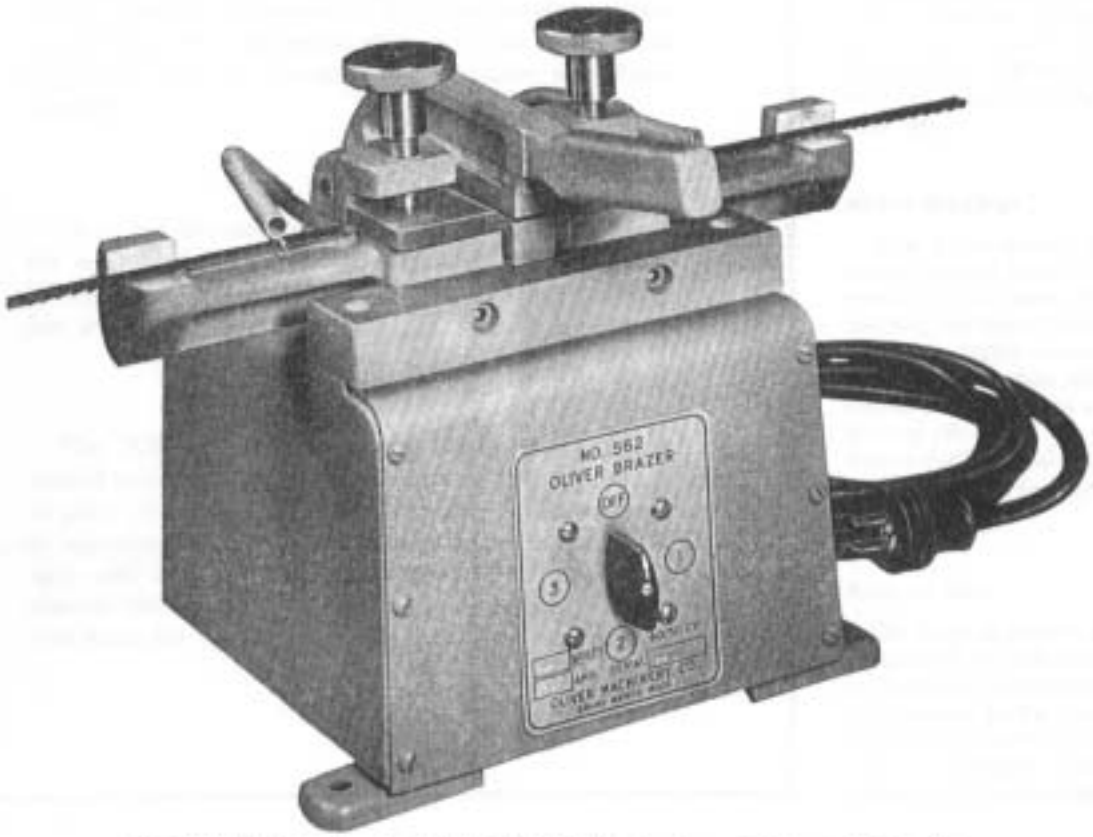
OLIVER

No. 562
ELECTRIC BRAZER
FOR BAND SAW BLADES



The NEW "OLIVER" No. 562 ELECTRIC BRAZER — For band saw blades up to 1⅜" wide.
A completely new design with many new features.

OLIVER

OLIVER MACHINERY COMPANY, GRAND RAPIDS 2, MICHIGAN, U.S.A.

The new "Oliver" Electric Brazer utilizes the electric heat of resistance for melting down the soldering metal. No open flame, no danger of fire, no combustion and no formation of scale on the saw blade can take place, the conduction of heat allowing a sensitive control.

The "Oliver" Electric Brazer is regularly furnished for single phase 50 or 60 cycle, 110 or 220 volt alternating current as specified. For two or three phase power lines, 50 or 60 cycles, special wiring from switch to power line is essential. (Not made for direct current.)

These brazers need no preparation, are always ready for work and require only insignificant consumption of current because the brazing process takes only a few seconds.

