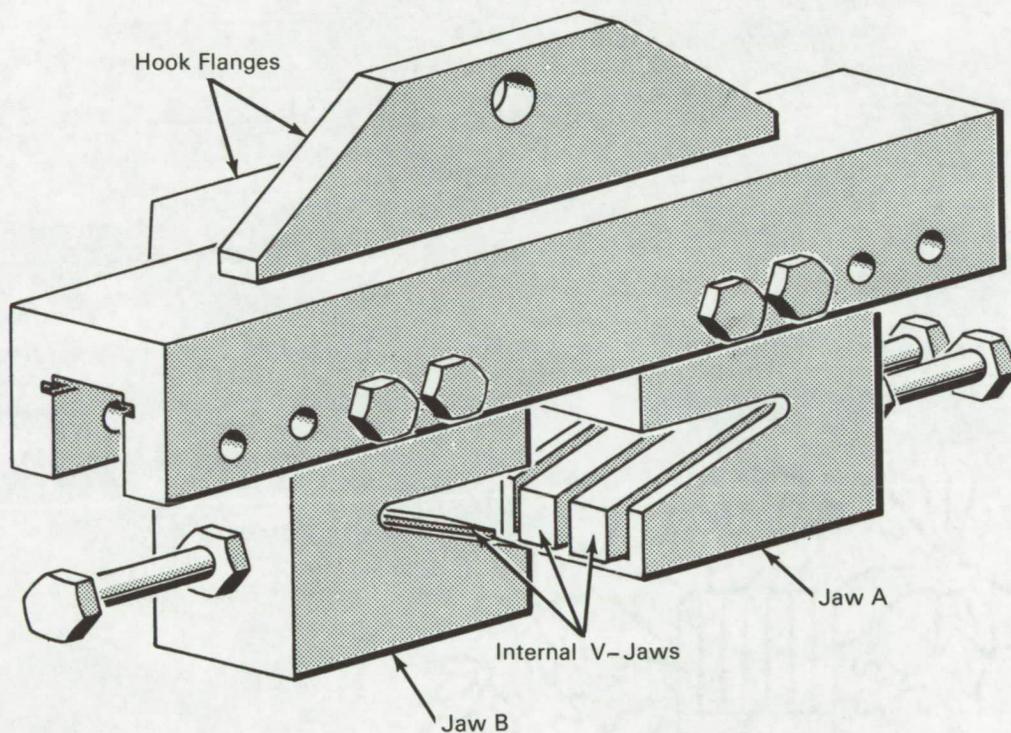


NASA TECH BRIEF



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Lifting Clamp Positively Grips Structural Shapes



The problem:

To design a hoisting fixture capable of securely gripping structural shapes of various sizes for crane operations. Slings currently in use do not provide a positive grip on structural members, thus permitting dangerous slipping and tilting of loads.

The solution:

A welded steel clamp with adjustable clamping jaws and screw-operated internal V-jaws for positive gripping of structural members of many sizes.

How it's done:

The main body of the clamp is slotted throughout its length to provide a guide for the two clamping jaws. Each jaw is locked in one of several basic positions along the guide by two load-bearing bolts passing through the main body and jaw. This variable positioning accommodates any size member up to the maximum size. For positive locking of a structural member, internal V-jaws within each clamping jaw are thrust securely against the structural flange by the tightening of adjustment bolts behind each V-jaw.

(continued overleaf)

Two V-jaws are contained in clamping jaw A and one V-jaw is contained in clamping jaw B.

Two hook flanges are welded to the main body at right angles, permitting the entire clamp assembly to be suspended from the hoisting device with the jaws in a horizontal or vertical position.

Notes:

1. This lifting clamp is designed to handle up to a 20-foot length of 14-inch wide flange I-beam. It has a working capacity of 2235 lb and has been proof loaded to 6700 lb.
2. This innovation provides greater safety than hoisting slings presently used. The structural member

can be rotated in any manner, angle, or direction and the clamp will not release.

3. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama, 35812
Reference: B66-10176

Patent status:

No patent action is contemplated by NASA.

Source: E. C. Reinhardt
(M-FS-593)