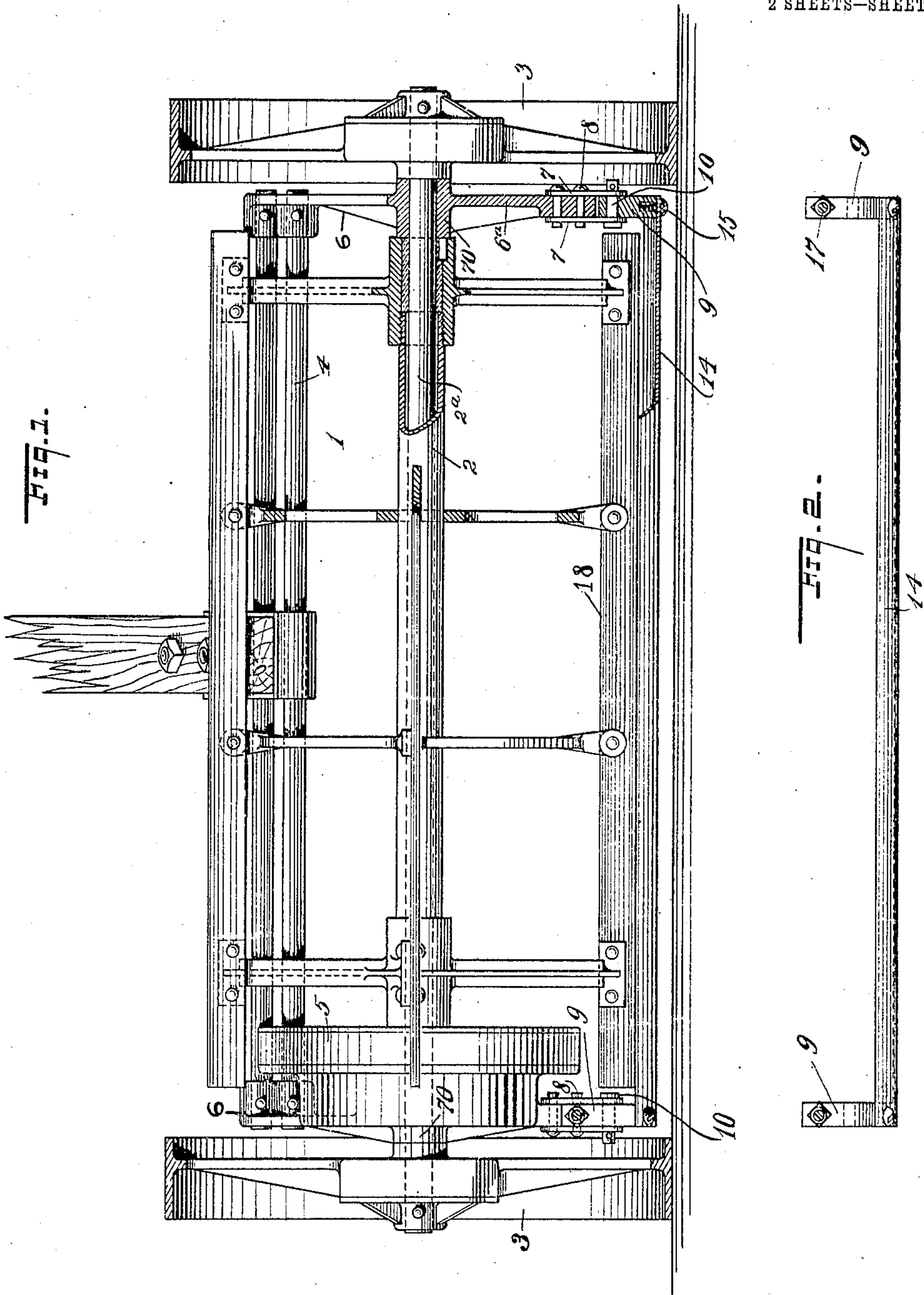


No. 844,769.

