

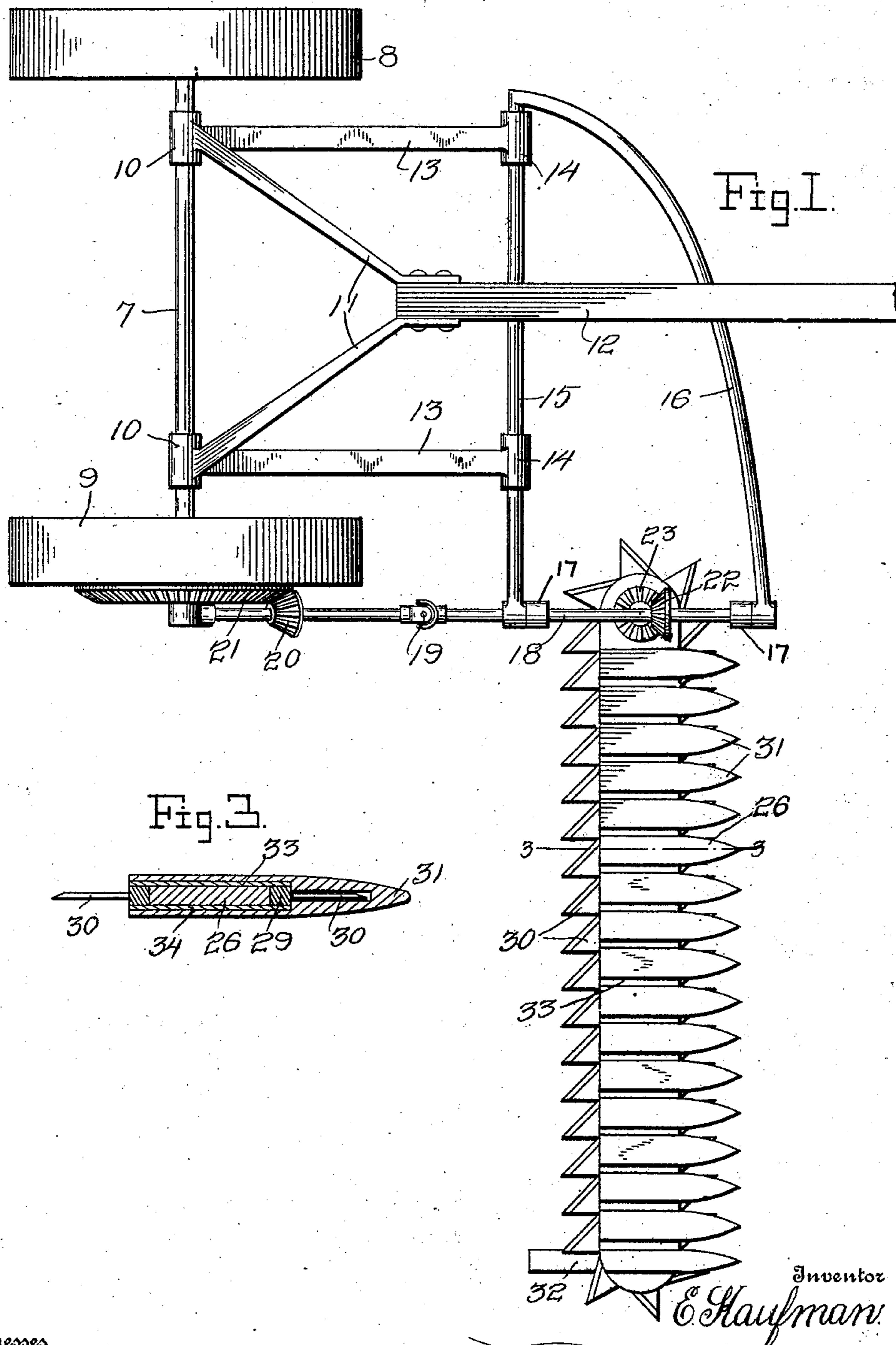
No. 849,903.

PATENTED APR. 9, 1907.

E. KAUFMAN.  
MOWING MACHINE.

APPLICATION FILED SEPT. 20, 1906.

