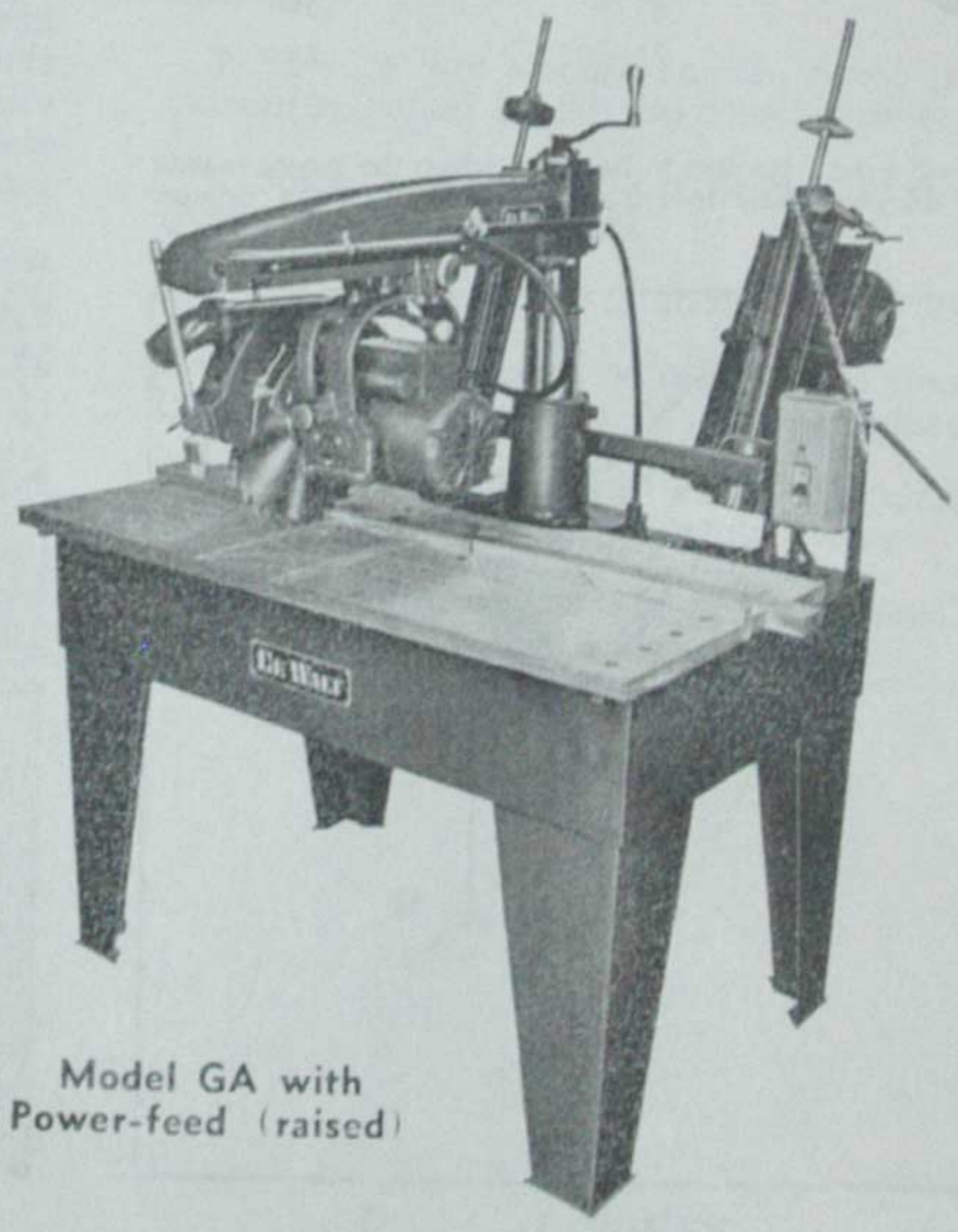




INSTRUCTION BOOK



Model GA with Power-feed (raised)



Introduction

The DeWalt Radial Arm Saw you are about to operate is a modern and uniquely versatile precision machine. However, the accuracy that was built into the machine at the DeWalt factory shall last only as long as you are aware of the occasional adjustments it—a precision machine—requires. Therefore, to aid you in the general maintenance of your machine, we offer you this manual: it describes not only what your machine can do, but how you can maintain the accuracy which you expect from a DeWalt Radial Arm Saw.

To Uncrate the Machine

To uncrate the machine, remove the top and the sides of the crate. Unbolt the table frame, which is held to the crate by bolts located at both ends of the frame. The saw carriage, motor switch, table legs, and saw guard are in a separate box, enclosed in the crate. If you ordered any tools or accessories, they would be found in the same box.

Recommended Wire Sizes

To obtain maximum efficiency from your DeWalt motor, the wires from the source of power to the machine should comply with the table below.

Wire Sizes—B & S Gauge

H.P. of Motor	110/120 Volts	220/240
2	8°	10°
3	6°	8°
5	4°	6°

* The listed wire sizes are to be used when the motor is less than one hundred (100) feet from the source of the power.

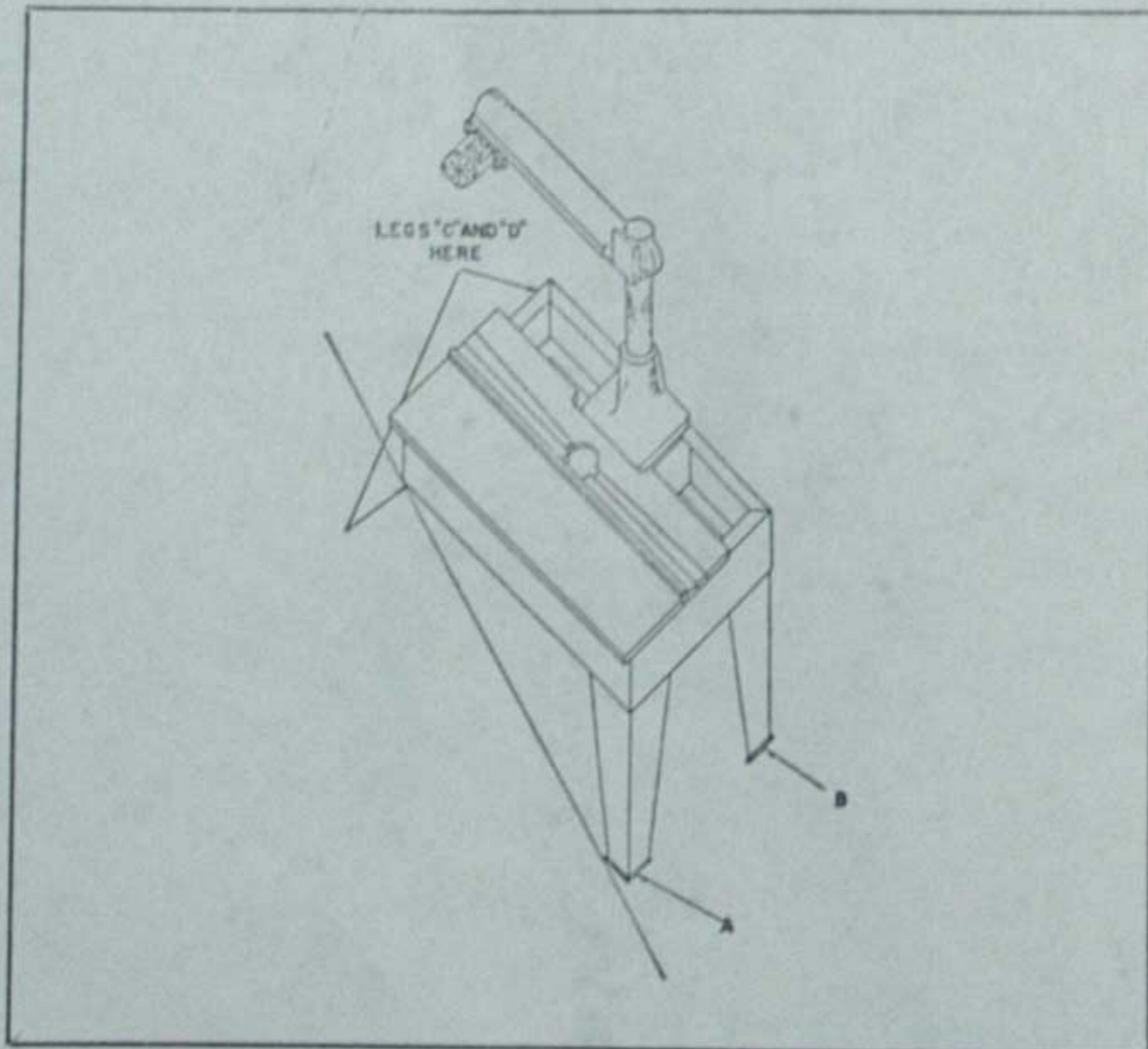


FIGURE 1

To Put Legs on the Machine

To put legs on the machine, turn the arm and lock it in the position shown in figure 1. With the arm in that position, it will be easiest to tilt the machine so legs may be put on. Tilt the table until it rests on the floor and you can bolt legs A and B to the table. Then reverse the position of the arm. Raise the table and securely prop the unsupported end with a wooden brace. With the machine in that position, bolt legs C and D to the machine frame.

To Install the Saw Carriage in the Arm

Remove the arm end plate and front stop bolt from the end of the arm (A, figure 2). The machined ways (B) inside the arm should be thoroughly cleaned and kept free of grease and oil. The ways should be kept in that condition during the entire life of the machine. Carbon tetrachloride is the best cleanser to use on the ways.

Hold the yoke handle of the saw carriage, figure 2, with your right hand and support the carriage with your left hand. Insert the roller head assembly into the arm. Tilt the rip lock (C) until it does not interfere with the insertion of the roller head assembly. Replace the arm end plate and the stop bolt.

To Change Voltage

Single phase motors can be operated on either of the two voltages indicated on the motor name plate. On the tag attached to the motor cable you will find the one voltage for which your machine has been connected at the factory. To change the voltage of your machine, change the position of the toggle which is located on the relay box of the motor of 2 h.p. single phase machines. Three h.p. single phase machines have no toggle voltage change switch, therefore changes must be made by changing the connections as indicated in the drawing that is in the switch box.

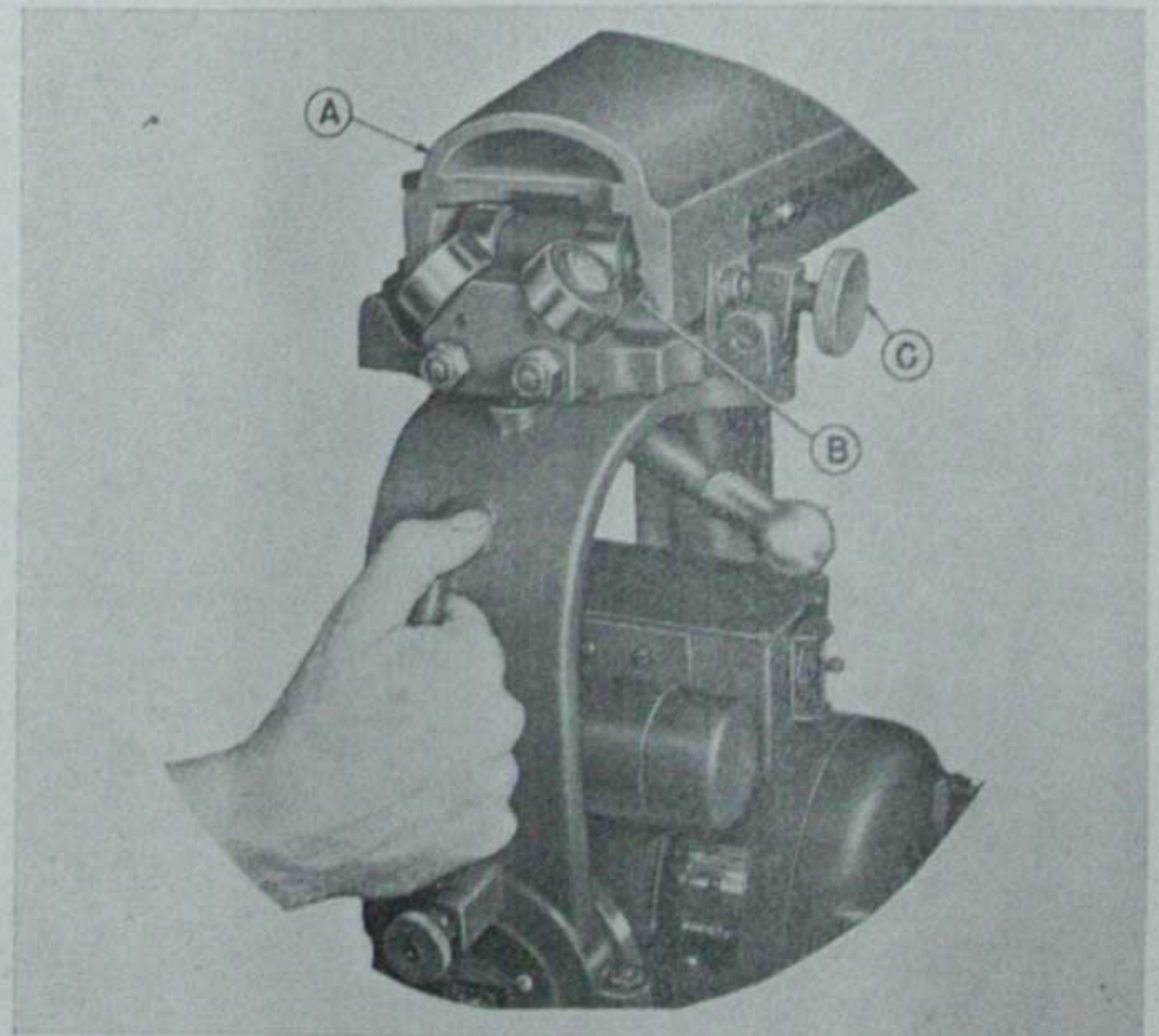


FIGURE 2

Standard three phase motors are wound for dual voltage: 220/440.

To Check Arbor Rotation

To check the rotation of the arbor, a precaution that must be taken before you operate the saw, remove the arbor nut and arbor collar. Turn on the starting switch: the rotation of the arbor must be **clockwise**. If the rotation of the arbor is not as it should be, the incoming wires are not properly connected to the switch box. To change the rotation of a three phase motor, reverse any two of the wires leading into the switch box.

