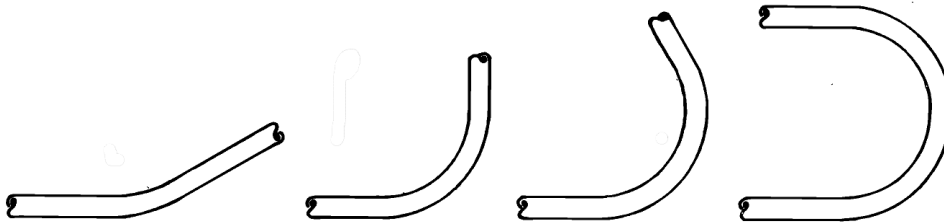




PIPE BENDING

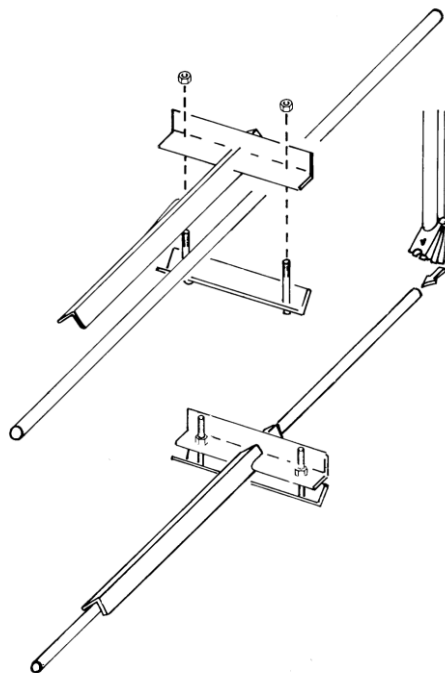
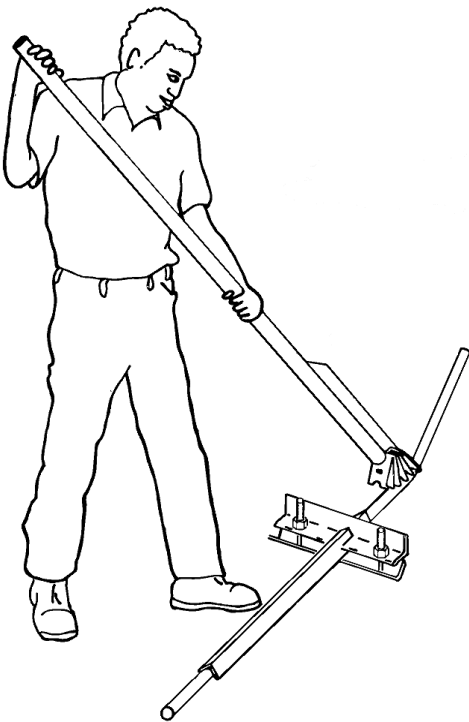
This technical brief describes the construction of a pipe-bending tool that you can make with only a small number of tools. It was originally built and field-tested by ITDG (now Practical Action) in Malawi, Zimbabwe and Botswana.



You will need the following equipment to produce the pipe bending tool.

- a drill,
- a welding machine
- a metal saw

Operation of the pending tool is relatively easy. The pipe that you wish to create a bend in is placed in the clamp and the two nuts are tightened to ensure that the pipe does not slip. Once the pipe is clamped up the bending arm can be slipped onto the pipe and positioned appropriately. The long arm of the tool makes the job of bending the pipe easy.



The components

The components required to make the pipe-bending tool are listed below. They should be made from mild steel. Dimensions are in millimetres unless otherwise stated.

