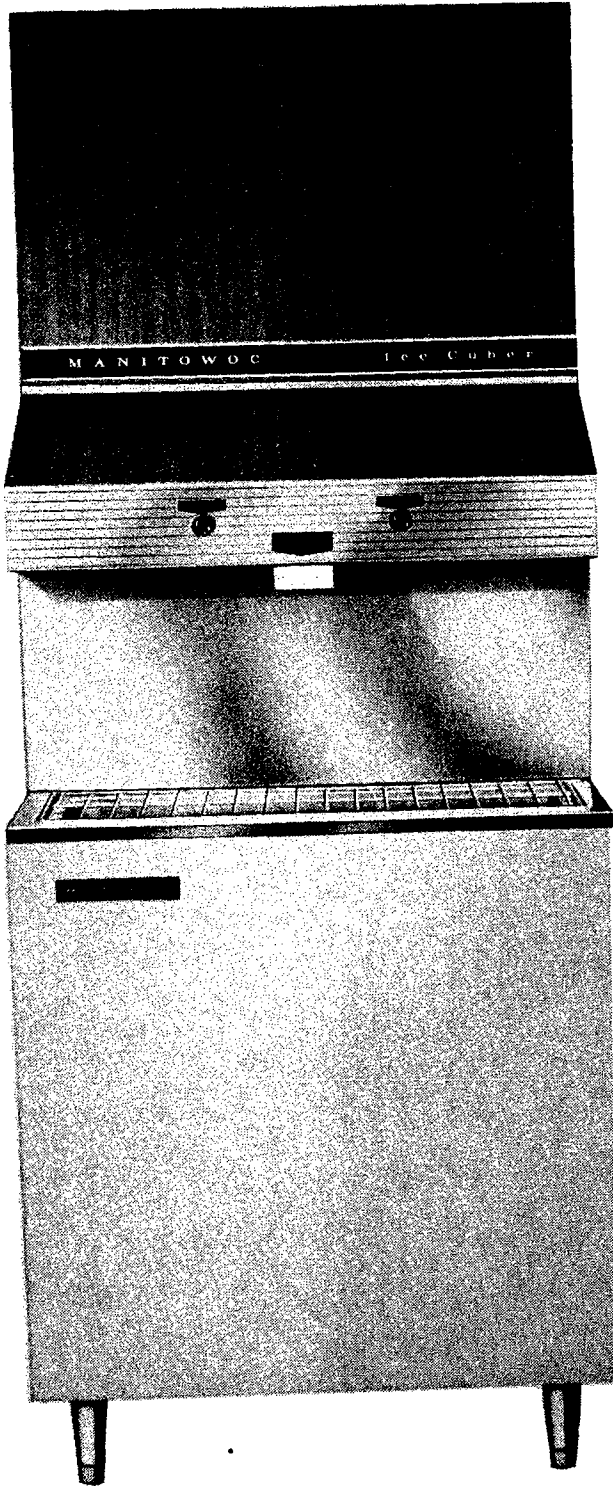




Manitowoc



SERVICE MANUAL

for

Model MDB-290

WITH A-0400 CUBER
ON TOP

DISPENSER

BIN



Manitowoc equipment works
Division of The Manitowoc Company, Inc.

**MANITOWOC
WISCONSIN**

FORM NO. 80-0026-1

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FORWARD

The Manitowoc Equipment Works, Division of The Manitowoc Co., Inc., Manitowoc, Wisconsin presents this Ice Cube Dispenser Bin Service Manual, as a supplement to the Ice Cuber Service Manual No. 80-0027-1.

Please refer to the Ice Cuber Manual for additional information required regarding installation, maintenance and servicing of the Model A-0400 Series Ice Cuber, incorporated with the MDB-290 Dispenser Bin.

Should you encounter a problem or are in need of particularized advice or assistance, not answered in this manual, please contact The Manitowoc Equipment Works, Manitowoc Wisconsin. Our Service Department will be happy to assist you with your problem.

Manitowoc Equipment Works
Div. of THE MANITOWOC CO., INC.
Manitowoc, Wisconsin 54220
Service Department
(414) 684-6621

WARRANTY

Parts and Material
Compressor

One year — parts only
Five years — parts only

Defective parts must be returned transportation prepaid.

(See "Ice Machine and Bin Warranty" page 23 and registration card shipped with the unit for warranty conditions.)

This manual includes the following models of Ice Cube Dispenser Bins.