To Place the Saw Blade on the Arbor

After you have checked the rotation of the arbor, place the arbor collars on the arbor with the **recessed side of the collars against the saw blade**. Figure 8 will show you the direction in which the teeth of the saw blade must point when the saw blade is in operating position. Securely tighten the arbor nut, which has a left hand thread. Be sure arbor collars, arbor nut and blade are clean when mounting.

To Remove the Arbor Nut

1. Fit an arbor wrench to the hex arbor nut (figure 4).
2. Place a striking block (preferably wood) to avoid marring the table top.
3. Throw the wrench to the left (counterclockwise) as in figure 4. The motion of the wrench will loosen the arbor nut.

To Adjust the Saw Guard

To adjust the saw guard, loosen the two wing nuts that hold the guard to the bracket, slide the guard to the desired position, and tighten wing nuts.

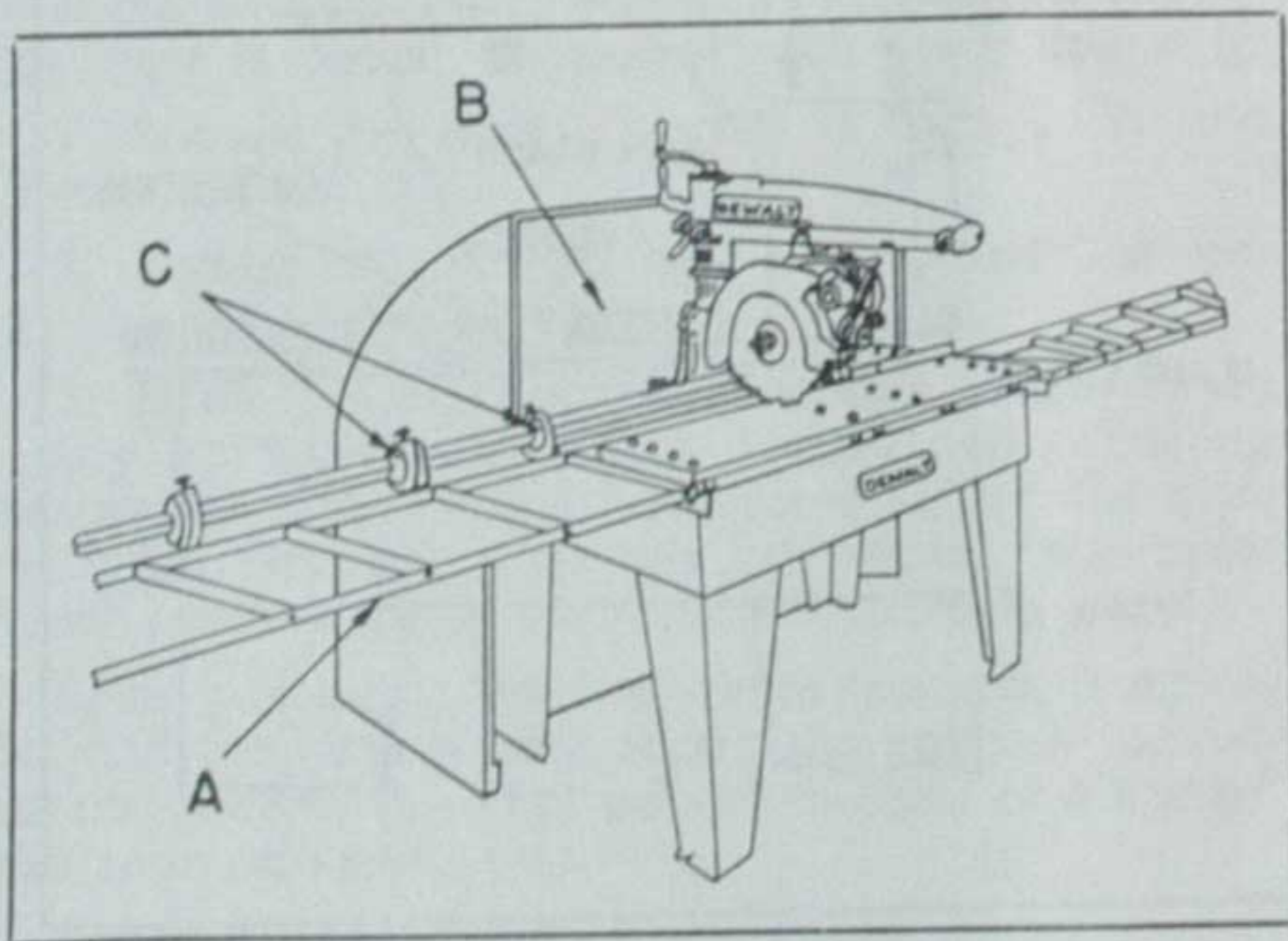


FIGURE 3

Roller Extension Tables

Roller extension tables are available and can be easily attached to the table frame. Both ends of the table frame have been drilled for the attachment of extension table brackets.

Cut-off Gauges

Cut-off gauges and stops (C figure 3) are helpful when you wish to cut lumber to exact lengths during production line work. Right or left hand cut-off gauges are easily attached to DeWalt extension tables.

To Confine Sawdust

To confine sawdust, construct a dust hood similar to the dust hood (B) shown in figure 3. The dust hood was designed to confine a large percentage of the sawdust that normally results from the operation of a DeWalt Radial Arm Saw. For further information about the construction of a dust hood similar to the one shown in figure 3, write to DeWalt Inc., Lancaster, Pennsylvania.

CAUTIONS

1. Always feed material from the side opposite the anti-kickback device. **Observe the caution tag on the guard.**
2. Always use the anti-kickback attachment when ripping.
3. Be sure that electric current being used is the current specified on the tag attached to motor cable.
4. Before operating the machine, be sure that all clamp handles are tight.
5. Keep the saw blade sharp and properly filed.
6. The guard should be adjusted to clear the material by approximately $\frac{1}{8}$ " on the in-feed side.
7. Adjust anti-kickback with the fingers $\frac{1}{8}$ " below the top surface of material to be cut.
8. Material must be held firmly against the fixed guide strip during all operations.

Maintenance

Every DeWalt machine has been carefully aligned before it was shipped from the DeWalt factory. However, handling during transportation might have destroyed the perfect alignment of the machine; in time other adjustments will be necessary to retain the original accuracy of your DeWalt. The next few pages have been prepared to instruct you in the maintenance of your DeWalt in a condition as closely as possible approximating the condition in which you received it.

The Guide Strip, Position

The guide strip in figure 6 is located in the position shown during most cutting operations. When additional capacity is required, the guide strip can be placed in back of the 2" spacer board. For maximum rip capacity, an additional guide strip can be permanently mounted on the extreme rear of the table top.

Guide Strip, Alignment

All work is done with the material against the guide strip of your machine. A straight guide strip is a necessity to do accurate work. To be sure that the guide strip is straight, check it with a straight edge or a square. Make sure that the wedge boards are inserted tightly to hold the guide strip securely in position.

To Adjust the Table Top Parallel to the Arm

Insert arbor wrench or a steel bar (about 1/2" x 1/2" x 12") between the saw arbor collars (figure 5). Bring the motor forward and, using the wrench as a feeler gauge, swing the bar until the tip touches the table board. By swinging the arm and moving the motor to different positions, you can quickly locate the high portions of the table.

To adjust the table top, begin by loosening the jam nuts under the table frame. Raise the jack screws as required. ALWAYS ADJUST THE LOWEST PORTION OF THE TABLE TO THE HIGHEST. When the table is level and parallel to the arm, check to see that the jam nuts are tight enough to rigidly hold the table top in position.