The "Oliver" Electric Brazer needs no specially skilled workman. It is so well insulated and the voltage at point of action is so low that no shock can be given to operator and if too much current is turned on, the saw will melt at point of brazing and break the electric circuit, so no damage can be done. Explicit directions for use are listed on page 3 of this circular.

Operation

There is no other brazing apparatus on the market that can be compared with the Oliver for capacity, simplicity of manipulation, and excellent quality and accuracy of brazed joints. The top part or bed consists of an accurately machined and permanently located back rail, clamping plates and clamps accurately fitted to hold the saw ends. Two spring devices hold back edge of blade against the back rail to insure a perfectly straight braze. No other brazer has this unique feature. The electrical element comprises a transformer and a secondary coil which serves as a guide for both saw ends. The switch has three heat positions. The switch can be regulated both backward and forward, thus permitting or regulating the heat condition during the melting period.

Automatic Tempering

By means of the hawkbill or hand lever clamping device, both ends to be brazed should be firmly pressed together for 3 or 4 seconds after the brazing metal has been melted, but this should be done immediately after the current has been switched off. Too great hardness of the steel is equalized by again switching on the electric current. All this tempering process is in full sight of the operator, who can judge the proper temper by the color test.

Better Brazing

It is a recognized fact that a long heating period causes alterations in the texture of the steel, owing to the air entering the brazed seams and to oxidations, thus highly deteriorating its tensile strength. But when the brazing process can be effected within a few seconds, the brazing effect will be quite faultless so that no further breakage of the saw blade near or within the brazed seam is to be feared.

Easy to Use

The brazing process can be easily accomplished by the workmen, no flames or dangerous temperatures are produced and damage to the apparatus by wrong attendant is unlikely. No skilled workman is necessary owing to the simple design and construction.

Current Consumption

The electric brazing apparatus needs 6 to 15 amperes for blades up to a width of 1⅛" so that, after the necessary precautionary measures have been taken, it can be connected to the alternating current of the correct voltage for the machine. The current consumption is exceedingly low. Fluctuations of current up to 10 or possibly 20 volts should not seriously affect good results. (Phase, cycles and voltage of current must be specified.)

DIRECTIONS FOR USING THE "OLIVER" BAND SAW BRAZER

General

Good housekeeping and general cleanliness around the brazer is important. Dirt and oil must not be present at the brazing point. After filing the bevels do not touch the filed area with fingers. It is also good practice to use a pair of tweezers to dip the cut piece of silver solder into a glass of carbon tetrachloride to clean the solder. This insures the best possible brazing conditions.

Electric Current

Be sure that your electric current corresponds in voltage, etc., with specifications stamped on the nameplate. The Brazer requires from 6 to 15 amperes for saws up to a width of 1½". Fluctuations of voltage, if not more than 10 percent, will have no influence on the good working results, but if the voltage is materially reduced the production of heat will be lessened and the brazing of wide saws impaired.

Preparation

Prepare the saw for brazing, preferably by using the handy No. 462-V Vise shown on back page of this circular. After the saw has been cut for length and the ends lightly hammered flat, prepare the laps from ⅝" to ¾" wide by filing, and if the saw blade is dirty or rusty clean both sides with emery cloth for about 3" back from the lap, to insure a good electrical contact surface. Place the ends of the saw in position with the bevelled ends overlapping. Place spring hooks over blade teeth for accurate alignment with back stop and tighten clamps. Make sure that the prepared laps come directly in the center of the pressure device. Next place a small strip of perfectly clean silver solder between the bevelled surfaces and large enough to project a trifle all around the prepared lap. Apply "Oliver" paste flux immediately on applying the current.

Apply Current

Start by turning the switch to position 1 (low). For saws up to ¾" wide turning the knob to position 1 of the switch will usually develop sufficient heat. The ends of saw, when touching, complete the circuit. No current can flow until the contact is made through the ends of the saw and the solder. After some seconds the blade will glow and the solder will melt. When cherry red appears, rub the melted solder over the surface of the lap on top, bottom and ends carefully with "Oliver" paste flux.

