

(No Model.)

2 Sheets—Sheet 1.

J. HARRIS.  
Harvesting Machine.

No. 242,925.

Patented June 14, 1881.

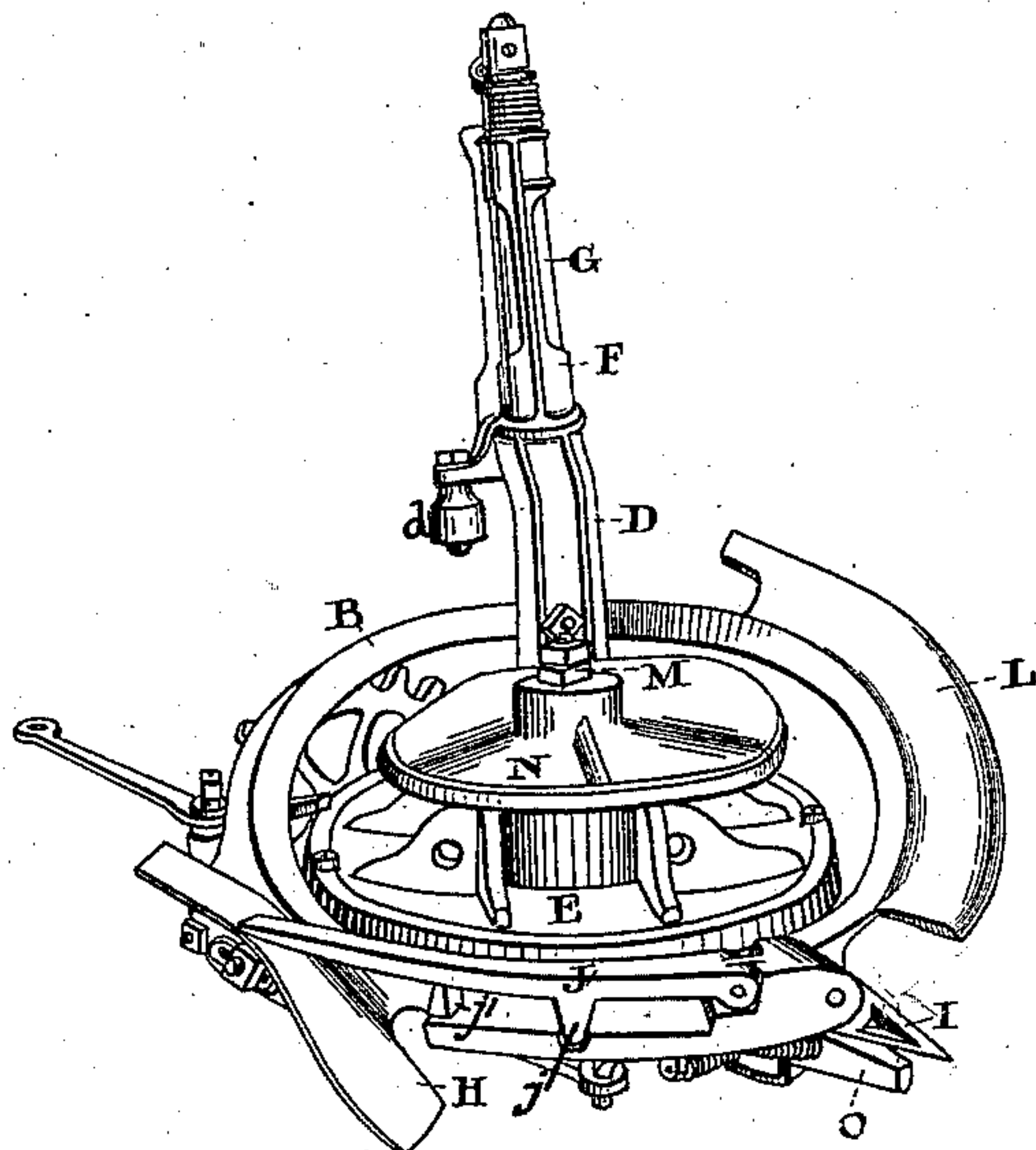


Fig. 1.

