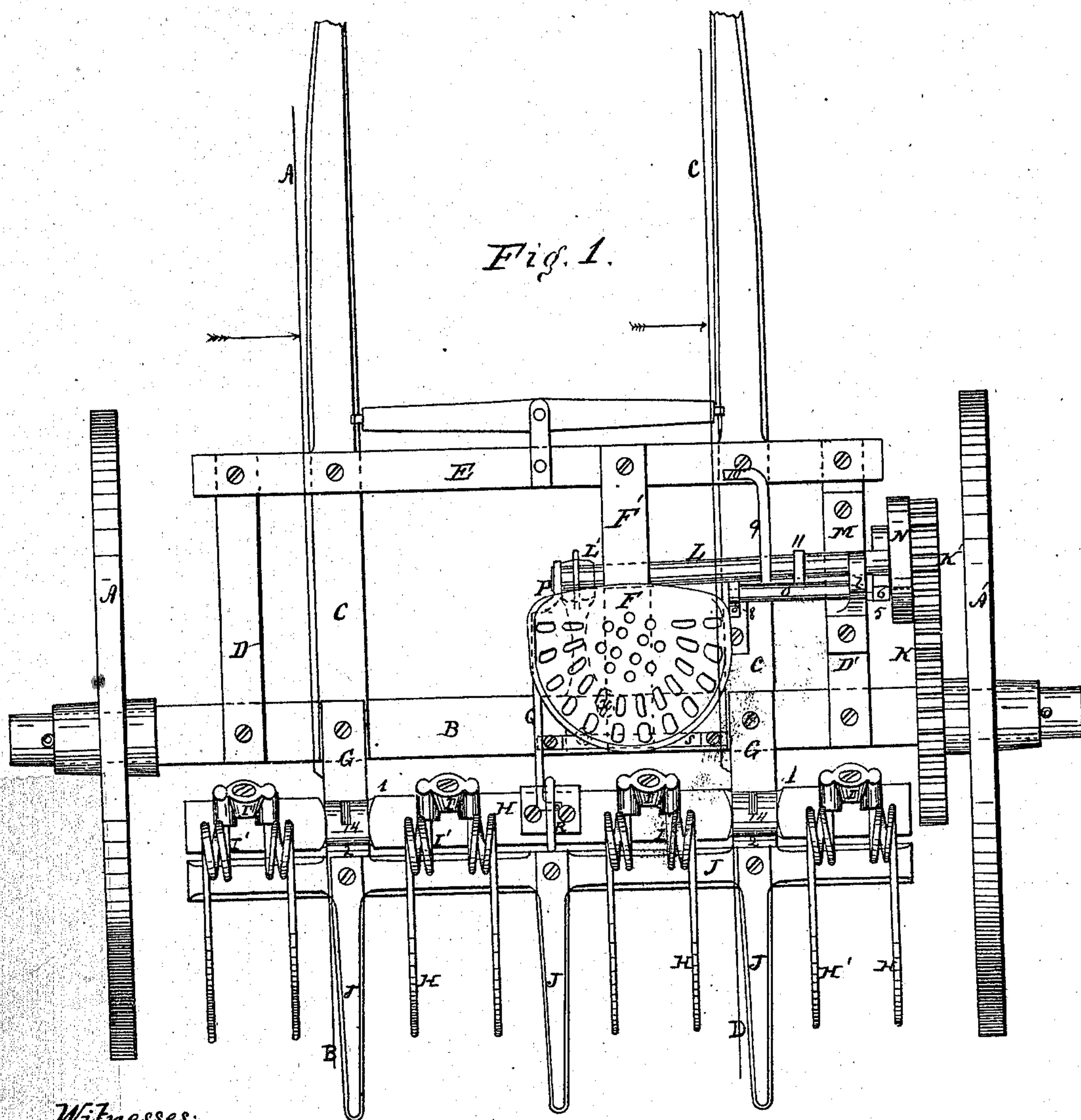


H. A. Streeter

Horse Rake.