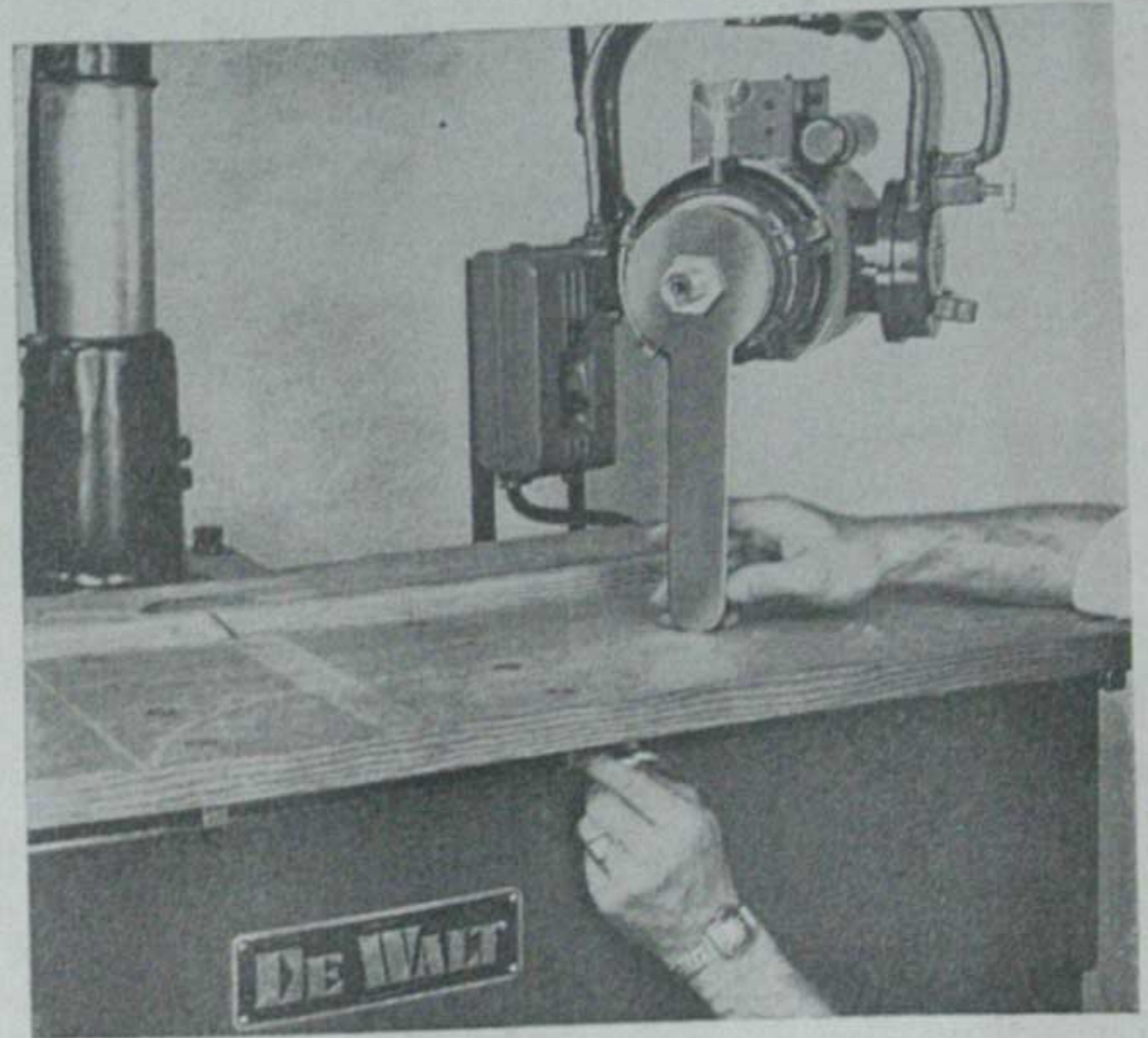


FIGURE 5

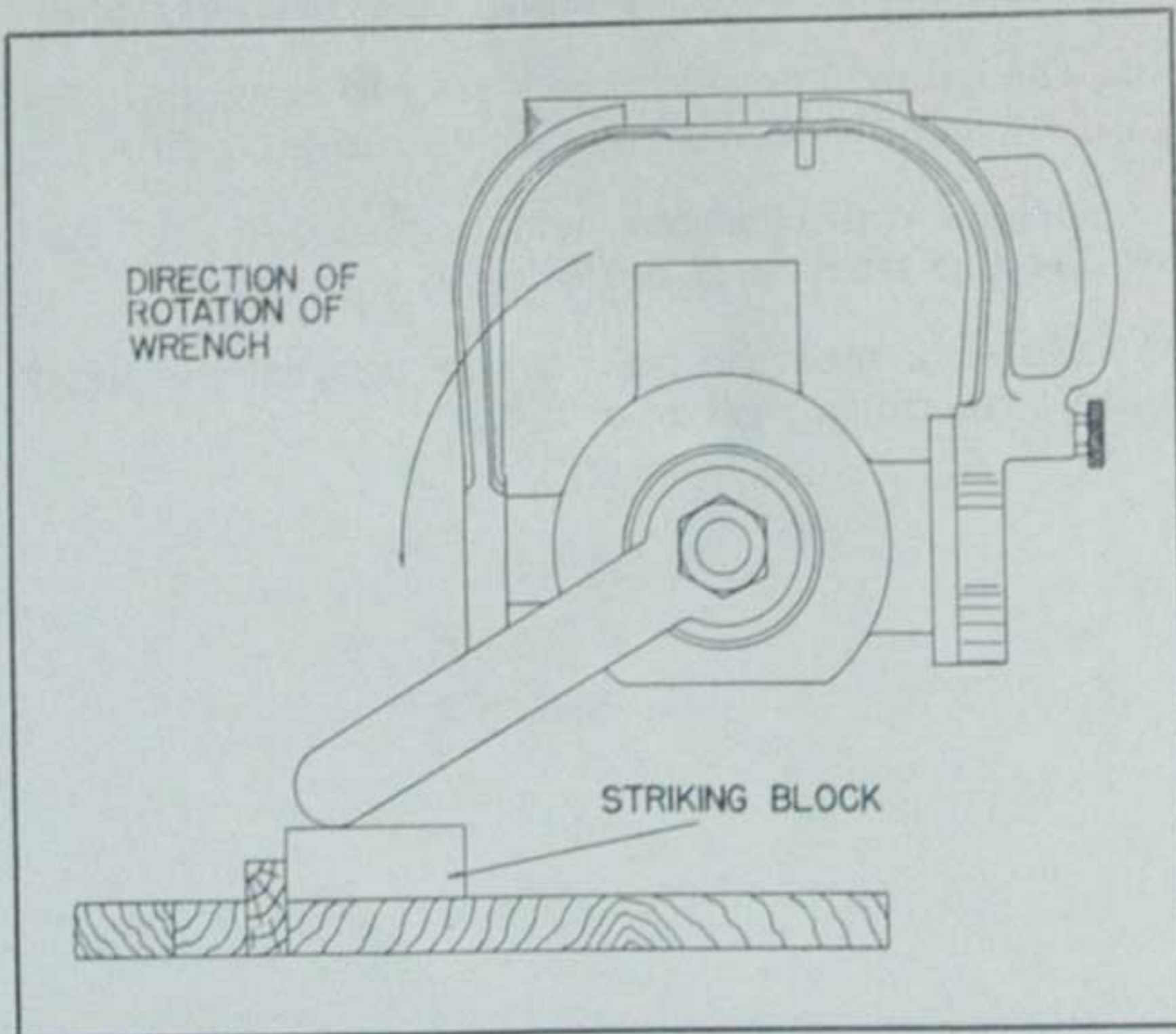


FIGURE 4

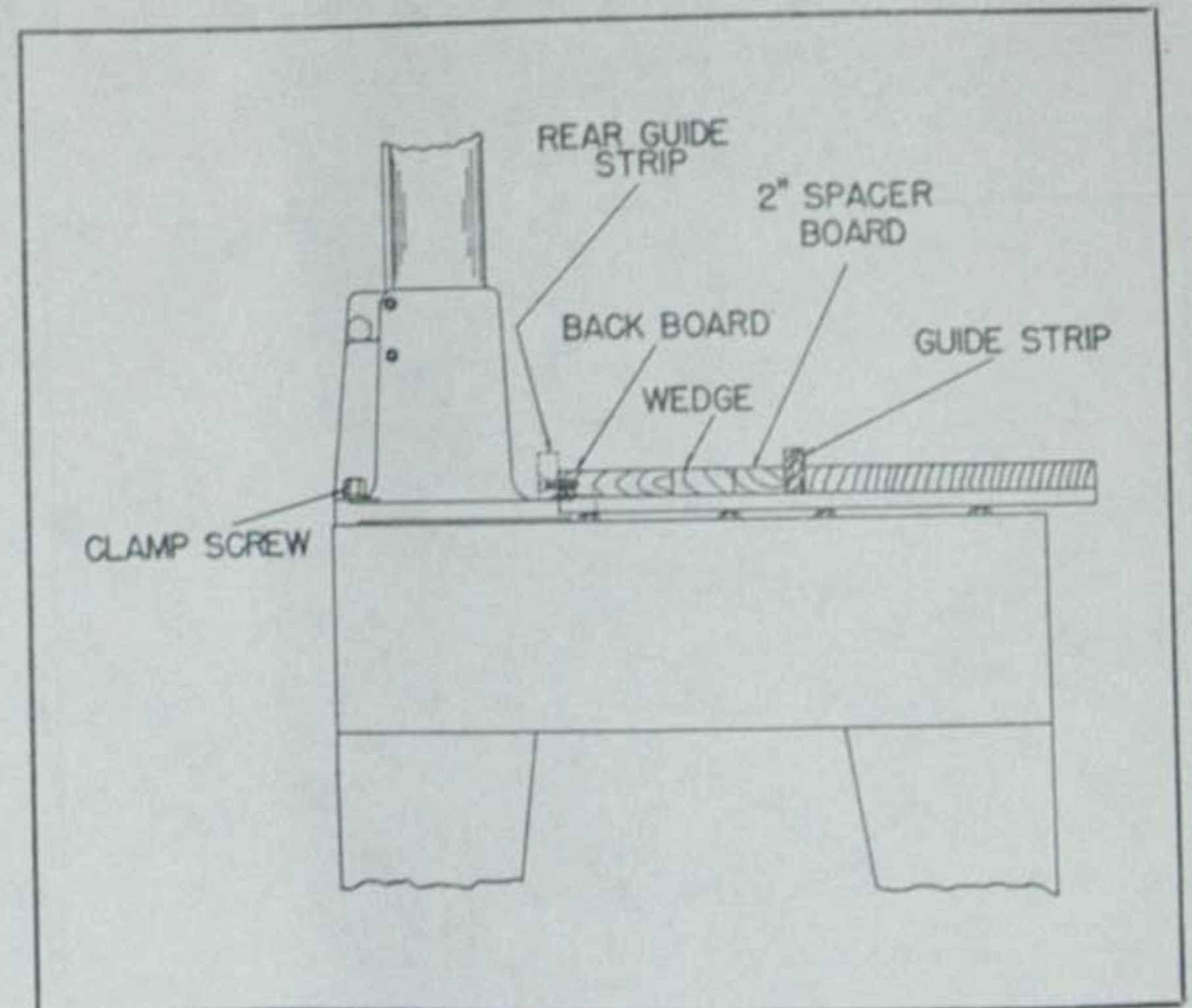


FIGURE 6

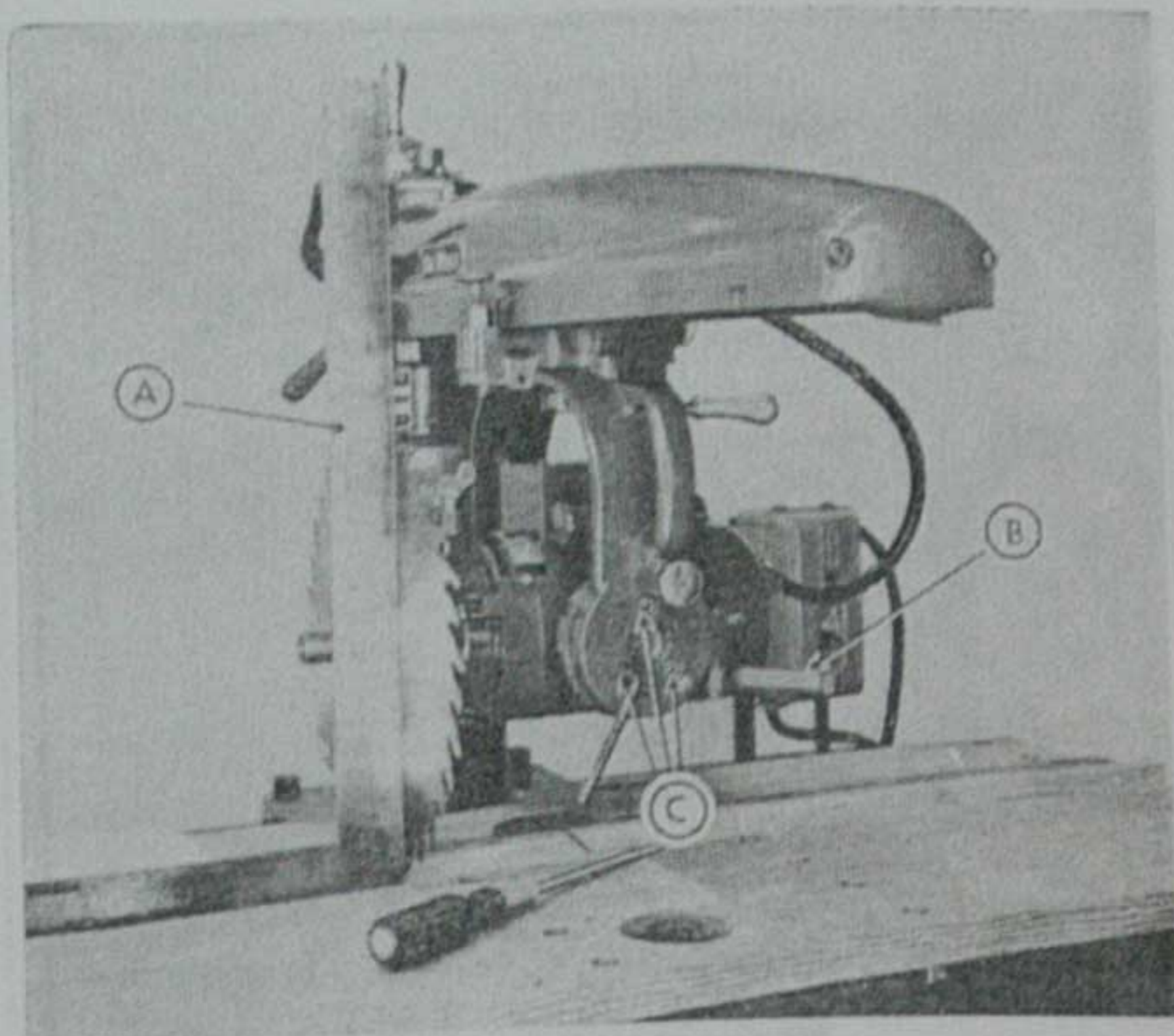


FIGURE 7

A—Steel Square
B—Bevel Clamp Handle
C—Hollow head set
Screws

To Square the Saw Blade with the Table Top

1. With the table level, place a steel square (A, figure 7) against the side of the saw blade. Place the square between the gullets and not against the saw teeth.
2. If saw blade is not perpendicular to table top remove etched dial plate.
3. Release the bevel clamp handle (B).
4. Loosen the hollow head set screws (C). It is now possible to move the motor until the saw blade is flush against the square.
5. Tighten the set screws that hold the motor assembly firmly in that position and replace etched dial plate.

To Square the Saw Travel with the Guide Strip

If the saw blade does not cut square, the arm of the saw is out of alignment with the guide strip.

1. Loosen the clamp handle (E, figure 8), and the miter latch (C).
2. Loosen set screws (A) which hold the adjusting screw (D) in position.
3. If, as it comes forward, the saw blade moves away from the steel square loosen rear adjusting screw (D) with a screw driver, and tighten the front adjusting screw. After this adjustment, the miter latch must move freely, but without **side play!**

If, as you bring the saw blade forward, it moves toward the steel square, make the opposite adjustments—loosen the front adjusting screw and tighten the rear adjusting screw.

The arm will be square with the guide strip when the saw blade moves parallel to the steel square.

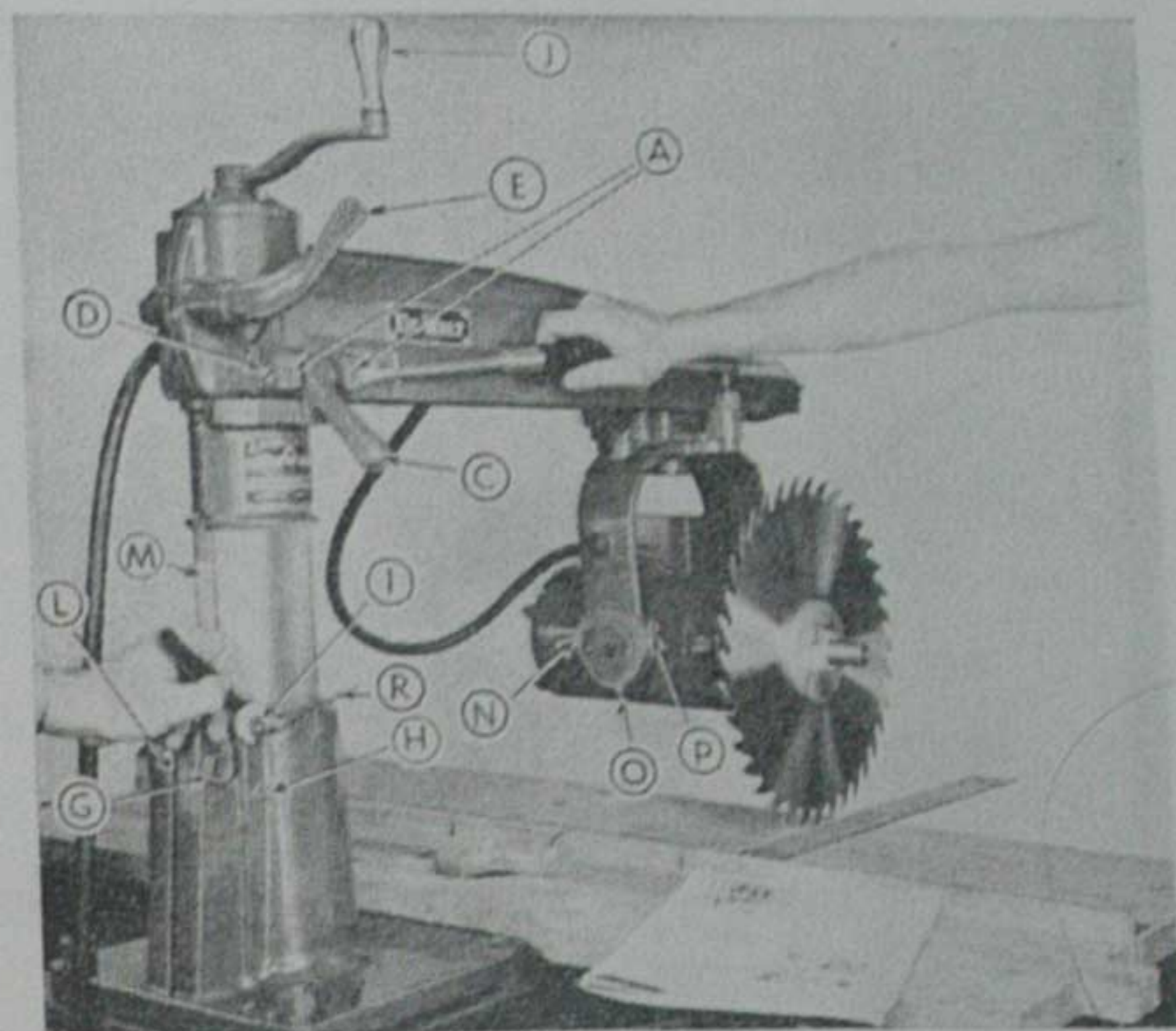


FIGURE 8

A—Set Screws
C—Miter Latch
D—Adjusting Screw
E—Arm Clamp Handle
G—Base Pinch Bolt
H—Hex Jam Nuts
I—Set Screws
J—Elevating Handle
L—Gib
M—Column Key
N, O, P—Set Screws
R—Hex Jam Nuts

When the saw blade is square with the guide strip, tighten set screws and engage the miter latch and arm clamp handle.

To Remove Side Play from the Arm

1. Loosen the base pinch bolt (G, figures 8 and 11), all hex jam nuts (H), and set screws (I).
2. Rotate the elevating handle (J) to raise or lower the column. Tighten the base pinch bolt (G) until the column moves easily within the base. This adjustment does **not** remove the side play from the arm. This is merely a preliminary adjustment.
3. The gib (L, figure 8) must shoulder firmly against the column key (M). To place the gib in its proper position, tighten the two set screws (H and I) until the side play is removed from the arm and the column of the arm can be easily raised and lowered.
4. Lock the hex nuts (H).

To Keep the Saw Travel Parallel to the Arm

When the saw travel is not parallel to the arm, the result will be what is called 'heel'—the back of the blade is not following in the kerf of the front of the blade. When a blade is heeling, a kerf mark will appear on the material being cut. To correct this situation:

1. Cross cut a piece of material and determine the side on which the teeth are heeling.
2. If the rear saw teeth leave a heeling mark on the left side of the cut material, loosen the set screw (P, figure 8), and tighten the set screw (N) with wrench (R).