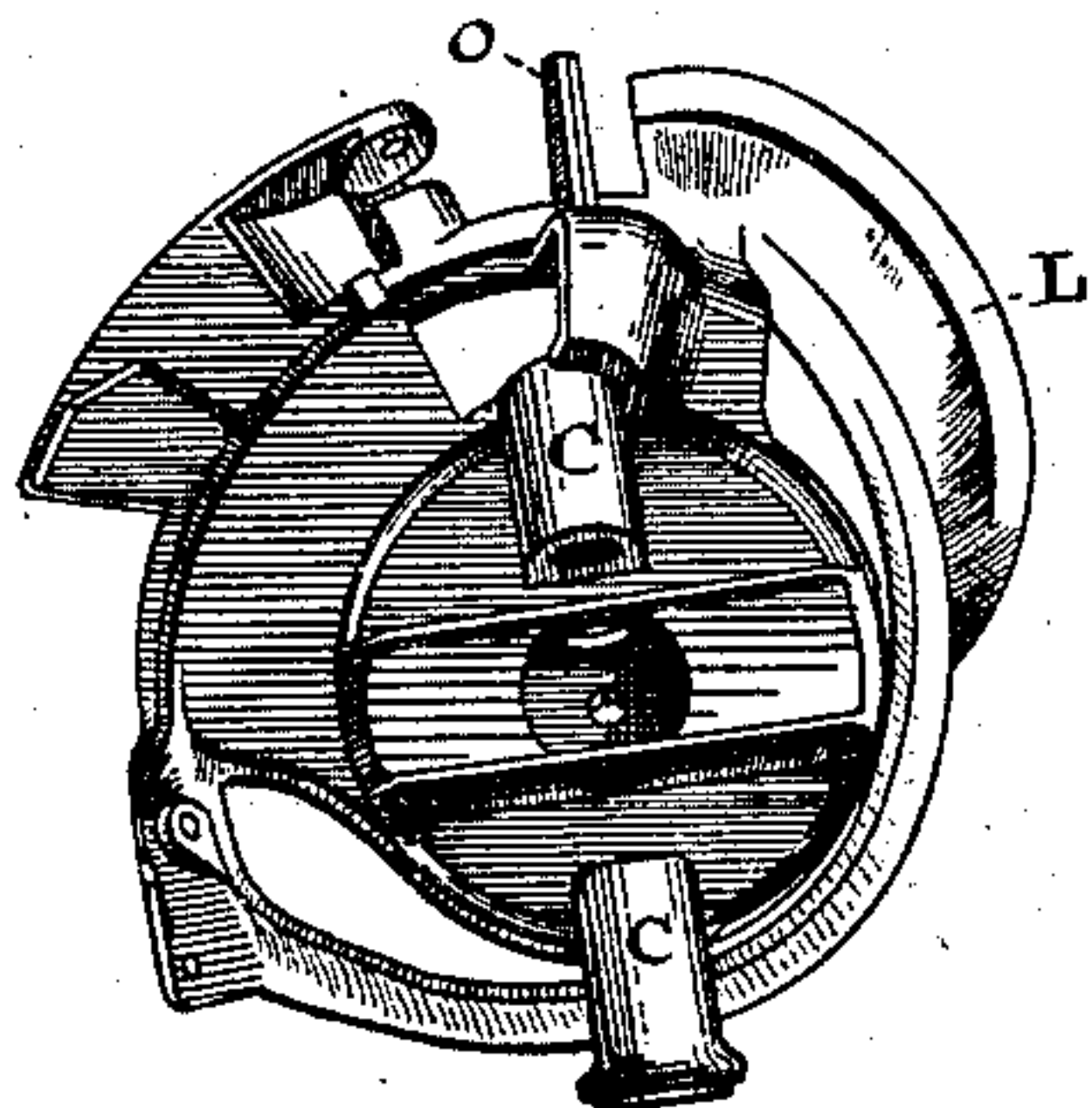


Fig. 4.