PATENTED FEB. 19, 1907.

L. E. BAKER.
KNIFE FOR LAWN MOWERS.
APPLICATION FILED APR. 2, 1906.

2 SHEETS—SHEET 1.



WITNESSES

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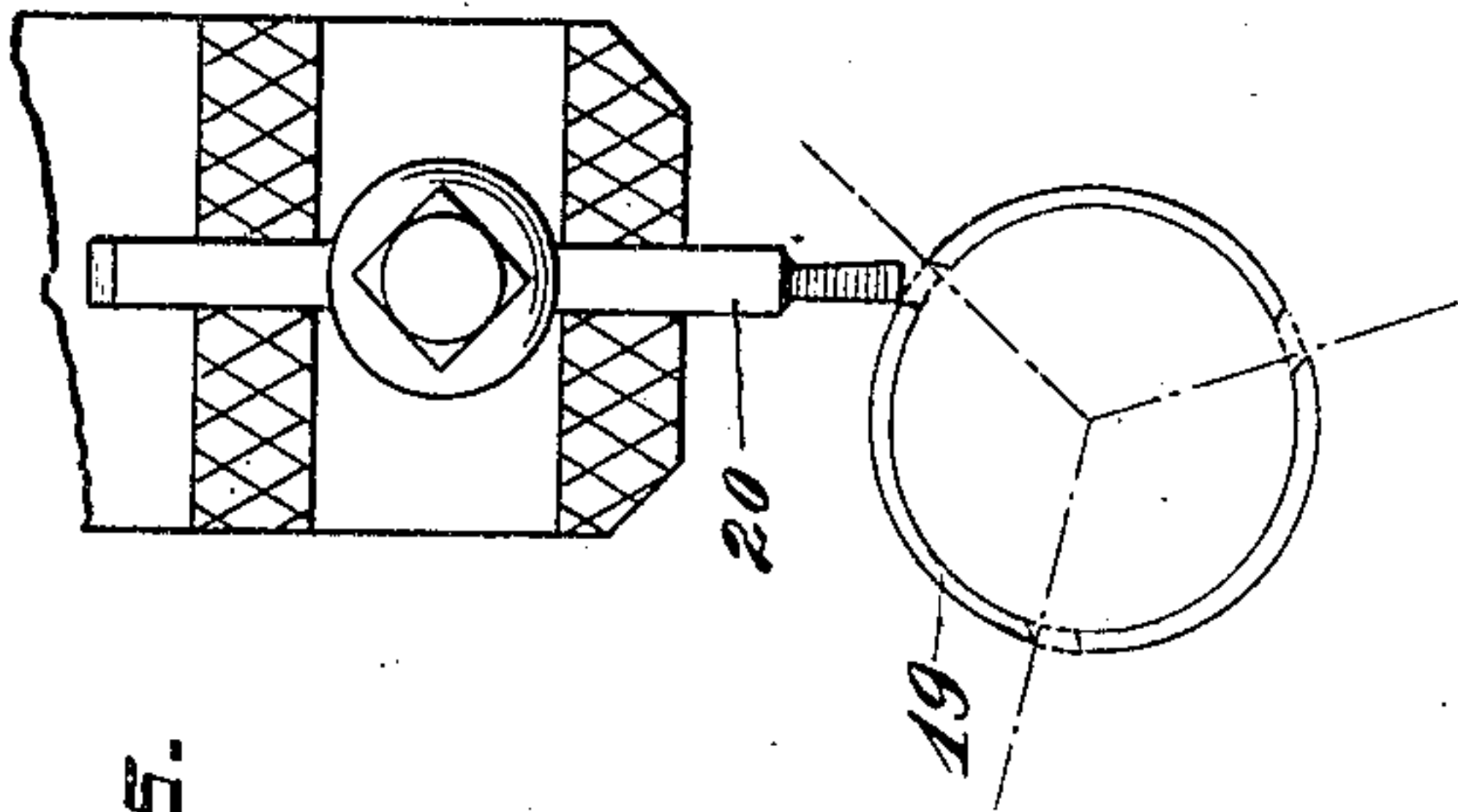


Fig. 5.

