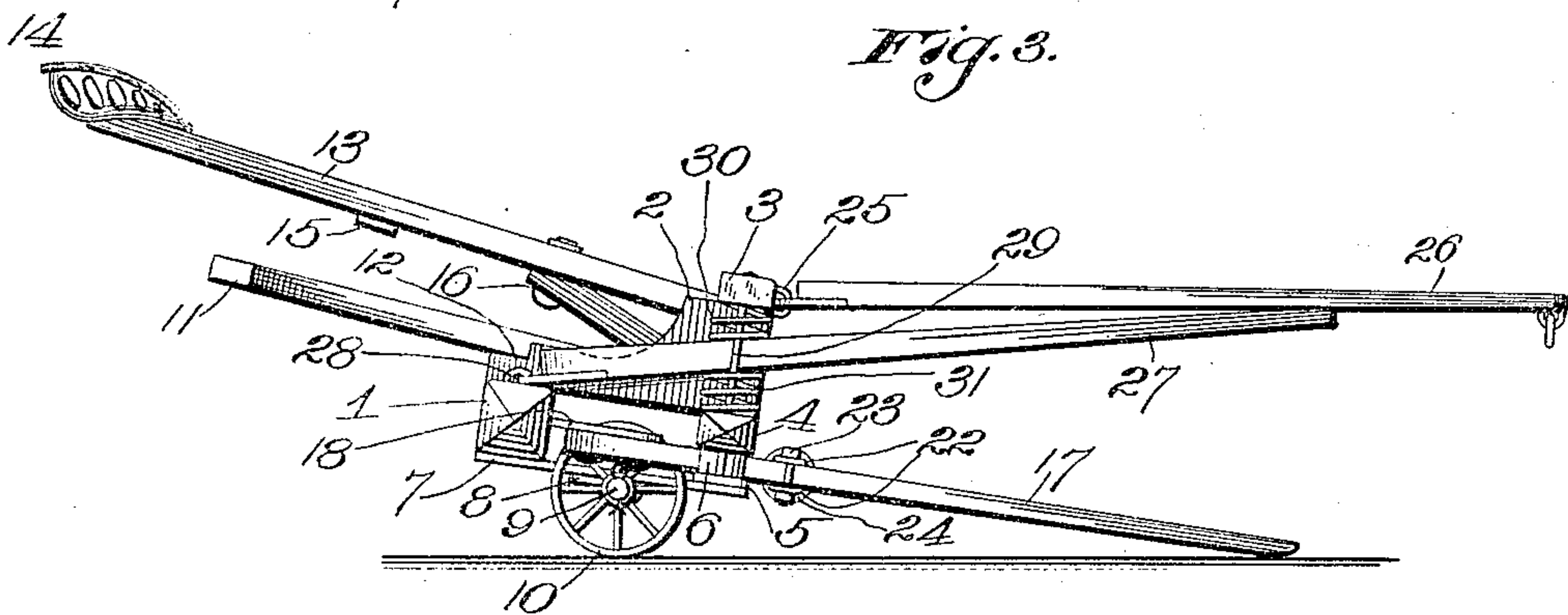
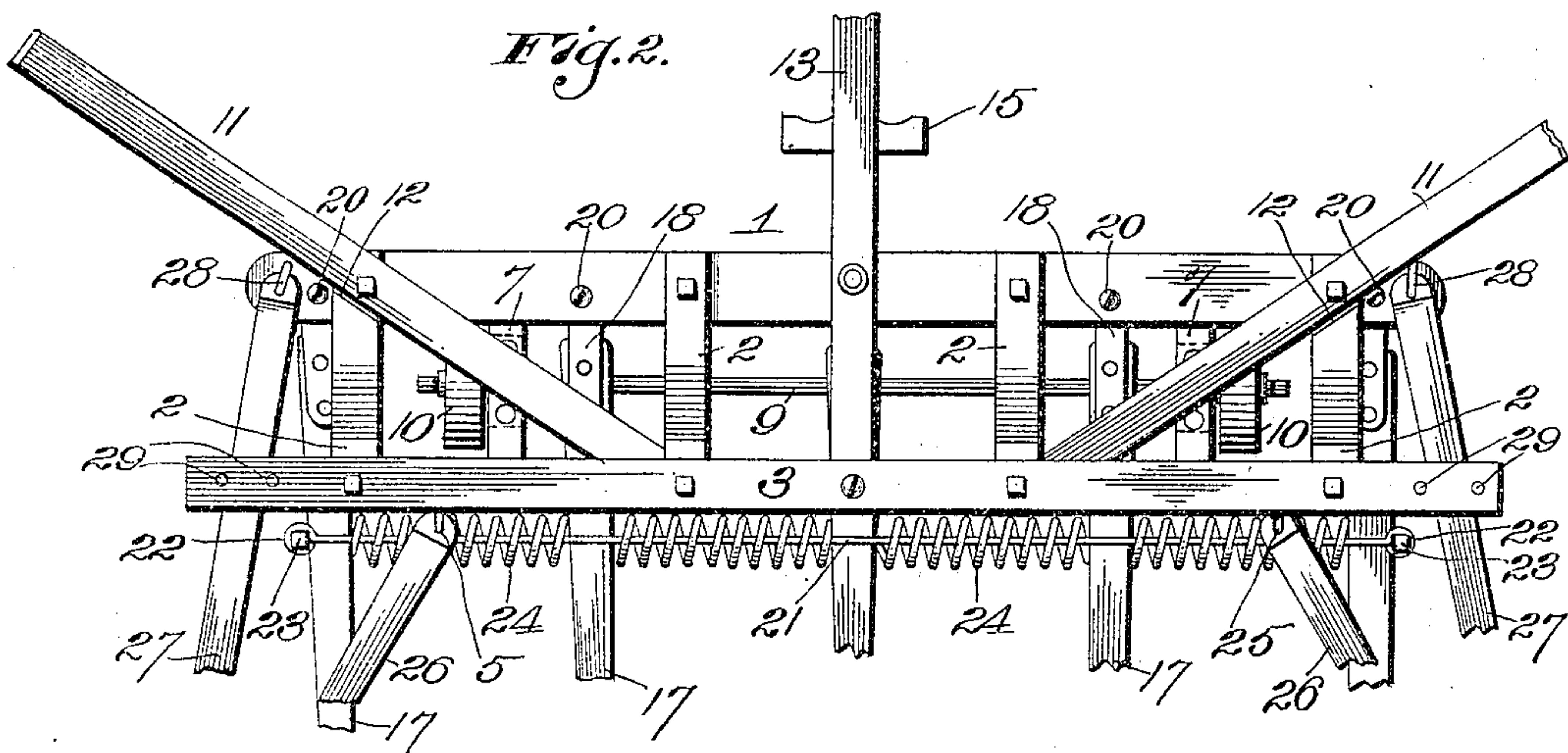