N<sup>o</sup> 89808

Patented May 4, 1869.



Witnesses:

Thos C. Dodge

D. Miller.

Inventor:

H. A. Streeter

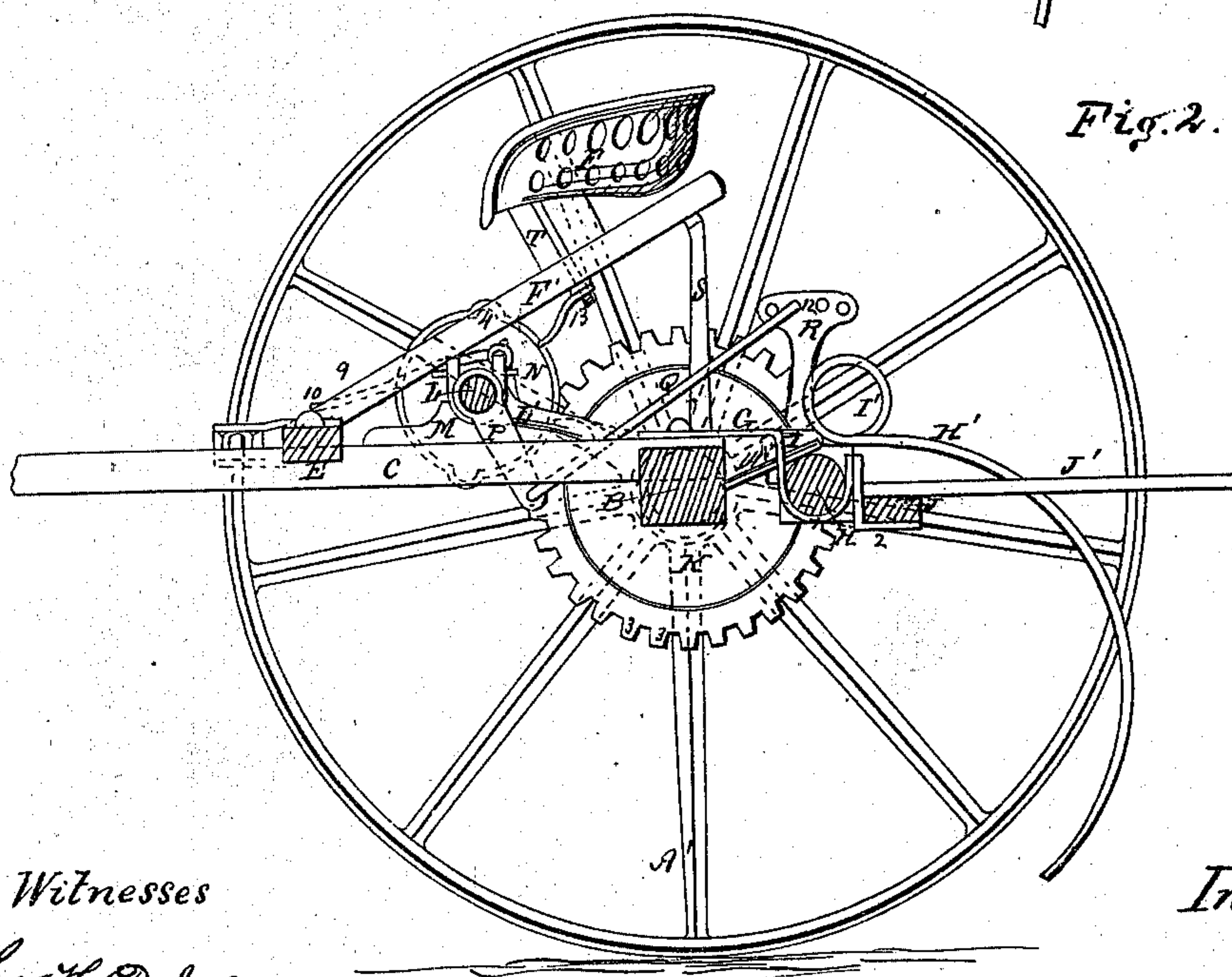
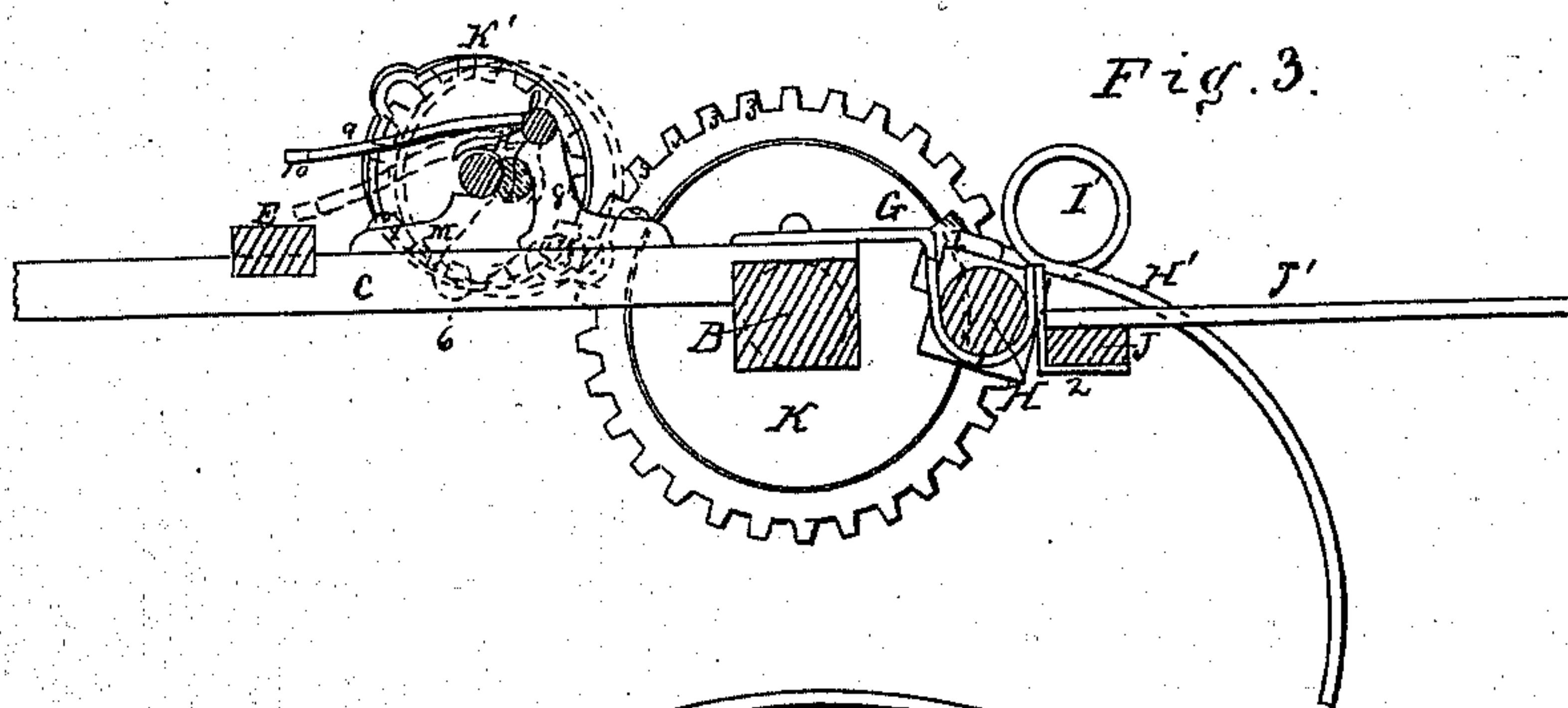