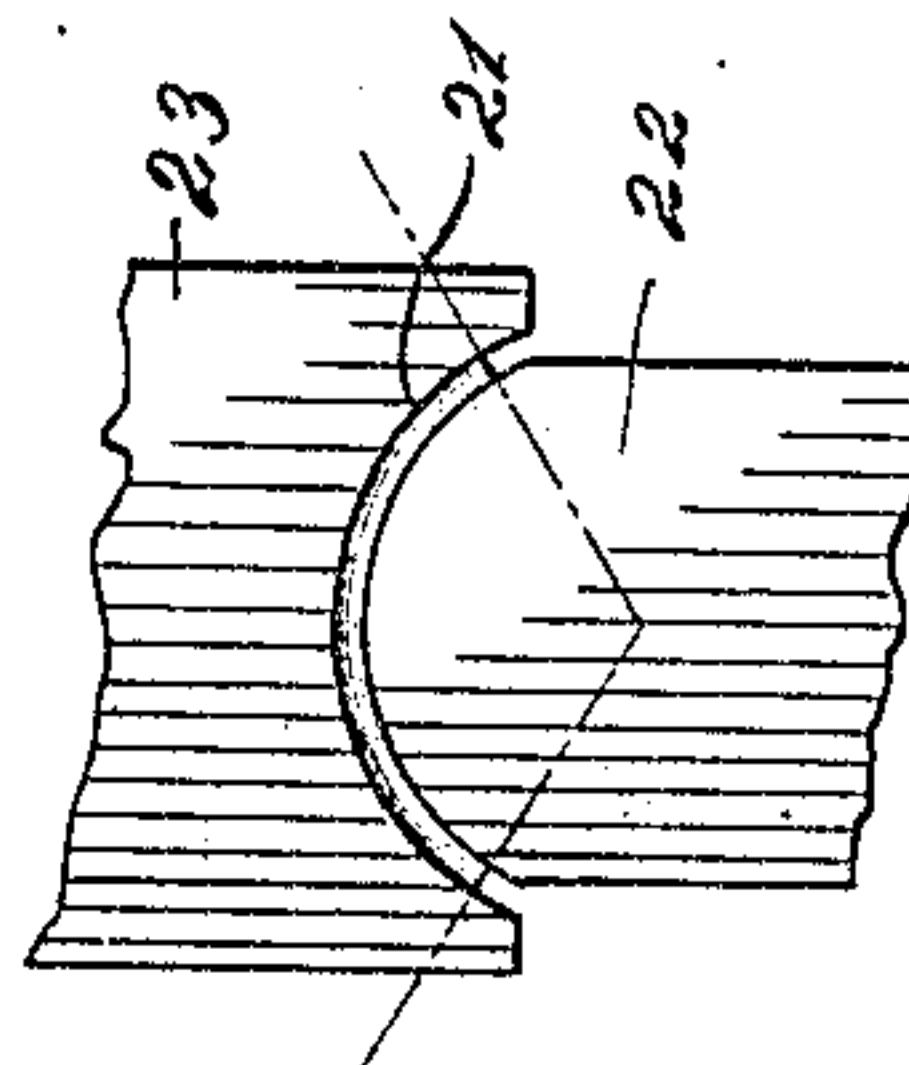


Fig. 6.

