April 29, 1969 S. G. SMITH 3,440,744

BLADE ATTACHMENT FOR FRONT END LOADER

Filed April 27, 1967 Sheet 1 of 2

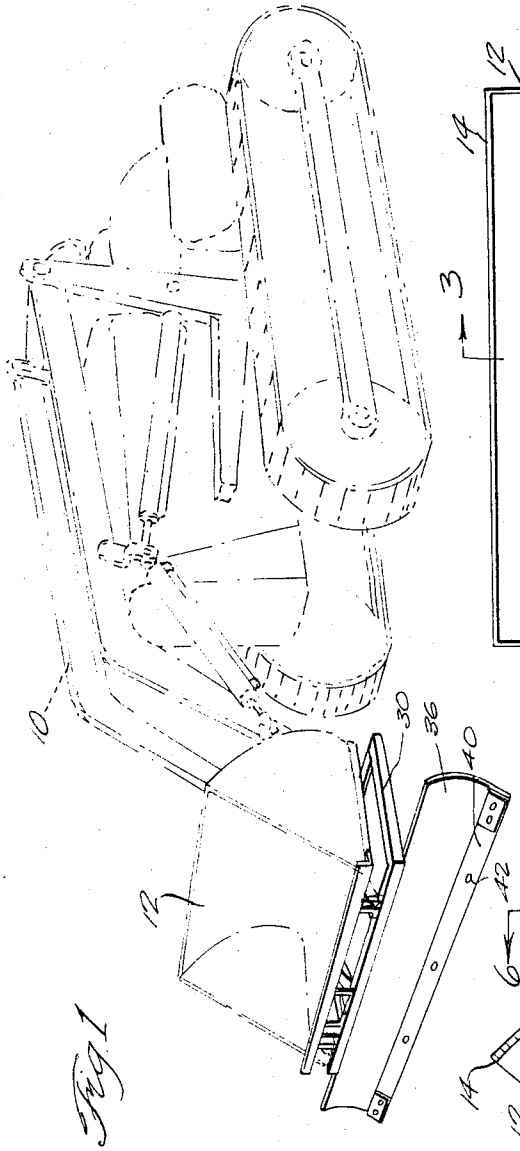


Fig. 1

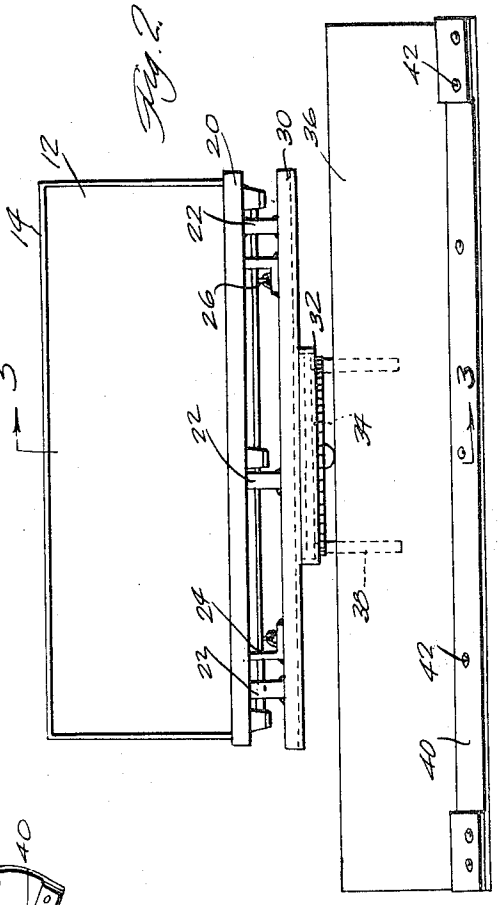


Fig. 2

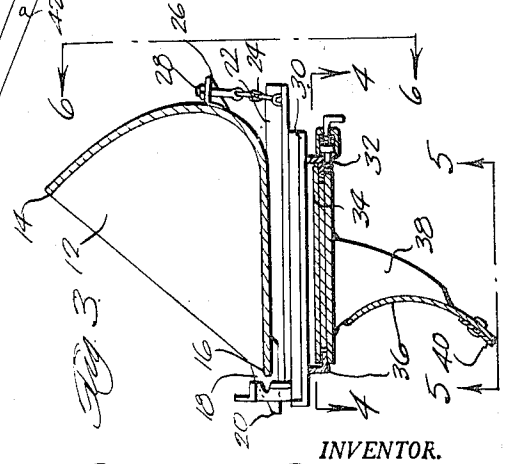


Fig. 3

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Fig. 4

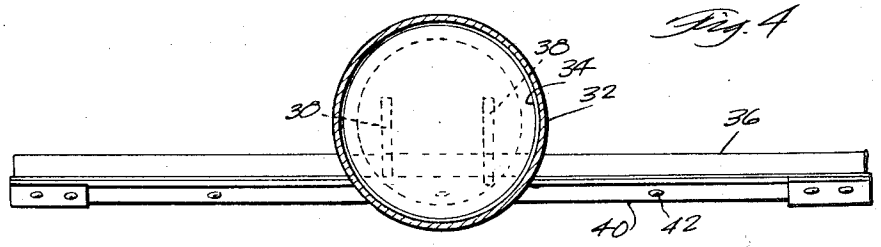


Fig. 5

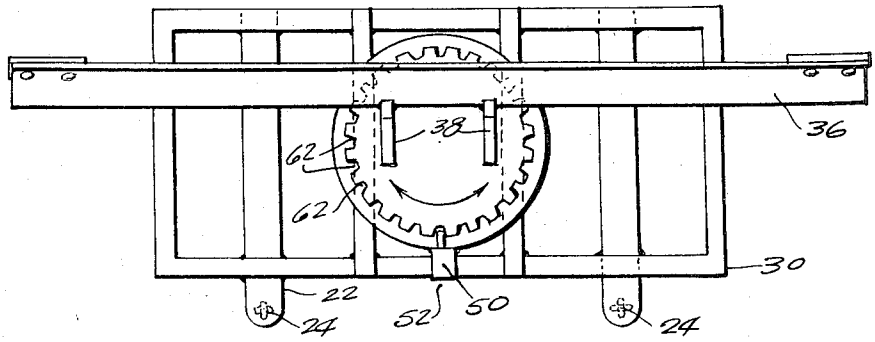
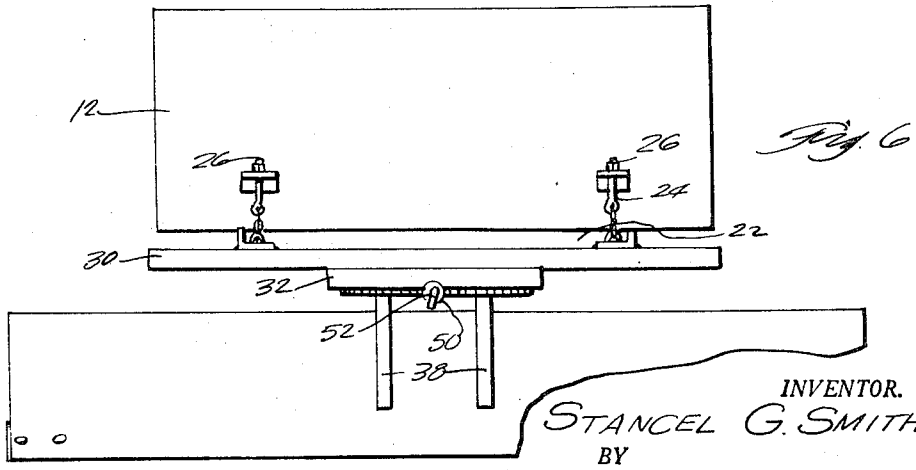


Fig. 6



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United States Patent Office 3,440,744
Patented Apr. 29, 1969

3,440,744

BLADE ATTACHMENT FOR FRONT END LOADER

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Filed Apr. 27, 1967, Ser. No. 634,200
Int. Cl. E02f 3/76, 3/81
U.S. Cl. 37—117.5 4 Claims

ABSTRACT OF THE DISCLOSURE

A blade attachment for a front end loader which will allow the tractor-front end loader and attachment apparatus to dig basements, to backfill and for finished grading. The blade attachment comprises a frame fastened on the bottom side of the bucket or front end loader, and a circular member, a series of plates, reversible cutting edges and brackets for holding the main frame and the parts securely to the bucket or front end loader.

The present invention relates to providing a blade on the lower forward edge of a front end loader, more particularly from the front lower edge thereof, and more particularly the invention relates to a removable cutter blade attachment for installation at the front edge of a front end loader.

It is, therefore, an object of the present invention to provide a blade attachment that is quicker and easier to attach to a machine than those of the prior art.

