

(No Model.)

W. N. WHITELEY.
HARVESTER.

No. 358,239.

Patented Feb. 22, 1887.

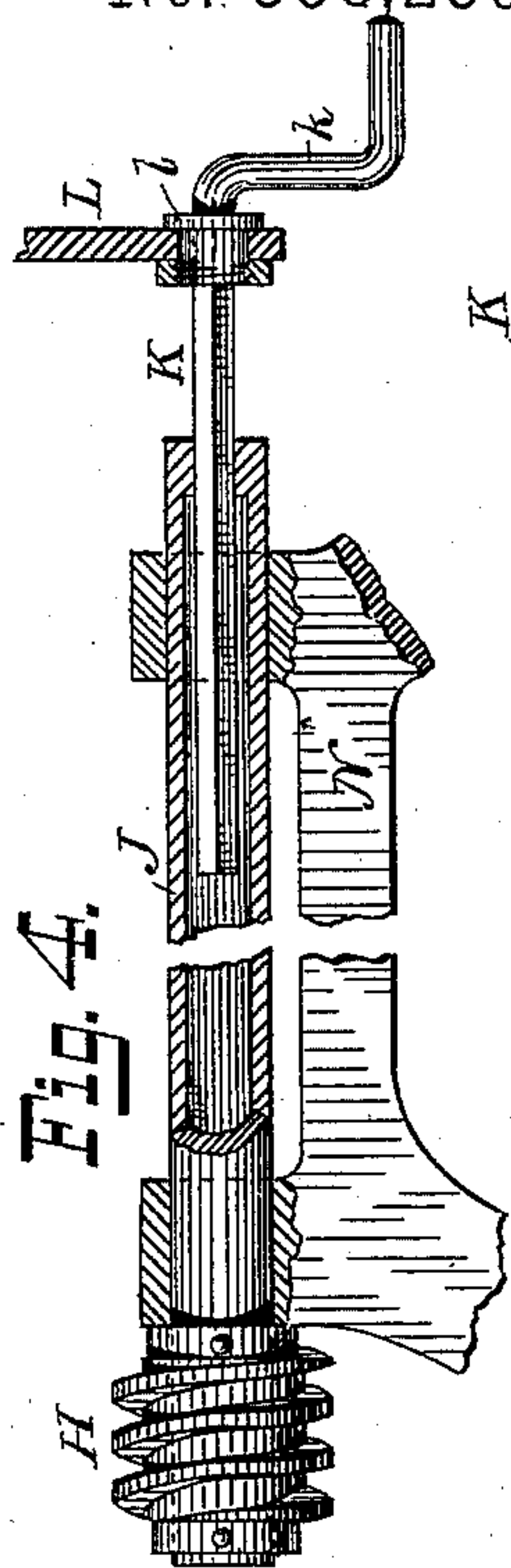


Fig. 4.



Fig. 5.

