Feb. 25, 1958 R. B. REINHARD 2,824,392

LOADING BUCKET CUTTING EDGE CONSTRUCTION

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Fig. 1

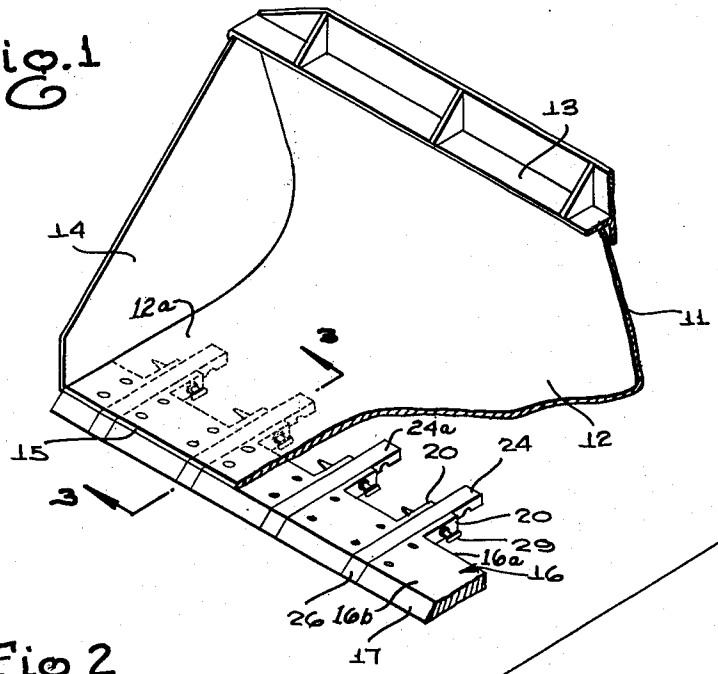
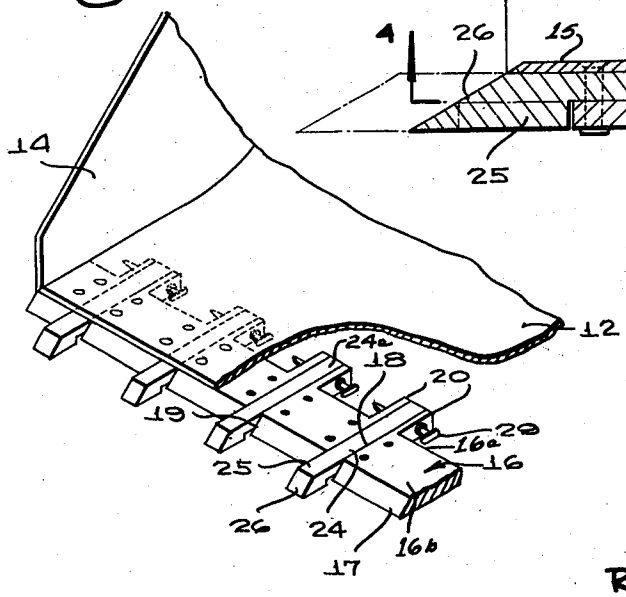


