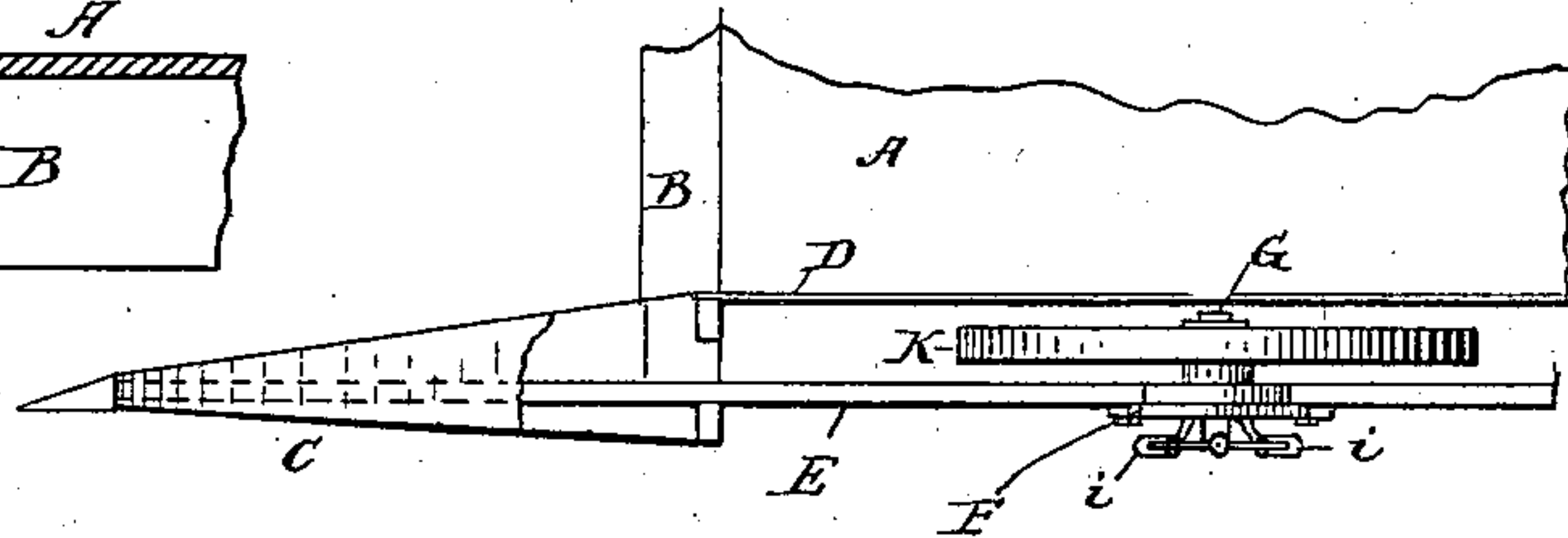