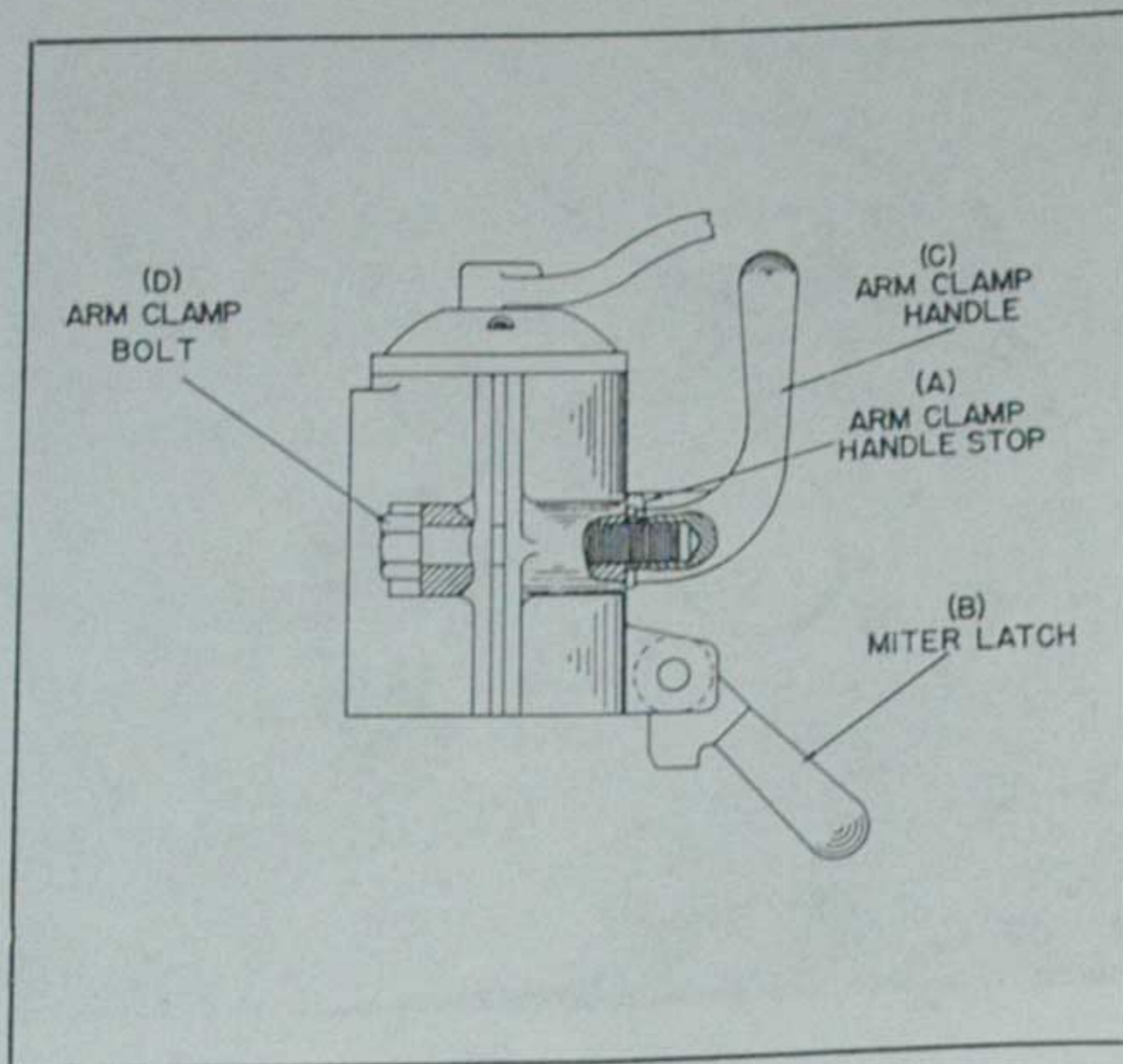


FIGURE 9

3. If the rear saw teeth leave a heeling mark on the right side of the cut material, loosen set screw (N) and tighten set screw (P).

If, after these adjustments have been made, the blade continues to heel, particularly if the blade then heels on both sides of the material being cut, that is an indication that the blade requires tensioning. If the blade must be retensioned, it is advisable to contact your local DeWalt dealer or to send the blade to the DeWalt factory.

If, after the adjustments for heeling have been made, heeling is apparent when you bevel cut material:

1. Loosen set screw (N and P) about one-sixth

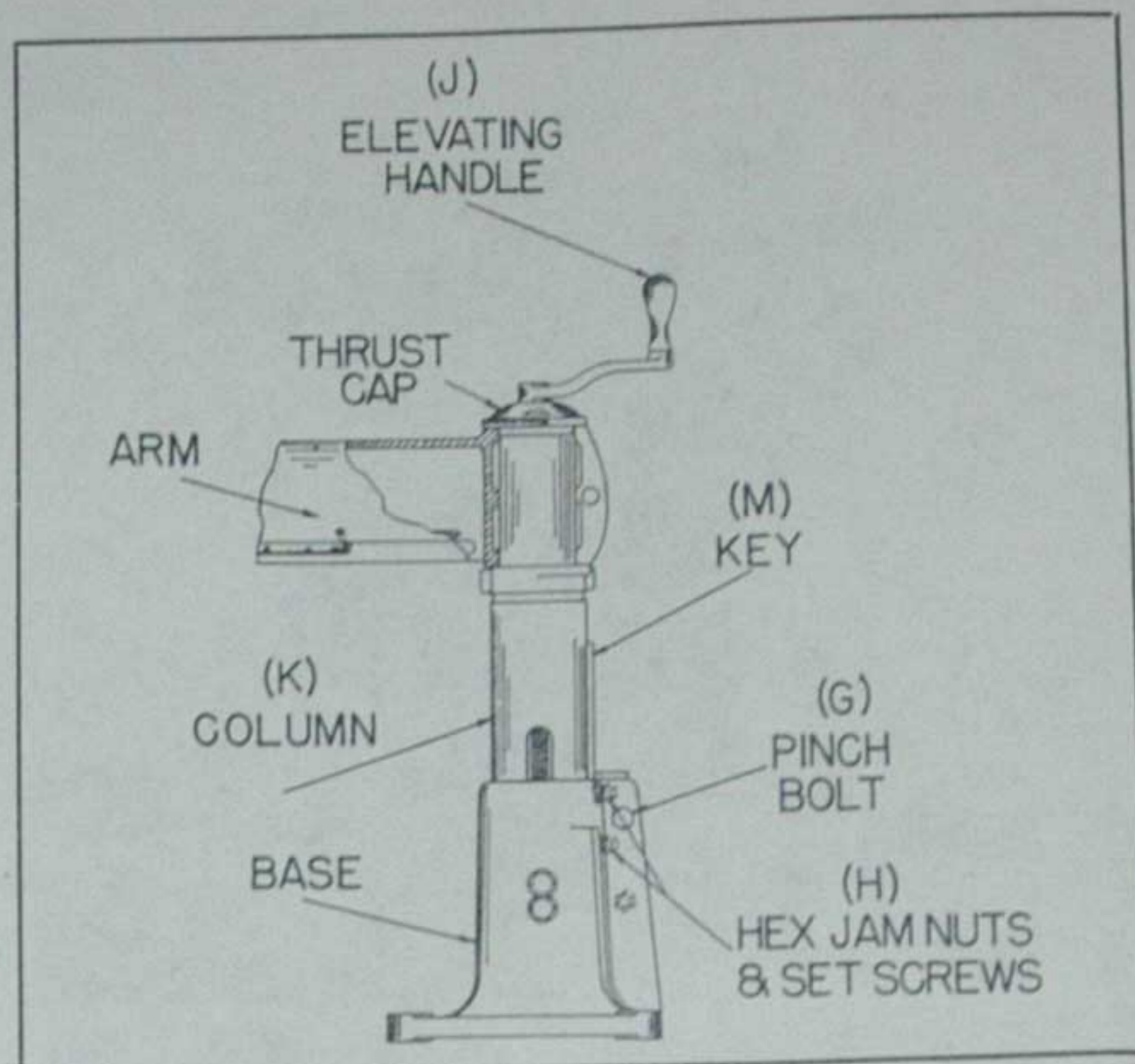


FIGURE 11

of a turn and tighten set screw (O) if the blade is heeling against the bottom of the material.

2. If the blade is heeling against the top of the material, loosen set screw (O) and equally tighten set screws (N and P).

To Adjust the Arm Clamp Handle

1. Remove the arm clamp handle stop (A, figure 9) and lift the miter latch (B) against the arm of the machine.
2. Unwind the arm clamp handle (C) by turning it to the right (clockwise). Turn the handle about four complete turns.
3. Push the arm clamp handle bolt (D) from its hex socket until the hex head can be turned.
4. Turn the hex clamp bolt (D) about one-sixth of a turn to the left. That will tighten the arm clamp handle.
5. Turn the hex screw head (D) in the hex socket, tighten the arm clamp handle (C) while it is in the upright position, and insert the arm clamp handle stop (A).

How to Adjust Ball Bearing Roller Carriage to Arm

Accurate work cannot be done if the bearings on the motor carriage (Fig. 12) are not in proper adjustment. Remove the endplate from the front of the arm and thoroughly clean the four tracks. With the carriage forward in the arm, place a light behind the carriage and as high as possible between the tracks. First sight down between the top vertical bearings and the tracks, making sure that all bearings are running true and rotating when the carriage is moved. If any of the top bearings do not revolve, when in contact with the top track, it will be necessary to remove the entire carriage for inspection. This can be done by removing the