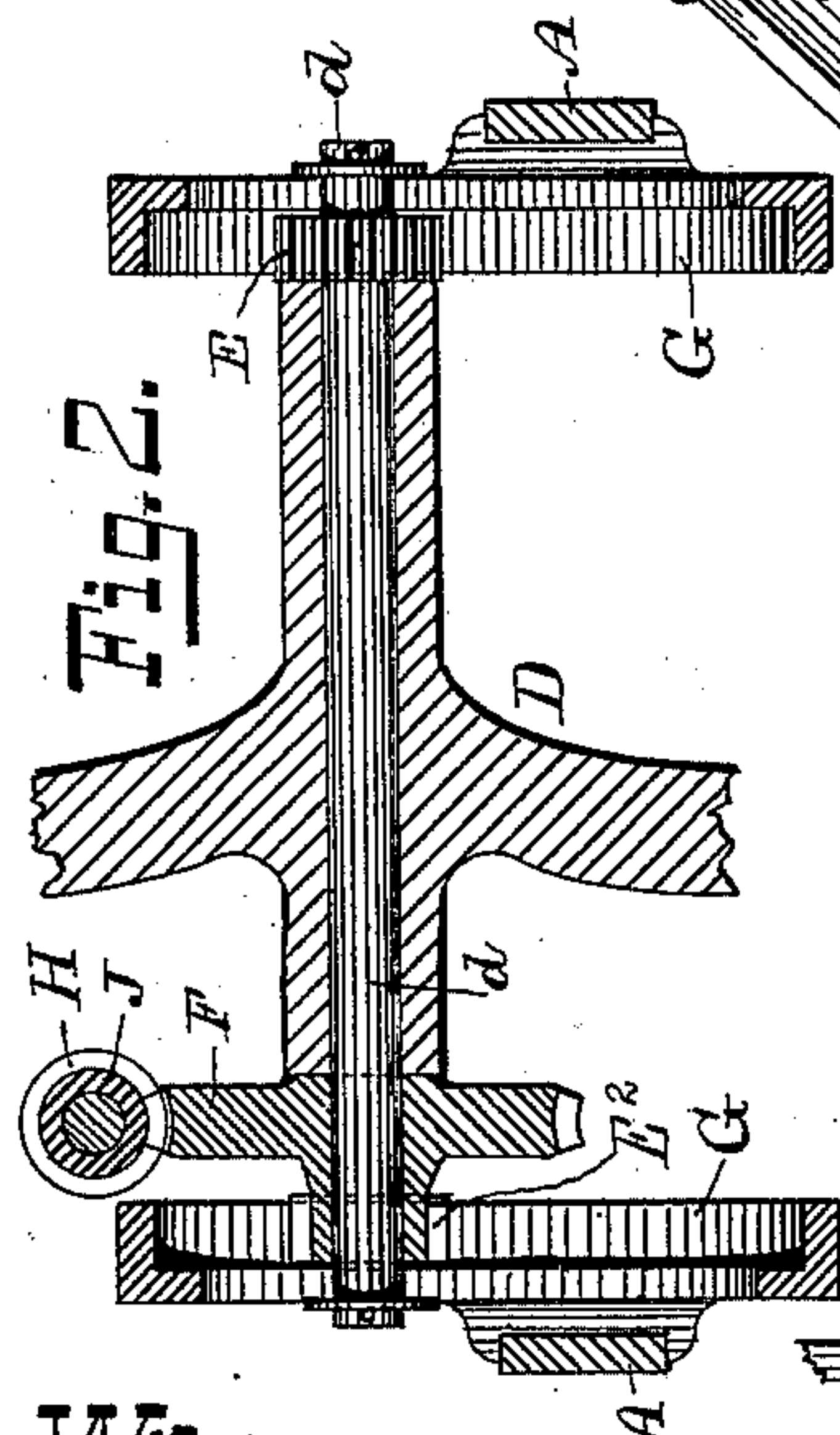


Fig. 2.