MDB-290 – Standard Fawn Finish

MDB-290S – Stainless Steel Finish

UNCRATING AND INSPECTION

All MDB Model Dispenser Bins are crated in a heavy cardboard carton to help prevent damage in transit.

Inspect carton thoroughly before uncrating, for punctures or damage. To uncrate cabinet, remove the staples along the lower edge of carton. Remove the carton by sliding up and off of cabinet.

Inspect cabinet for possible concealed damage. If damage is evident notify carrier at once for inspection.

Remove the four skid bolts from the bottom of cabinet, and remove skid. Unpack the four bin legs, packaged in front of skid. Screw these legs into the same holes at bottom of bin where skid bolts were removed.

LOCATION AND INSTALLATION

After legs are securely in place, locate Dispenser Bin in desired location. Be sure to allow enough height for the Ice Cuber Head Section to be installed on top of bin.

Once bin is located, allowing a minimum of 4 inches on all sides for air circulation, level bin side to side and front to back. Remove all shipping tape and packaging from bin.

Uncrate your Manitowoc Ice Cuber. (Refer to Cuber Manual 80-0027-1 found in instruction envelope inside of Cuber)

Carefully set the Ice Cuber on top of the Dispenser Bin. Be sure the Cuber is set squarely on bin to insure accurate ice delivery into the Dispenser Bin. (See Fig. 2)

Remove front lower panel from Dispenser Bin by lifting up and off of studs located on front of bin behind panel. (See Fig. 3A)

ELECTRICAL CONNECTIONS

115 Volt 60 Cycle – 1 Phase – 230 Volt 50 Cycle – 1 Phase – All MDB 290 Dispenser Bin. See Cuber Manual 80-0027-1 for Cuber electrical connections.

CONNECTING POWER SUPPLY TO DISPENSER

Insert power supply cord through hole at the lower rear right side of Dispenser (see Fig. 5) NOTE: Three wire No. 14 service cord is recommended, with third wire as a cabinet ground. Run the cord along inside floor of cabinet to electrical connection box located at front lower portion of bin. (Fig. 3B) Remove cover from box and insert cord through one of the knock-outs at the bottom of box. Connect service cord leads as indicated on wiring diagram Fig. 16. Replace cover on wiring box and front panel on Dispenser Bin.

CONNECTING POWER TO CUBER

(Refer to Cuber Manual 80-0027-1)

CONNECTING WATER SUPPLY TO DISPENSER

Dispenser with the optional water devices, connect the water supply line to the 1/2 inch female pipe fitting located at the top right rear side of Dispenser. (See Fig. 4)

To prevent sweating of lines they should be insulated.

CONNECTING WATER SUPPLY TO CUBER

(Refer to Cuber Manual No. 80-0027-1)

NOTE: Check all local plumbing codes.