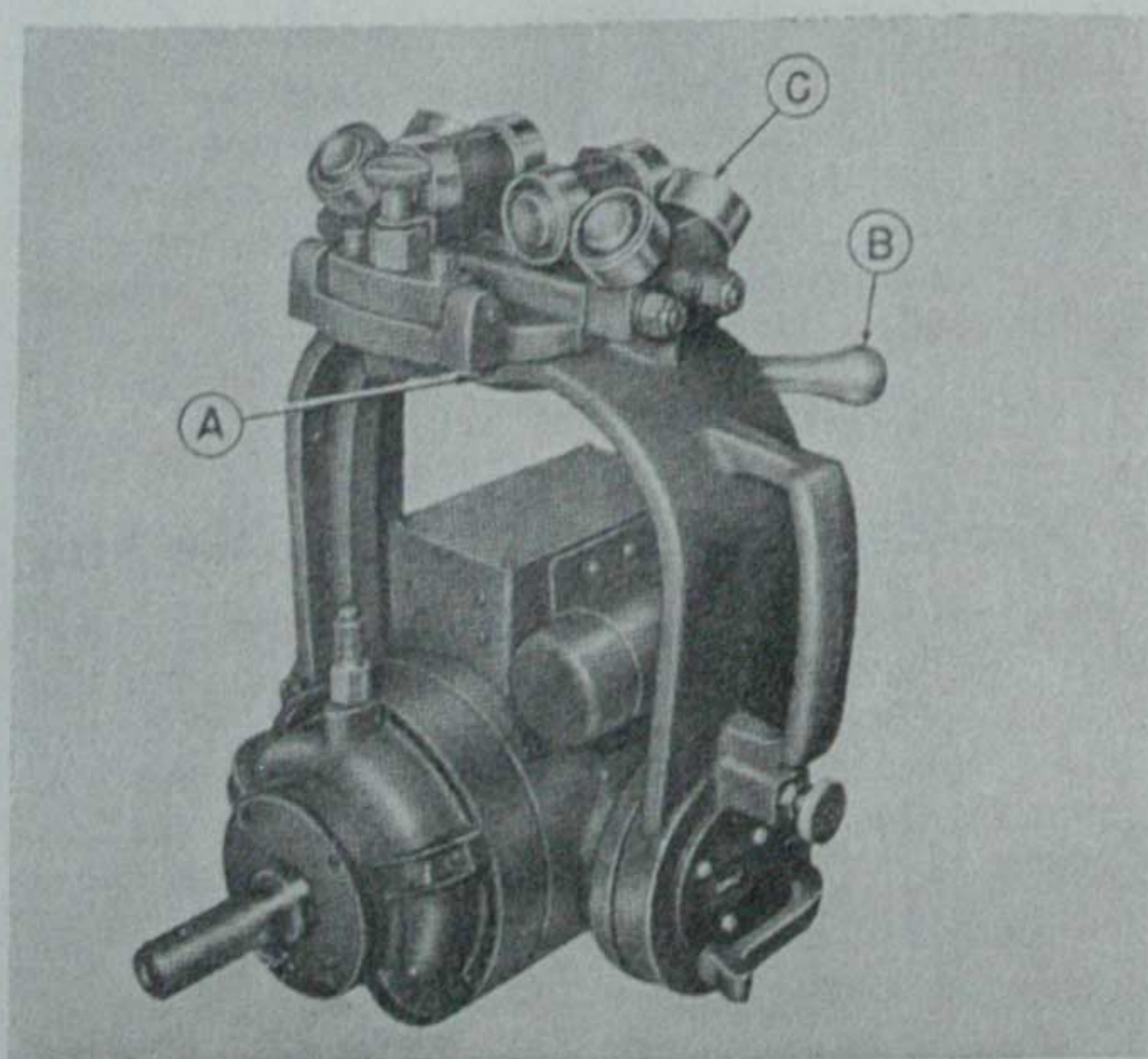


FIGURE 10

A—Set Screw
B—Allen Wrench

C—Roller Bearings

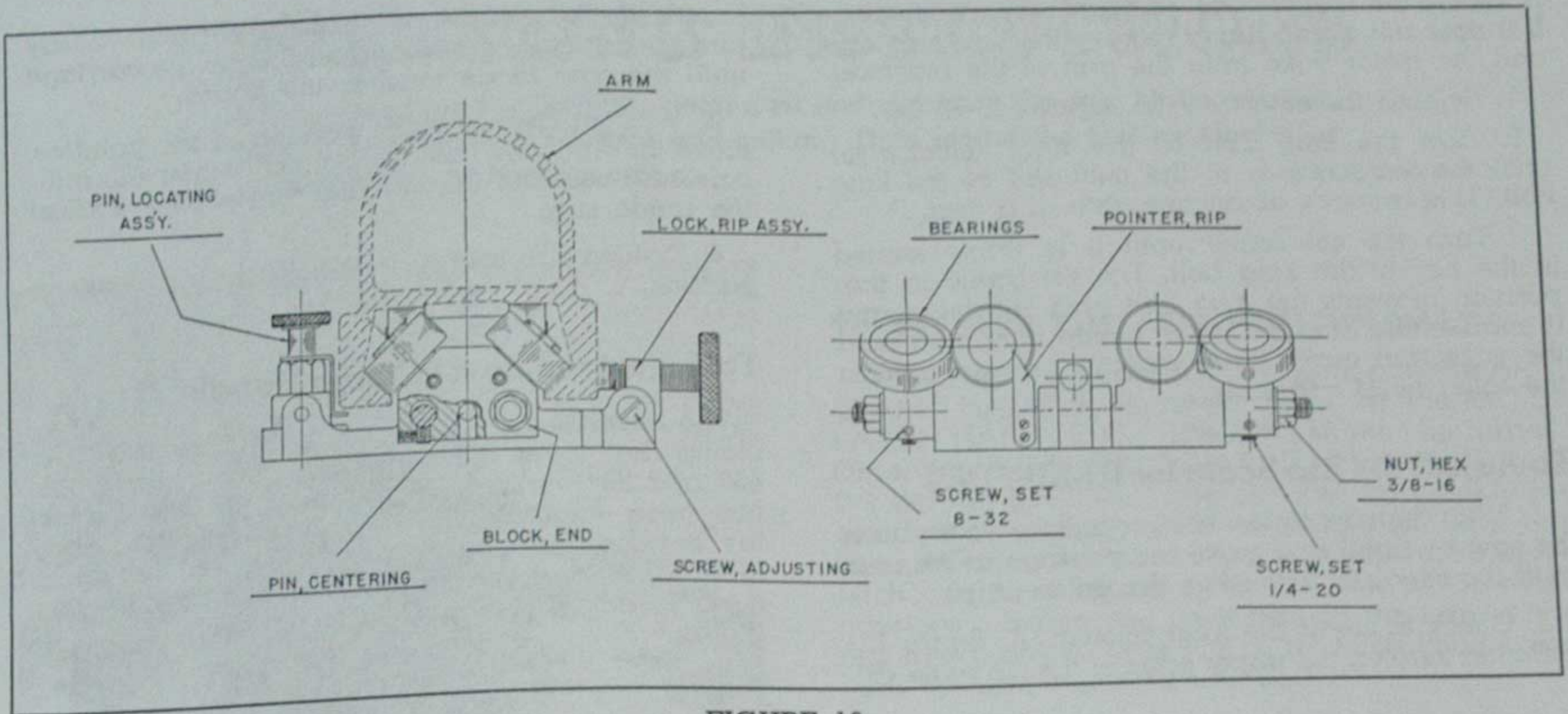


FIGURE 13

stop screw at the lower front edge of the arm and pulling the entire carriage and motor out as a unit. If thorough cleaning of the bearings does not make them all free to revolve, the defective ones should be replaced. Replace the head, and with the light held again in back of carriage, sight beveled rollers riding on angled tracks to be sure they ride on tracks their entire width.

1. If they do not, correction can be made by first backing off (one-half turn) the nuts (hex $\frac{3}{8}$ -16) on studs at either end of carriage (Fig. 13).

2. Release $\frac{8}{32}$ " set screw (Fig. 13) that locks in the $\frac{1}{4}$ " screw.

3. By means of the $\frac{1}{4}$ " set screws which bear against these studs, tilt end blocks until lower bearings are flat on tracks.

4. After correcting roller contact, the end blocks (Fig. 13) should be adjusted for height by means

of these same set screws which bear against the studs. This setting should be made so that the load on the bearings is just sufficient to carry the weight of the motor, saw and guard and have enough pressure on the top flat track bearings to have them revolve when the carriage is moved. Too much pressure on the bearings is objectionable because it sets up unnecessary wear in the parts, makes the carriage work harder, and, in some instances may cause the machine action to be less accurate. Having completed adjustments in the carriage, be sure the jam nuts on the studs and all set screws are tight.

To Adjust the Yoke Clamp Handle

The yoke clamp handle (C, figure 14) firmly holds the motor and the yoke assembly to the roller head.

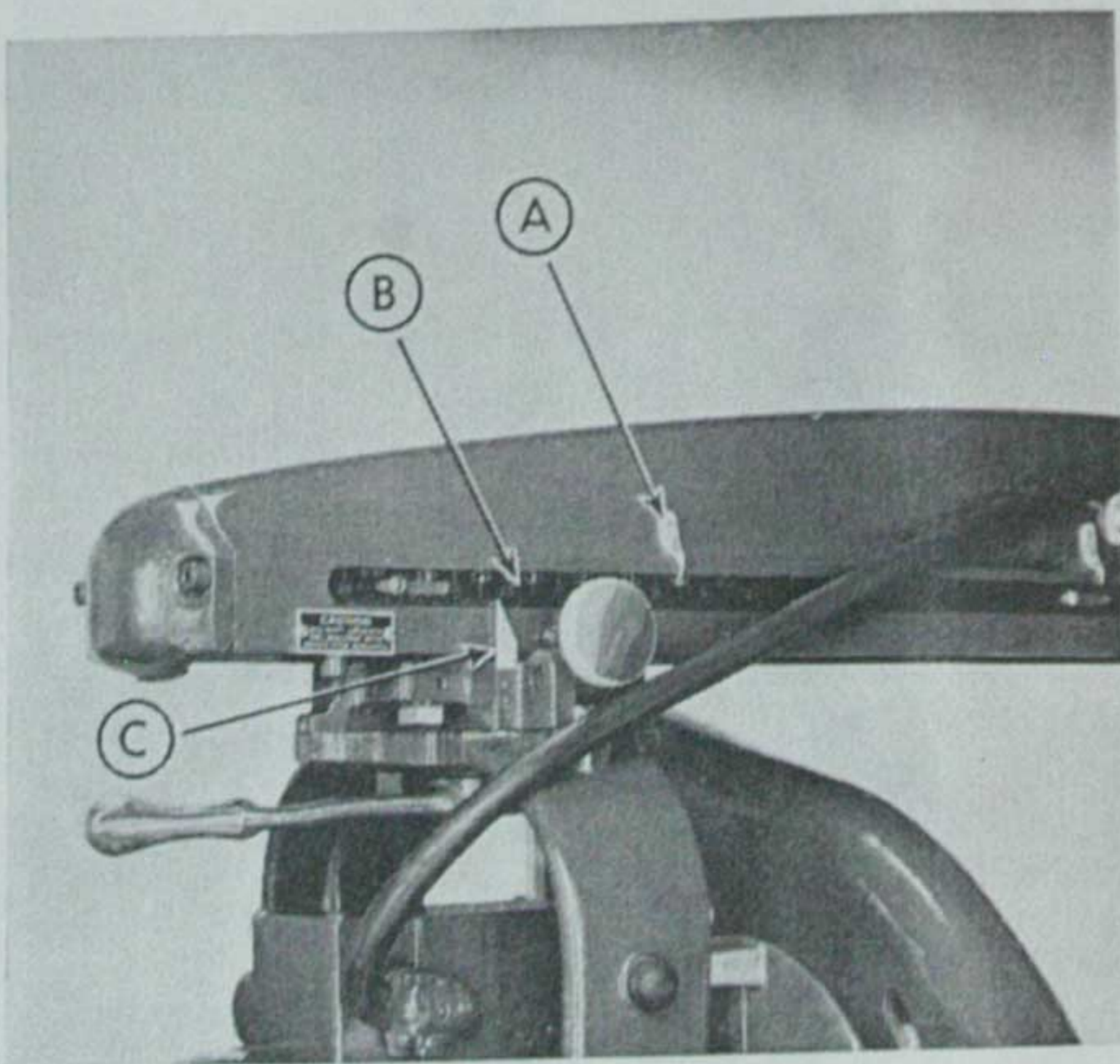


FIGURE 12

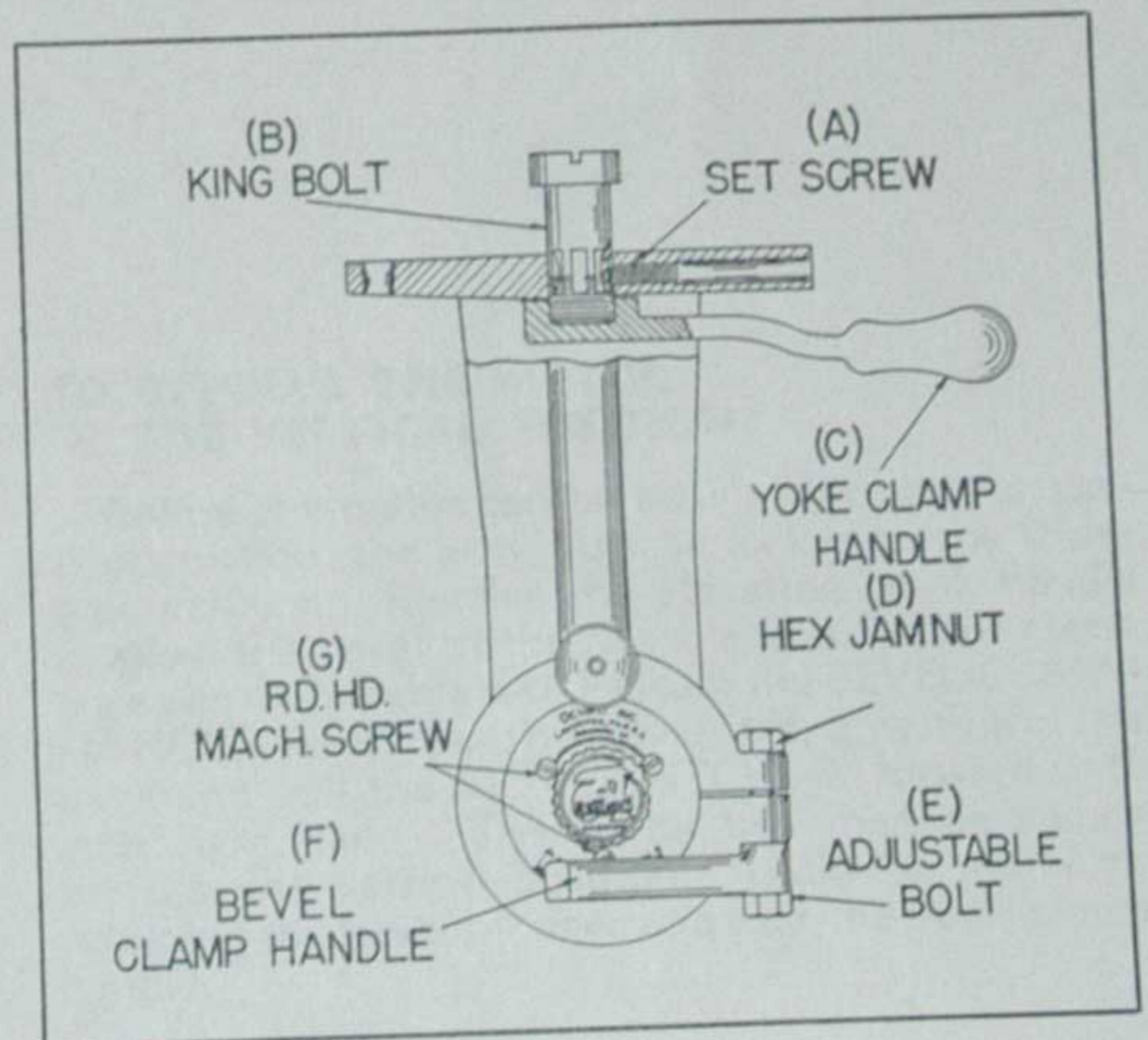


FIGURE 14

It should be in clamped position when operating. If it does not clamp firmly remove the saw carriage and the motor yoke from the arm of the machine.

1. Release the set screw (A, figures 10 or 14).
2. Turn the king bolt to the right (clockwise) until the set screw is in the next slot of the king bolt. This requires about one-sixth of a turn.
3. Turn the set screw until it is firmly seated in the key of the king bolt. The set screw in that position prevents the king bolt from revolving and it enables the threaded yoke clamp handle to hold the yoke and motor head assembly firmly against the roller head assembly.

To Adjust the Rip Scale for IN-RIPPING

1. With the saw in the in-rip position, slowly turn the saw by hand and move the carriage to the rear until the saw blade touches the guide strip.
2. Check to see if the **front** pointer (A, figure 12) indicates zero on the **upper** edge of the rip scale (B).

To Adjust the Rip Scale for OUT-RIPPING

1. Place a board of known width against the guide strip.

2. With the saw in the out-rip position, slowly turn the saw blade by hand and move the carriage until the saw blade touches the board.

3. Without changing the position of the pointers, move the rip scale until the bottom pointer (C) indicates the width of the material you placed against the guide strip.