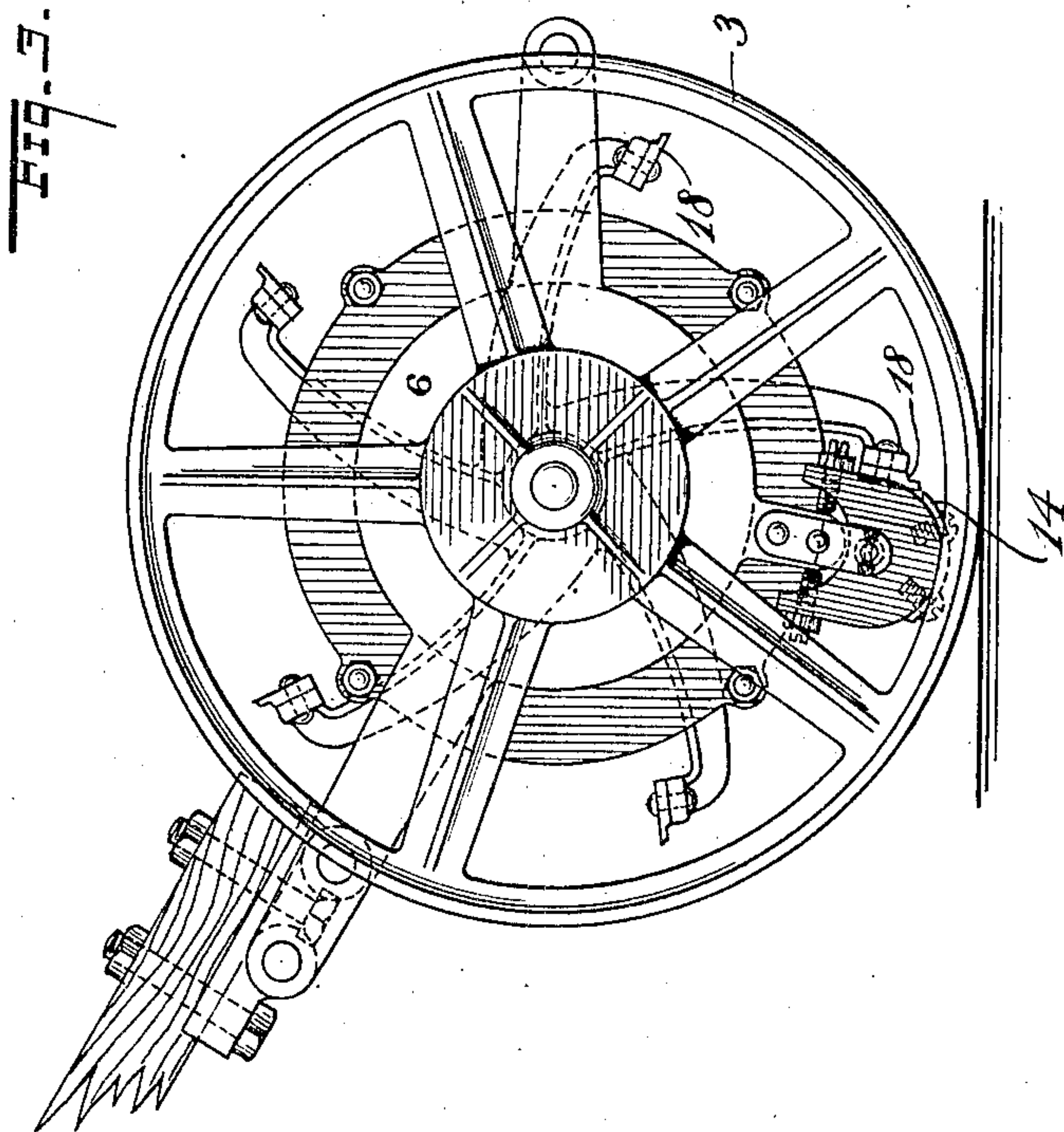


Fig. 3.