Fit the flat bar to the desired pipe

- 50 x 50 Flat bar

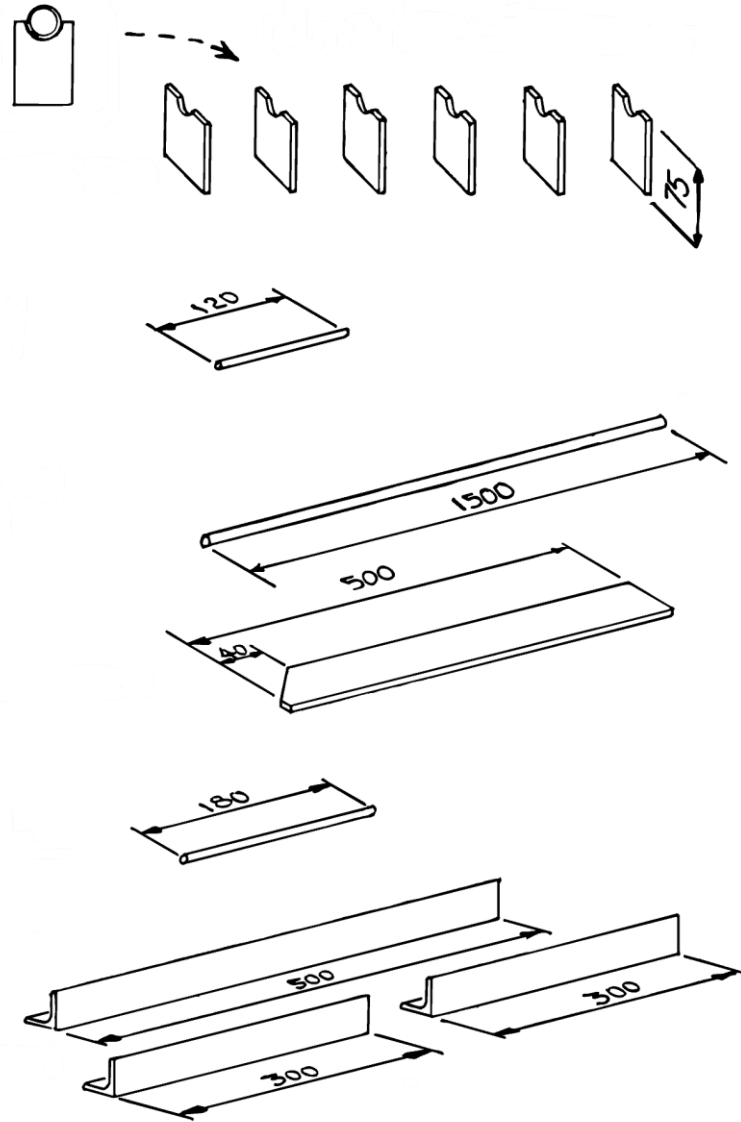
- Ø 8 Rod

- Ø ¾ " pipe

- 50 x 5 Flat bar

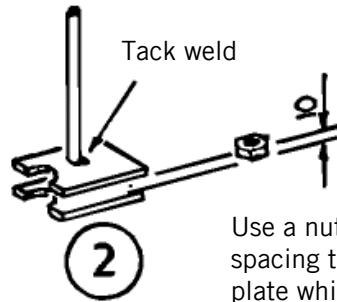
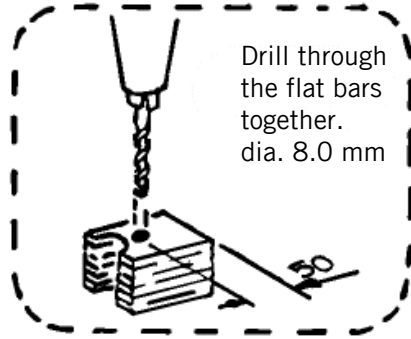
- Ø 8 Rod

- 40 x 40 x 5 Angle



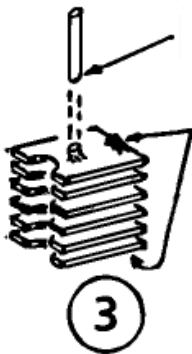
The manufacturing process

Tack weld

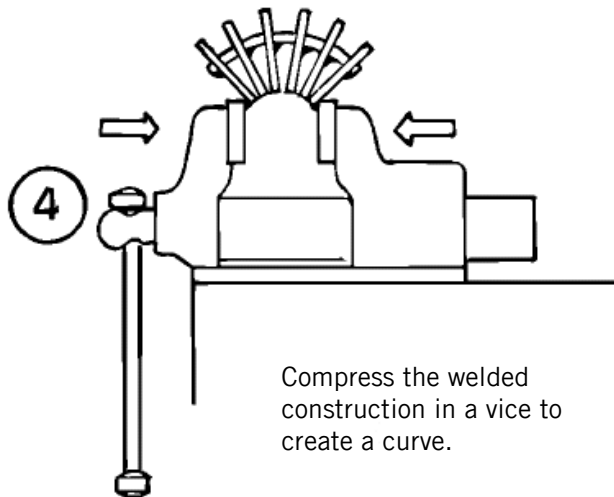


Use a nut for spacing the flat plate while tack welding them to the rod.

