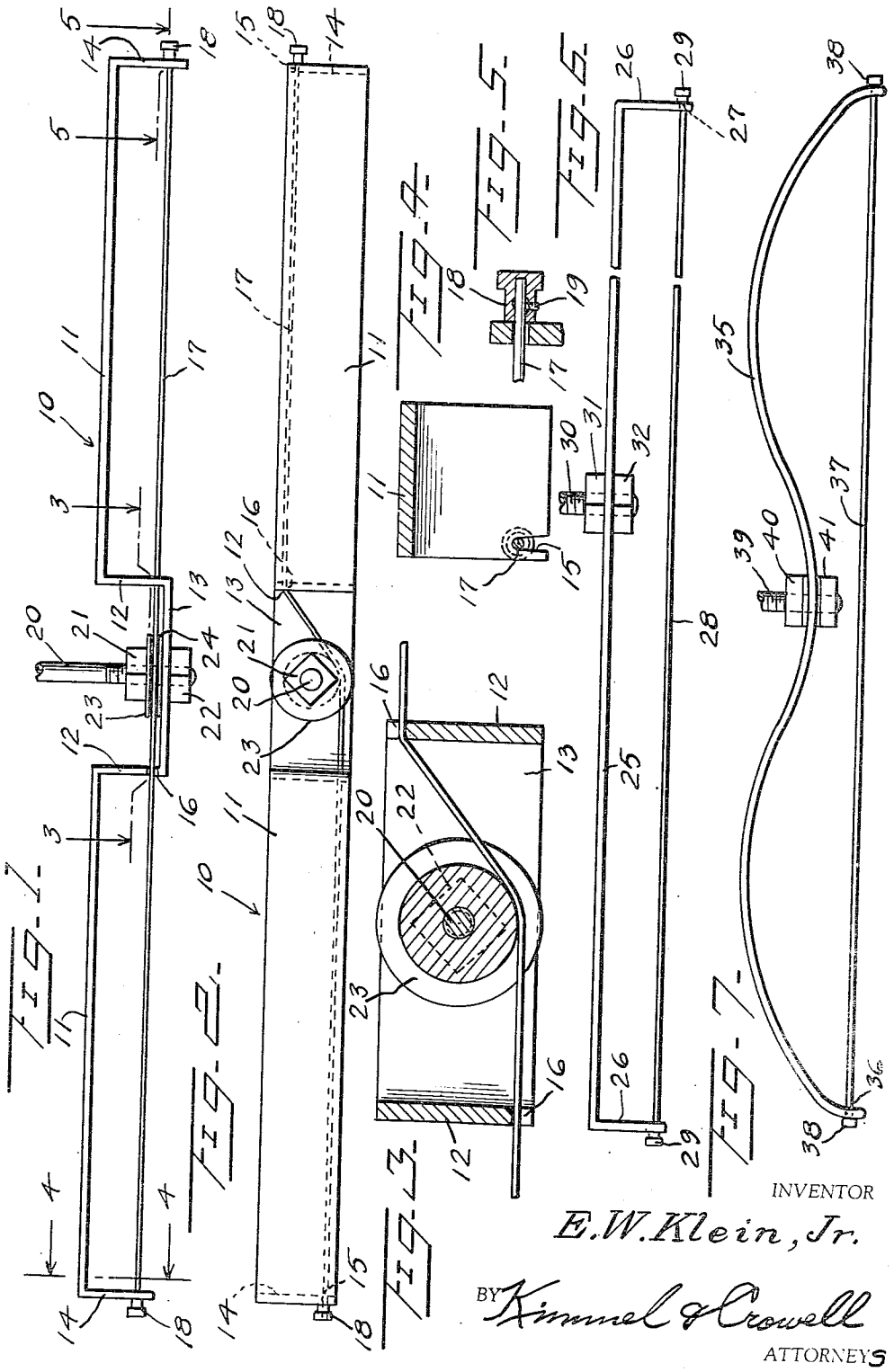
Sept. 11, 1956 E. W. KLEIN, JR 2,762,188

ROTARY DISK-TYPE ASSEMBLY HAVING A WIRE CUTTING EDGE

Filed Oct. 18, 1954



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United States Patent Office 2,762,188
Patented Sept. 11, 1956

2,762,188

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Application October 18, 1954, Serial No. 462,887

4 Claims. (Cl. 56—295)

This invention relates to a rotary mower blade, and has as its primary object the provision of an improved blade of this character, characterized by a wire cutting edge.

A primary object of the invention is the provision of a blade comprised of a wire cutting edge, which will retain its sharpness throughout the life thereof.

A further object of the invention is to provide such a wire which may be readily replaced with a minimum of difficulty and expense, in the event of breakage thereof.

An additional object of the invention is the provision of such a device which is relatively safe in operation, since, in the event of breakage of a wire, there are no heavy pieces to be thrown about.

An additional object of the invention is the provision of a device having a relatively frangible wire blade which is adapted to break upon the catching of the user's foot thereunder, for example.