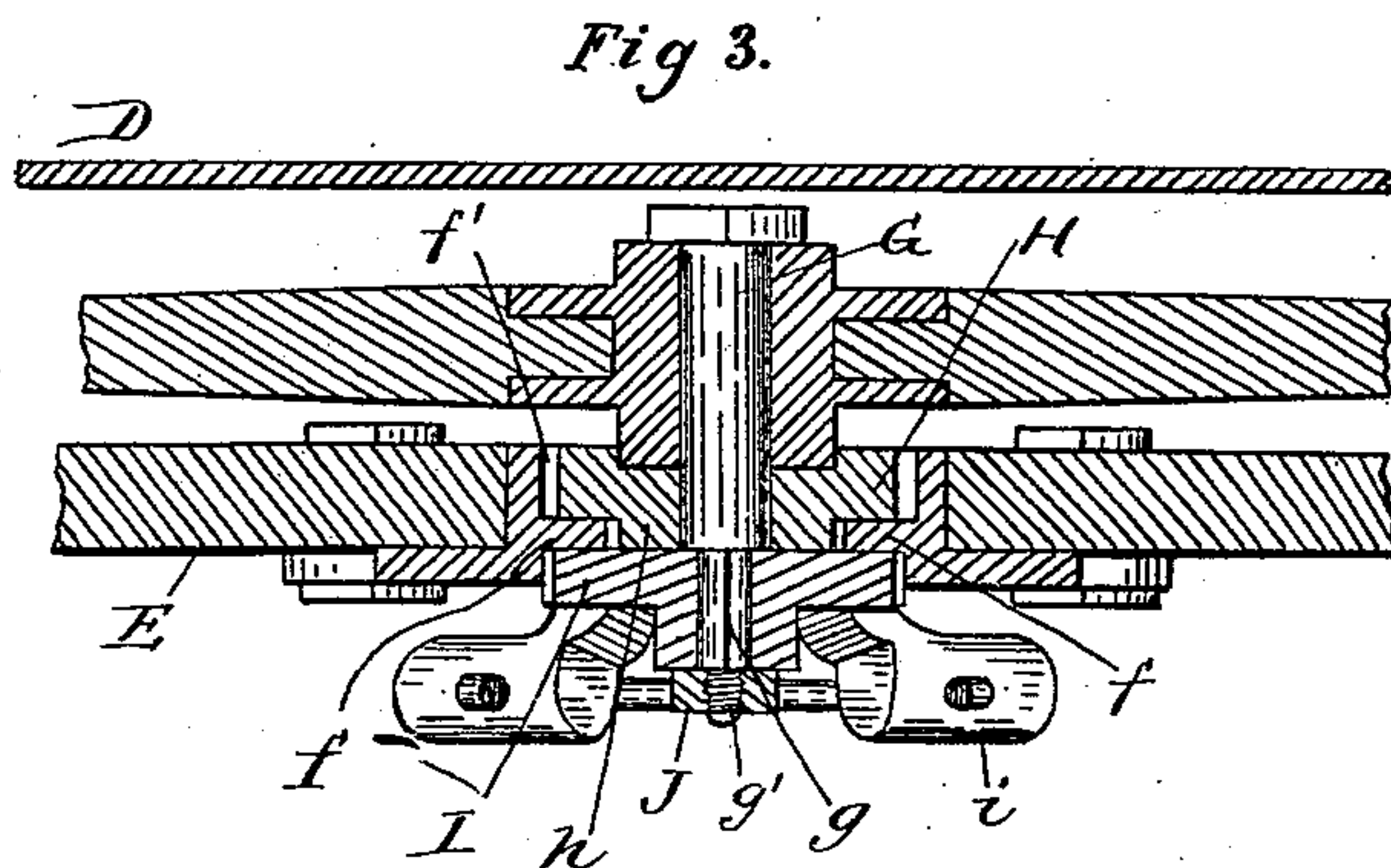
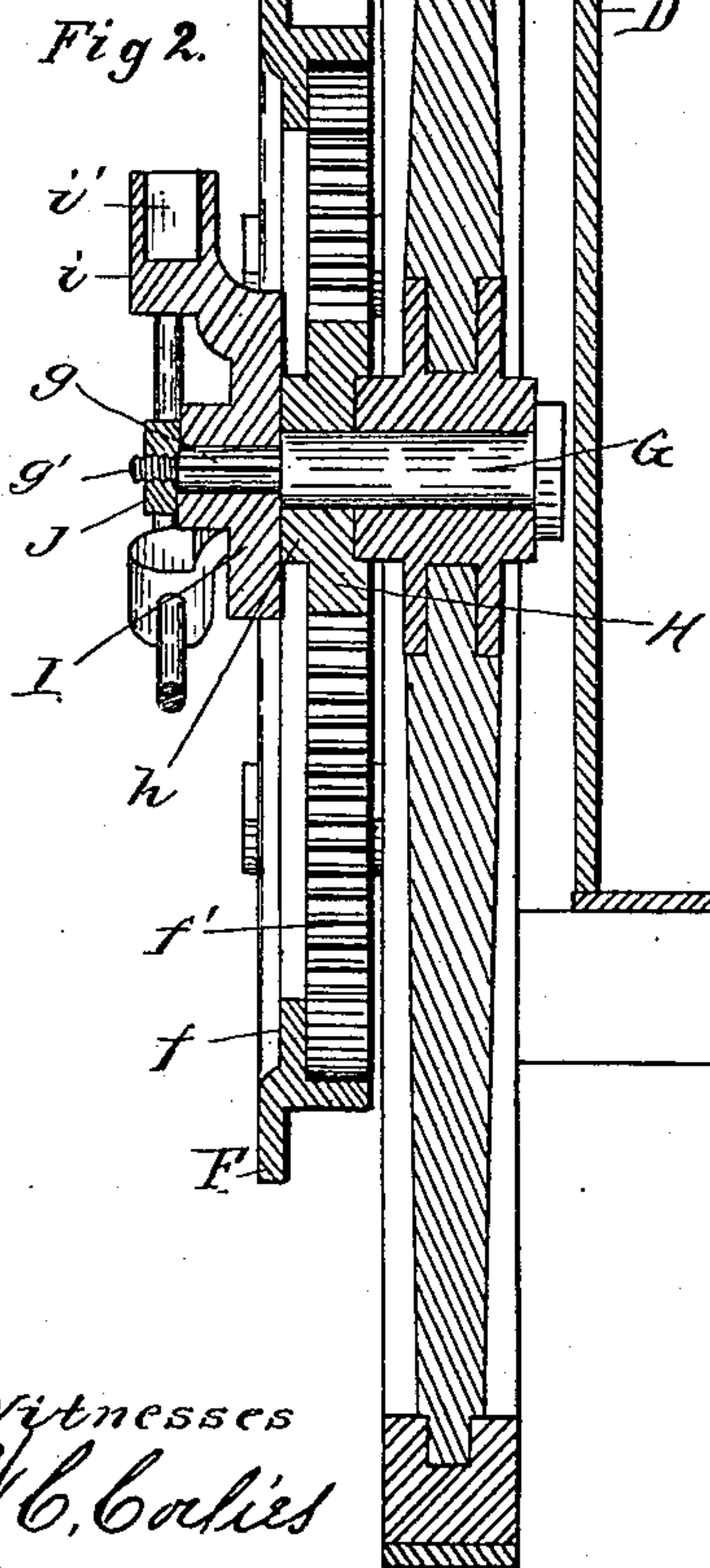