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# UNITED STATES PATENT OFFICE.

H. A. STREETER, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO J. P. STREETER & BROTHER.

## IMPROVEMENT IN HORSE-RAKES.

Specification forming part of Letters Patent No. 89,808, dated May 4, 1869.

*Know all men by these presents:*

That I, H. A. STREETER, of the city and county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Horse Hay-Rakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a plan or top view of my improved horse hay-rake, the shafts being shown broken off. Fig. 2 represents a section on line A B, Fig. 1, the gearing device being shown in the position which it occupies just after being thrown in gear for raising the teeth, which are shown partially elevated; and Fig. 3 represents a section on line C D, Fig. 1, as will be hereafter explained.

To enable those skilled in the art to which my invention belongs to make and use the same, I will describe it more in detail.

The nature of my invention consists, first, in the combination, with the axle, rake-head, and clearer-finger bar, of curved metallic bearing-arms for supporting the head and clearer-finger bar, as will be hereafter explained; second, in the relative arrangement, with the main frame and supporting-wheels, of the driver's seat, clearer-finger bar, clearer-fingers, rake-head, rake-teeth, and mechanism for operating the rake-head, as shown in the drawings, and hereafter explained; third, in the peculiar devices for throwing the teeth-lifting mechanism in and out of gear, as will be hereafter explained.

In the drawings, A A' are two main supporting-wheels, fitted to run upon the main axle B, to which the rear ends of the shafts C C are fastened. Outside of the rear ends of the shafts are two main frame-pieces, D D', the rear ends of said pieces being fastened in recesses or gains cut in the top side of the axle, while their front ends are fastened to the under side of the main cross-piece E, which, in turn, is fastened to the upper sides of the shafts C C.

The driver's seat F is supported upon a spring-brace, F', fastened to the cross-piece E. To the rear upper sides of the shafts C C are fastened the forward ends of the metal arms G G.

The arms G extend back horizontally a short distance, then down and up again, forming curved bearings 1 1, for supporting the rake-head H, to which are secured the rake-teeth H' by means of the metal connecting-pieces I, the upper ends of the teeth being bent to fit the corner of the head, and also the recesses in the under sides of the metal caps I. The coils I' give the teeth the necessary elasticity.

The metal arms G extend back of the curved bearings 1, to form the right-angle supports 2 for the clearer-finger bar J, which is fastened thereto for supporting the rear projecting stationary clearer-fingers J'.

The right-angle supports 2 may be made separate from the metal arms G, and afterward fastened thereto, or both may be made from the same piece of metal, as may be preferred.

Combined with or secured to wheel A' is a gear, K, provided with teeth 3, to operate gear K', fastened to the outer end of shaft L, the inner end of which is supported in a forked bearing-piece, L', while its outer end is fitted to work in a slot in the stand-piece M, as indicated in the drawings.

To the inner face of gear K' is secured a circular disk or flange, N, the inner surface of said flange being concentric with shaft L, but having two recesses, 4 4, upon opposite sides, as shown in Figs. 2 and 3. From the outer side of stand M projects a pin, 5, which extends in under flange N, as shown in dotted lines, Fig. 1.

One end of a flat spring, 6, is fastened to said pin by a loop-connection, while the other end of said spring is bent up in hook form and clasped upon the inner side of shaft L, the tendency of the spring being to force the outer end of shaft L, to which is secured gear K', forward, for a purpose hereafter explained. One end of a short shaft, O, is journaled in the upper fork, 7, of stand M, while the other end is journaled in a bearing-piece, 8, fastened to the upper side of the shaft C on that side. Shaft O is provided with a treadle-arm, 9, which projects forward over shaft L, and is bent in to form a convenient foot-piece, 10. Shaft O is also provided with a fork, 11, the tines of which straddle



shaft L, as clearly indicated in Fig. 3 of the drawings.

To the inner end of shaft L is secured the crank-arm P, which, in turn, is coupled, by means of the connecting-rod Q, to the stand or arm R, fastened to the rake-head H, the upper end of stand R being provided with a series of holes, 1 2, whereby the position of head H can be adjusted to support the teeth H' at any required distance above the ground during the operation of raking and gathering the hay.

The rear end of spring-brace F' is supported by a stand, S, fastened to the axle B. A slot is cut in the rear part of brace F', whereby seat F can be moved forward and back to adjust it to the proper height to suit the driver, the seat being held in its adjusted position by the lever-nut 13, which screws upon the lower end of a screw-bolt which passes down through the stand part T of seat F.