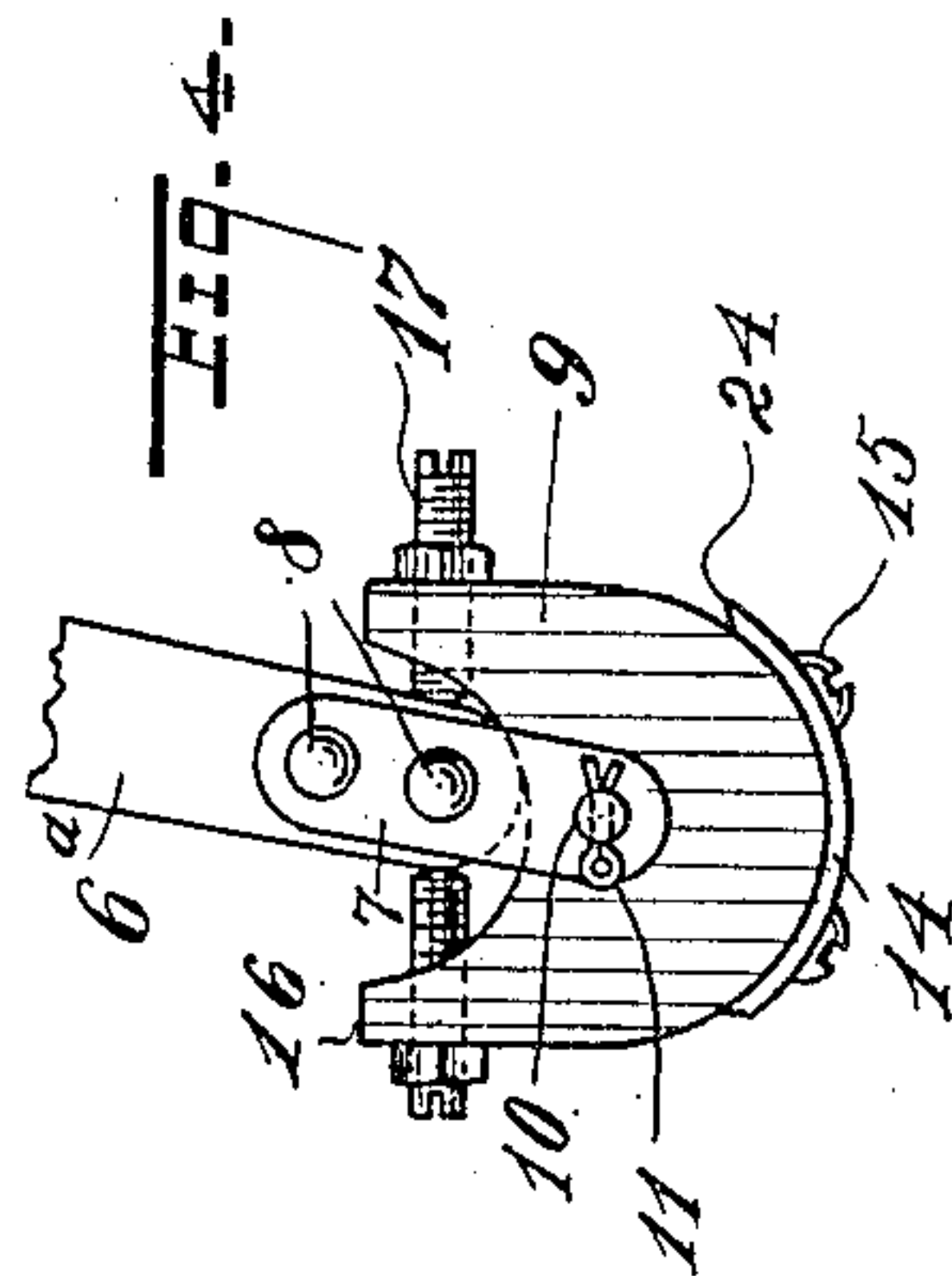


Fig. 4.

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UNITED STATES PATENT OFFICE.

LINNAEUS E. BAKER, OF CLEVELAND, OHIO.