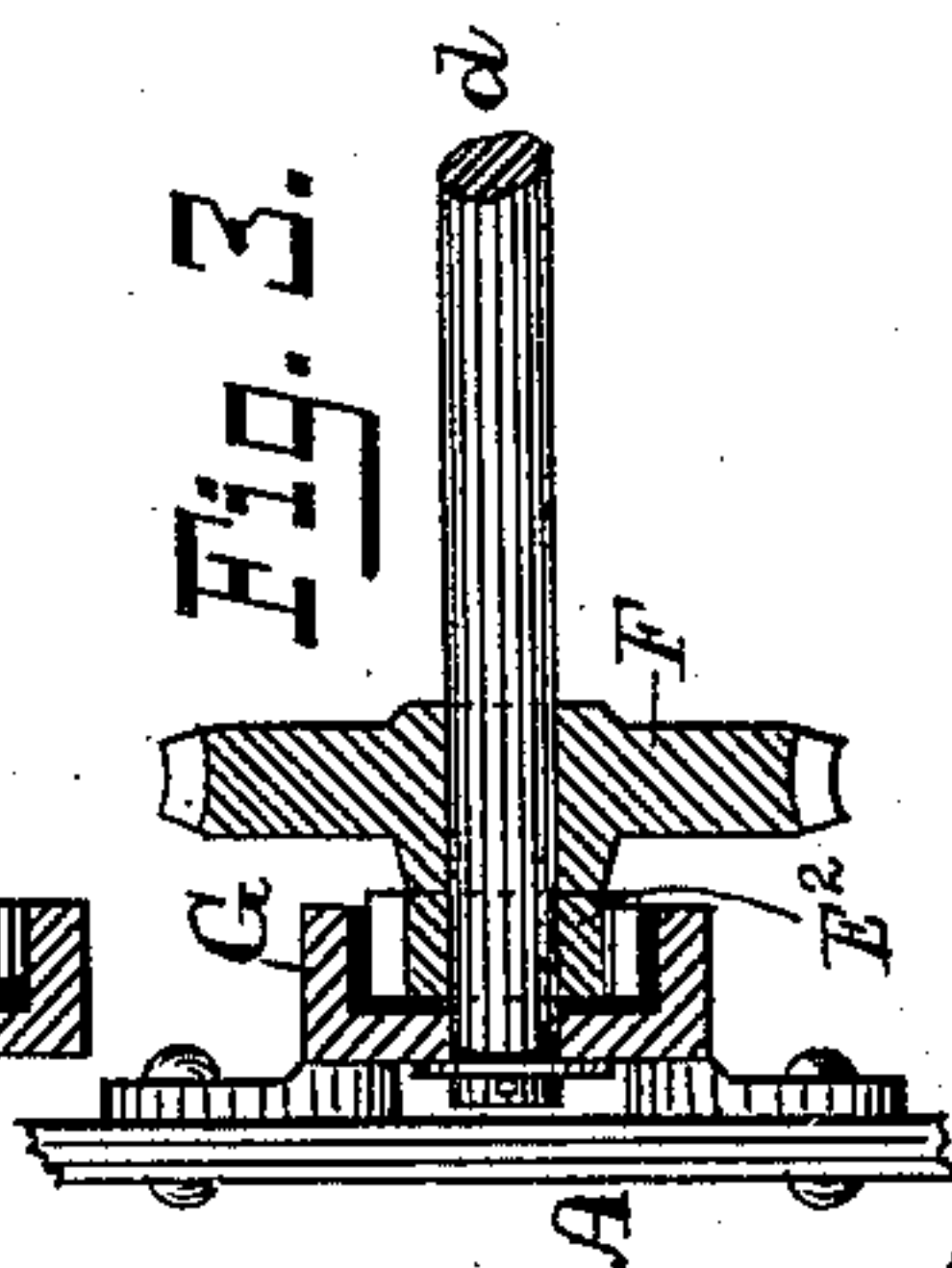


Fig. 3.

