*. The two braces are firmly bolted together at their crossing.

There is a spherical cavity, *n*, cast in the under side of the hanger, (shown in Fig. 3,) to receive the upper side of the ball *q*, while the under side rests in a similar cavity or recess in the clamping-cap *R*, Fig. 2, which is attached to the hanger by means of the bolt *v*'. This bolt also heads one end of the cap *D*' of the crank-shaft journal.

The bearing of the ball *q*' of the brace *E* is composed of two plates, *d*' and *G*'. The upper plate acts as a clamping-plate to the tongue, being held in position by the fixed burr *h*' on the bolt *f*. After adjusting the end of the brace, the plate *G*' is applied, and secured by the nut *n*'.

The bent or angular lever *E*' is hinged to

the brace *J*, and there is a carrier pulley or wheel, *W*', attached to the lower end.

There is a hook-latch, *g*', attached to the top of the frame, as shown in Fig. 1, and it is provided with several notches on the under side, to catch in the loop *p*', and holds the lever in the adjustment; or, if desired, the latch may be pivoted to the lever *E*', and made to slide through a suitable spring-catch at the point where it is now held by the bolt *m*; or, if desired, this lever may be cut off at the point *x*, above the brace *J*, and a lever placed on the ratchet-hub of the ground-wheel *G*'. By making this lever with an opening sufficient to admit said hub, and passing below the axle *A*, the lower end of this lever may have a hole drilled through it, and a connecting-rod pass from it to the upper end of the lever at the place where it is cut off at *x*. This lever on the hub of the ground-wheel *A* may be retained in its position by catches formed in the hanger *N*. This lever is used to elevate or depress the shoe *S* and cutter-bar. The lever *Y* is pivoted to the cutter-bar head *H*, and is prevented from swinging over on the cutter-bar by the spur *s*', Figs. 1, 2, and 6. It is used to raise the outer end of the cutter-bar, and to fold it over and transport the machine. The shoe *S* is cast with a spherical cavity, *v*', in the heel or hook, Fig. 6, and the front end is provided with a vertical standard, *J*', to which is secured the adjustable gage or gate *r*' by the clamping-bolt *k*' that passes through a short slot in the gage. By this means the set of the gage may be raised or lowered.

The head *h*' of the cutter-bar is fitted in the recess *v*, Fig. 6, and the front end is provided with a sort of pivot or wrist pin, *e*', having a square head to slide in the groove *o*, while the bar is free to swing upon the pin and in the cavity in the heel of the shoe.

The slide constitutes the segment of a circle of which the cavity *v*' is the center.

The driver's seat may be arranged in a convenient position with relation to the hand-levers *F* and *y*.

This machine may be converted into a grain-harvester by hinging a platform to the rear of the cutter-bar and applying a reel-pulley to the ground-wheel *G*.

The cutter-bar may be folded over for transportation, as indicated by the dotted lines *A*', Fig. 2.

The hanger-ears *N* may be cast upon the frame, or they may be made separate and bolted on.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The employment, in grass and grain harvesters, of a round cast-iron main frame, *F*, constructed substantially in the manner and for the purposes herein shown and described.

2. In combination with the main frame *F*, the cover or cap *C*, substantially as shown and described, for the purpose of entirely in-

casing the gearing of the machine and protecting it from dust and dirt.

3. In combination with the horizontal bevel-wheel W, the box or step s and adjusting-screw v.

4. The annular pawl p, provided with the inclined plane e, arranged and operating substantially in the manner and for the purposes herein shown and described.

5. The arrangement of the spring f, as shown, and operating in the manner and for the purposes described.

6. The hand-lever y, pivoted to the head H of the cutter-bar, and operating substantially in the manner and for the purposes herein shown and described.

7. Pivoting the rear end h'' of the cutter-bar head H in the shoe S, with a spherical joint, to permit any necessary vertical change in the elevation of the outer end of the cutter-bar, and also of the front side, substantially in the manner and for the purposes herein shown and described.

8. The adjustable gate r'', secured to the standard J'' of the shoe S, arranged to operate as herein described.

THOMPSON C. SEBRING.

Witnesses:

PHILIP F. WELLS,
C. W. CATE.