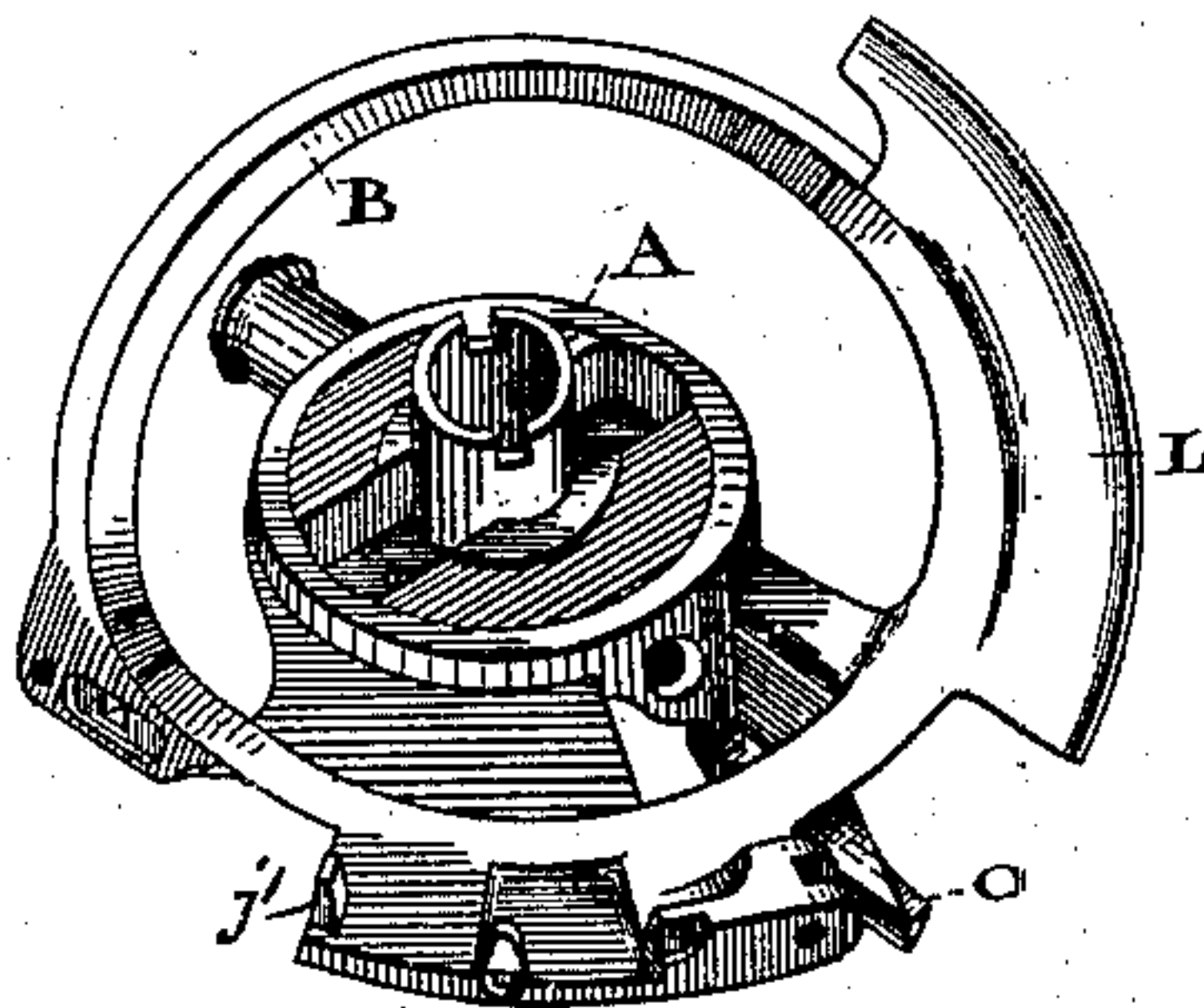


Fig. 3.