Apply Pressure

Turn the knob back to "off" and apply the pressure of clamping device. After a few seconds release the pressure device and turn the switch to position 1 again until a very dark red appears, just long enough to give the saw the proper temper. This avoids having the saw hard at the braze. Test for hardness at this point when cleaning up the braze with the file.

light blue

Draw Temper

If the braze is too hard, turn on the current until the temper is drawn. Similarly, if the saw is too soft, a proper cooling down and tempering of the braze can be obtained by applying the pressure device to the heated surface immediately after turning off the switch.

Use of Switch

For saws that are 1" wide, place switch on position 1 (low) for a few seconds before advancing to position 2, and when the braze is accomplished, return to "off" position. On saws 1¼" to 1½" wide, turn the switch to position 1 (low) for a few seconds, then to position 2 (medium) a few seconds, and then to position 3 (high) where it should remain until the solder is melted. At every step of the switch certain windings of the secondary coil are switched "on" or "off", thus causing an increase or decrease in the degree of heat.

Good Results

Regardless of the range in gauge or width of the saw, after a few experimental brazes have been made so that the operator has become familiar with the amount of heat developed by each step of the switch, a good braze will be made.

Caution

When applying the pressure device on the saw after the braze is made, the switch should always be at "off" position. See to it that the hawkbill or main clamp is in line with saw. This alignment can be adjusted by a setscrew located below the clamp in the center of the machine. Keep the faces or surfaces of the clamps that contact with the saw properly cleaned by wiping with a clean cloth

Safety

Owing to the low voltage there is no danger from shock.

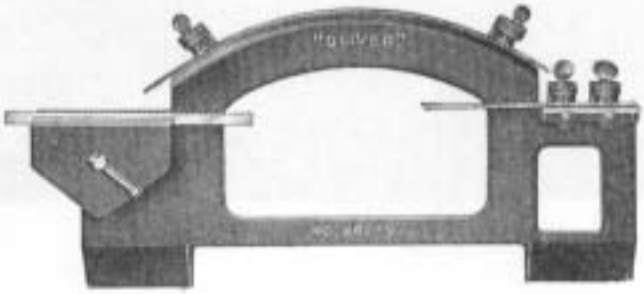
Supplies

Oliver paste flux and silver solder ⅝" wide may be ordered from us.

Finish

After completing the braze and properly tempering same, remove the saw from brazer, lightly hammer over the brazed surface to remove the flux, then straighten and file the surface of the saw on both sides perfectly smooth, leaving no file marks. The No. 462-V Vise is ideal for this operation.

make sure that each end is cut and filed to give uniform tooth spacing after brazing.



NO. 462-V BAND SAW BRAZE DRESSING VISE
CODE — DEVOF

This vise is supplemental equipment designed for use with electric brazer. It can be fastened on the edge of any work bench by two screws. The use is three-fold, viz.:

1 – For beveling the ends of the saw blade preparatory to brazing. The right hand clamp with hardened removable plate is used for this purpose.

2 – For filing both sides of the band saw blade after the braze is made to make the thickness of the saw uniform at the braze. The leather faced curved portion of the device is used for this purpose.

3 – A saw filing vise to be used for dressing the teeth after brazing, or for general purpose band saw filing.

SPECIFICATIONS

Weight	35 pounds
Length overall	22 inches
Height	12 inches
Saw Vise Length	6 inches

CODE, WEIGHT, ETC.

CODE	NO.	CAPACITY	VOLTS	CYCLES	BOXED	CU. FT.
Devob	562	Up to 1⅝ in.	Either 110 or 220	50 or 60	~~70~~ lbs. 75	1⅝

Oliver Paste Flux available in ½ lb. jars.

Silver Solder, ⅛" standard width. Best quality and essential.

Brazers wound for 60 cycle will work on 50 cycle.

If desired for use on 2 or 3 phase, special wiring from Brazer to power line required, which must be provided at customer's cost.

These brazers are for use on alternating current only.

OLIVER MACHINERY COMPANY
Grand Rapids 2, Michigan, U.S.A.

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