

July 12, 1938.

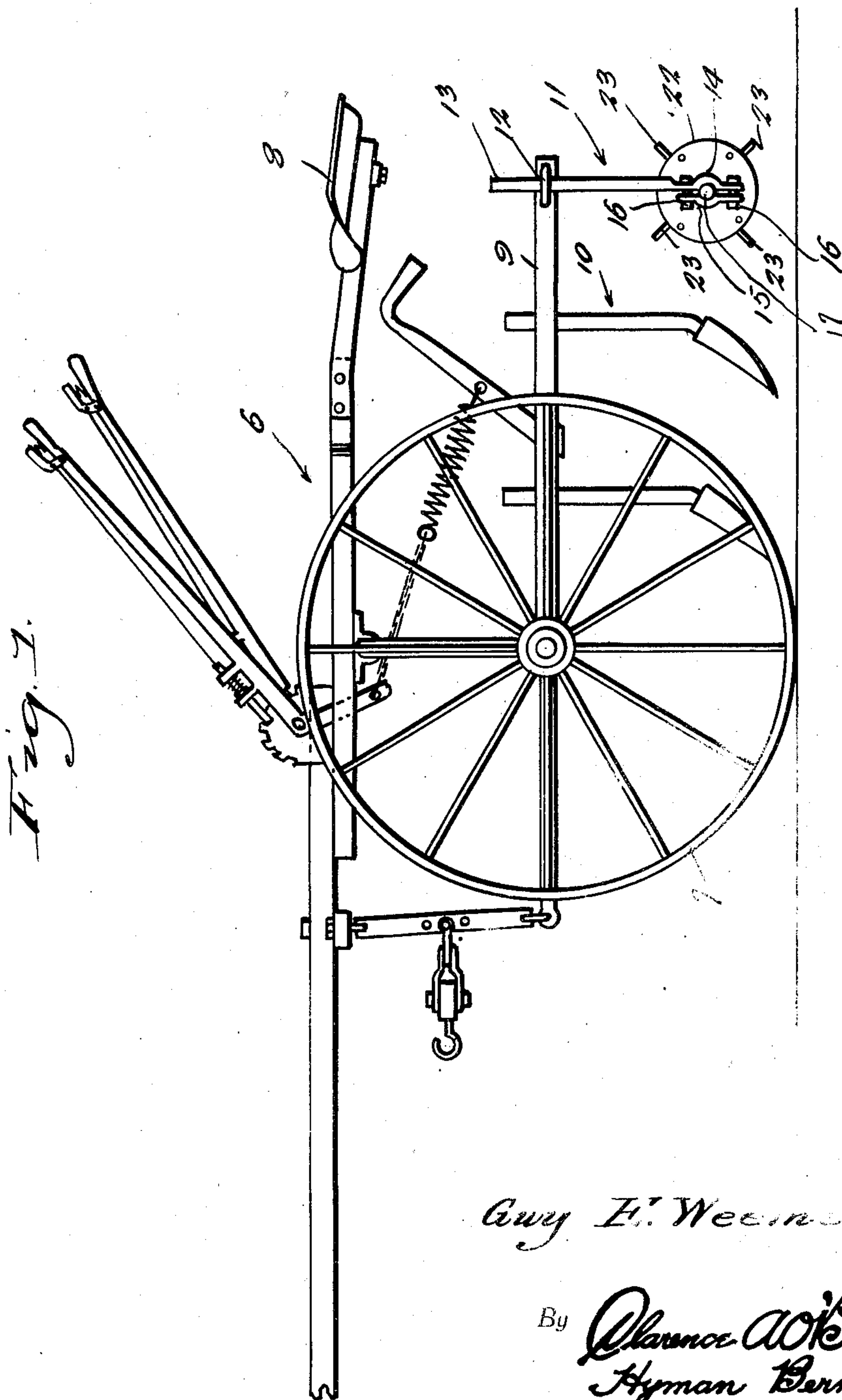
G. E. WEEMS

2,123,579

ROTARY STALK CHOPPER.

Filed March 8, 1937

2 Sheets-Sheet 1



Incentor

Guy H. Weene

By

Clarence W.'Brien.
Hyman Berman.

Attorneys

July 12, 1938.