Pins 14 may be passed through the metal bearing-pieces G into axle B, for holding the rake-head from rising up. (See Fig. 2.)

As the action of spring 5 tends to force the outer end of shaft L forward, gear K' will be kept out of gear with gear K, when one of the recesses 4 fits the end of pin 5, unless forced back by treadle 9 acting on shaft L; and when said gear is forced back and retained in gear until flange N has moved to pass said recess 4 by the end of pin 5, said gear will be retained in mesh until flange N is turned to bring the other recess 4 opposite pin 5, when spring 6 will throw the end of shaft L, gear K, and flange N forward and out of gear, and the rake-head will remain locked in such position, whether elevated or depressed, as the case may be, until foot-treadle 9 is operated again to throw gear K' in mesh with gear K, as before explained. It will thus be seen that when either of the recesses 4 fits upon the end of pin 5, gear K' is out of mesh, and the rake-head remains locked in a stationary position, and that the arrangement of the parts is such that such locking takes place when the teeth are depressed to the proper point for gathering the hay, and also again when the head has been turned to raise the teeth sufficiently to discharge the raked hay therefrom.

The operation is as follows: Assuming that the teeth are down, the head locked, as before explained, and a sufficient quantity of hay gathered to form a windrow, the driver, while sitting on the seat F, places his foot on treadle-piece 10 and depresses treadle 9, thereby causing fork 11 to be depressed, so as to move the outer end of shaft L back sufficiently to throw gear K' into mesh with gear K, when flange N will be moved and the recess 4 will pass the end of pin 5, after which gear K' will remain in mesh without any further attention on the part of the driver, and the rake-head H will be revolved, by means of shaft L, crank P, and connecting-rod Q, until the next recess 4 in flange N comes opposite pin 5, when gear K'

will be thrown out of mesh, and the head H will be locked with the teeth in a sufficiently-elevated position to pass the windrow or gathered hay. As soon as the windrow is passed the driver depresses treadle 9, and gear K' is thrown into mesh again, when the rake head will be turned back until the teeth are depressed sufficiently to commence the raking operation, and at which time said head will be locked by the next recess 4 fitting pin 5, as before explained.

From the foregoing it will be seen that my improved rake is well adapted for use even by a mere lad, since the parts are so arranged as to be operated easily by the driver with the expenditure of but little physical force.

By the use of the curved bearing-pieces G G for supporting the rake-head, and the pins 14 for retaining it in place, the head can be detached from the other parts of the rake in a very neat manner for transportation, storage, or for repairing the teeth.

I have been prompted to make my said improvements in horse hay-rakes from the fact that I have heretofore purchased an exclusive territorial right to manufacture, sell, and use the hay-rake patented by J. C. Stoddard, of this city, and from practical experience have found that certain changes and improvements in said rake were necessary in order to meet the demands and requirements of farmers.

Having described my improvements in horse hay-rakes, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the axle, rake-head, and clearer-finger bar, of the curved metallic bearing-arms G G, which carry the rake-head, finger-bar, and clearing-fingers, when said arms are constructed with an open bearing for the rake-head and a support for the clearer-finger bar, and are held to the axle, so as to project from the rear of the same, in the manner shown and described.

2. The arrangement, in connection with the shaft L, of the rotating shaft O and treadle and fork which it carries, and the spring 6 and pin 5, as and for the purposes shown and described.

3. The combination and relative arrangement, with the main frame and supporting-wheels, of the driver's seat F, rake-head H, curved metallic arms G G, clearer-finger bar J, shafts O and L, treadles 9 10, and fork 11, said parts being constructed and arranged, with relation to each other, as and for the purposes set forth.

4. The combination, with shaft L and pin 5, of spring 6, made in the form and applied in the manner described, and shown in the drawings.

H. A. STREETER.

Witnesses:

THOS. H. DODGE,  
D. L. MILLER.