## Design and Construction of Charcoal Briquette Making Machine Using Hydraulic Manual Jack with 2 Ton Pressure Capacity

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## ABSTRACT

The briquette making process requires a manual molding tool that is operated easily, quickly, and produces precise results. The research began with the design of the tool using Autodesk Invertor Professional 2021 Software. The purpose of this design is to produce a briquette molding tool that is practical and simple but still strong enough to support the operator's pressure. This briquette molding tool has a simple shape and is easy to move and does not take up much space. After the briquette molding tool has been designed, the next step is to make the tool. Starting from cutting the material, welding, then assembling all the parts. The mold design of the tool uses 4 cm x 4 cm hollow iron which is arranged in 4 pieces. The dimensions of this briquette molding tool are 90 cm high, 60 cm long, and 60 cm wide, which makes it easy to move. The frame of the tool is designed using strong and sturdy materials, capable of withstanding loads of up to 4 tons. This molding tool can produce 118 charcoal briquettes per hour, with an operating time of 3.4 kg per hour. Each operation takes 2 minutes to print one batch of briquettes. After the tool is finished being made, functional testing is carried out and continued with making briquettes using the tool.

Keywords: Autodesk Inventor, Briquette printing tool, Design and construction.