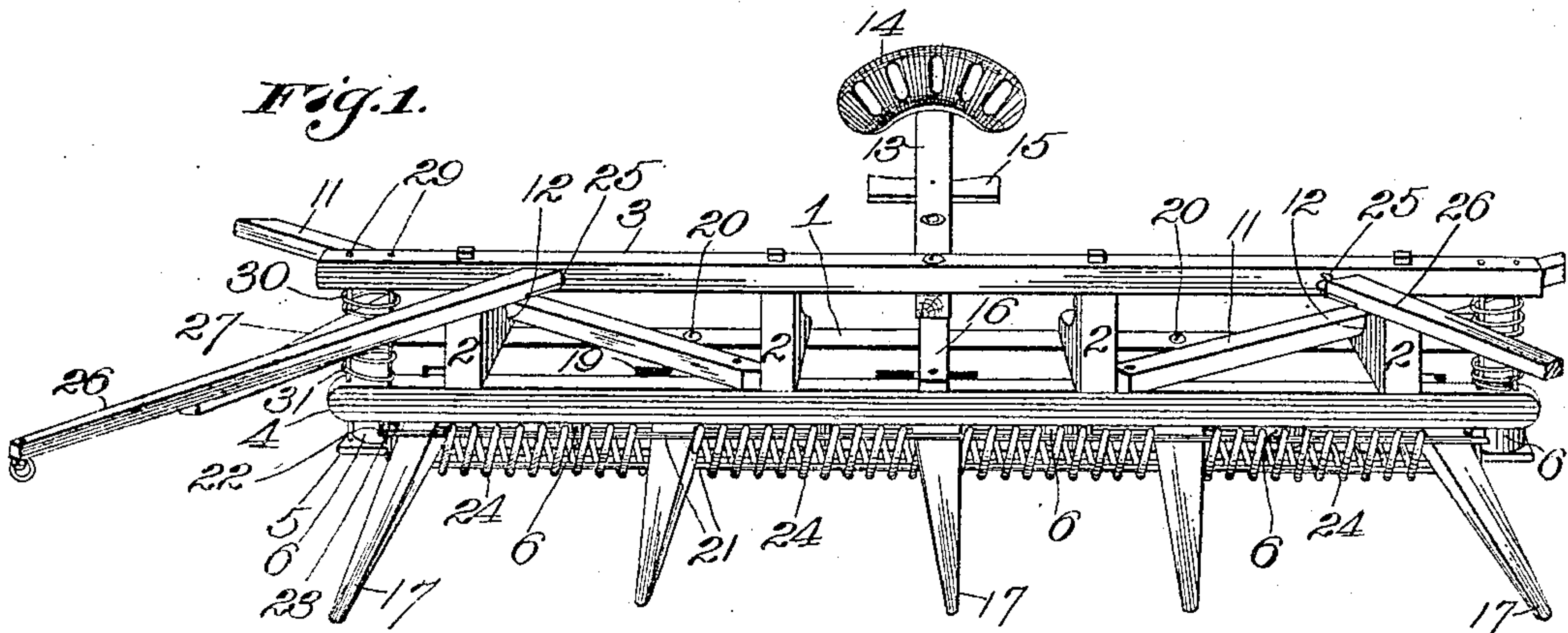