3 SHEETS—SHEET 1.



Witnesses

L. H. Reichenbach.

H. R. McParteen.

By

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Inventor

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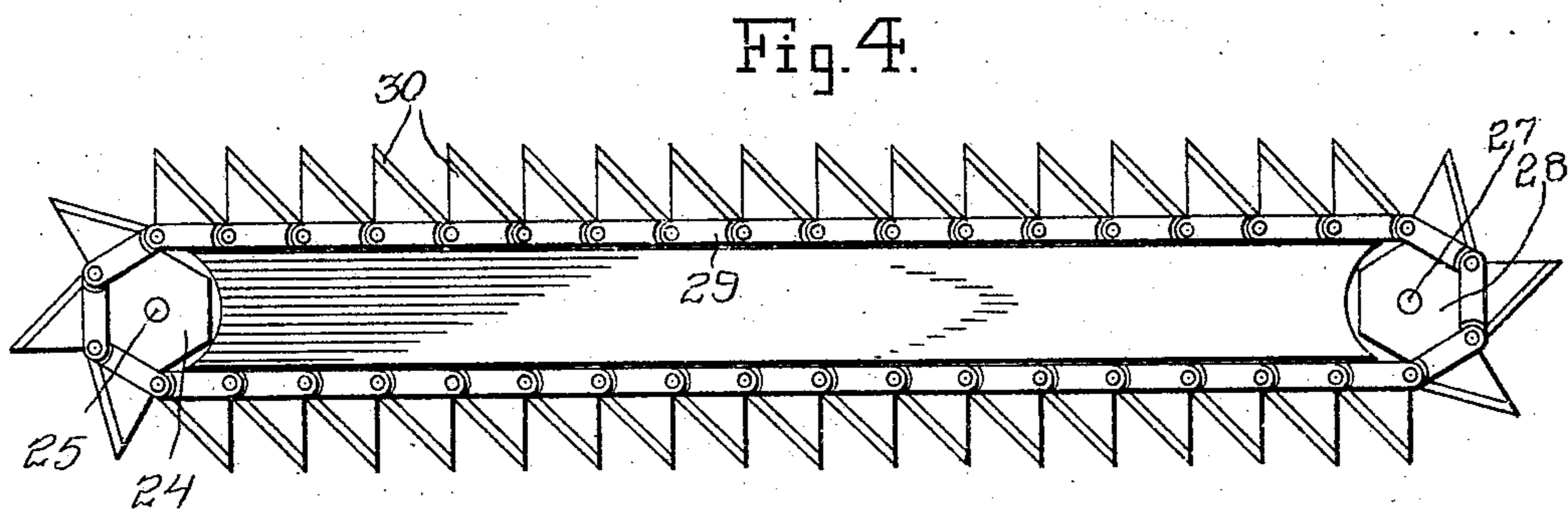
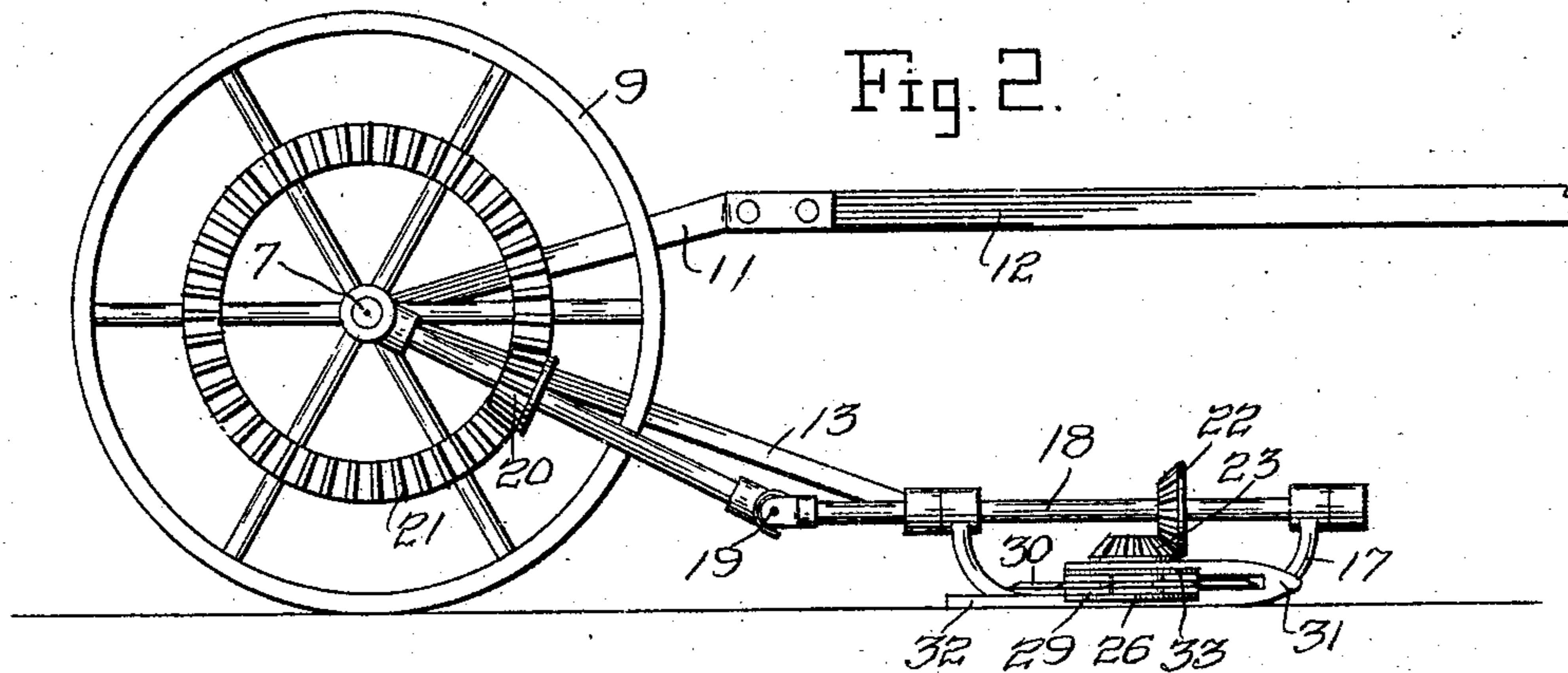
Attorneys