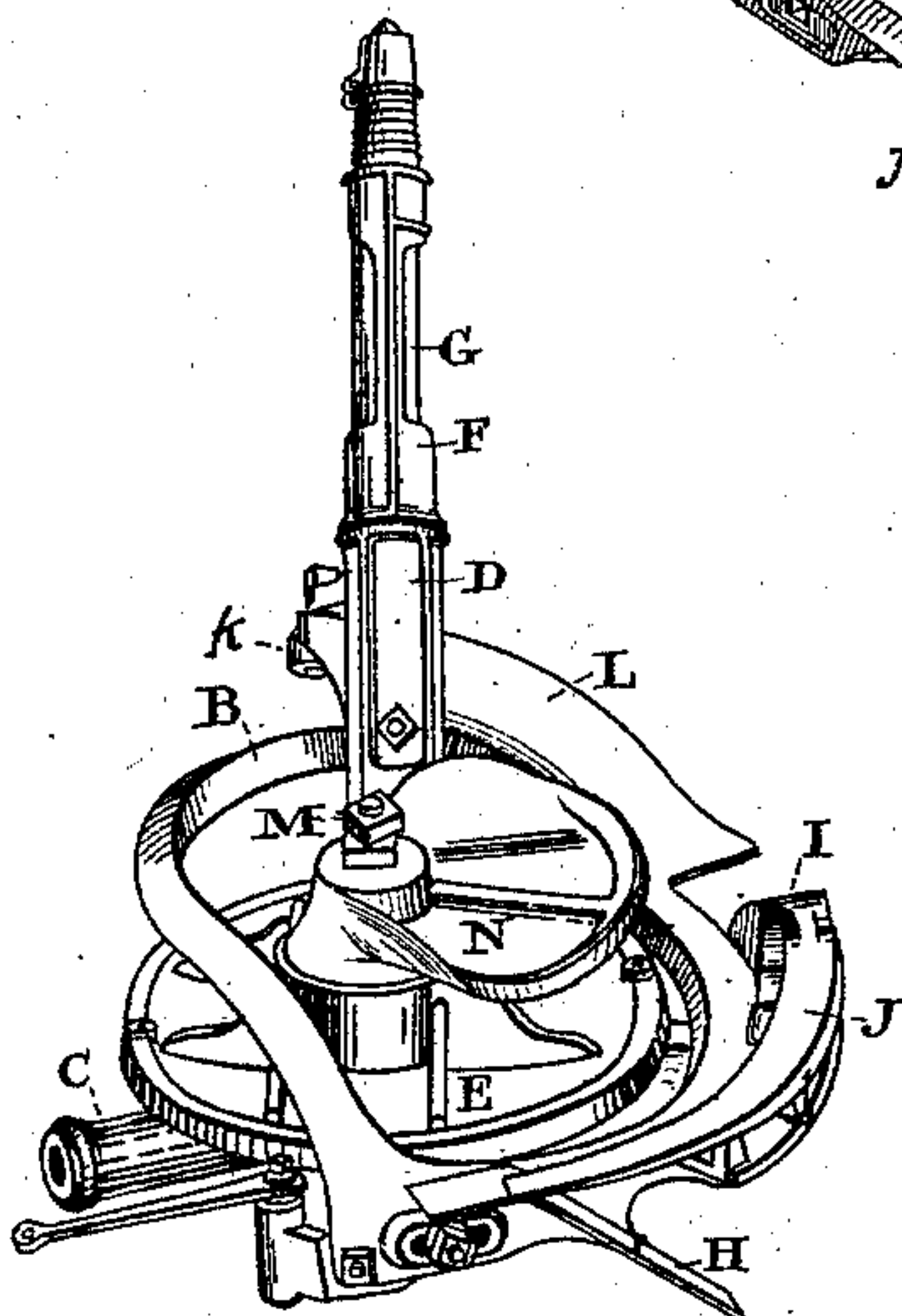


Fig. 2.

Witnesses.

Lewis Tomlinson

C. W. Baldwin

Inventor.

