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EC767 Irrigation Equipment Series

Aldert Molenaar

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D. E. HUTCHINSON
CONSERVATIONIST

Nebraska
COOPERATIVE EXTENSION WORK
IN AGRICULTURE AND HOME ECONOMICS
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W. H. Brokaw, Director, Lincoln Ext. Circ. 767

IRRIGATION EQUIPMENT SERIES

BUCK SCRAPER FOR WET AND DRY LEVELING

The buck scraper illustrated and described in this circular is a very simple, but effective, land leveling implement. It is a particularly valuable tool when preparing land for the border method of irrigation. No matter how carefully the land in each border has been leveled and floated, both before and after construction of the ridges, several high places will show up when the water is turned into a border.

While the water is being applied, these high spots can be removed easily with the buck scraper pulled by a two-horse team. The operator, standing on the short trailer board, drives his team with one hand and operates the scraper with the other. Wherever a dry spot appears he scrapes off a layer of soil and dumps it into a low place. As soon as the water passes over the spot, no more scraping needs to be done.

The team and scraper should be at hand when the water is first turned into a border. The necessary leveling can then be done as fast as the water progresses down the slope. If delayed too long the soil becomes saturated, making it more difficult for the team to get around.

The same buck scraper can be used successfully for leveling land before any water is put onto the field. Irregularities, too great to be smoothed out by the action of the ordinary float, can be quickly taken care of with this implement. If large quantities of dirt need to be moved, however, the scraper described here is too small. Since no provisions are made to prevent the dirt from spilling out at the ends, this scraper is better suited to short hauls.

Prepared by
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The part of the scraper that moves the dirt is a 2" x 12" board, 6 feet long. A 4-inch strip of iron is bolted along the lower front side of this board. This iron strip extends $1\frac{1}{2}$ inches below the lower edge of the board, thus providing a sharp cutting edge. A 6-foot length of pipe, about $1\frac{1}{4}$ inches in diameter, makes a very good handle.