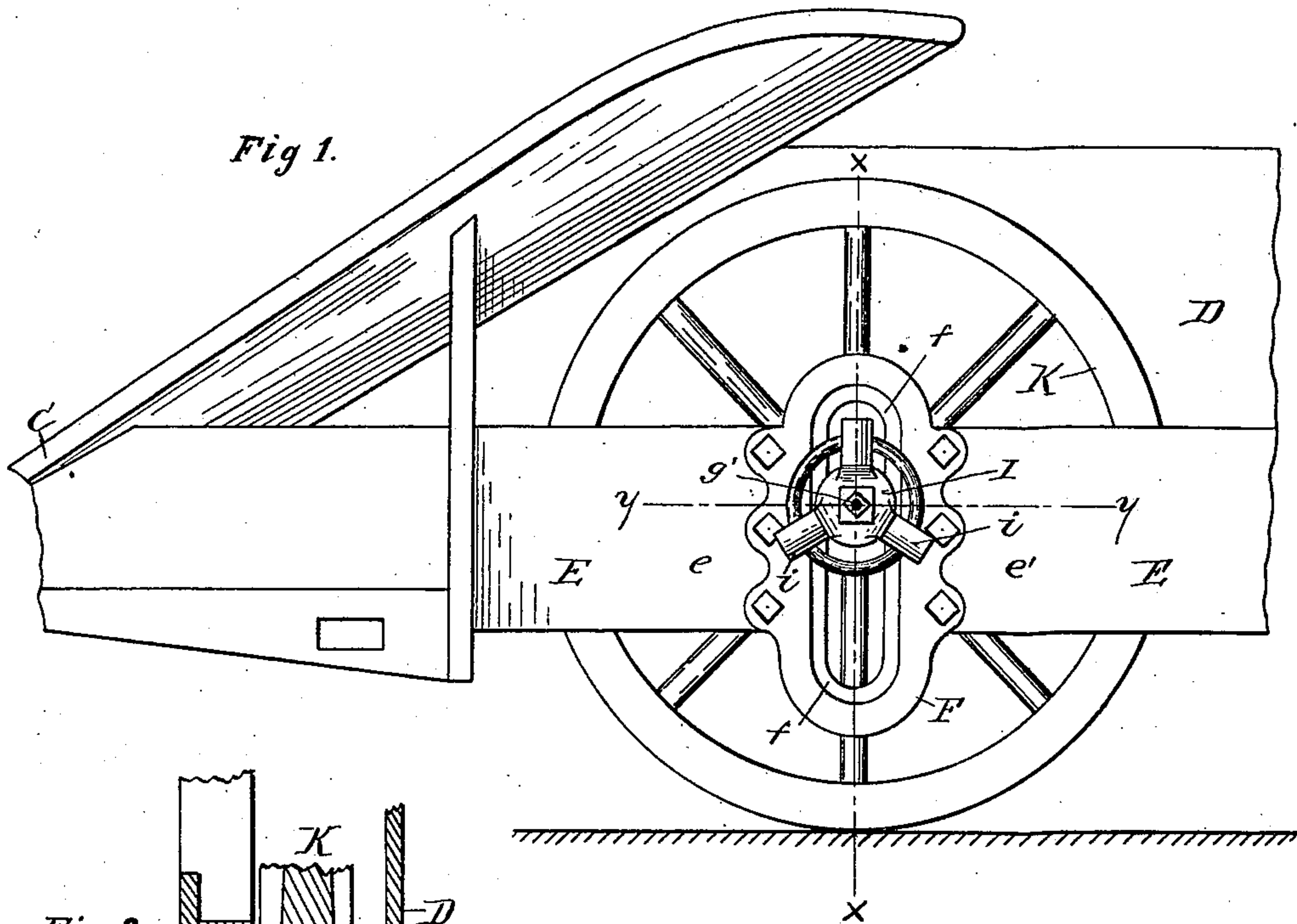