No. 801,315.

PATENTED OCT. 10, 1905.

A. G. HARRIS.  
BUCK RAKE OR GO-DEVIL.  
APPLICATION FILED OCT. 17, 1904.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ARTHUR GARFIELD HARRIS, OF BAZAAR, KANSAS.

## BUCK-RAKE OR GO-DEVIL.

No. 801,315.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed October 17, 1904. Serial No. 228,755.

*To all whom it may concern:*

Be it known that I, ARTHUR GARFIELD HARRIS, a citizen of the United States, residing at Bazaar, in the county of Chase and State of Kansas, have invented certain new and useful Improvements in Buck-Rakes or Go-Devils, of which the following is a specification.

My invention relates to buck-rakes or "go-devils," as they are more commonly termed; and my object is to produce a device of this character having its teeth capable of lateral movement to pass obstructions without injury.

A further object is to produce a device of this character which is of simple, strong, durable, and inexpensive construction.

With this object in view the invention consists in certain novel and peculiar features of construction and organization, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a front perspective view of a buck-rake or go-devil embodying my invention. Fig. 2 is a top plan view of the same, partly broken away. Fig. 3 is a side view of the rake.

In the said drawings, 1 designates the transversely-extending head of the rake, and 2 knee-blocks secured rigidly upon the head at their rear ends and bolted rigidly at their front ends between the cross-bars 3 and 4, a cross-bar 5, preferably of metal, being disposed a slight distance below bar 4 and spaced therefrom by the spacing-blocks 6. Connecting the head 1 and bar 5 at suitable points are bars 7, equipped with bearing-boxes 8 for the axle 9, provided with wheels 10.

11 designates a pair of rearwardly-diverging bars, the same being secured in the notches 12 of the outermost blocks 2 and bearing at their front ends against the proximate faces of the inner blocks 2 and upon bar 4, to which they are rigidly secured by bolts or otherwise.

13 designates a longitudinally-extending bar bolted at its front end to the under side of bar 3 and equipped at its rear end with a seat 14. Said bar is pitched upwardly at a slight angle by preference and is provided with a foot-rest 15. It is also braced by a bar 16, secured at its lower end to bar 4.