4. Tighten the screws that hold the rip scale in position.

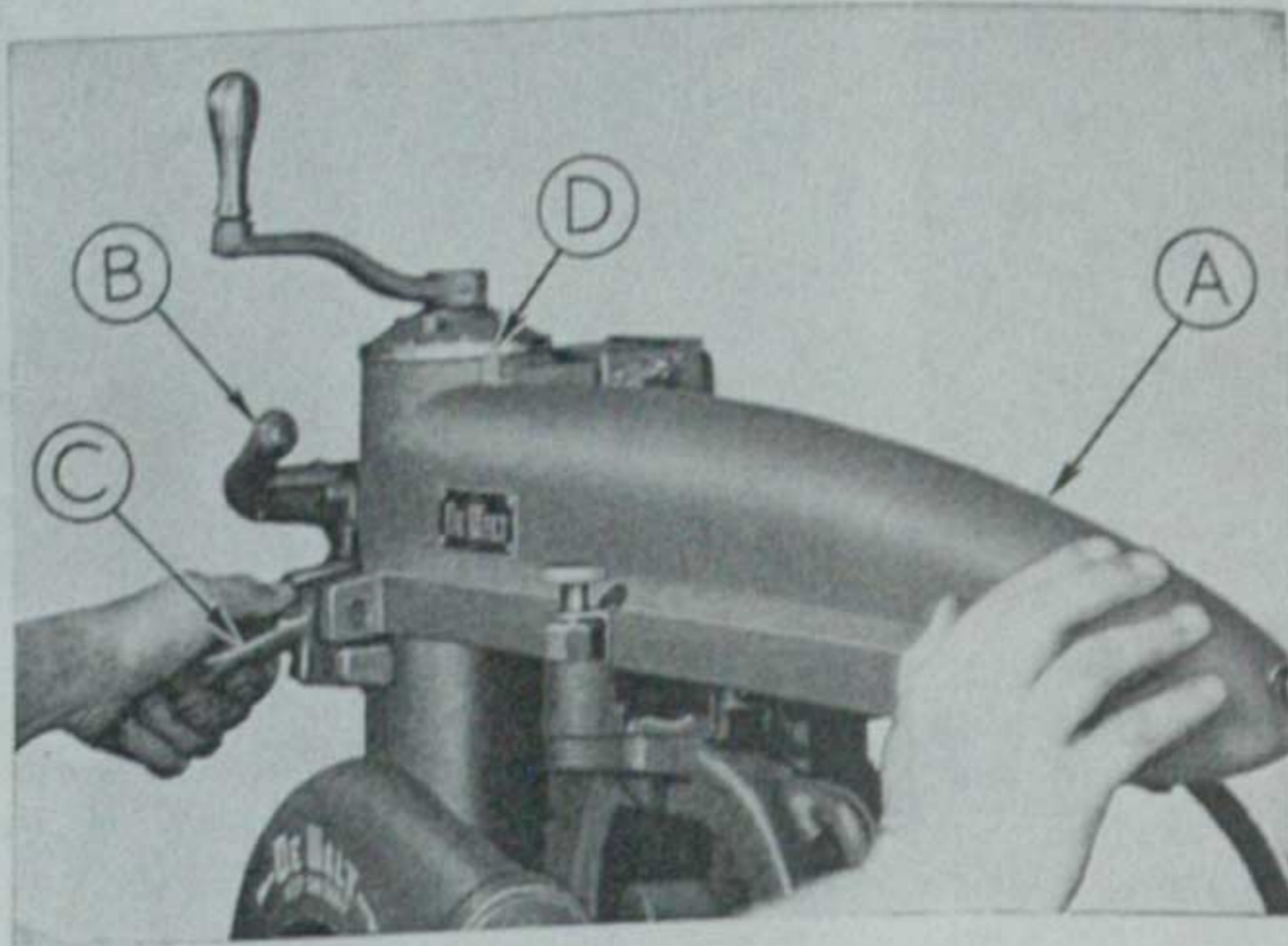
To Adjust the Bevel Clamp Handle

The bevel clamp handle has two functions: it is a clamp that locks the motor and the arbor in the 45° and 90° vertical position after the bevel latch has been engaged in the proper position. Also, the bevel clamp clamps the motor and the arbor in any position between the horizontal and the vertical. To adjust the bevel clamp handle:

1. Loosen the bevel clamp handle (F, figure 14) and the hex jam nut (D).
2. Turn the adjusting bolt (E) to the right (clockwise) until the bevel clamp handle rigidly clamps the motor trunnion.
3. Tighten the hex jam nut (D).

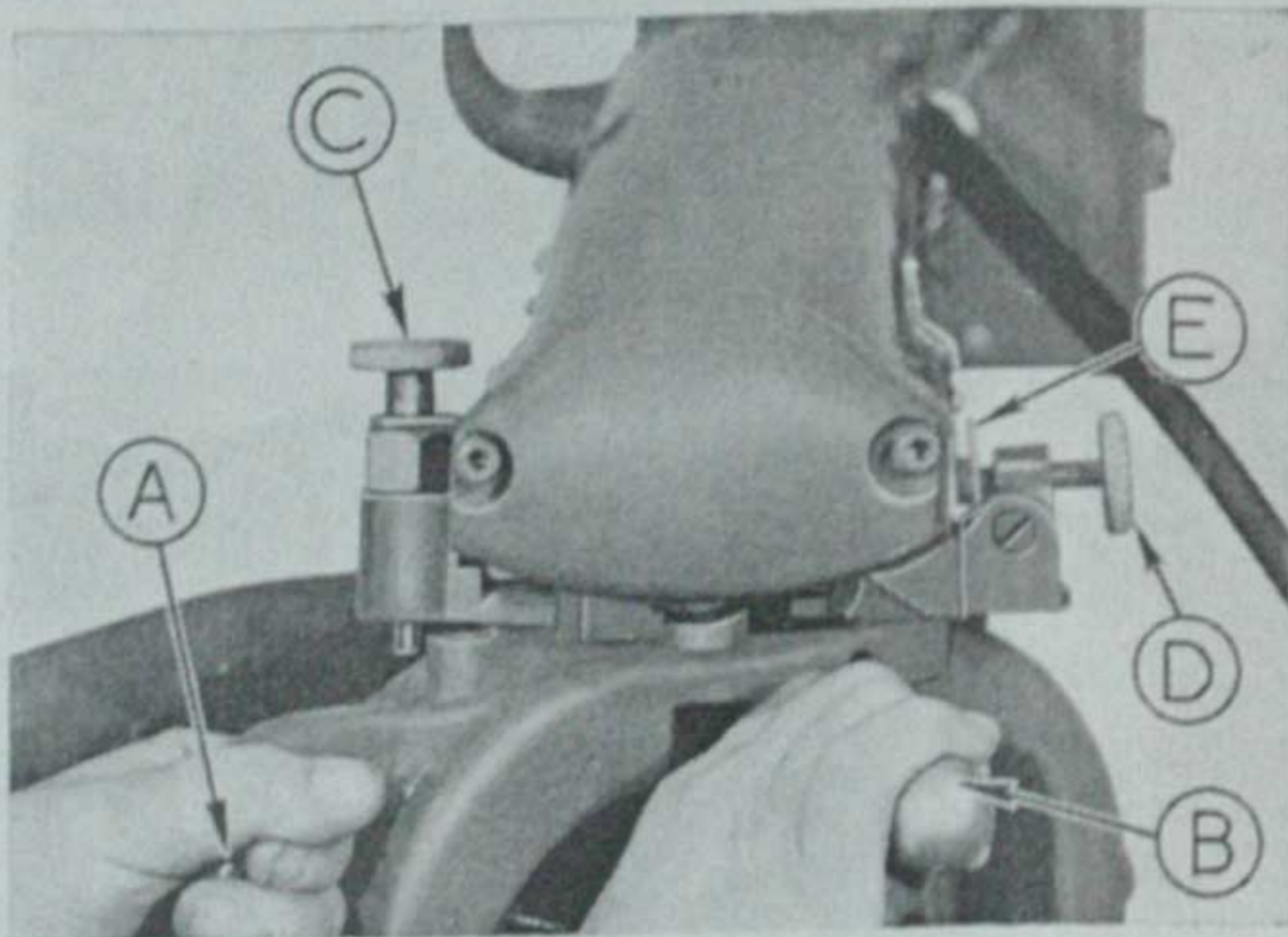
OPERATING INSTRUCTIONS

Before operating the DeWalt, clean dust and dirt from the saw blade or other tools and from the arbor face and collar. Then mount the tool for clockwise rotation when facing the arbor.



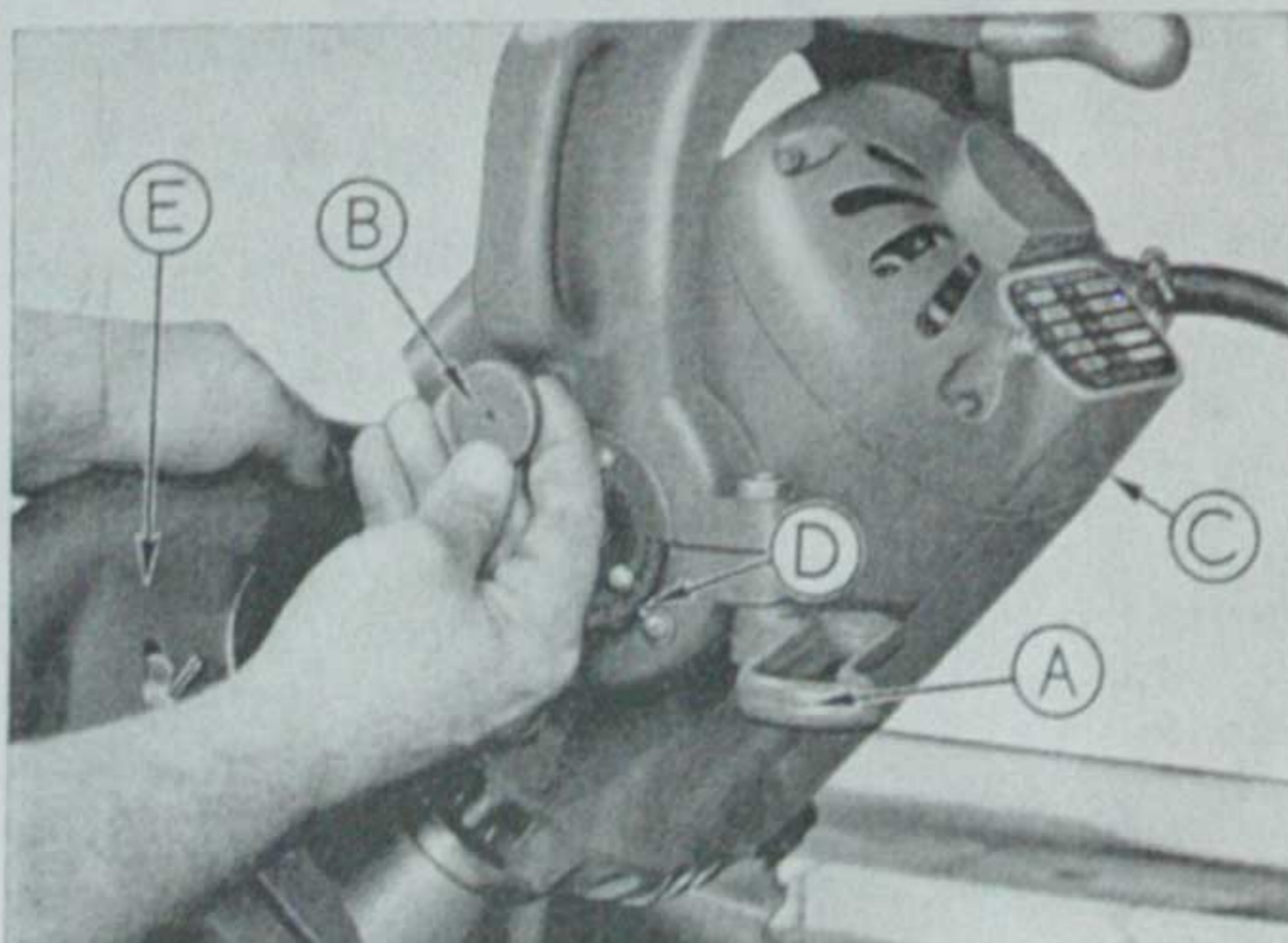
TO REVOLVE THE ARM HORIZONTALLY

To change the position of the arm, pull the ARM CLAMP HANDLE, B, forward and lift the MITER LATCH HANDLE, C. The arm can then be turned. Observing the MITER SCALE, D, move the arm to the desired position. The arm can be quickly located at 0 degrees or 45 degrees right and left hand, because there are slots into which the miter latch can be dropped when the arm is in those positions. When you have located the arm at the required position, drop the miter latch handle and push the arm clamp handle back.



TO REVOLVE THE YOKE IN THE HORIZONTAL POSITION

Lock the arm. Then pull the YOKE CLAMP HANDLE, B. Lift the LOCATING PIN, C. The yoke and the motor can now be turned. When you have located the motor in the required position, engage the locating pin, and push the yoke clamp handle back. After you have completed this adjustment and are ready to rip, check the position of the saw guard, and place the anti-kickback attachment in the proper position. Also, be sure to observe the caution marks on the saw guard.



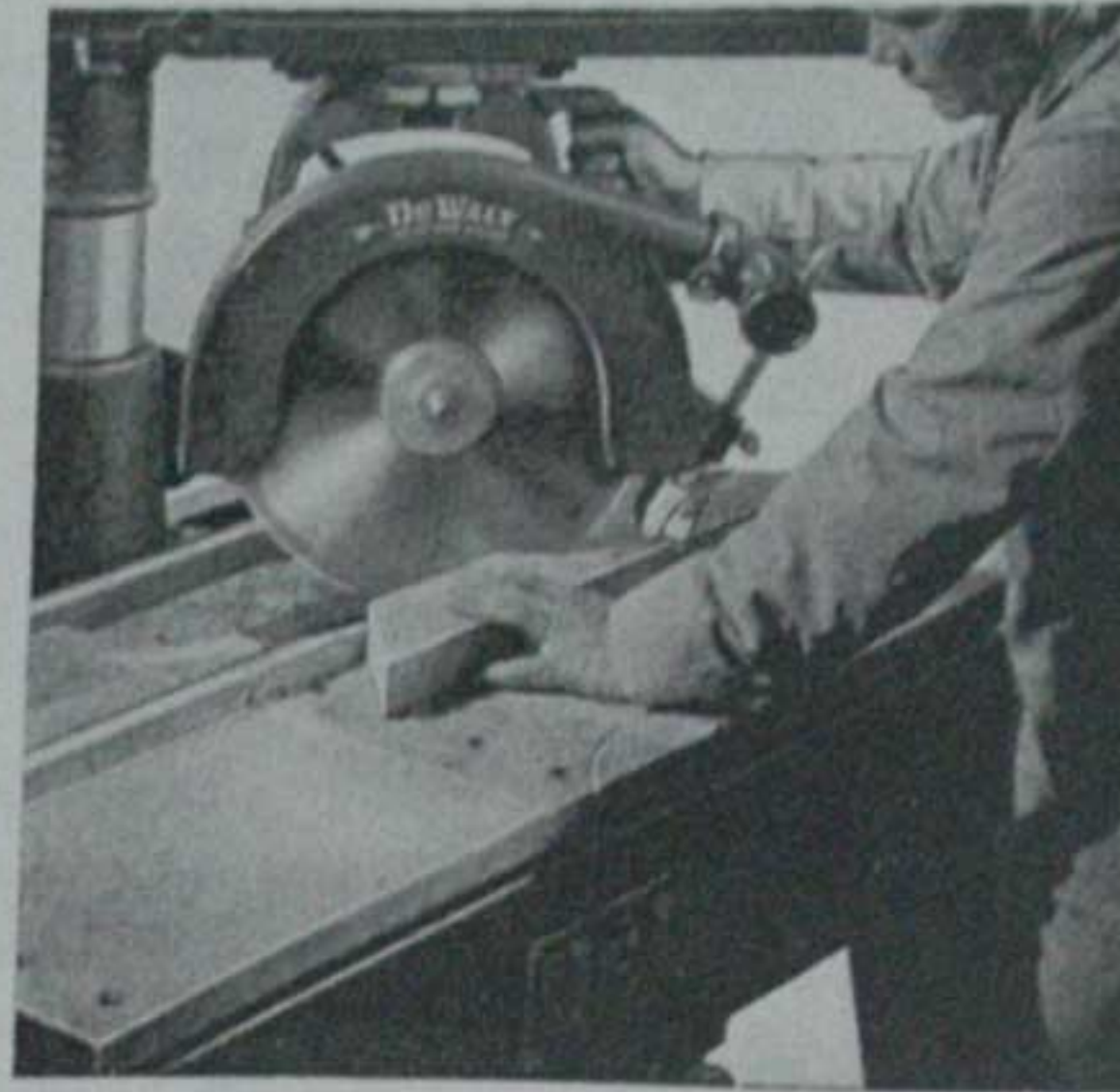
TO REVOLVE THE MOTOR IN THE VERTICAL POSITION

Before the motor can be swung through the vertical position, the arm must be locked in the 0 degree position. Revolve the elevating crank handle to allow the bevel of the saw blade sufficient clearance above the table top. Release the BEVEL CLAMP HANDLE, A. Grasp the saw guard, E, with the left hand and pull the BEVEL LATCH, B, forward with your right hand. The motor can then be swung through the vertical position. Lock the motor by releasing the bevel plunger and lock the bevel clamp handle.