(No Model.)

H. A. ADAMS.  
HARVESTING MACHINE.

No. 306,891.

Patented Oct. 21, 1884.



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# UNITED STATES PATENT OFFICE.

HENRY A. ADAMS, OF SANDWICH, ILLINOIS.

## HARVESTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 306,891, dated October 21, 1884.

Application filed June 12, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY A. ADAMS, a citizen of the United States, residing at Sandwich, in the county of De Kalb and State of Illinois, have invented certain new and useful Improvements in Harvesting-Machines, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

10 Figure 1 represents a side elevation at the grain side of the machine, showing the grain-wheel and the parts adjusted thereto; Fig. 2, a transverse section of the same on an enlarged scale, and taken on the line *xx*, Fig. 1; 15 Fig. 3, a plan section on the same scale, taken on the line *yy*, Fig. 1; and Fig. 4, a plan view on a diminished scale, showing the relation of the several parts.

My invention relates to machines for harvesting grain, and particularly to the means by which the grain-wheel is supported and attached to the machine, whereby it is arranged nearly in line with the divider, and may be readily adjusted.

25 Difficulties have been experienced in harvesting-machines with the grain-wheel constructed and arranged in any of the well-known ways. If the grain-wheel, with its axle-block and adjusting devices, are all arranged on the 30 outside of the end beam, the wheel is projected so far beyond the outer end of the platform on which the grain falls that it has been found very difficult to make the divider "gather" enough to protect the standing grain from the 35 encroachments of the wheel, and consequently a line of grain is likely to be trodden down and lost. If, on the other hand, the wheel and its attaching and adjusting devices are all arranged inside of the beam, the space re- 40 quired for their accommodation is such that the platform is encroached upon, so as to interfere with the proper delivery of the grain thereon.

My present improvement is intended to overcome these difficulties, and I will proceed to describe in detail the construction and operation of the invention as I have carried it out practically in one way, and will then point out definitely in the claims the special im- 45 provements which I believe to be new and desire to secure by Letters Patent.

As the improvement relates only to the

grain-wheel, I have shown in the drawings and shall describe only so much of the machine as is necessary to an understanding of 55 the invention, for the improvement can be applied to any harvesting-machine, whatever may be the construction of the other parts.

In the accompanying drawings, A represents the platform of a harvesting-machine; 60 B, the finger-beam; C, the divider; and D, the grain-guard at the grain end of the machine, and all of these parts are of any ordinary construction. The outside beam, E, of the platform-frame is also of ordinary construction, except that it is divided at the point 65 where the grain-wheel is to be located; or, in other words, is made of two parts, *e e'*, as shown in Figs. 1 and 3 of the drawings. These two sections are joined together by a metal 70 yoke, F, which is provided with flanges at each side, by which the inner ends of the two beam-sections are firmly bolted to the yoke. The yoke has a long central opening, which stands vertically when the parts are secured together, 75 as shown in Fig. 1 of the drawings, and is provided near its outer face with a flange, *f*, projecting inward around this opening, inside of which it is also provided with a toothed rack, *f'*, on one side of the opening or slit in 80 the yoke, preferably the front side, as shown in the drawings. This yoke device provides a means for supporting the stub-axle G on which the grain-wheel is mounted. The axle is arranged within the opening in the yoke, and 85 has a toothed pinion, H, secured to it, so as to also stand within the yoke and inside of the flange of the latter, the diameter of the pinion being about equal to the width of the yoke-opening, and arranged so that the pinion en- 90 gages with the rack on the yoke. The pinion has a short boss, *h*, on its outer face of less diameter than the body, so as to enter the space within the flange on the yoke. The depth of this boss is about equal to the thickness of the 95 flange, though it should be just a trifle less. The end of the axle G outside of the pinion is cut down and provided with a square section or shank, *g*, to which is fitted loosely an adjusting-wheel, I, the inner or hub portion of 100 which is of such size as to fit within the outer portion of the yoke against the outside of the flange of the latter. This wheel is held in place by means of a nut, J, which is turned upon