A further object of the invention is the provision of a blade which, if accidentally released from its drive shaft, avoids the tendency to sail, which occurs in the commonly used flat blades.

Still another object of this invention is the provision of a device of this character which is sturdy and durable in construction, reliable, efficient and safe in operation, and relatively inexpensive to manufacture, assemble and utilize.

Other objects will in part be obvious, and in part be pointed out as the description of the invention proceeds, and as shown in the accompanying drawing, wherein there are disclosed preferred embodiments of this inventive concept.

In the drawing:

Figure 1 is a side elevational view of one form of blade embodying features of the instant invention, shown in association with a drive shaft;

Figure 2 is a top plan view of the construction of Figure 1, certain concealed parts thereof being shown in dotted lines;

Figure 3 is an enlarged sectional view taken substantially along the line 3—3 of Figure 1, as viewed in the direction indicated by the arrows;

Figure 4 is an enlarged sectional view taken substantially along the line 4—4 of Figure 1, as viewed in the direction indicated by the arrows;

Figure 5 is an enlarged sectional view taken substantially along the line 5—5 of Figure 1, as viewed in the direction indicated by the arrows;

Figure 6 is a side elevational view, partially broken away, of a modified form of construction; and

Figure 7 is a side elevational view of a still further modified form of the invention.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Having reference now to the drawings in detail, and more particularly to Figures 1 to 5, inclusive, there is generally indicated at **10** a support or frame for the cutting edge, which may be comprised of metal, plastic, or similar material, and which has preferably a resilient characteristic. The frame **10** consists of two parallel horizontal portions **11** which are separated by a depressed portion including downwardly extending portions **12** and a bight portion **13**. The outer ends of each member **11** include a depending right-angularly positioned end portion **14**, of a length slightly in excess of the length of the intermediate portions **12**. As best shown in Figure 4, each end portion **14** is provided with a notch **15** which extends upwardly from the bottom thereof, each notch **15** being aligned with a corresponding notch **16** in the associated wall **12**. As best shown in Figure 2, the notches **16** are offset relative to each other, but each notch **16** is associated with its opposite notch **15** in end portion **14**, in such manner that a wire **17**, extending from one notch **15** through the notches **16** to the other notch **15**, is offset relative to the two oppositely disposed portions **11**. The wire **17** is provided at each end with a suitable knob or projection **18**, which is secured thereto in any desired manner, as by means, for example, of a set screw **19**, and the arrangement is such that the wire **17** is held tightly in the notches **15** by means of the knobs **18**. As above stated, the frame member **10** is preferably slightly resilient, in an outward direction, and thus serves to hold wires **17** in taut relationship. When the device is rapidly rotated in a manner to be more fully described hereinafter, centrifugal action also assists in holding the wire tightly in its associated frame.

A drive shaft **20** extends through a suitable aperture in the bight **13**, and is held in position as by means of upper and lower nuts **21** and **22**, respectively. A pulley or disc **23** is positioned between the nut **21** and the bight **13**, and is provided with a V-shaped channel or groove **24** for the reception of wire **17** as it passes across the bight **13** from one notch **16** to the other.

A modified form of construction is disclosed in Figure 6, wherein the frame comprises an elongated flat member **25** having two depending end portions **26** provided with notches **27** for the reception of the ends of a straight wire **28**, the wire **28** being provided at its ends with knobs **29** similar to the knobs **18**. This assembly is provided with a centrally positioned drive shaft **30** secured in position by upper and lower nuts **31** and **32**.

Still another modification is disclosed in Figure 7, wherein the frame comprises a bow-shaped member **35**, the ends of which are provided with notches **36** for the accommodation of the ends of a wire **37**, the ends of which are provided with knobs **38**, also similar to the knobs **18**. A drive shaft **39** is held in position centrally of the bow-shaped member as by means of upper and lower nuts **40** and **41**.

The drive shafts **20**, **30** and **39**, respectively, are adapted to be driven by any suitable source of power carried by a conventional mower frame of any desired type.

It will be understood that the frame or support for the wire element may be tubular or of any suitable cross-section and may be mounted in either a vertical or horizontal plane.

From the foregoing, it will now be seen that there is herein provided an improved mower blade, which accomplishes all of the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiments hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. A rotary mower blade comprising an elongated cutter bar, a shaft, said bar having a central opening extending therethrough through which said shaft projects, means on said shaft engaging opposite sides of said bar for clamping said bar to said shaft, means depending from said bar at

opposite ends thereof, and a wire extending between said last named means and secured thereto with the axis of said wire at right angles to the axis of said shaft whereby when said shaft is rotated said wire will rotate in a plane perpendicular to the axis of said shaft.

2. A device as claimed in claim 1 wherein said bar has a downwardly offset central portion for securing said bar to said shaft whereby the wire extending between the ends of said bar is positioned above the bottom of said shaft.

3. A device as claimed in claim 1 wherein said bar comprises a pair of arcuate end sections joined by a downwardly offset arcuate center portion.

4. A device as claimed in claim 1 wherein said bar comprises a flat central portion, and said depending members extend perpendicularly therefrom to support said wires therebelow.

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