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3 SHEETS—SHEET 2.



Witnesses

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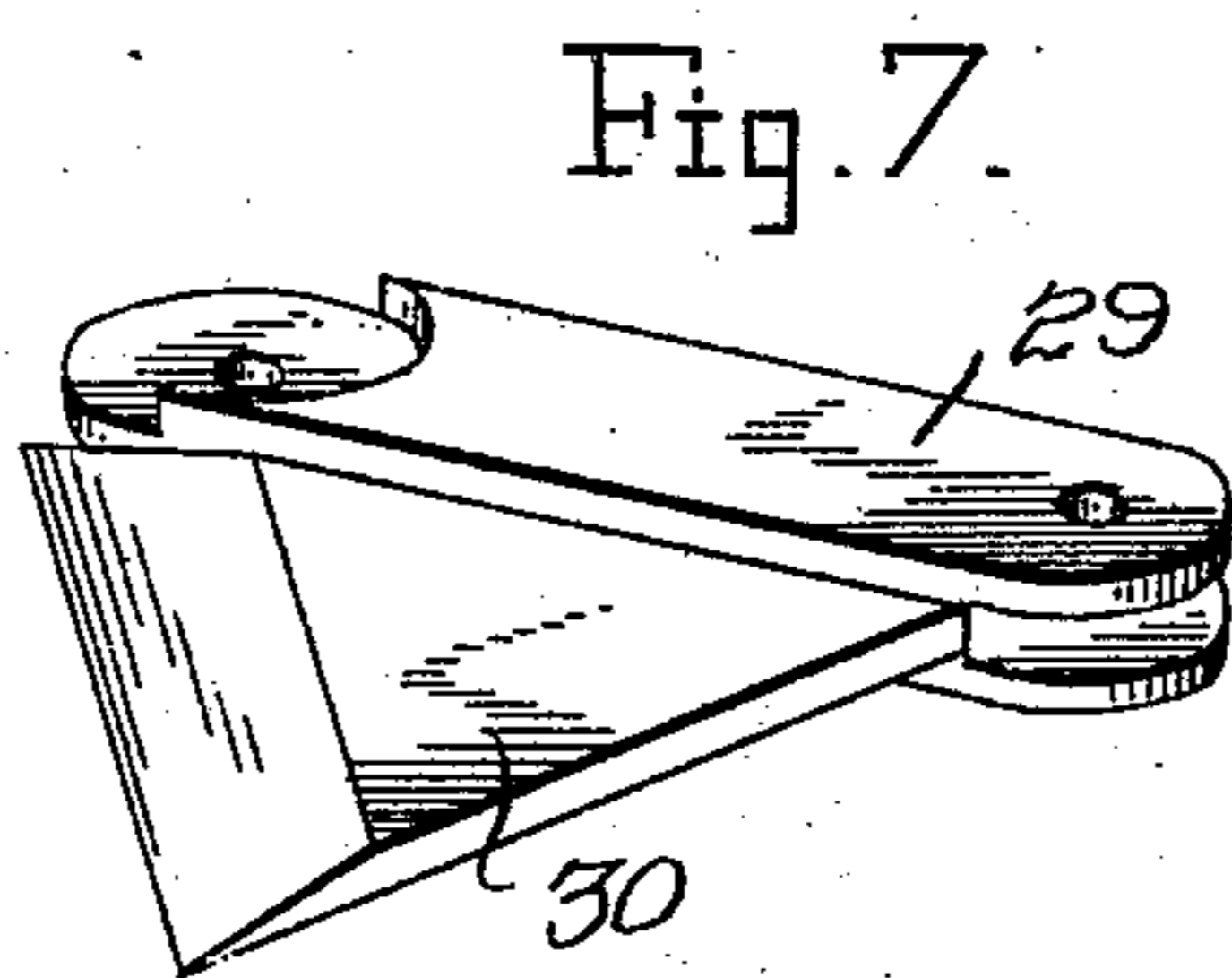
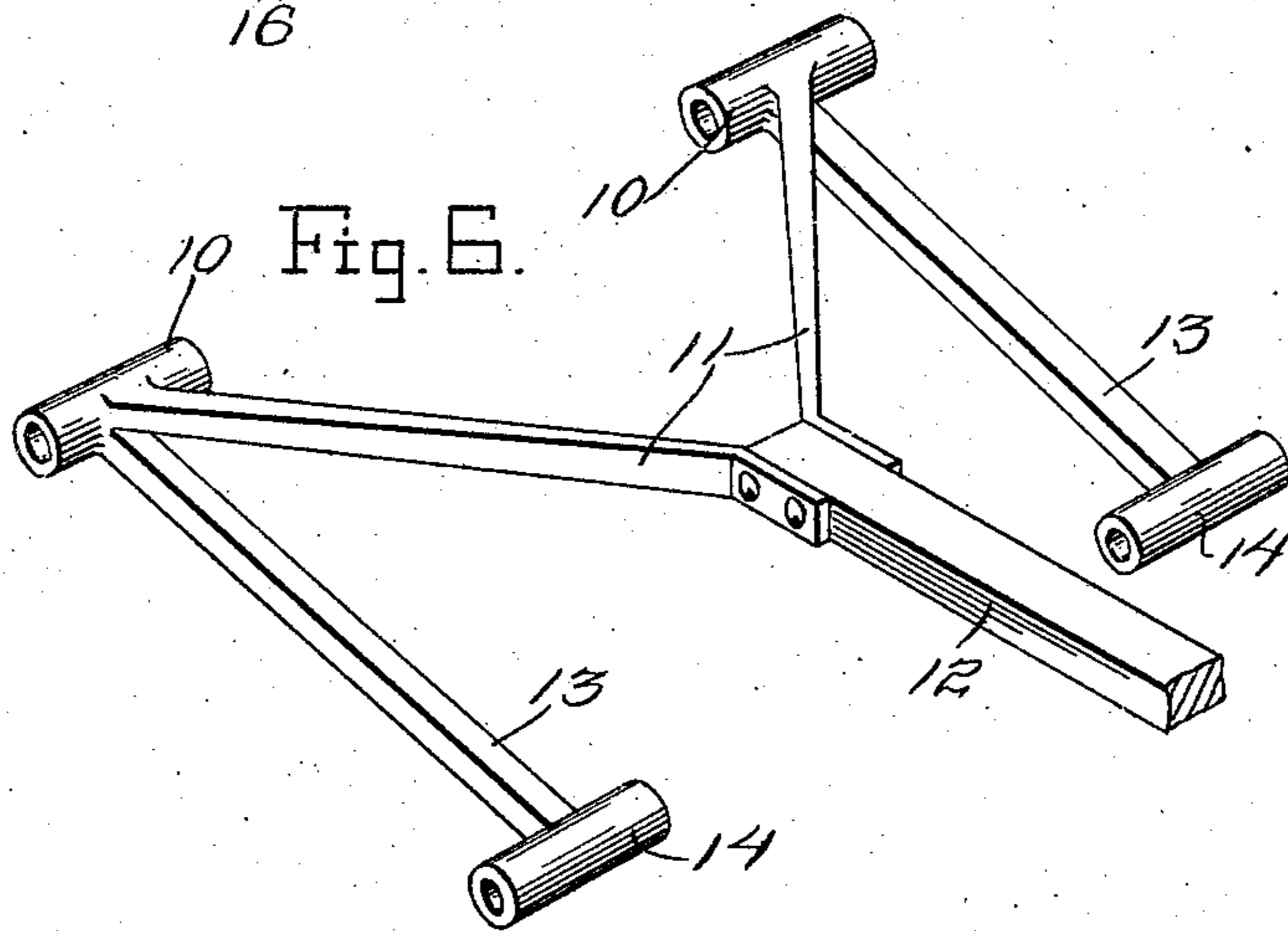