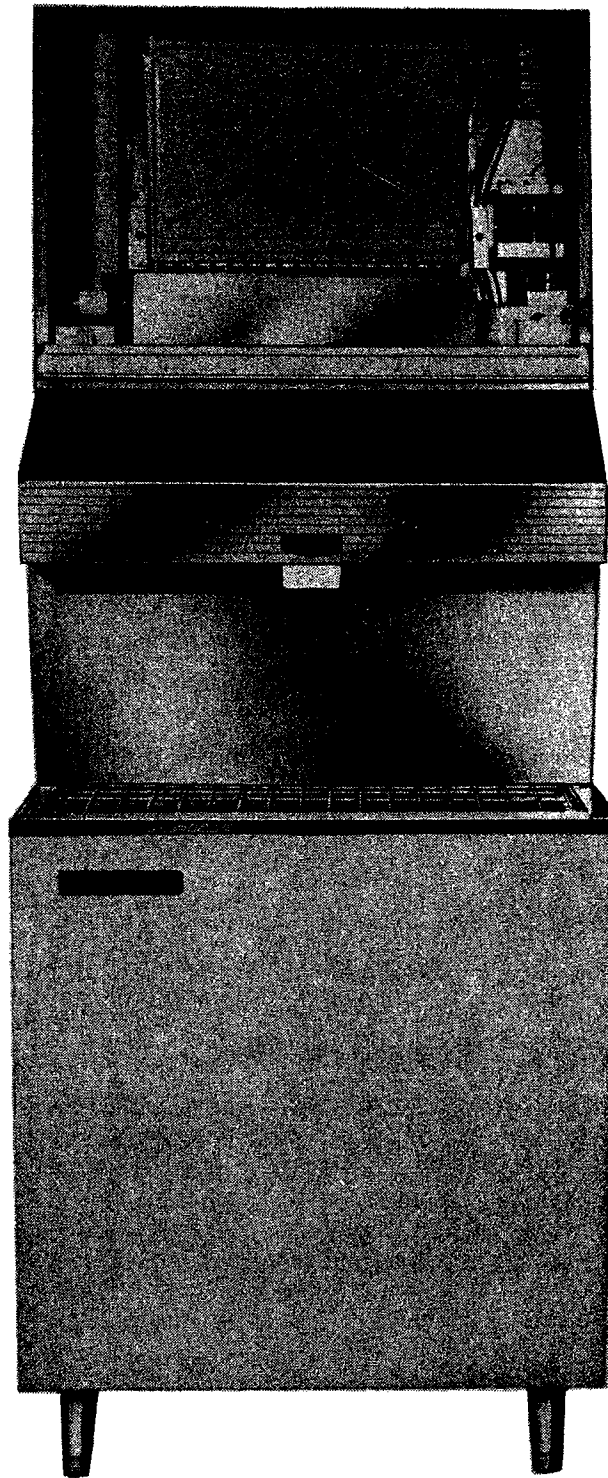


FIG. 2
DISPENSER BIN WITH CUBER INSTALLED

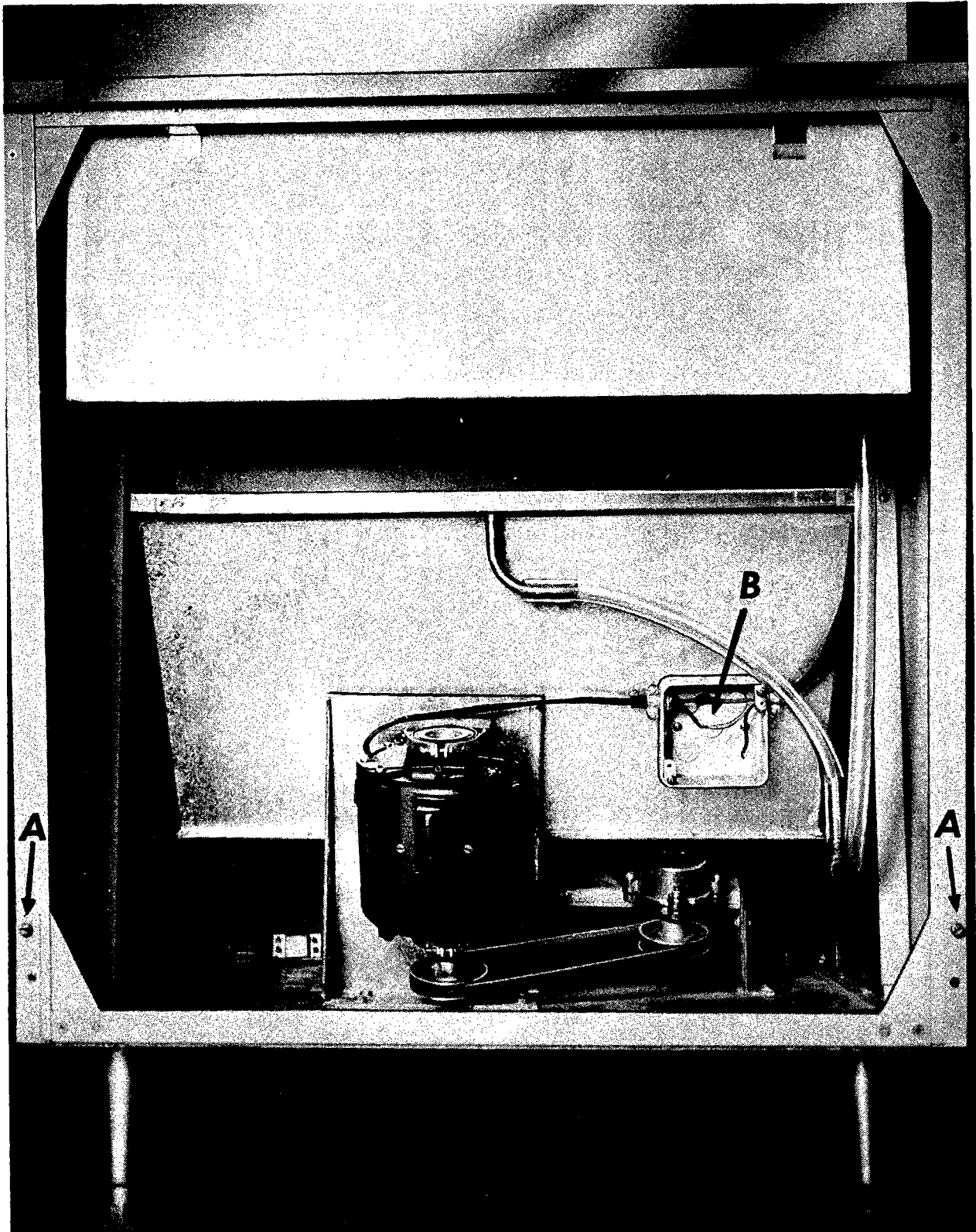


FIG. 3
AUGER DRIVE MECHANISM
A. Front Panel Lock Bolts