Fig. 2



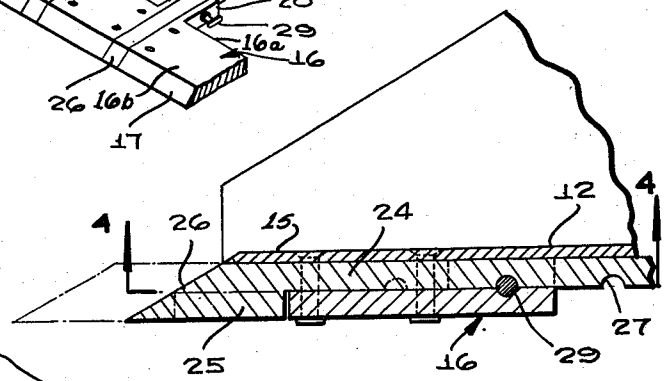


Fig. 3

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Fig. 4

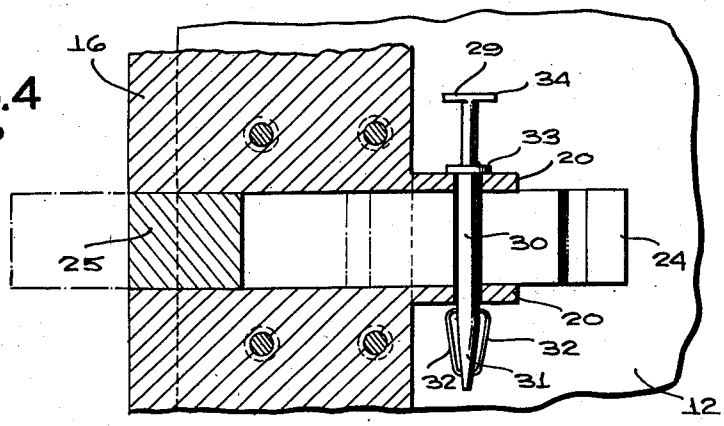
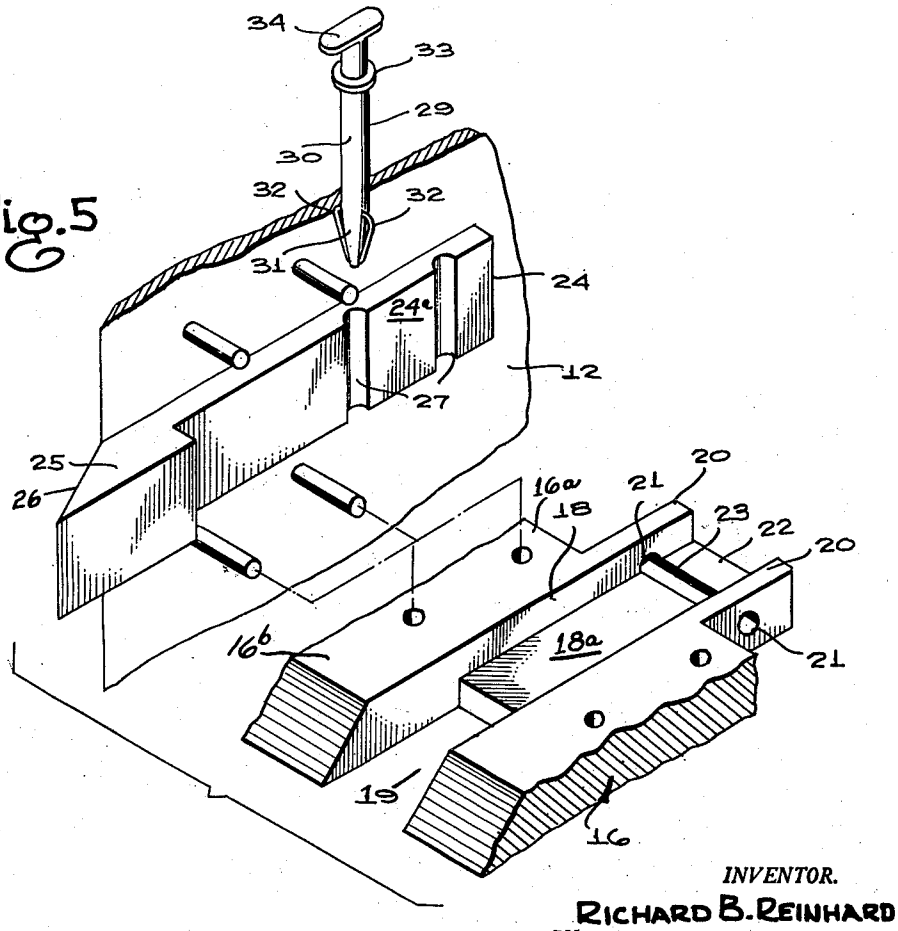


Fig. 5



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LOADING BUCKET CUTTING EDGE CONSTRUCTION

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2 Claims. (Cl. 37—141)

This invention relates to loading buckets for use on tractors, and more particularly to an improved loading bucket having an adjustable cutting edge.

A main object of the invention is to provide a novel and improved loading bucket having an adjustable cutting edge which may be arranged either to provide a straight cutting edge or a cutting edge provided with forwardly projecting teeth, the bucket being simple in construction, being easy to adjust, and enabling the bucket to be employed for a wide range of different uses, for example, for scraping or grading, wherein a straight cutting edge is desirable, or for loosening ground and for digging operations, wherein it is desirable to have forwardly projecting teeth on the edge of the bucket.

A further object of the invention is to provide an improved cutting edge construction for a tractor loading bucket, the improved construction involving inexpensive components, providing a cutting edge of high durability, and being arranged so that the teeth of the cutting edge may be readily adjusted to desired positions, or may be adjusted to provide a flush configuration at the edge of the blade.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a fragmentary perspective view of a tractor loading bucket, showing the improved cutting edge construction of the present invention.

Figure 2 is a fragmentary perspective view similar to Figure 1 but showing the teeth arranged in forwardly projecting positions.

Figure 3 is an enlarged transverse vertical cross sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a cross sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a fragmentary perspective view showing the parts of the improved bucket edge assembly of Figures 1 to 4 in separated positions.

Referring to the drawings, 11 designates a bucket employed with a tractor, the bucket being adapted to be connected to suitable elevating mechanism mounted on the tractor, said mechanism being of conventional design, and being arranged so that the bucket may be employed for digging, as by lowering the bucket to a position forwardly of the tractor, after which the material excavated may be elevated for dumping.