17 designates the teeth of the rake, said teeth extending through the space between bars 4 and 5 and by preference having rigid extensions 18, fitting in slots 19 in the head and pivoted therein by bolts 20. Extending transversely at the upper and lower sides of the se-

ries of teeth are the rods 21, terminating, by preference, in eyes 22, through which extend connecting-bolts 23 to secure the rods in place, and mounted upon said rods between each pair of teeth is a coiled expansive spring 24, which tends to push the teeth apart, but which will yield to permit movement of the teeth in opposite directions, so that in case any of the teeth strikes a rock or other immovable obstruction said teeth may be forced to one side against the resistance of the opposing spring, and then under the power of such spring return to its original position after the obstruction has been passed.

Pivoted for vertical movement to the bar 3, as at 25, are a pair of tongues 26, said tongues extending divergently forward, and secured rigidly to each tongue and diverging rearward therefrom is a brace 27, which is pivoted to the head for movement in a vertical plane, as at 28.

29 designates a pair of vertical guide-rods connecting bars 3 and 4 at each end, each pair of rods 29 being disposed at opposite sides of the tongue-braces 27, and mounted on said rods and interposed between said tongue-braces and bars 3 and 4, respectively, are springs 30 and 31, said springs tending to hold the tongues yieldingly in a horizontal position, and thus relieve the draft-animals (not shown) of a large proportion of the weight of the tongues.

In practice the machine is disposed about as shown in Fig. 3, with the teeth arranged to gather up the hay as left in windrows and convey it to the stacker. (Not shown.) If in the passage over the field one of the teeth encounters an obstruction in its path and strikes the same at one side of its point, said tooth, against the resistance of the opposing spring, will be deflected laterally by the obstruction instead of being injured or broken by such contact, as frequently occurs with that type of device where the teeth are stationary. With the teeth yieldingly disposed as described the device can be run upon the stacker without the slightest danger of injury. Should the front end or teeth of the rake fall suddenly into a cavity or hollow place in the field, there will be no heavy jar or jerk imposed on the necks of the horses, because the springs 30 will yield to the downward movement of the device without imposing the entire weight of the machine on the necks of the horses. On the other hand, should the teeth be suddenly deflected upward by an obstruction this upward move-



ment will not impose any heavy jar or pull on the necks of the draft-animals, because such movement will be absorbed by springs 31.

5 The functions of the various parts of the machine are not particularly outlined or described, as they are common and well known.

From the above description it will be apparent that I have produced a buck-rake or go-devil which possesses the features of advantage enumerated as desirable in the statement of the  
10 object of the invention and which obviously is susceptible of modification in various particulars without departing from its essential spirit and scope and that an ordinary buck-rake or  
15 go-devil can be so transformed as to embody my improvements with but little difficulty and expense.

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

1. A machine of the character described, having teeth pivoted for lateral movement, transverse rods at the upper and lower sides of the teeth, connections for the opposite ends  
25 of said rods, and expansive springs mounted on said rods and bearing at their opposite ends against said teeth.

2. In a machine of the character described, the combination of a rake having a head and

top and bottom bars, knee-blocks connecting  
30 said head and bars, a bar underlying at a suitable distance said bottom bar, teeth extending through the space between the last-named bars and pivoted for lateral movement, to said  
head, and means for holding said teeth yield- 35  
ingly in a substantially parallel relation.

3. In a machine of the character described, a rake having a head, top and bottom bars connected thereto, a tongue pivoted to the top bar and the head for vertical movement, and  
40 springs interposed between said tongue and said top and bottom bars.

4. In a machine of the character described, a rake having a head, top and bottom bars connected thereto, a tongue pivoted to the top  
45 bar and the head, for vertical movement, rods connecting the top and bottom bars at opposite sides of part of the tongue, and expansive springs mounted on said rods and interposed  
50 between the contiguous part of the tongue and said top and bottom bars.

In testimony whereof I affix my signature in the presence of two witnesses.

ARTHUR GARFIELD HARRIS.

Witnesses:

JOS. C. DWELLE,  
T. G. ALLEN.