B. Electrical Connection Box

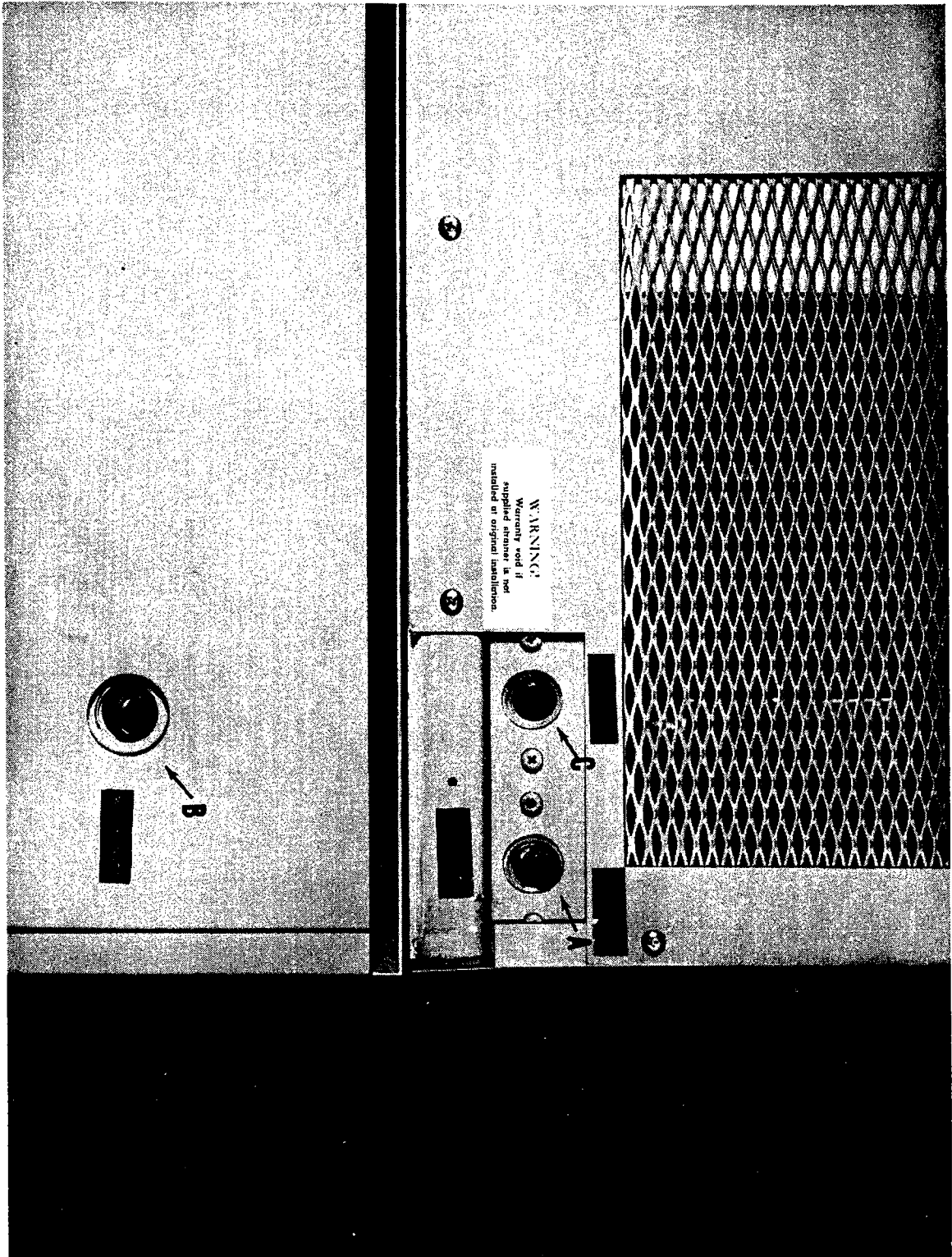


FIG. 4 — WATER INLETS
A. Ice Maker Water Inlet
B. Dispenser Bin Water Inlet
C. Condenser Drain (Water Cooled Only)