KNIFE FOR LAWN-MOWERS.

No. 844,769.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed April 2, 1906. Serial No. 309,295.

To all whom it may concern:

Be it known that I, LINNAEUS E. BAKER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Knives for Lawn-Mowers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

My invention relates to lawn-mowers, and has for its object to provide for such mowers an improved construction of fixed knife and also to provide for the same simple and effective means whereby the position of said knife may be adjusted with reference to the revolving knives to compensate for wear, to insure a proper relation between the edges of the fixed and revolving knives, and provide simple means whereby the knife may be quickly removed for sharpening or repairs. Generally speaking, the invention may be defined as consisting of the combinations of elements embodied in the claims hereto annexed.

In the drawings, Figure 1 represents an elevation, with parts broken away, of so much of a lawn-mower as will be necessary to illustrate the application of my invention thereto. Fig. 2 represents a front elevation of the fixed knife and its end attachments as removed from the machine. Fig. 3 represents an end elevation of the lawn-mower illustrated in Fig. 1. Fig. 4 represents an end elevation of the fixed knife and one of its end attachments, showing the knife adjusted to one extreme position by adjusting the set-screws. Fig. 5 is a detail representing the manner in which fixed knives of the type employed in my lawn-mower may be produced in lots by slitting a tube into three or more segments, as on a milling-machine or on a shaper, as shown; and Fig. 6 is a detail view representing the manner in which such knives may be formed by passing the stock through rolls or by forming between dies of a power-press.

Describing the parts by reference characters, 1 designates the lawn-mower generally; said mower being of any approved type and having the hollow reel-shaft 2, the drive-wheels 3, frame 4, and any approved form of transmission device 5, whereby the rotation of the wheels imparts rotation to the shaft 2. As shown in the drawings, the shaft 2 is in axial alinement with the centers of the wheels 3, which may be mounted on the shaft 2^a; but for the purpose of my invention it is im-

material whether the axes of the wheels and of the shaft 2 be coincident or not, the drawings merely indicating one of a number of means by which the reel-shaft may be driven from the wheels.

The frame comprises the end members 6, each of which may be provided with a hub or sleeve 70, adapted to be slipped over the end of the shaft 2^a and forming a bearing for said shaft. Projecting downwardly from each frame is an arm 6^a, thickened at its lower extremity and having applied thereto a pair of plates 7, which are secured to opposite faces of the lower extremity of the arm, as by means of rivets 8. 9 denotes a knife-carrying frame, which is pivoted between the plates 7 by means of a bolt 10, which is provided at one end with a head, the other end being bored transversely for the reception of a split pin 11, providing simple and effective means whereby the bolt 10 may be applied to and withdrawn from the plates 7 and permitting the removal of the knife-carriers and the attached knife from the plates.

The lower surface of each carrier 9 is curved on the arc of a circle, providing a surface to which the knife 14 may be firmly clamped, as by means of the screws 15. The upper side portions of each carrier 9 are extended to form arms 16, which receive between them the lower end of the supporting-arm 6^a. Set-screws 17 project through the arms 16 and engage opposite sides of an arm 6^a. By adjusting said set-screws the carrier 9 may be rotated on its pivot 10 for the purpose of adjusting the position of the knife 14 with respect to the rotating knives 18.

The knife 14 is curved in cross-section on the arc of a circle, whereby with the employment of comparatively thin metal sufficient strength and rigidity are provided to prevent buckling and to enable the knife to be employed without the coöperation of a carrier-bar or other reinforcing device intermediate of the carrier-frames 9. Knives of this character may be produced cheaply and on a commercial scale in various manners. For instance, as shown in Fig. 5, the knives may be constructed from a tube 19 by slitting the same into three or more segments on a shaper, applying the tool 20 to the tube 19 in the direction of a chord which is of less length than the diameter of the tube, whereby the proper bevel is given to the part of the tube which will constitute the upper surface of the knife to provide a cutting edge thereon.