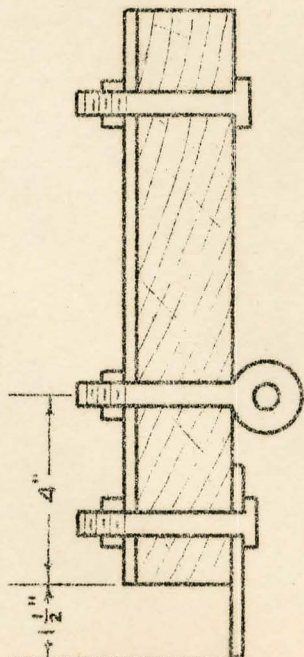
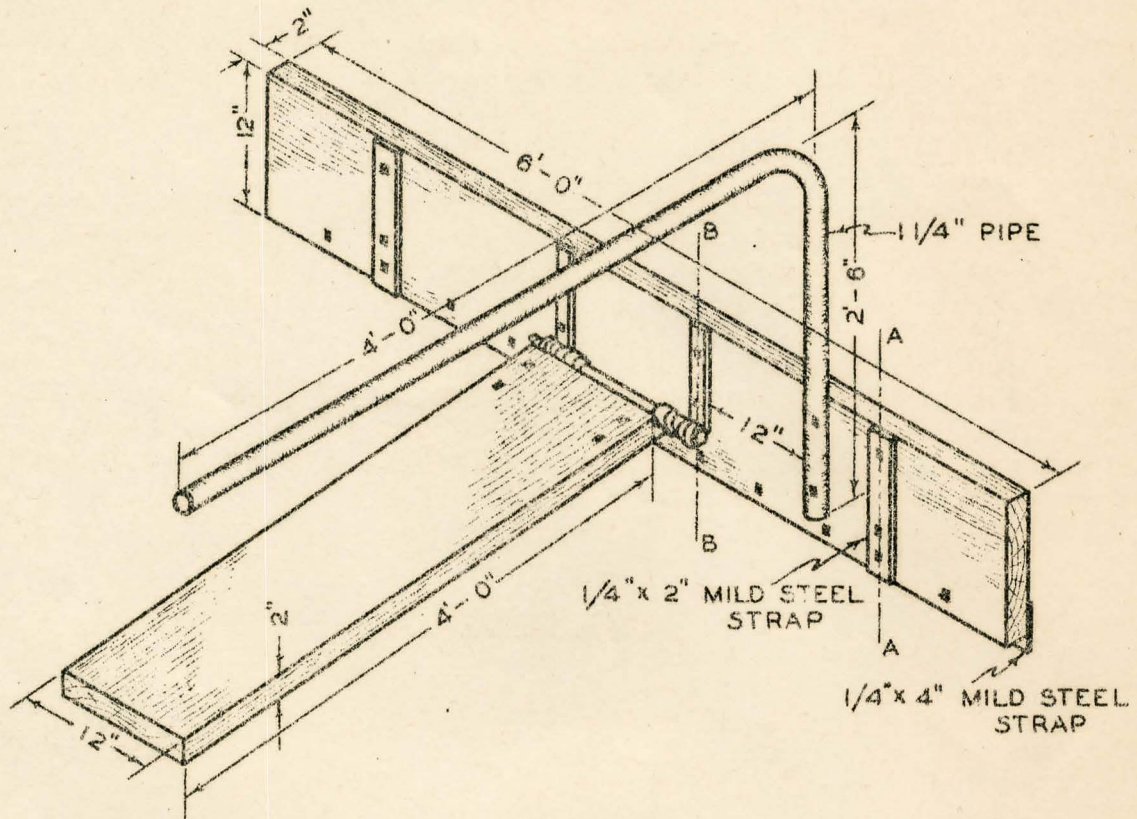
The board, on which the operator rides, is a 2" x 12", 4 feet long. It is hinged to the buck board by a long bolt or rod through home-made strap iron hinges. This trailer board is not necessary if the scraper is only to be used for dry leveling.

When building the scraper, particular attention should be given to the position of the hitch. A detail of Section A-A shows that the center of the eye bolt should be 4 inches above the lower edge of the buck board. The center of the hinge bolt should also be 4 inches above the lower edge of the board as shown in the detail of section B-B.

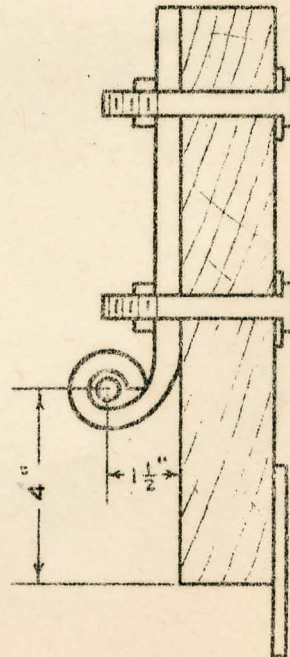
BILL OF MATERIAL

1	-	2" x 12" x 6' $\frac{1}{2}$ - 0"	Buck Board
1	-	2" x 12" x 4' - 0"	Trailer Board
1	-	$1\frac{1}{4}$ " x 6' - 6"	Iron pipe handle
1	-	$\frac{1}{4}$ " x 4" x 6' - 0"	Strap iron cutting edge
4	-	$\frac{1}{4}$ " x $1\frac{1}{2}$ " x 12"	Strap iron hinges
2	-	$\frac{1}{4}$ " x 2" x 12"	Strap iron
1	-	5/8" x 14"	Bolt for hinge
2	-	5/8" x 3"	Eye bolts
2	-	$\frac{1}{2}$ " x 4"	Carriage bolts
22	-	$\frac{1}{2}$ " x 3"	" "

BUCK SCRAPER FOR WET AND DRY LEVELING



DETAIL OF
SECTION A-A



DETAIL OF
SECTION B-B