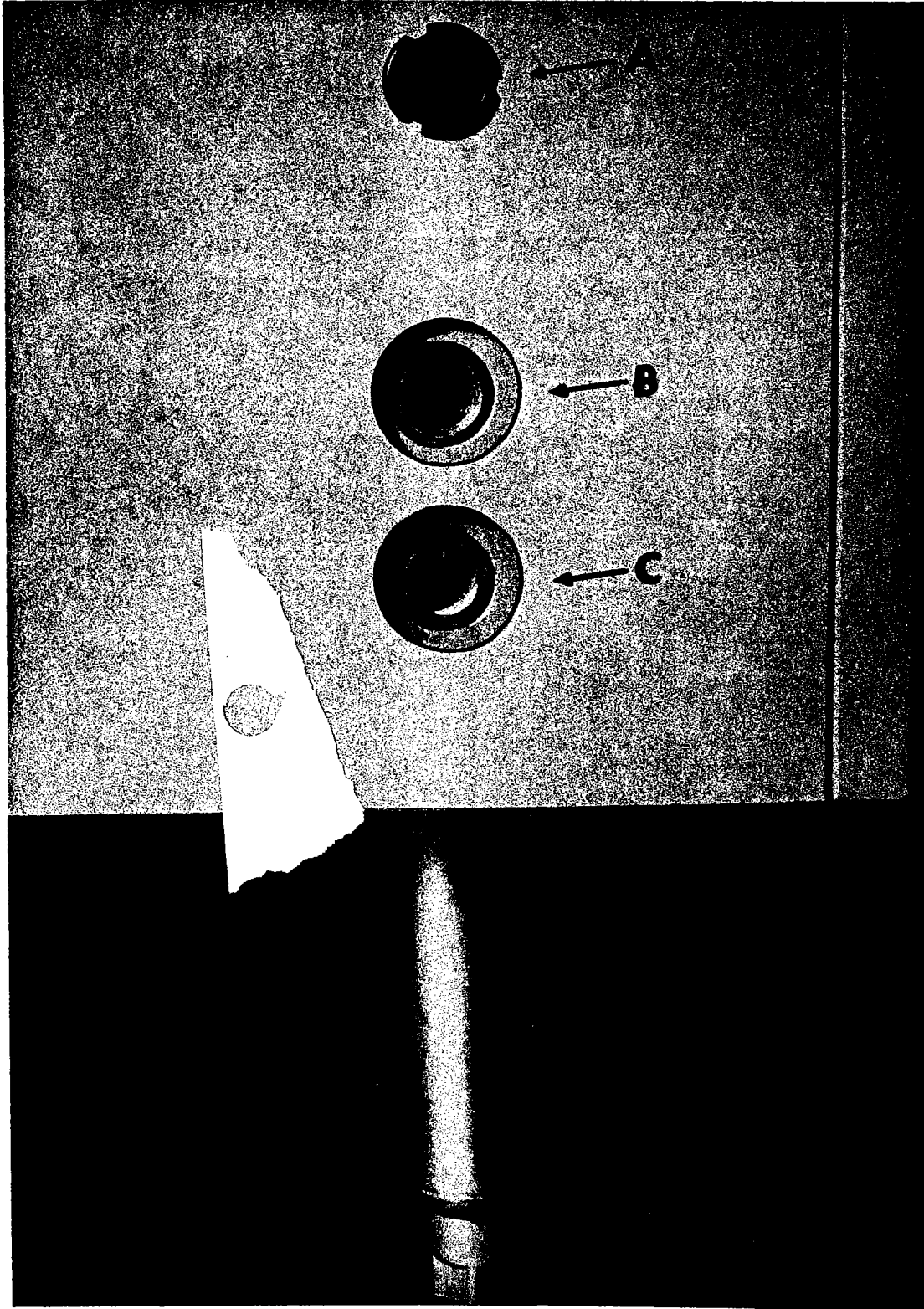


FIG. 5
DRAIN AND ELECTRICAL CONNECTIONS
A. Electrical Cord Inlet
B. Cube Tray Drain
C. Dispenser Bin Drain

DRAIN CONNECTIONS

Connect drain lines to the 1/2 inch female pipe fittings located at the right lower rear side of dispenser (See Fig. 5). Drain lines must be at least 1/2 inch inside diameter and have 1/2 inch drop per 5 feet of run.