the threaded end *g'* of the axle. The wheel is provided with radial arms *i*, in which are sockets *i'* for the reception of a hand-lever, by which it may be turned to adjust the platform, as will presently be described. The inner end of the axle projects inward beyond the yoke, and the grain-wheel K is mounted loosely thereon inside of the beam and between it and the grain-guard. It will be seen that whenever the nut J is turned up against the adjusting-wheel the inner face of the latter is clamped against the flange of the yoke, and by this clamping device the position of the yoke is fixed at any point desired. When it is desired to adjust the height of the outer end of the platform, this fastening-nut is loosened slightly, a hand-lever is inserted in one of the arms of the adjusting-wheel, and the latter turned in the proper direction to rotate the axle and pinion thereon in such a way as to raise or lower the yoke and beam attached thereto by the engagement of the pinion with the rack, and when the proper adjustment is secured the nut is again turned up, thereby clamping the axle to the yoke and holding it in the position desired, as above described. The fastening and adjusting devices of the grain-wheel are thus brought substantially in the same plane with the outer beam, and are readily reached and manipulated for any of the usual purposes. At the same time the grain-wheel is arranged within the beam without requiring any substantial enlargement of the space between the latter and the grain-guard, and obviously the tread of the wheel is but slightly, if any, outside of the line of cut, so that the outward inclination of the divider required is very slight, in order to bring it in line with the grain wheel, as shown in Fig. 4 of the drawings. The difficulties mentioned above are thus obviated without inclining the wheel, and the outer support of the platform is as strong as when the beam is made entire.

Obviously there are different ways of applying my improvement to the machine, and I do not confine myself to all the details of construction and the specific devices set forth in the description above, provided the main elements of the improvement are retained by which I am enabled to secure the results already set forth.

In the drawings, the grain-wheel is shown arranged inside of the beam, and this is the arrangement described above. I do not wish to be understood, however, as restricting my invention to this particular arrangement, for like beneficial results are obtained by arranging the wheel on the outside of the beam. Whether the grain-wheel is placed inside or outside of the beam, the advantages gained

by dividing the beam and placing the attaching and adjusting devices between the sections of the beam and in line therewith are substantially the same. In either case the wheel is brought close to the beam, so that if on the outside there is only about the space occupied by the wheel alone to protect by the "gather" of the divider, and if on the inside there is only a similar slight encroachment on the platform.

The division of the end beam and the arrangement of the attaching and adjusting devices of the grain-wheel are the essential features of my invention, and the details of construction and arrangement may be varied in many different ways.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a harvesting-machine, a divided end beam, a coupler or connecting device for uniting the parts of the beam, and mechanism for attaching the grain-wheel to the frame, arranged, mainly, between and substantially in line with the sections of the end beam, substantially as and for the purposes set forth.

2. In a harvesting machine, a divided end beam, in combination with a yoke to which the adjacent ends of the beam-sections are secured, the axle of the grain-wheel passing through the opening in and secured to the yoke, and a grain-wheel mounted on the axle at one side of the beam, substantially as and for the purposes set forth.

3. The beam-sections *e e'*, in combination with the metal yoke F, axle G, passing through the opening in said yoke, grain-wheel K, arranged at one side of the yoke, and mechanism whereby the axle may be adjusted up and down in the yoke and secured in any position desired, substantially as described.

4. The beam-sections, in combination with the yoke F, provided with a flange, *f*, and toothed rack *f'*, axle G, grain-wheel K, and pinion H, substantially as described.

5. The yoke F, provided with flange *f* and rack *f'*, in combination with the axle G, grain-wheel K, pinion H, adjusting and clamping wheel I, and fastening-nut J, substantially as described.

6. The beam-sections, in combination with the yoke F, to which the sections are secured, the axle passing through said yoke, the grain-wheel mounted on the axle at one side of the beam, the finger-bar, and the divider, all arranged and operating substantially as described.

H. A. ADAMS.

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