Cut off excess rod

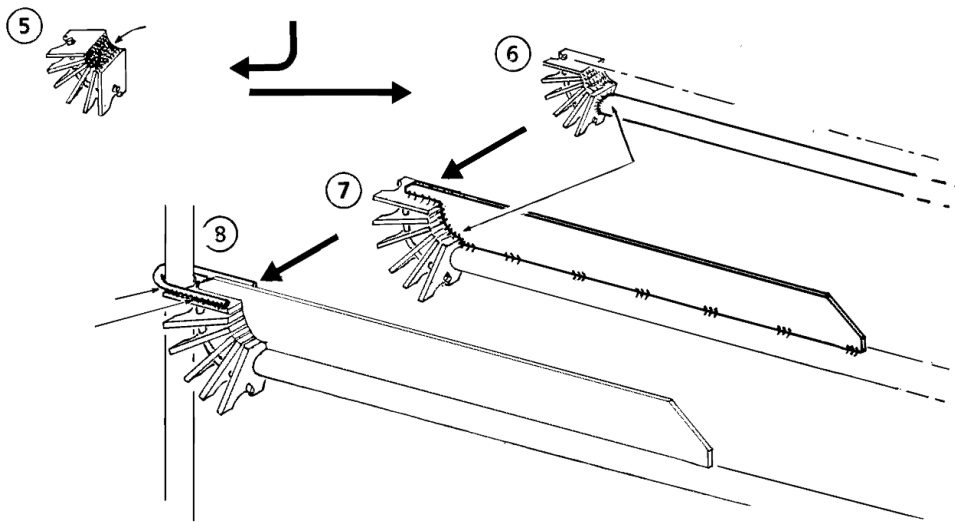


Tack weld

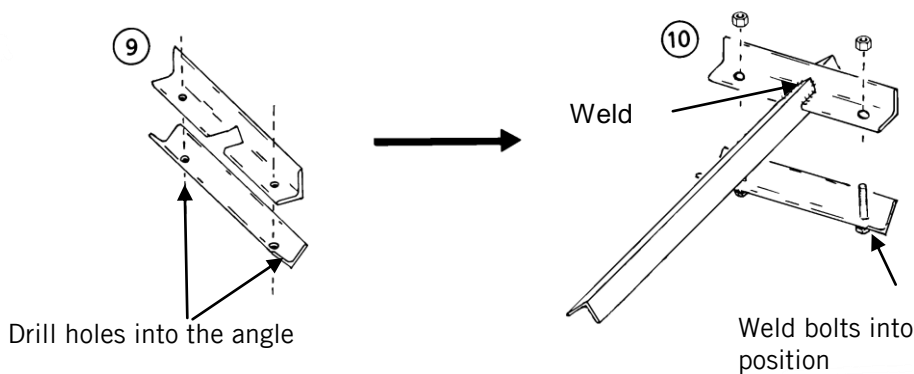


Compress the welded construction in a vice to create a curve.

technical brief



The clamp



References and further reading

[Iron Foundry Basics](#) Practical Action Technical Brief
[Blacksmithing](#) Practical Action Technical Brief
[How to Make a Strengthening Ridge in a Bucket](#) Practical Action Technical Brief
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Action Publishing

Designing for Small Workshops [Appropriate Technology Journal](#) Vol. 12 No. 4 March 1986

[Sharpening brace bits and twist drills](#) Tools for Self Reliance

[Grinding screwdrivers](#) Tools for Self Reliance

Apt Enterprise Development
29 Northwick Business Centre
Morton-on-Marsh
Gloucester
United Kingdom
Tel: +44 (0)386 700130
E-mail: aptuk@tiscali.co.uk
Website: <http://www.aptenterprise.org.uk/>

Practical Action
The Schumacher Centre
Bourton-on-Dunsmore
Rugby, Warwickshire, CV23 9QZ
United Kingdom
Tel: +44 (0)1926 634400
Fax: +44 (0)1926 634401
E-mail: inforserv@practicalaction.org.uk
Website: <http://practicalaction.org/practicalanswers/>

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