The bucket comprises a concave main body 12 having a bottom wall 12*a* which has a front end 15. The body 12 has a reinforced top member 13 at its top edge and an upstanding side wall 14 is positioned on each side edge of the bottom wall 12*a* and is connected to the bottom wall and the adjacent edge portions of the body 12. A blade element 16 having a rearward end 16*a* and a forward end 16*b* provided with a beveled cutting edge 17 is positioned below the bottom wall 12*a* so that it extends from one side edge to the other side edge of the bottom wall with the beveled cutting edge 17 forwardly of the front end 15 of the bottom wall 12*a* and fixedly

secured to the bottom wall. The blade element 16 has a plurality of grooves 18 arranged in spaced relation and extending transversely therethrough from the forward end 16*b* to the rearward end 16*a*. The blade element 16 has forwardly opening notches 19 which are coextensive in width with the grooves 18 and communicate with the grooves, as is clearly shown in Figure 5. The base wall 18*a* of each groove 18 has a shelf 22 in alignment therewith and projects beyond the rearward end 16*a* of the blade element 16. An upstanding lug 20 provided with an aperture 21 is on each side of each shelf 22 and is attached to said side and the adjacent part of the rearward end 16*a* of the blade element 16. The top surface of each of the shelves 22 is formed with a transversely extending semicylindrical channel 23 connecting the apertures 21 of opposite pairs of lugs 20, as is clearly shown in Figure 5.

Designated by the numeral 24 are a plurality of tooth elements each having the forward end 25 provided with a beveled cutting edge 26 which is conformably shaped to that of the beveled edge 17 of the blade element 16 and having the portion 24*a* adjacent the rearward end conformably shaped to be received within a shelf 22 and the adjacent lugs 20.

Each of the tooth elements 24 is insertable within a groove 18 of the blade element 16 so that the beveled cutting edge 26 is forwardly of or flush with the beveled cutting edge 17 of the blade element 16 with the portion 24*a* received within the adjacent self 22 and upstanding lugs 20.

The portions 24*a* of the tooth elements 24 are formed with a plurality of longitudinally spaced, transversely extending bottom channels 27 of generally semicylindrical shape, said bottom channels being selectively registrable with the bottom channel 23 in the various adjusted positions of the tooth elements 24, including the position wherein the enlarged head portion 25 of the tooth element is flush with the beveled cutting edge 17 of the blade member 16.

Removable fastening means or pins 29 are engageable through the apertures 21 and through the transverse bore defined by the registering channels 23 and 27, whereby the tooth elements 24 may be locked in adjusted positions.

As shown in Figure 5, each fastening pin 29 comprises a shank 30 having a tapered forward end 31 on the opposite sides of which are mounted the spring retainers 32, 32, the shank 30 being formed with a stop collar 33 to limit the extension of the shank to the locking position thereof shown, for example, in Figure 4, the locking pins being each further provided with a gripping handle 34, whereby the pins may be readily grasped and withdrawn, when desired. Thus, when it is desired to change the adjustments of the tooth elements 24, it is merely necessary to extract the pin members 29, change the positions of the tooth elements, and then reinsert the pin members 29, thus locking the tooth elements in their newly adjusted positions.

From the above description, it will be readily apparent that the tooth elements 24 may be employed either in the flush positions thereof, shown in Figure 1, whereby the bucket is provided with a flush forward cutting edge, and whereby the bucket may be employed for operations such as grading, scraping, or the like, where it is undesirable to unnecessarily disturb the soil, or alternatively, the bucket may be provided with the forwardly projecting tooth elements, illustrated in Figure 2, whereby the bucket may be employed for the type of digging or excavating operations wherein a scarifying or plowing action is desired.

It will be further apparent that the tooth elements 24 may be readily removed, whenever necessary, for sharpening, replacement, or for repair, whereby the main-

tenance of the bucket is greatly simplified, and whereby the time and expense required in replacing or repairing the tooth elements is greatly reduced, as over the buckets of the prior art.

While a specific embodiment of an improved loading bucket for a tractor has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. A loading bucket comprising a body including a bottom wall having a forward end, a blade element having a rearward end and a forward end provided with a beveled cutting edge positioned below said bottom wall so that it extends from one side edge to the other side edge of said bottom wall with the beveled cutting edge forwardly of the front end of said bottom wall and fixedly secured to said bottom wall, said blade element having a plurality of grooves arranged in spaced relation and extending transversely therethrough from the forward to the rearward end thereof, the base wall of each groove having a shelf in alignment therewith and projecting beyond the rearward end of said blade element, an upstanding lug on each side of each shelf and attached to said side and the adjacent part of the rearward end of said blade element, each of said lugs being provided with an aperture, a plurality of tooth elements each having the forward end provided with a beveled cutting edge conformably shaped to that of the beveled cutting edge of said blade element and having the portion adjacent the rearward end conformably shaped to be received within a shelf and the adjacent lugs, each of said tooth elements being insertable within a groove of said blade element so that the beveled cutting edge is forwardly of or flush with the beveled cutting edge of said blade element with the portion adjacent the rearward end received within the adjacent shelf and upstanding lugs, spaced means on the under face of each of said tooth elements intermediate the ends thereof and selectively registrable with means on each of said shelves, and removable fastening means extending through the aperture in each of the complemental lugs and the means on the adjacent tooth element in registry with the means on the adjacent shelf for securing said tooth element in a selected position within the groove of said blade element.

2. A loading bucket according to claim 1 in which the said space means embodies transversely disposed semi-cylindrical grooves, and in which the means on each of the shelves embodies a transversely disposed semi-cylindrical groove.

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