

## WELDING FIXTURE FOR METAL BELLOWS

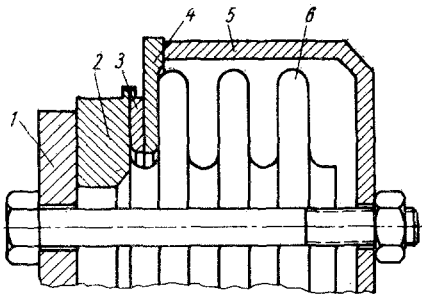
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Engr. M. A. Mikhalev

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Shortened bellows are sometimes required in glandless packing when performing experimental work. The bellows is cut with ease using a thin abrasive wheel on a tool grinder. To obtain a sound impermeable weld seam, the semicorrugation has to be fitted tightly up against the work to be welded.

The author has developed a fixture to aid in reliable clamping of the butt surface (see diagram). The disk 1 of the fixture clamps the part 2 on the left-hand side of the semicorrugation 6. Semiannuli 4 and the casing 5 of the fixture clamp the work 3 from the right. The work 3 may be in the form of a semiannulus or a split ring. To promote reliable fusion of the weld, the semicorrugation ought to protrude slightly above the work 3 and the part 2 along the butt joint. A half-bellows constructed in this fashion for argon arc welding, using a tungsten electrode but no filler rod, features a tight butt joint (with no clearance at all) along the semicorrugation, with parts 2 and 3 welded together; the butt joint is thus protected from weld splatter.



Kerosene and chalk smear tests of the weld seam showed excellent fusion over the entire perimeter. This fixture may be used to cut down on the amount of scrap in ordinary welding operations on a cylindrical bead in repair work. The defective bellows semicorrugation is cut off on one or both sides in the process, and the connecting pieces of the mounting are lengthened to the same extent that the bellows is shortened.

The fixture described saves time and materials needed in the fabrication of shortened bellows.