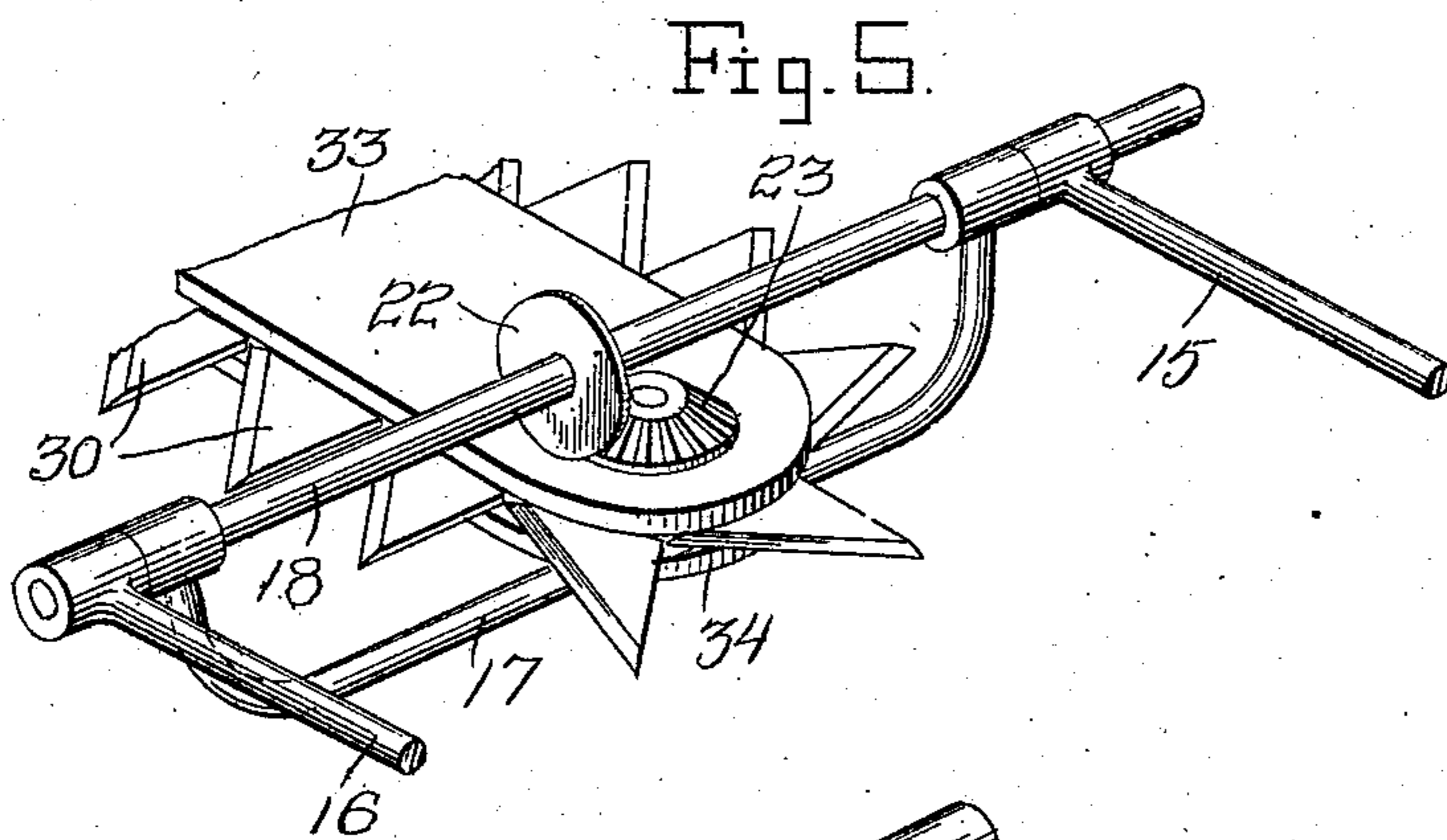
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3 SHEETS—SHEET 3.