John Harris  
by Ridout Aird & Co.  
Attys.

(No Model.)

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Harvesting Machine.

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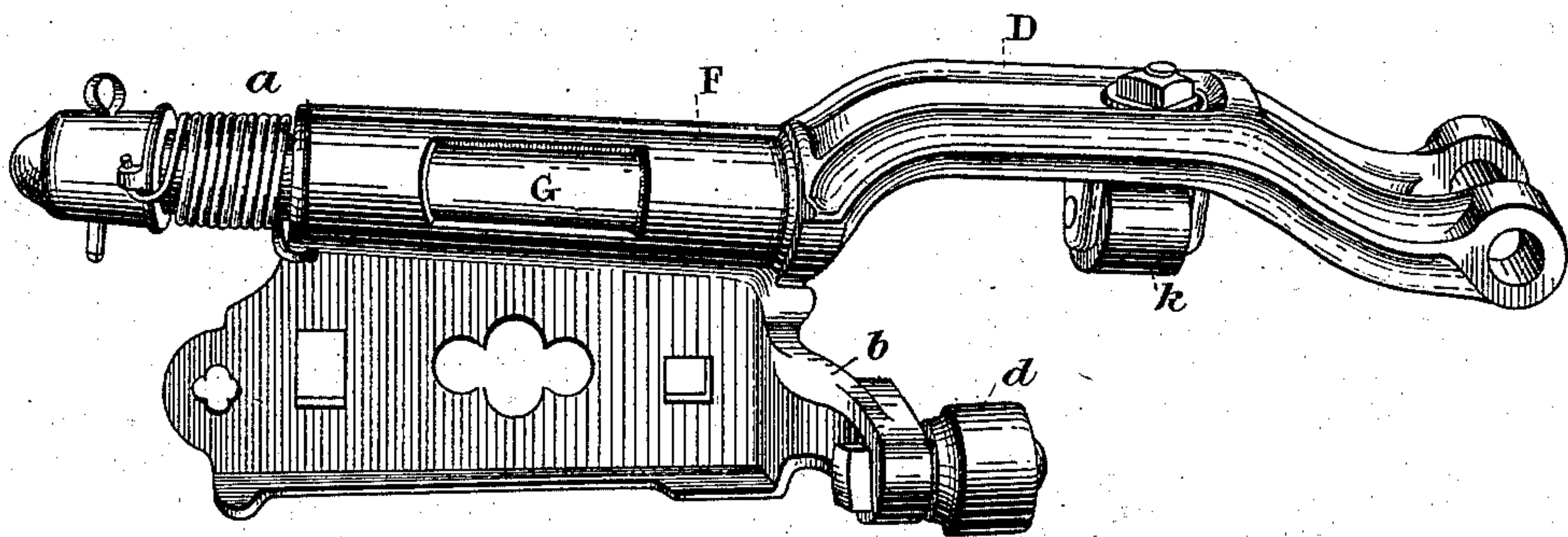


Fig. 5.