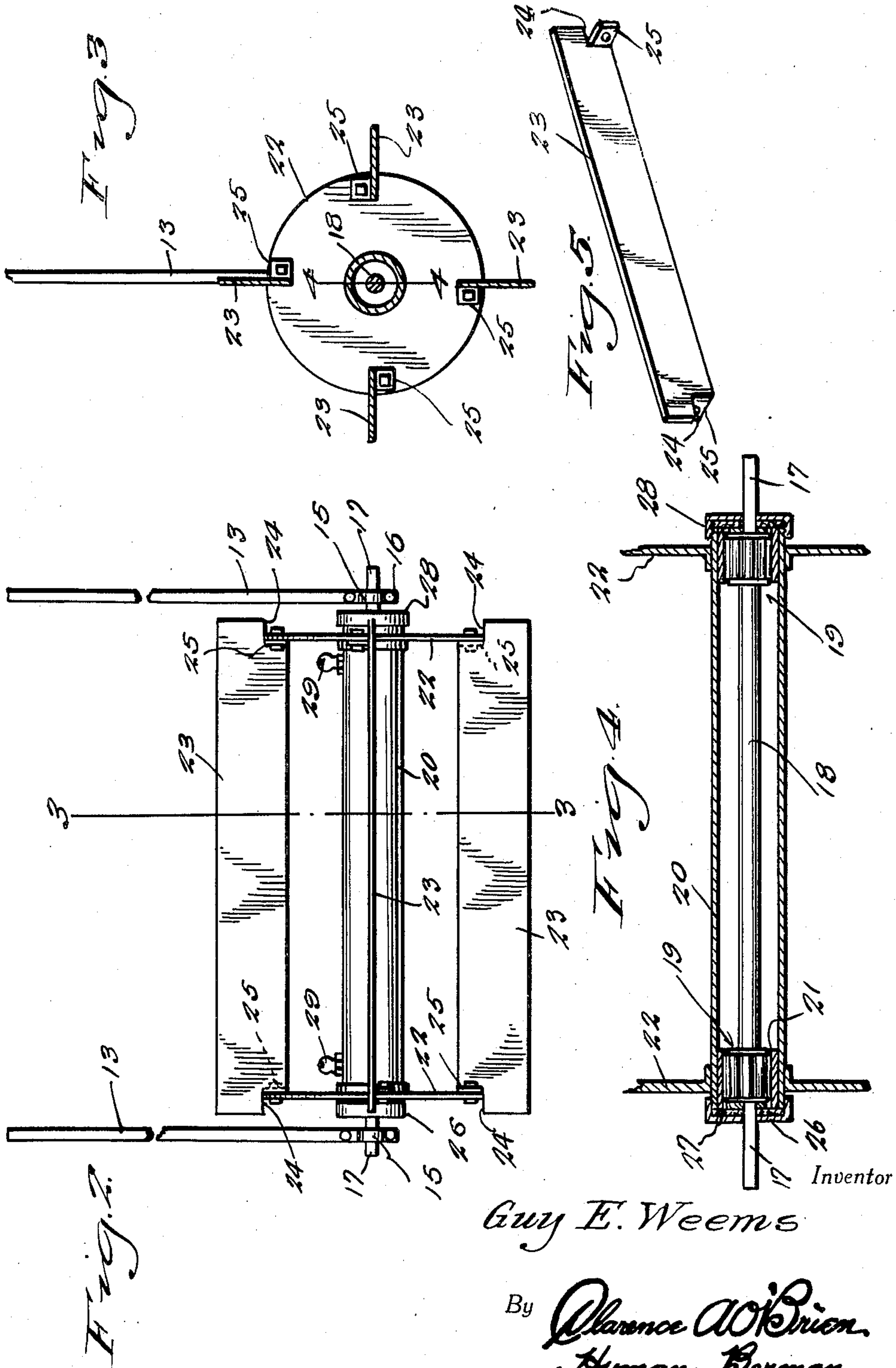
G. E. WEEMS

2,123,579

ROTARY STALK CHOPPER

Filed March 8, 1937

2 Sheets-Sheet 2



Guy E. Weems

By *Clarence A. O'Brien*
Hyman Berman
Attorneys

UNITED STATES PATENT OFFICE

2,123,579

ROTARY STALK CHOPPER

Guy E. Weems, Rotan, Tex.

Application March 8, 1937, Serial No. 129,714

2 Claims. (Cl. 55—61)

This invention relates to an improved rotary multiple bladed corn stalk cutter or chopper in the nature of an attachment applicable to conventional type cultivators, and the purpose of the invention is to generally improve upon structures of this class by providing one possessed of such refinements and distinctions as render it more aptly fitted for the intended purposes.

I am sufficiently conversant with the prior state of the art to which the invention relates to realize that attachments of this general type are broadly old. It follows, therefore, that in order to fulfill the requirements of my improved conception, I have evolved and produced an ingenious structural assembly wherein the rotary bladed reel is bodily detachable from simple hanger rods, said rods themselves being adjustably connected with a stock or existing part of a well recognized type of cultivator.

A further feature of the construction has to do with the specific construction of the cutter unit, this including a tubular hub, and said hub being associated with a novel bearing structure, whereby to permit free rotation of the blades to insure effective chopping or cutting of the stalks.

More specifically, an outstanding feature of the invention is predicated on the axle and bearing and hub assembly, wherein roller bearing units are employed and wherein these are removably fitted on the axle or shaft in a manner to facilitate assembling and repair.

Other features and advantages will become more readily apparent from the following description and drawings.

In the drawings:

Figure 1 is a side elevational view of what may be called a conventional cultivator showing the improved attachment type stalk cutter applied thereto.

Figure 2 is an elevational view of the stalk chopper removed from the cultivator.

Figure 3 is a section on the line 3—3 of Figure 2.

Figure 4 is a longitudinal section on the line 4—4 of Figure 3.

Figure 5 is a perspective view of one of the cutter blades.