Witnesses

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# UNITED STATES PATENT OFFICE.

EMANUEL KAUFMAN, OF CLEORA, INDIAN TERRITORY.

## MOWING-MACHINE.

No. 849,903.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed September 20, 1906. Serial No. 335,460.

*To all whom it may concern:*

Be it known that I, EMANUEL KAUFMAN, a citizen of United States, residing at Cleora, in the Cherokee Nation, Indian Territory, have  
5 invented certain new and useful Improvements in Mowing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as  
10 it appertains to make and use the same.

This invention has reference to mowing-machines, and especially to machines of that class in which an endless knife-chain coöperates with a cutter-bar composed of a series  
15 of spaced fingers, the object of the invention consisting in the provision of a highly-efficient, durable, and simple mowing-machine in which the cutting mechanism and its driver are so connected with the axle as to  
20 operate equally well on level or hilly ground.

This invention further consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, specifically claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of the improved mowing-machine. Fig. 2 is a side elevation thereof. Fig. 3 is a vertical section on the line 3 3, Fig. 1. Fig. 4 is a plan view of the  
30 knife-chain. Fig. 5 is a detail view of the bracket for carrying the main drive-shaft, showing a portion of the latter in place therein. Fig. 6 is a perspective view of a portion of the pole of the machine and the sleeved  
35 braces secured thereto. Fig. 7 is a perspective view of one of the knives, showing the same attached to one of the links of the knife-chain.

Like parts are designated by corresponding reference-numerals in the several views.

Referring more particularly to the drawings, 7 designates the axle of the machine, carrying the traction-wheels 8 and 9 at its ends and having a pair of sleeves 10 loosely  
45 mounted thereon, the braces 11 of the pole 12 being secured at their rear ends to said sleeves, to which latter are also connected at their rear ends a pair of rods 13. The front ends of said rods are enlarged and provided with eyes 14, in which is rotatably  
50 mounted a rod 15, extending at opposite ends beyond said eyes. One end of said rod is bent upon itself, as indicated by the reference-numeral 16, the free end of said bent  
55 section being provided with an eye in which one end of a shaft 18 is fitted, the opposite

end of said rod being likewise provided with an eye through which said shaft passes. Shaft 18, as shown in Fig. 1, is composed of a pair of sections having a universal-joint connection 19 with each other, the front section of said shaft passing through eyes or sleeves formed at the upper ends of the arms of a bracket or yoke 17, while the rear section of the shaft is provided with a beveled pinion 65  
20 in mesh with and driven by a similar pinion 21, secured to the axle 7, adjacent the outer face of traction-wheel 9.

The joint 19 between the sections of shaft 18 is located to the rear of bracket 17, the front section of the shaft carrying intermediate the bracket-arms a beveled pinion 22 in engagement with a beveled pinion 23, formed upon the upper face of a hexagonal wheel 24, mounted loosely upon a pin or stub-shaft 25, carried by the cutter-bar 26 at one end thereof, there being a second pin 27 located at the opposite end of said knife-bar, upon which a similar wheel 28 is mounted.