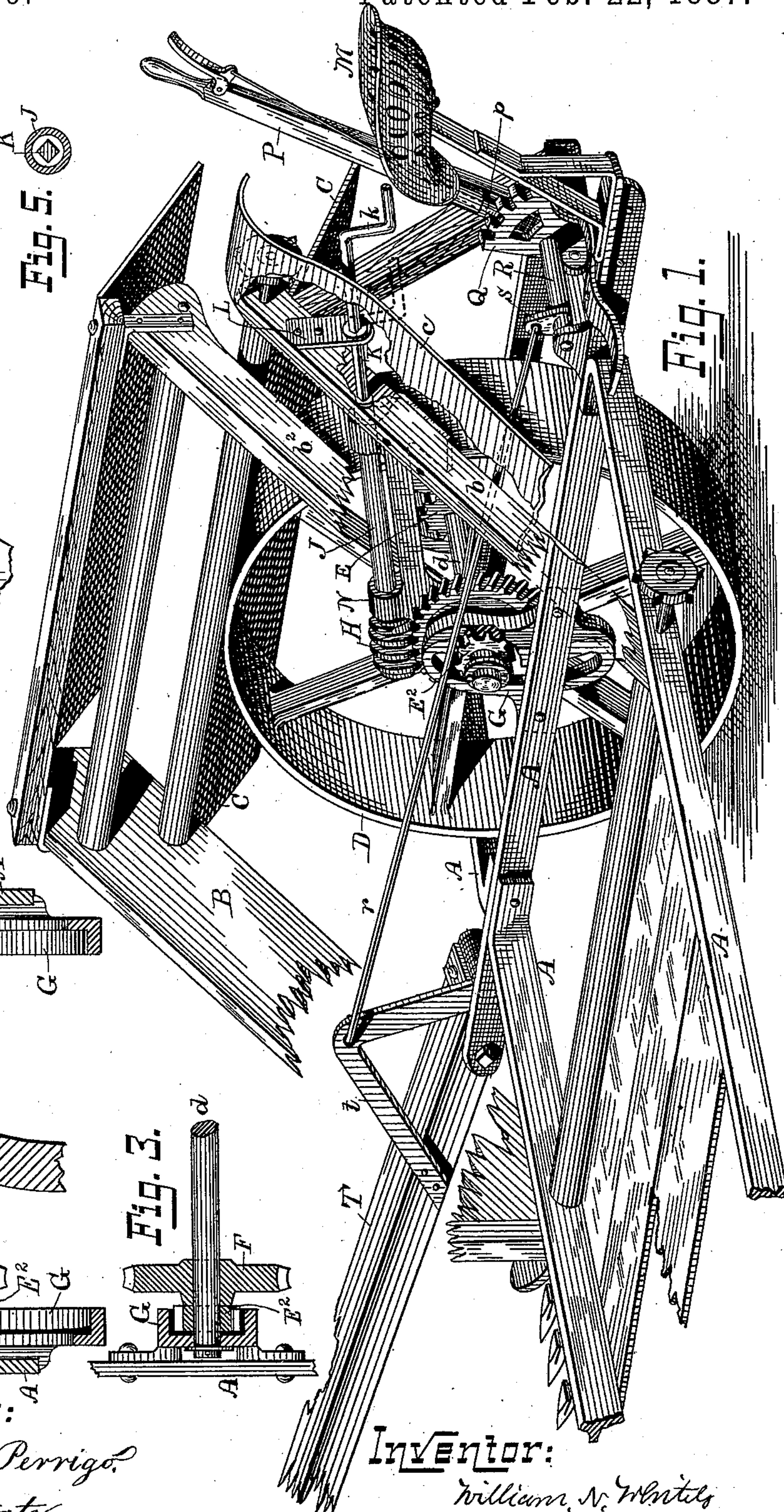


Fig. 1.

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SPECIFICATION forming part of Letters Patent No. 358,239, dated February 22, 1887.

Application filed June 9, 1886. Serial No. 204,608. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM N. WHITELEY, a citizen of the United States, residing in the city of Springfield, county of Clark, and State of Ohio, have invented certain new and useful Improvements in Harvesters, of which the following is such a full, clear, and exact description as that any person skilled in the art may make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to harvesters in general, and particularly to the devices for raising and lowering the main frame and its appendages upon or in respect to the main driving and supporting wheel.

The objects of my invention are to provide a simple and effective device for raising and lowering the main frame and its appendages of a grain-harvester, to automatically retain the same in any desired position, and to dispose of the operating mechanism of said device in such a manner that it shall not be in the way of the operator or of the free working of the machine, and at the same time capable of being quickly brought within the easy reach of the operator when necessary.

My invention consists in so constructing and arranging the device for raising and lowering the main frame and its appendages upon or in respect to the main driving and supporting wheel as that these parts may be easily adjusted to any position desired, and may be automatically retained therein when so adjusted, and operating the same by a device which may be quickly placed within easy reach of the operator, or placed in such a position as to be out of the way of the cut grain, or that it may be removed altogether, as may be desired, and conveniently replaced in its working position when necessary.

The objects sought are accomplished by means of the mechanism hereinafter described, and illustrated in the drawings hereto attached, in which—

Figure 1 is a perspective view of a portion of a grain-binding harvester provided with my device for raising and lowering the cutting apparatus, &c. Fig. 2 is a vertical section through the center of the main driving and supporting wheel, the toothed segments, gears, &c., of the raising and lowering mechanism.