In Fig. 6 the knife is shown as being formed by inserting the stock 21 between the dies 22 23 of a power-press. It will be evident that the knife may be formed in a similar manner
5 by passing the stock between suitably-shaped rolls.

By forming the cutting edge 24 in the manner described an important advantage is secured in the ease of sharpening the knife, it
10 being only necessary to grind the upper edge thereof, where the width of the grinding or sharpening surface is small.

Should the edge of the knife 14 become worn or should the knife for any reason need
15 adjustment in relation to the revolving knives 18, such adjustment is easily effected by means of the set-screws 17.

It will be observed that the fixed and rotary knives are carried from the same center
20 and that the center of curvature of the fixed knife is at the pivotal points of the carrier-frames 9.

From the above description it will be apparent that I have produced a form of knife
25 which is easily sharpened, is extremely simple and cheap of construction, and which, owing to its shape, possesses the necessary rigidity to prevent buckling or warping of the same intermediate of its ends, thereby dis-
30 pensing with any carrier-bar or other reinforcement for the knife at such intermediate portion. Moreover, the manner of supporting the carriers permits of the easy removal of the knife and carriers whenever this object
35 is necessary or desirable.

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

1. In a lawn-mower, the combination of
40 side members, each comprising an arm, a pair of plates fastened to each of said arms, a carrier-frame pivoted between each pair of plates, a knife supported by said carrier-frames, and adjusting-screws engaging said
45 carrier-frames and said arms, whereby the position of the carrier-frames and of the knife may be adjusted, substantially as specified.

2. In a lawn-mower, the combination of a
50 frame comprising side members, an arm projecting from each of said side members, a pair of plates for each of said arms, said plates being secured to opposite sides of each of said arms, a carrier-frame pivoted be-
55 tween each pair of plates, said carrier-frames having each an outer curved surface and arms projecting beyond the end of the frame-
arm, adjusting-screws engaging the frame

and carrier arms, and a knife secured to the outer surface of each of said carrier-frames, 60 substantially as specified.

3. In a lawn-mower, the combination of side members, a knife-carrier pivotally connected to each of said members, said carriers having each a curved outer surface the center 65 of curvature of which is at said pivot, a curved knife secured to the curved outer surfaces of the carriers, and means for adjusting said carriers on their pivots, substantially as specified. 70

4. In a lawn-mower, the combination of a shaft, rotary knives carried by said shaft, arms projecting from the same center as said shaft, a carrier-frame suspended from each of said arms, a knife secured to said carrier- 75 frames, and adjusting-screws engaging each of said frames and its arm for varying the position of the fixed knife with respect to the rotary knives, substantially as specified.

5. In a lawn-mower, the combination of a 80 pair of arms, one on each side of the machine, a pair of plates secured to opposite sides of each arm, a carrier-frame between each pair of plates, a knife carried by said frames, a pin extending through said plates 85 and pivotally supporting each of said carrier-frames, one end of said pin being bored, and a key extending through said bore, substantially as specified.

6. In a lawn-mower, the combination of a 90 pair of arms, one on each side of the machine, one or more plates secured to each arm and projecting beyond the lower end thereof, a carrier-frame pivoted to the plate or plates on each arm, each of said frames having a 95 pair of projections extending above the lower end of its arm, adjusting means between the projections and arms for varying the position of the carrier-frames with respect to the arms, and a knife supported by 100 the carrier-frames, substantially as specified.

7. In a lawn-mower, the combination of a frame comprising side members, a knife-carrier pivoted to each side member and having an arm on each side of such pivot, and ad- 105 justing means extending between each arm and the adjacent portion of the frame for adjusting the carrier on its pivot, substantially as specified.

In testimony whereof I hereunto affix my 110 signature in the presence of two witnesses.

LINNAEUS E. BAKER.

Witnesses:

S. E. FOUTS,
J. B. HULL.