Around wheels 24 and 28 passes the knife-chain 29, composed of a series of flexible steel knives 30. Said knives, as shown, are of right-angled triangular form, the hypotenuse portion being beveled to form a cutting edge and the base adapted to fit the sides of the hexagonal wheels 24 and 28, above referred to. The knife-chain travels across the face of the fingers 31 of the cutter-bar, the shape of the knives permitting a shearing cut.

The cutter-bar carries the usual shoe 32 at its outer end and may be provided with a guard or cover 33, located above the knife-chain, if desired. The bracket is secured at its base to the lower guard-plate 34 of the cutter-bar, the bracket thus forming the means of connection between the cutting mechanism and the transverse brace-rod 15.

When the machine is drawn forwardly, the rotation of the axle will be communicated to the knife-chain through the medium of the axle-gear 21, the main drive-shaft gears 20 and 22, and the gear 23 upon wheel 24, the knives forming the chain passing over the cutter-bar fingers with a shear cut, as above stated.

From the foregoing it will be obvious that the hinge or universal-joint connections between the cutting mechanism and its supporting means permit the cutter-bar to lie flat against the ground irrespective of the pitch or incline thereof, the provision of the

sectional drive-shaft allowing the knife-chain to be at all times positively driven and the axle-gear in mesh with the rear gear of said shaft. The several rods, as shown, constitute a swinging frame to which the cutting mechanism is connected, said term "swinging frame" in the claims having reference to said construction.

Further description of the operation of the machine and its advantages is thought unnecessary, as both are apparent from the above.

What is claimed is—

1. A mowing-machine comprising in combination with an axle and a pair of traction-wheels carried thereby; a gear secured to the axle at one end thereof; a pair of rods pivotally connected with said axle intermediate the traction-wheels; means connecting said rods; a drive-shaft journaled in said connecting means, and extending in the direction of travel, said shaft comprising a pair of sections connected by a universal joint; a bracket carried by the front shaft-section; a gear mounted on the rear shaft-section in mesh with said axle-gear; cutting mechanism connected with said bracket; and a driving connection between said cutting mechanism and said drive-shaft.

2. A mowing-machine comprising in combination with an axle and a pair of traction-wheels carried thereby; a gear mounted upon one end of said axle; a swinging frame pivotally connected to said axle intermediate said traction-wheels; a drive-shaft journaled in said frame and extending in the direction of travel, said shaft comprising a pair of sections connected by a universal joint; a bracket carried by the front shaft-section; a gear mounted on the rear shaft-section in mesh with said axle-gear; cutting mechanism connected with said bracket; and a driving connection between said cutting mechanism and said drive-shaft.

3. A mowing-machine comprising in combination with an axle and a pair of traction-wheels carried thereby; a gear mounted upon one end of said axle; a swinging frame pivot-

ally connected to said axle intermediate said traction-wheels; a drive-shaft journaled in said frame and extending in the direction of travel, said shaft comprising a pair of sections connected by a universal joint; a bracket carried by the front shaft-section; a gear mounted on the rear shaft-section in mesh with said axle; a cutter-bar connected to said bracket; pins mounted on opposite ends of said cutter-bar; wheels loosely mounted upon said pins; a knife-chain passing around said wheels and comprising a plurality of knives connected together; a gear carried by said front shaft-section and a gear formed upon the face of the adjacent wheel in mesh with said last-mentioned gear for driving said chain.

4. A mowing-machine comprising in combination with an axle and a pair of traction-wheels carried thereby; a pair of sleeves mounted upon said axle intermediate said traction-wheels; a pair of rods connected at one end to said sleeves and provided with eyes at their opposite ends; a rod mounted in said eyes and having one end bent upon itself; a drive-shaft journaled in the ends of said last-mentioned rod and extending in the direction of travel, said drive-shaft comprising a pair of sections connected by a universal joint; an armed bracket connected with the front shaft-section; a gear carried by the rear shaft-section; a gear carried by the axle in mesh with said gear; a cutter-bar connected with said bracket; pins mounted upon opposite ends of said cutter-bar; wheels loosely mounted upon said pins; a knife-chain passing around said wheels and comprising a plurality of knives connected together; a gear carried by said front shaft-section; and a gear formed on the face of the adjacent wheel in mesh with said last-mentioned gear for driving said chain.

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

EMANUEL KAUFMAN.

Witnesses:

B. H. HARRISON,  
F. G. MCGANNON.