Fig. 3 is a horizontal section through the toothed segments, pinions, &c., of the raising and lowering mechanism. Fig. 4 is a longitudinal section through the telescopic shaft by which the raising and lowering mechanism is operated, and Fig. 5 is a cross-section through the same.

Similar letters refer to like parts in the several views.

A A are the main frame of a grain-binding harvester.

B b b² show the frame of the elevating apparatus, the bar b², supporting the rear ends of the rollers carrying the upper elevator-belt, being supported entirely from the front, constituting what is called an "open-back harvester"—i. e., a harvester and binder having a clear space from the grain-platform up the elevators and down to the binding receptacle—whereby grain longer than the width of the elevator-belts may be elevated and bound, the heads overhanging the rear of the elevating apparatus and lying partly upon the shield c, Fig. 1, which prevents the grain from being entangled in the drive-chain and other moving parts.

C is the binding-deck, upon which any convenient form of binder may be used.

The main driving and supporting wheel D is journaled upon a shaft, d, and has an elongated hub reaching nearly across the width of the main frame, as shown in Fig. 2. (In Fig. 1 the hub is removed for the better showing of the elevating-pinion.) Upon the shaft d are also fixed the pinions E E², the latter being formed in one piece with or fixed to the worm-gear F. The pinions E and E² engage the toothed segments G G, which are fixed to the main frame, and have flanges upon their outer faces, which form a slot for the projecting ends of the shaft d, by which it is held in place, and the pinions E and E² are always kept engaged with the teeth of the segments G G.

Engaging the teeth of the worm-gear F is the worm or screw H, which is fixed to a hollow shaft or tube, J, mounted in suitable bearings in the bracket N, fixed to the main frame or elevator-frame. The end of the tube J opposite to the worm H is closed down, leaving a square hole, or "bushed" with a bushing, through which is a square hole, and into

which is fitted the square shaft K, suitably journaled in the bracket L, fixed to the elevator-frame. Upon the outer end of the shaft K is the hand-crank *k*, by which it is operated
 5 by the driver sitting in the seat M, mounted upon the main frame in the usual manner. The square shaft K passes through a square hole in a thimble, *l*, which revolves freely in the bracket L, as shown in Fig. 4.

10 The height of the main frame, cutting apparatus, &c., being controlled by the main driving and supporting wheel, it is only necessary to change the relative positions of the main wheel and main frame in order to adjust the
 15 cutting apparatus to any desired height. By rotating the crank *k* the screw or worm H causes the worm-gear F to revolve the pinions E and E², which, engaging the teeth of the segments G G, elevate or depress them, and
 20 with them the main frame and parts fixed thereto.

By the use of a worm and worm-gear it is obvious that the mechanism will rest at any desired point, while by the use of toothed
 25 wheels or pinions only some stop device is necessary to sustain the weight of the main frame, &c. While adjusting the height of the cutting apparatus the operating-crank *k* is in the position shown and in easy reach of the
 30 driver. When not in use, the shaft K is pushed into the hollow shaft or tube J, the crank *k* passing under the shield *c* out of the way of

the driver and of the grain as it passes up the elevator. The crank-shaft K may also be entirely removed, if desired, by withdrawing it
 35 from the tubular shaft J and thimble *l*, the shaft J being properly supported by its two bearings in the bracket N.

The main frame and cutting apparatus is "tilted" upon the main-wheel shaft as a center
 40 by the use of a jointed tongue, T, having fixed thereto a bracket, *t*, which is connected by a rod, *r*, with the lever *s*, formed on the rock-shaft R, which is operated by the hand-lever
 45 P fixed thereto, and held in any desired position by means of the usual catch-pin, *p*, engaging the notches of the segment Q, fixed to the main frame.

Having thus described the construction, arrangement, and mode of operation of my invention, what I claim as new, and desire to
 50 secure by Letters Patent, is—

The combination, in a harvester, of a main axle and a main wheel mounted loose thereon, the segments G on the frame, the pinions E E²,
 55 or their equivalents, on said axle, the worm-wheel F, secured to said axle, the worm H, mounted on the telescopic shaft J K, whereof the part K slides but does not turn within the part J.

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Witnesses:

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