NOTE: Check and follow all local plumbing and electrical codes when installing dispensing units.
Lines attached to B & C to prevent condensation on line, (See Fig. 5).

MODELS AVAILABLE

The MDB 290 Dispenser Bin is available in the various different combinations or models listed below:

1. Three inch auger assembly for glass filling with push button or trigger ice control. Available with or without push button or trigger water controls.
2. Four inch auger assembly, for filling containers with push button or trigger ice control. Available with or without push button or trigger water controls.

Either of the above models are available in fawn or stainless steel finish.

HOW THE DISPENSER WORKS

Manitowoc has designed its MDB-290 Combination Ice Dispenser Bin to manufacture, store and deliver up to 275 lbs. of crystal clear ice cubes daily.

The Dispenser is designed to be used with only one of the following Manitowoc model Cubers.

AD-0402A, AD-0403W

These ice cubers manufacture 7/8" dice cubes, and are the only model cubers that will operate on the Manitowoc MDB-290 Dispenser Bin.

After the combination ice cuber and dispenser bin are installed, allow the ice cuber to operate 4 to 6 hours before dispensing ice. When this time period has elapsed there will be a sufficient amount of ice in the bin to enable the ice to be dispensed.

To dispense the ice, hold the glass or container under the ice opening at front center of dispenser. Push the ice button or trigger control to begin ice delivery. When the required amount of ice is delivered, merely release the button or trigger to discontinue ice delivery.

If bin is equipped with optional water controls, push the button or trigger for the desired amount of water required in the container. (See Fig. 6)

The 300 lb. model cuber delivers its ice into the Dispenser Bin in its normal manner. The auger, by revolving, conveys the ice to the ice opening. The ice then falls through this opening and into the container. The auger is driven at a slow RPM by a 1/3 HP motor through a speed reducing gear train located in the compartment below ice storage bin. (See Fig. 13)

The opening in the ice delivery chute is designed to reject ice cubes, frozen together, to avoid jamming of the ice chute opening. These rejected cubes are either sheared by the chute or are dropped off the auger to the bottom of bin to be re-dispensed.

NOTE:

The auger assembly is available in either a 4 inch or 3 inch wide auger. The 4 inch auger is for filling large containers at a rapid delivery. The 3 inch auger is for filling small mouth containers such as water glasses at a slower delivery rate.

When ice is dispensed from the bin it is replaced by the ice cuber at the rate of approximately 300 lbs. daily. This continual falling of ice into the storage bin, keeps the ice loose for maximum dispensing capacity of dispenser.

The water created by some melting of the ice is drained out of the bin through the drain hole at the right side of the bin. The second drain fitting is for the water drained from the waste bin at the front of the dispenser below ice delivery opening.



FIG. 6
ICE DISPENSER SHOWING DELIVERY

- A. Ice Button
- B. Water Button
- C. Ice and Water Delivery Opening

REMOVING AUGER ASSEMBLY

To remove the entire auger assembly for cleaning or maintenance, begin by removing the screws from the vinyl clad cover on the front of dispenser.

After screws are removed, lift up on the cover from front lower edge. (See Fig. 7) Pull cover down and out of flange at top of bin (See Fig. 8)

Remove the four wing nuts (Fig. 9A) located two on each side of water outlet assembly. Lift this assembly off of chute extension.

Remove the four wing nuts (Fig. 9B) holding ice chute extension to auger chute. Pull extension up and off as in Fig. 10.

Remove the two wing nuts located at the top of auger assembly (Fig. 9C) and pull entire ice chute and auger assembly up and out of bin as indicated in Fig. 11. To accomplish this operation, all of the ice should be removed from the Dispenser Storage Bin.

REPLACING AUGER ASSEMBLY

To replace the auger and chute assembly, insert the assembly back through the ice chute opening and lower it to the bottom of the bin. Be sure the female slotted end of auger (Fig. 12A) mates correctly to the male horizontal pin of the drive (Fig. 12D) located in the bottom of bin. Also be sure the three holes at the bottom of ice chute (Fig. 12B) align properly with the three acorn nuts at the bottom of bin (Fig. 12C).

Replace the two wing nuts at the top of chute assembly. Install ice chute extension and cover in reverse order as removed.

