

# A Hand Truck Attachment for Moving Stacks of Chairs, Version 1.0

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By R. G. Sparber

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A standard hand truck does not easily pick up this stack of chairs. The plate is too narrow, so it slides between the chair legs. If the plate were a bit wider, the user would still have to tilt the stack forward enough to get under the legs. This is an awkward move for me, and I risk having the stack fall over. Once the legs are on the plate, I must prevent them from sliding as we move the stack, or it can fall off.

I wanted a solution that was quick and easy to install and remove without tools.

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A more effortless and safer way is to drop this attachment onto the hand truck. No tools are needed.



The hand truck rolls under the stack without touching the chairs.

With one foot on the hand truck's axle, I tilt back, and the stack smoothly follows.





It is now possible to roll the stack to its destination. Here you see six chairs in the stack. There is room for more, but it is too heavy for me.

I can lift the stack from the front or either side. Although the arms reach through the back, there is no frame there, and the stress on the bottom of the lowest chair might cause damage, so it is not recommended.

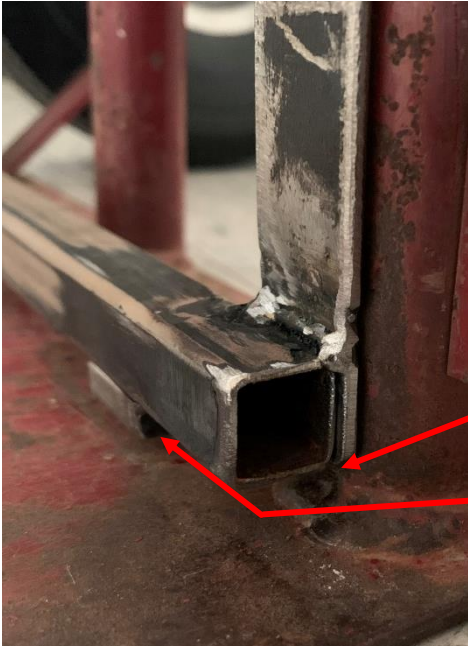
## Construction Details

The attachment's arms are made from 10-gage  $\frac{3}{4}$ -inch square tubing. The vertical supports are  $\frac{1}{8}$ <sup>th</sup> inch thick 1-inch angle. Cross members are thin-walled  $\frac{1}{2}$ -inch tubing. I came to regret using this thin-walled tubing as I often blew holes in it with my stick welder using  $\frac{3}{32}$ -inch diameter 6013 rod set to 60 amps. Life would have been much easier if I had stayed with the 10-gage tubing.

Note that there is no need for bracing under the arms.

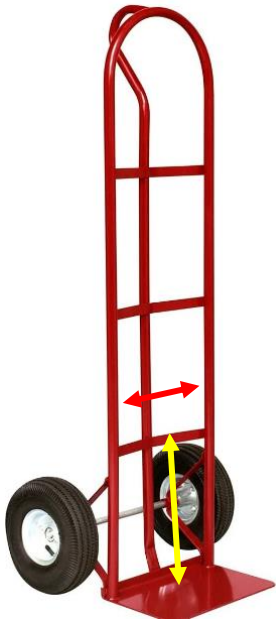


These notched arms engage with a curved strap that spans the vertical members of the hand truck.



To avoid the weldment at the bottom of the vertical members, I added 1/4-inch thick pads under the bottom horizontal brace.

In looking at two hand trucks, I found they were not the same size. I, therefore, have not included any dimensions. I do have a few pointers.



Measure the inside distance between hand truck verticals. Subtract twice the thickness of the angle and then subtract another 1/8<sup>th</sup> inch so the attachment is a loose fit.

Measure the distance from the plate to the top of the curved brace. Subtract 1/4-inch for the pads on the bottom of the horizontal brace. This is the distance from the bottom of the angle to the top of the notch. Add 1/4-inch to get to the top of the attachment.

## Acknowledgments

Thanks to Les Ingram for identifying the need. The answers are easy; the questions are hard. Les supplied that essential question. Thanks to Mel Kessler for seeing that lifting from the back of the chair stack can cause damage.

I welcome your comments and questions.

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