Reference being had to the general machine assembly shown in Figure 1, it will be observed that I make no claim to the cultivator. This cultivator is identified generally by the numeral 6 and includes the supporting wheels 7 and other regulation features. At the rear end and underlying the seat 8 is a secondary tool car-

rying beam 9 to accommodate the tools 10. These features 10 vary in construction and need not be described in detail. It is to be pointed out, however, that on the extreme rear end of this beam 9 would ordinarily be additional cultivating tools. In the present instance, however, these particular tools are removed and the stalk chopper, denoted generally by the numeral 11, is substituted therefor. Suitable fastenings 12, here shown in the form of U-bolts, constitute the existing means for adjustably retaining the stalk cutter unit 11 in place.

The numerals 13 designate substantially perpendicular hanger rods. The lower ends are formed into half-clamps, as at 14, to accommodate clamping members 15, these being held in place by bolts 16. This provides a satisfactory and reliable clamping head to accommodate the reduced ends 17 of the axle or shaft 18 of the type seen in Figure 4. It will be observed here that by reducing the ends of the axle, the adjacent portions of the body thereof form shoulders. Hence, these shoulders permit the roller bearing units 19 to be slipped over the reduced ends 17 to rest against the shoulders. This arrangement provides an ideal frictionless hanger yoke for the bladed reel or cutter. The latter feature is characterized by a tubular hub 20 having bushings 21 fitted into the ends thereof. The bushings serve to conveniently accommodate bearing units 19 and the bushings are swedged or otherwise firmly fitted in the ends of the tubular hub 20. On the opposite ends of the hub are disk-like supporting heads 22 which serve to accommodate the chopping or cutting blades 23. Each blade 23 is in the nature of a rectangular plate, the ends being notched as indicated at 24 and the portions forming the notches being bent back or laterally to provide attaching ears 25. The ears 25 are bent in opposite directions and bolted or otherwise secured to the marginal portions of the heads 22 allowing the notched ends 24 to override and project beyond said heads 22. Referring again to Figure 4, it will be observed that the numeral 26 designates a premanently secured end thrust cap which is centrally apertured to permit the extension 17 to extend through and beyond the same. Interposed between the cap and bearing 19 is suitable packing means 27. Similar packing is provided at the opposite right hand end in Figure 4 and at this end is a removable screw-cap 28 apertured to accommodate the adjacent projecting end 17. In this assemblage it is obvious that the cap 28 is first removed, after

which the bearing at the left is assembled on the reduced shoulder ends of the axle 18. Then this bearing fitted end is slipped into place with the extension 17 projecting through the cap 26, 5 as shown. Either before or after this adjustment is made, the remaining bearing 19 at the opposite end is slipped over the extension 17 and fitted into its bushing, after which the cap 28 is put in place in a manner to facilitate ex- 10 peditious assembling.

The numerals 29 in Figure 2 designate suitable grease cups to facilitate lubricating the bearings.

Structural novelty is thought to reside in the 15 provision of the vertically adjustable hanger rods 13 with the simple clamping means 14 and 15 at the lower ends thereof to accommodate the axle ends on the reel cutter unit. The cutter unit itself characterized by the disk-like heads and 20 notched renewable blades 23 is novel. More in particular, however, the bearing and assembling means depicted to advantage in Figure 4 is an efficient adaptation. Taking everything into con- 25 sideration, it is believed that the structure is well designed, substantially indestructible, effective for the purposes intended, and, in every respect, suitable to accomplish the results for which it is designed.

It is thought that the description taken in 30 connection with the drawings will enable a clear understanding of the invention to be had. Therefore, a more lengthy description is thought unnecessary.

While the preferred embodiment of the inven- 35 tion has been shown and described, it is to be understood that minor changes coming within

the field of invention claimed may be resorted to if desired.

I claim:

1. In a structural assemblage of the class de- 5 scribed, an axle, roller bearing units mounted on the end portions of said axle, a rotary bladed stalk chopper including a tubular hub, said hub being provided at one end with a fixed centrally apertured cap, being provided at the opposite end 10 with a removable centrally apertured cap, the end portions of said axle extending through and beyond the apertures in said caps, said bearings being located in the end portions of said tubular 15 hub, and bushings interposed between the bearing units and adjacent portions of said hub.

2. In a rotary stalk chopper of the class de- 15 scribed, a tubular hub open at opposite ends, a closing cap fixedly mounted on one end and centrally apertured, disk-like heads mounted on the 20 end portions of said hub, blades secured between said heads, an axle, the major body portion of said axle being located in said hub, the end por- 25 tions being reduced to form shoulders, said reduced end portion at one end of the axle extending through and beyond said cap, a roller bearing 25 unit mounted on said reduced end portion and abutting the shoulder and confined in the hub, the shouldered end portion of the opposite end of 30 said axle being confined within the limits of the hub, a roller bearing unit mounted on said last- 30 named end and abutting the shoulder and confined in the hub, and a screw cap on said last-named end of the hub and centrally apertured to 35 permit passage therethrough of the adjacent reduced end portion of the axle.

GUY E. WEEMS.