It is a further object of the present invention to provide an apparatus for small operators to excavate basements and to finish grade yards with the initial investment cost of only one machine instead of two separate machines.

It is a further object of the present invention to provide for the removal of snow from parking areas, sidewalks, and the like, since the blade can be used to pile snow into a pile, and then the blade is dropped while the loading mechanism is used to remove the snow quickly.

A further object of the invention is to provide snow removal by mounting a cutter blade from a circular mount disposed under the front end loader and allow thereby the blade to be angled or canted for side-casting snow or like material in the process of using the equipment.

The above and other objects and advantages of the invention will become apparent upon full consideration of the following detailed description and accompanying drawings in which:

FIGURE 1 is a front perspective view of the blade mechanism mounted on a crawler-type tractor.

FIGURE 2 is a front elevation view of the scraper blade mounted from the front end loader and showing the entire details of the scraper and the front end loader.

FIGURE 3 is a cross-sectional view taken along 3—3 of FIGURE 2.

FIGURE 4 is a cross-sectional view taken along lines 4—4 of FIGURE 3.

FIGURE 5 is a cross-sectional view taken along lines 5—5 of FIGURE 3.

FIGURE 6 is a cross-sectional view taken along lines 6—6 of FIGURE 3.

Referring now to the drawings, there is shown a crawler-type tractor **10** which is conventionally used to mount tractor apparatus such as a front end loader **12**. The loader has an upper edge **14** and a lower edge **16**, and the lower edge **16** is adapted to extend within a series of recesses **18** of an edge member **20**. It is found that where certain loader buckets **12** have forwardly extending teeth on the forward edge **16** of the loader bucket, that they will fit into the recesses **18** with facility and be secured therein. The other end of the bucket is chained and bolted onto a frame **22**, so that the chain **24** is coupled therebetween and is secured to a mounting bracket **26** by a bolt and nut **28**. In this way by the chain-and-bolt arrangement **28** and the edge member **20** for engaging the forward edge or teeth of the loader bucket **12**, the frame **22** may be readily and easily dismantled or removed from the bucket **12**.

There is mounted adjacent the frame **22** a pair of angle irons **24**, **26** from which there is suspended in a transverse relation intermediate frame **30** and from which there is further suspended a flanged circular channel member **32** secured under the intermediate frame **30**. To the flanged circular channel member **32**, there is an engaging circular channel **34** supported from the flanged circular channel. Depending or suspended from the circular channel **34** is support means for a moldboard **36** by means of support means **38**. The forward edge at the lowermost surface of the moldboard is provided with a cutting edge **40** which is secured to the moldboard by bolts **42**, **42**.

In FIGURE 5 of the drawings, there is shown a construction by which the blade will assume a position of an angle of any desired magnitude resulting in the blade being reversed or locked at any position as desired by means of the spring loaded lock **50** having lever **52**. The lever **52** may engage any of the apertures or recesses **62**, **62** throughout the internal surface of the circular channel **34** to lock the blade attachment **40** at any desired angle. Since the blade can be tilted or angled at almost any degree or angle, this provides making the landscaping operation easier and faster in accomplishment. The invention is also useful for back-blading of material from along a highway or any other close place.

While a crawler-type tractor is shown and is generally used, it is within the purview of the present invention to provide a rubber tired tractor, but it is realized that the crawler-type tractor **10** as is shown is more widely used for excavation and landscaping than rubber tired tractors.

Additional embodiments of the invention in this specification will occur to others and, therefore, it is intended that the scope of the invention be limited only by the appended claims and not by the embodiment described hereinabove. Accordingly, reference should be made to the following claims in determining the full scope of the invention.

What is claimed is:

1. A blade attachment for front end loaders comprising a frame having a mounting edge member with a series of recesses to receive a forward edge of a loader bucket, said frame being secured at its rear by a chain-and-bolt arrangement to the rear of the said loader bucket, a flanged circular channel member secured under the frame, an engaging circular channel supported from the flanged circular channel, and a moldboard with a cutting edge bolted on said moldboard forming said blade attachment.

2. The invention according to claim **1** wherein said forward edge has teeth mounted thereon, and said teeth are received in said recesses.

3. The invention according to claim **1** wherein a spring loaded lock is mounted in engaging relation to the flanged

circular channel and the engaging circular channel to lock the blade attachment at a desired angle.

4. The invention according to claim 3 including an intermediate frame to provide additional support and strength to the blade attachment.

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U.S. Cl. X.R.

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