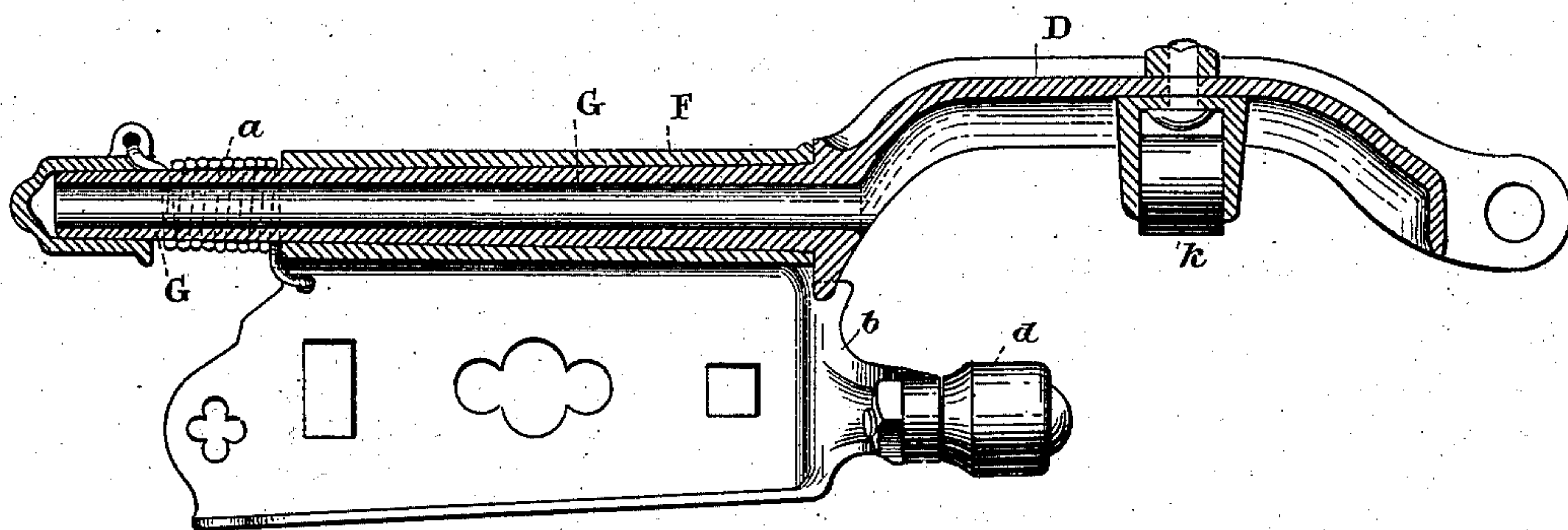


Fig. 6.

Witnesses.

Lewis Tomlinson

C. W. Baldwin

Inventor.

John Harris

by Richard Bird

Attys



# UNITED STATES PATENT OFFICE.

JOHN HARRIS, OF BRANTFORD, ONTARIO, CANADA.

## HARVESTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 242,925, dated June 14, 1881.

Application filed February 11, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN HARRIS, of the city of Brantford, in the county of Brant, in the Province of Ontario, Canada, have invented  
5 new and useful Improvements in Harvesting-Machines, of which the following is a specification.

My invention relates to certain improvements in the rake-support and its attachments,  
10 arranged to advantageously effect the operation of the rakes; and it consists in the peculiar construction, arrangement, and combination of parts, as more fully hereinafter described, and then pointed out in the claims.

15 In the drawings, Figure 1 is a perspective view of the top of the rake-support, showing one of the rake-arms elevated by the cam-track. Fig. 2 is a perspective view, looking from a different point of the rake-support,  
20 showing one rake-arm. Fig. 3 is a detail, showing a top view of the rake-frame and cam-track. Fig. 4 is a bottom view of the rake-frame, showing location of bearings for supporting the horizontal spindle. Fig. 5 is an  
25 enlarged detail, showing the rake-arm and head. Fig. 6 is an enlarged detail, showing the rake-arm in section with the rake-head attached.

30 In the drawings like letters indicate corresponding parts in each figure.

A is the rake-frame, having cast with it in one solid piece the cam-track B and bearings C.

35 D is a rake-arm hinged to the rake-wheel E. Each rake-arm is hinged independently of the others, and they are not in any way connected together, being operated independently by the cam-track, as hereinafter explained.

F is the rake-head, fitting the spindle G so that it will revolve freely thereon.

40 a is a spiral spring, fastened at one end to the spindle G and at the other end to the head F, set so as to keep the said head in a vertical position as it approaches the grain side of the table. While I use this spring, I may state  
45 that, owing to the formation of my cam-track, its use is not absolutely necessary, and may, without affecting the working of the machine, be entirely dispensed with. The spindle G, which is cast with the rake-arm D, is, as shown  
50 in Fig. 6, hollow, with the view of lightening the rake-arm, and at the same time strength-

ening the spindle, so that it may successfully resist the strain exerted against it while the rakes are in operation.