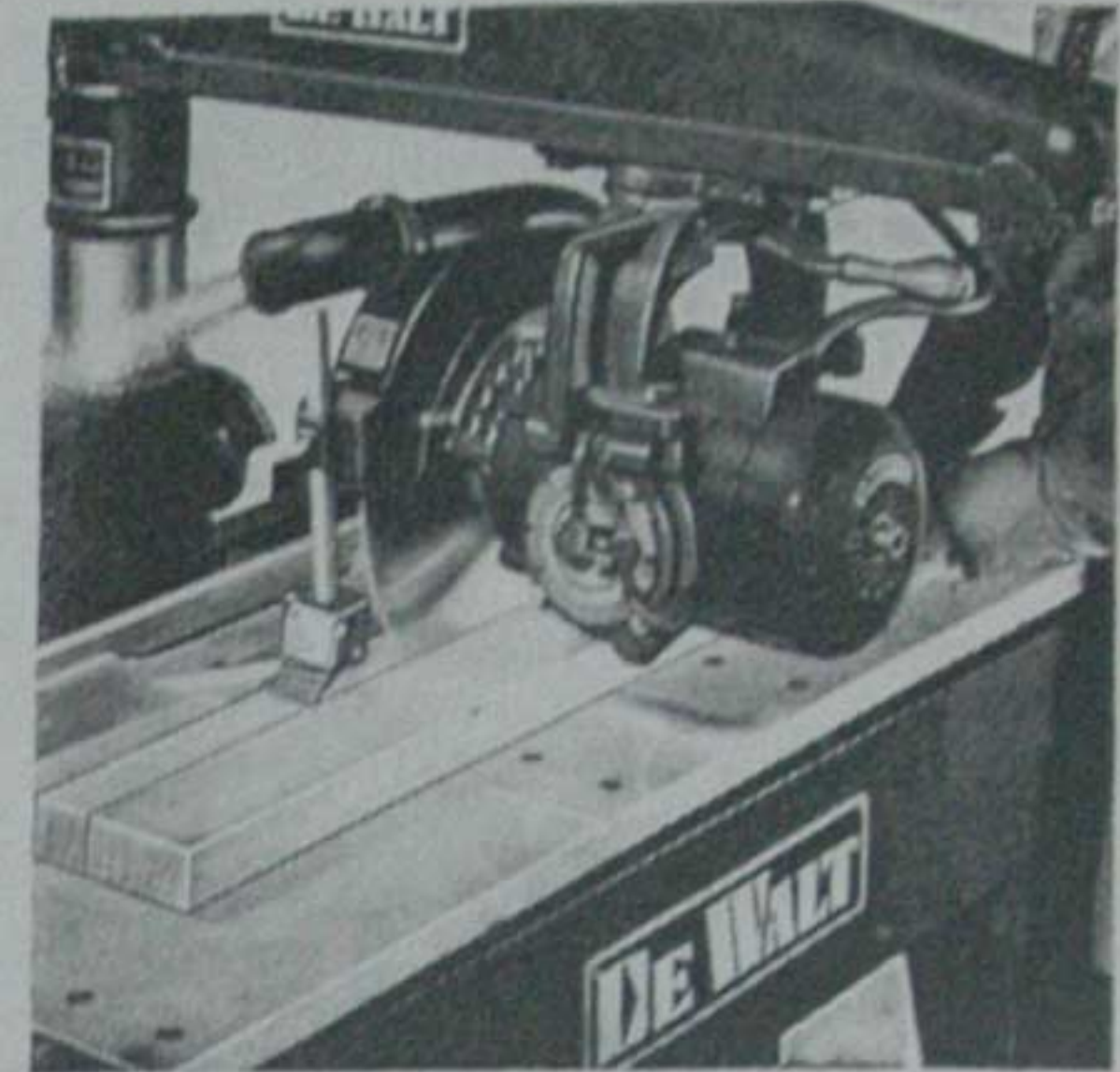
CROSS CUTTING

Lock the arm in the 0° position. Place the material against the guide strip. Draw the saw blade across the material to be cut. After the cut has been completed, return the blade behind the guide strip. Observe this order of operation for all cross cuts. **You should never push the saw blade into the material. Instead, always pull the blade slowly and firmly across the material.**



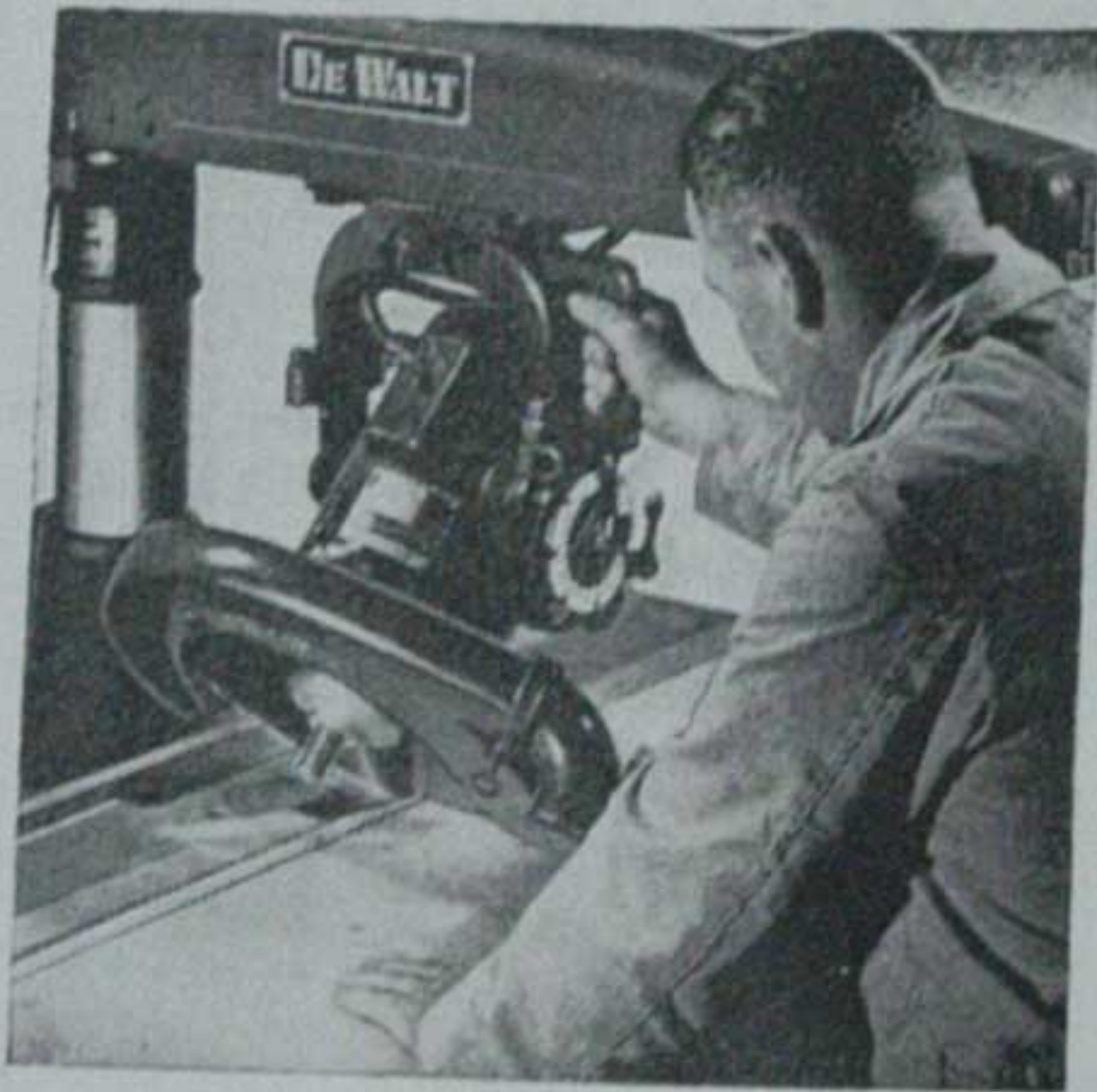
MITERING

Release the arm clamp handle and the miter latch. Swing the arm of the machine to the required angle (as indicated on the miter scale), and relock the arm clamp handle and the miter latch. Observe the same order of operation as you did for cross cutting. Bring the blade through the material from behind. Do not push the blade into the material being cut. Your cuts will be more accurate.



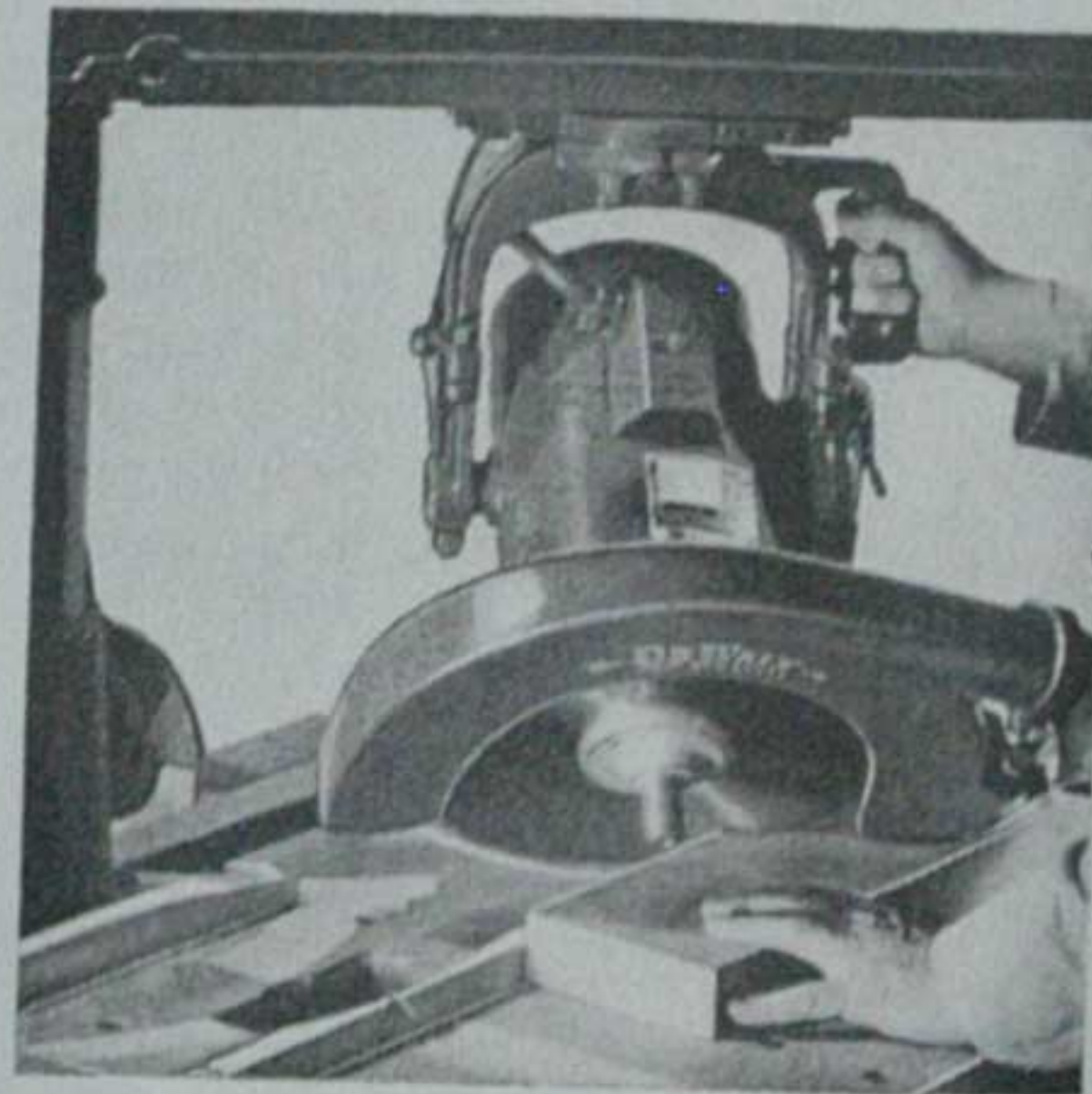
RIPPING

Place the arm in the cross cut cutting position and lock it in place. Then pull the motor forward and lock it in place with the rip lock. Release the finder pin and the yoke clamp handle. Swing the motor to rip position and lock it by locking the yoke clamp handle and the finder pin. Adjust the safety guard and the anti-kickback attachment. Observe cautions on the saw guard.



BEVEL CUTTING

Lock the arm in the cross cutting position. Raise the motor by rotating the elevating handle 26 times. Release the bevel plunger and the bevel clamp handle, and tilt the motor in the yoke. The angle is always shown on the bevel dial scale. Then clamp the bevel plunger and the bevel clamp handle. Lower the arm into cutting position. Pull the saw through as you would for cross cutting.



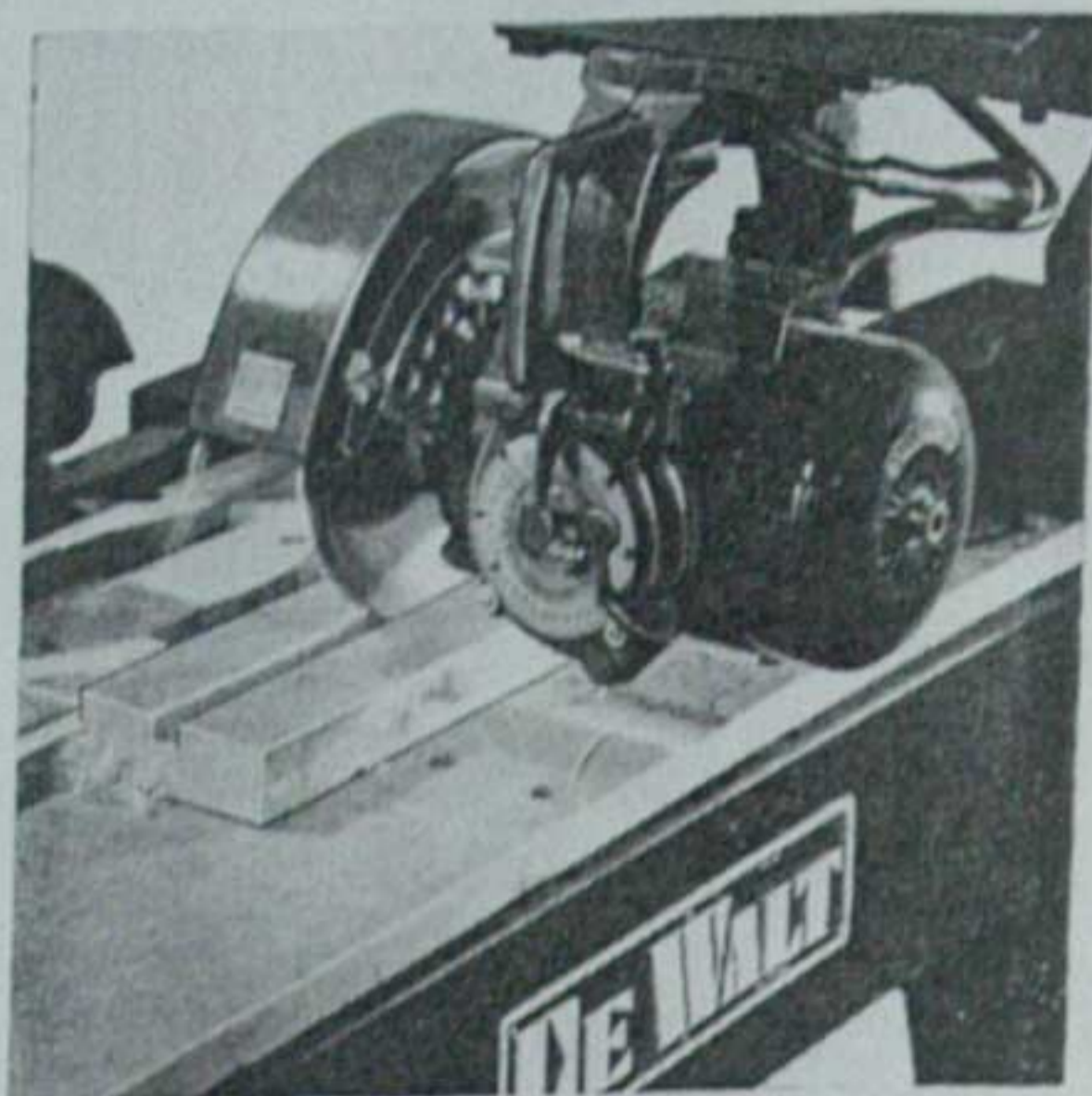
DOUBLE MITER

The double miter is merely a combination of the bevel cut and the miter cut. Set up the machine for bevel cutting. Then release the miter latch handle and the arm clamp handle. The arm is then free to be easily swung into position. Place the arm in the required position, and lock the arm clamp handle and the miter latch handle. Pull the blade through the double miter cut as you would for cross cutting.



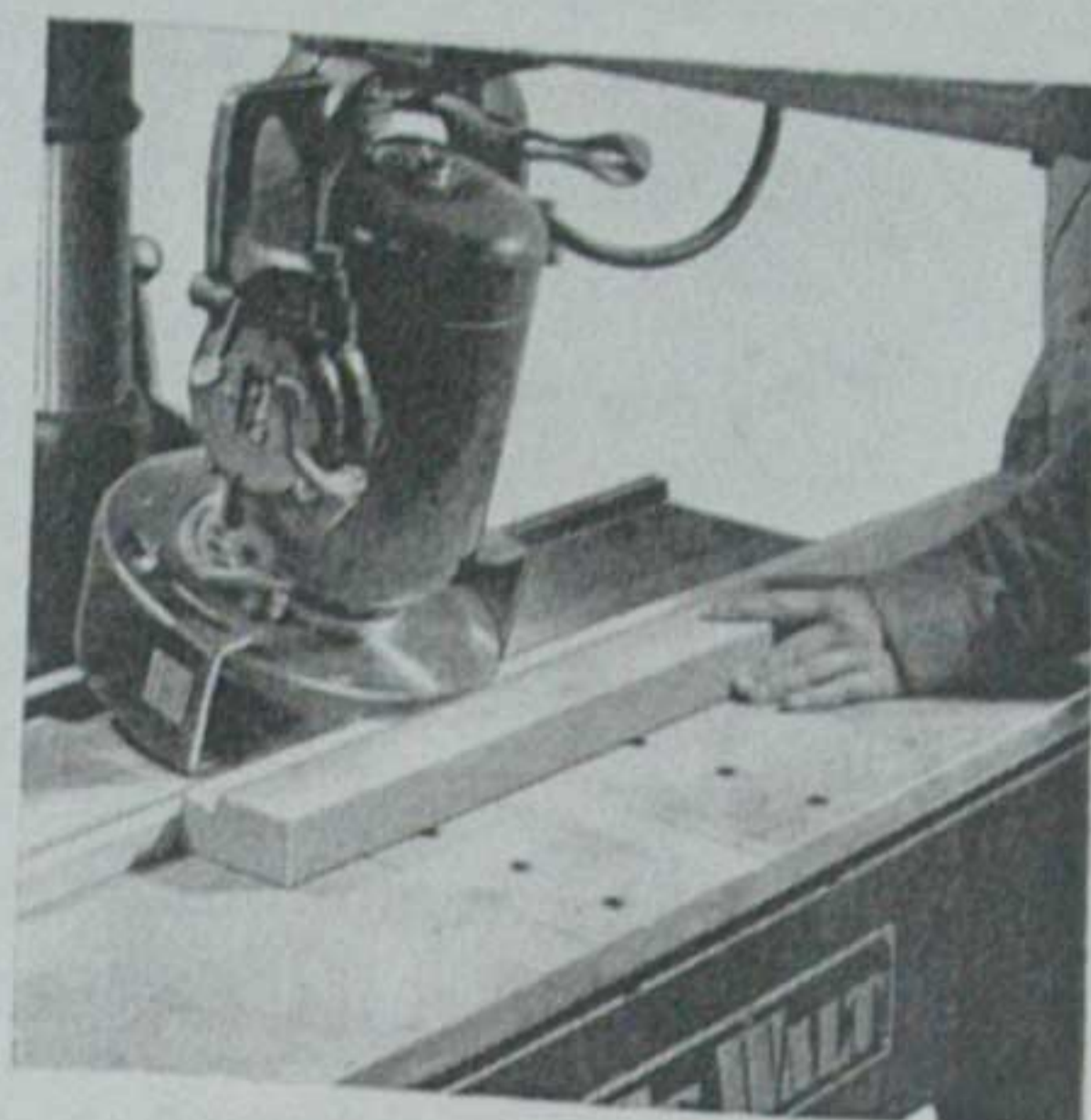
BEVEL RIPPING

Lock the arm in the cross cut position. Elevate the motor by rotating the elevating handle 26 times. Then release the bevel plunger and the bevel clamp handle, and turn the motor to the rip position. Lock the bevel plunger and the bevel clamp handle. Adjust the safety guard as you would for the ripping position. Use a pusher in an added precaution against kickback. Do not feed the material rapidly.



PLOUGHING

Place a dado on the saw spindle, and set the machine in the rip position. Adjust the dado until it just touches the top of the material. Move the material away from the cutter head, and, remembering that one turn of the elevating crank lowers the head $\frac{1}{8}$ ", lower the cutter head to the required depth. Adjust the safety guard to just above the material on the in-feed side.



RABBET, STRAIGHT OR BEVEL

Set up for rabbeting. Elevate the motor. Then place it in the 90° position. To do so, release the bevel plunger and the bevel clamp handle. Swing the motor into the 90° position. Lower the cutter. Then bring the cutter head in front of the guide so that it will give the required cut, and tighten the rip lock. For bevel rabbeting, simply tilt the motor.



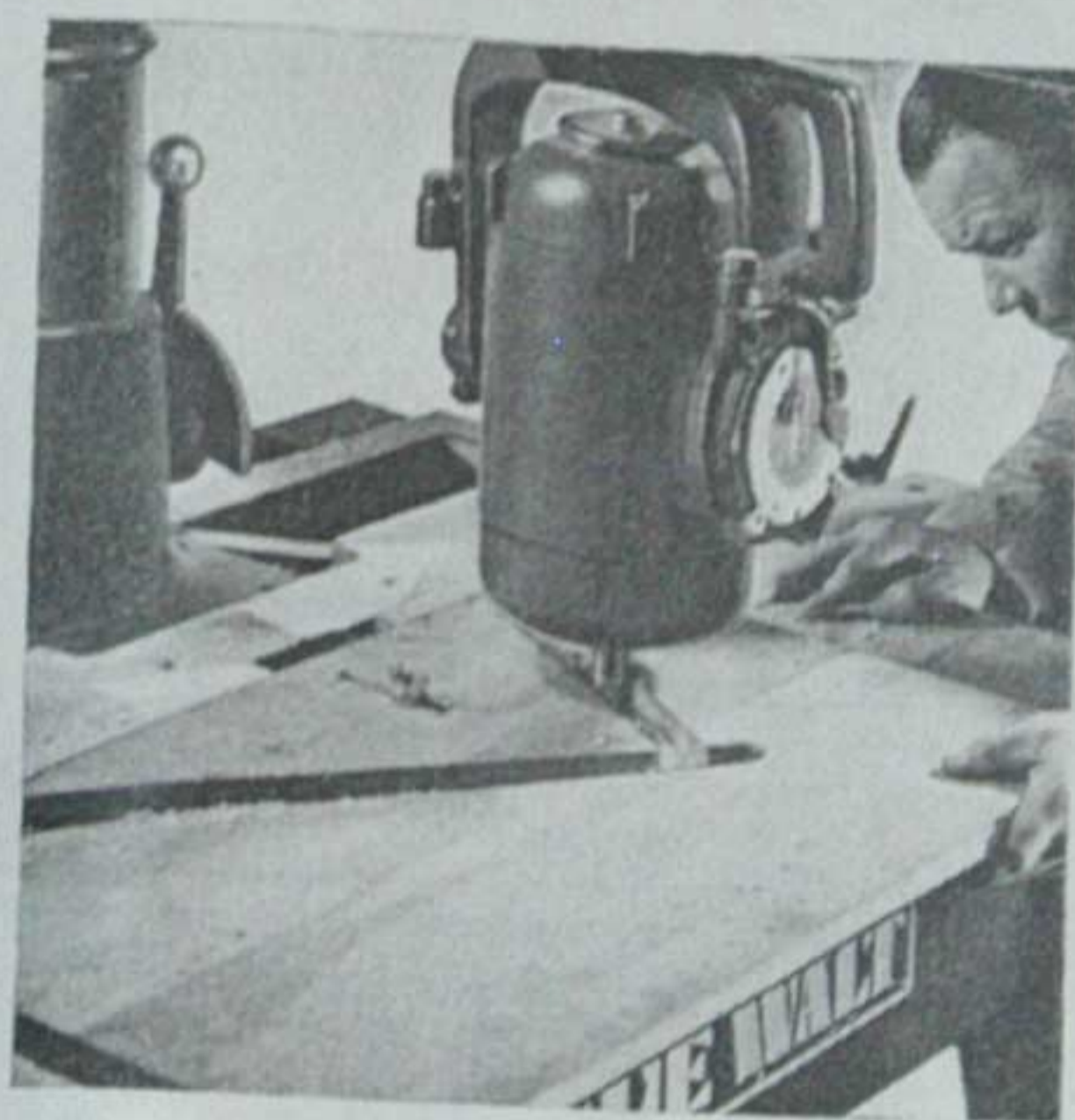
TENONING

Replace the present guide fence with one that will provide several extra inches of working space above the table top. Also, place a temporary fiber top on the table so that you can be assured of a perfectly level working surface. Then swing the motor as you would for rabbeting. With the cutter at the required distance in front of the guide, feed the material as shown. Use a pusher.



SHAPING

Place a shaper cutter on the saw spindle, and set the machine up as you would for rabbeting. Any part of the shaper can be used. Adjust the shaper until the required shape is profiled on the material. Then lock the arm by tightening the rip lock. When hand feeding the material, be sure that it shoulders firmly against the guide strip. For best results, always feed with the grain.



ROUTING

Insert a router bit with bushing into the front of the motor shaft. Lock the motor in the vertical position over the center of the table. Lock the arm. Remove the guide fence. Attach a template to the material. Lower the router to cutting depth. Then feed the template past the cutter. Free-hand routing is also possible. However, do not free-hand rout to depths greater than $\frac{1}{8}$ " per cut.



SANDING

Attach a disc sander to the saw spindle. Then tilt the motor into the 90° position, and lock it as you would for shaping. Place the sander disc in the required position. Feed the material past the sander attachment. This set-up is for miscellaneous sanding. For best sanding results, lock the motor in the horizontal position. The sander disc will be vertical and material can be held against it.

Warranty

DeWalt machines, delivered in the United States, its territories and the Dominion of Canada, are warranted to be free from defects in material and workmanship, this warranty and the liabilities hereunder being limited to replacing or repairing, without charge, such parts as may prove to be defective and are returned prepaid with motor or machine unit to us or our authorized repair agencies within the period of one year from the date of delivery to customer. No guarantee is made on electrical parts unless operated on the proper and prescribed voltage, frequency and phase, and with the prescribed starting device, or its equivalent.

Liability under this warranty shall cease if the damage or defect is found to have been caused by misuse, negligence or accident, or if the parts are repaired or altered by others than our authorized repair agencies or our factory.

DEWALT DIVISION

American Machine & Foundry Company



DEWALT DIVISION
AMERICAN MACHINE & FOUNDRY COMPANY
Lancaster, Pennsylvania
IN CANADA: DeWALT CANADA LTD., GUELPH, ONTARIO

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