It will be noticed that the rake-head F has  
55 an arm, b, cast upon and projecting from its inner end. This arm is shaped substantially as shown, and is provided with a friction-roller, d, pivoted on a stud fastened to the said arm, as shown. This friction-roller is not only em-  
60 ployed for the purpose of holding the head in a vertical position, but also trips the rake-head when it is desired to use the rakes as beaters only.

65 An adjustable throat, H, is bolted to the cam-track B at the delivery side of the table. This adjustable throat, which I referred to in a previous application, is so arranged that it may be adjusted to alter the point at which the rakes shall leave the gavel they may at the  
70 time besweeping from the table. In order that the rakes may perform this action smoothly and without injury to themselves or other parts of the machine, I slant the cam-track B at this point, so that the friction-roller K on the rake-  
75 arm D will, when it comes in contact with it, meet with a smooth gradual slope, calculated to elevate the arms with as little resistance as possible, and through the roller d, acting  
80 against the throat H, to impart to the rake-teeth leaving the gavel an inclination which will enable them to leave the gavel they are raking cleanly and without resistance there-  
85 from. When the gate I is set to trip the rakes the roller d ascends the gate I, throwing the head into a horizontal position, in which posi-  
90 tion it passes along the tops of the auxiliary track J, which carries it, in connection with the end of the throat H, clear of the grain-table. When the roller d falls clear of any sup-  
95 port the spring a forces the rake-head F once more into a vertical position. If this spring a should in time become weak, be broken, or otherwise fail to perform its duty, it will be  
100 seen that means other than the spring a for adjusting the heads F are advisable. With that view I cast with the cam-track B a projecting ledge, L, so cast and located that the roller d must come in contact with it and pass beneath it, thus forcing the rake-arm once  
more into a vertical position as it approaches the grain side of the table.



It will be noticed that the friction-roller *k* is secured to the rake-arm at a point which will cause it to come in contact with the cam-track B. This roller carries the weight of the rake-arm D as it travels around in a vertical and semi-vertical position. As it assumes a vertical position the cam-track so supports it that unless other means of steadying it are provided it would be apt to receive an unsteady motion. To avoid this and provide means for steadying the rake-arm as it travels around the camway, I bolt on the end of the king-bolt M a cam-plate, N, shaped as shown, so that a portion of it will correspond with the shape of the cam-track B, and against which the top of the rake-arm D will rub during its passage around the rake-support.

In order to prevent the gate I from opening farther than it should, and at the same time to supply a support which will strengthen the gate and make it better able to resist the blows from the friction-roller D when tripping the rake-heads, I provide an arm, O, attached to and extending from the rake-frame A, immediately below the gate, thereby forming the support desired.

As the general construction of reaping-machines is now so thoroughly understood, it is not necessary, nor have I entered into any description of the operation of the parts more than required to convey the intention of my invention. For the same reason I have not shown the connection of the rake-frame to the rest of the machine, and in referring to the grain side and

delivery side of the machine have presumed that it will be understood that the rake-frame A will be located in the usual manner in regard to these points.

What I claim as my invention is—

1. A rake-support in which the rake-frame, cam-track, and bearings for the horizontal spindle are cast in one piece, substantially as and for the purpose specified.

2. In connection with a rake-support in which the rakes are elevated independently of each other, a rolling rake-head having an arm projecting from its inner end, with a friction-roller pivoted on a stud fastened to the said arm, in combination with a projecting ledge on the cam-track, and an inner cam-plate, substantially as and for the purpose specified.

3. A rake-frame provided with a rigid arm, *o*, extending below and forming a support on which the hinged gate I rests, in combination with the gate I and the auxiliary track J, substantially as described.

4. A rake-frame provided with a rigid arm, *o*, for supporting the hinged gate I, and a rigid lug, *j'*, for supporting the auxiliary track J, in combination with the hinged gate I, auxiliary track J, having a leg, *j*, resting on the rake-frame, and the cam-track B, substantially as and for the purpose described.

JOHN HARRIS.

Witnesses:

THOS. M. HARRIS,  
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