REMOVING AUGER DRIVE MOTOR

To remove auger drive motor, proceed as follows:

1. Remove front panel from dispenser by lifting up and off of studs as in Fig. 3.
2. Remove the two motor mounting ring clamps (Fig. 13A) from each end of motor, and remove motor from base.
3. Disconnect electrical leads from motor (Fig. 13B)
4. Remove the four bolts holding motor base to mounting bracket and remove base.

Reinstall in reverse order of above being sure the drive belt is tight.

REMOVING STORAGE BIN ACCESS PANEL

When thoroughly cleaning the Dispenser bin storage area, it is necessary to remove the storage bin access covers. To remove these panels, proceed as follows and refer to Figures 14 and 15.

1. Remove the eight bolts from the stainless steel front panel of dispenser.
2. Slide the panel out as indicated in Fig. 14.
3. Remove the four wing nuts holding the inside panel, and pull this panel straight out as indicated in Fig. 15.

The inside of storage bin is now accessible for cleaning.

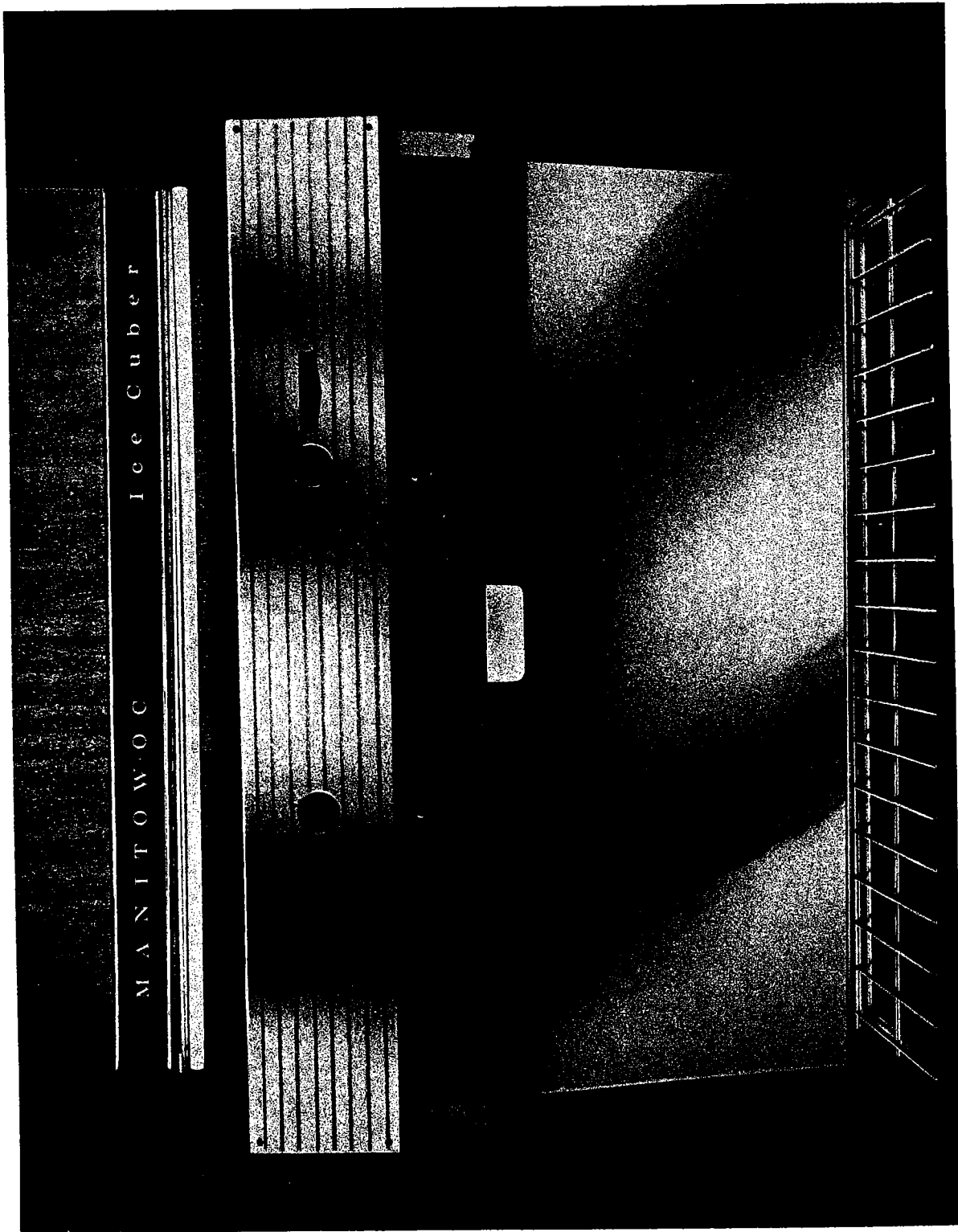


FIG. 7
REMOVING AUGER ENCLOSURE PANEL

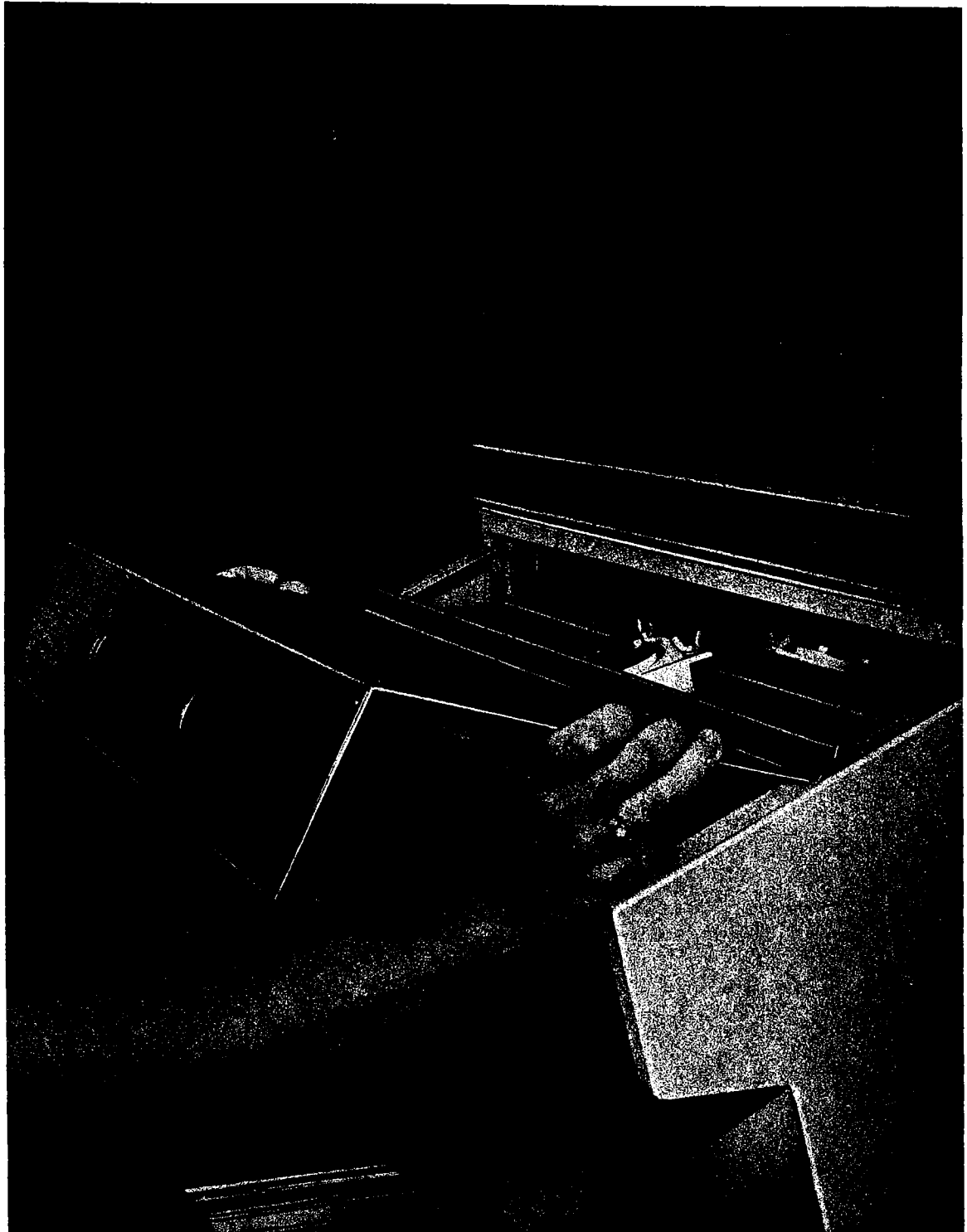


FIG. 8
REMOVING AUGER ENCLOSURE PANEL

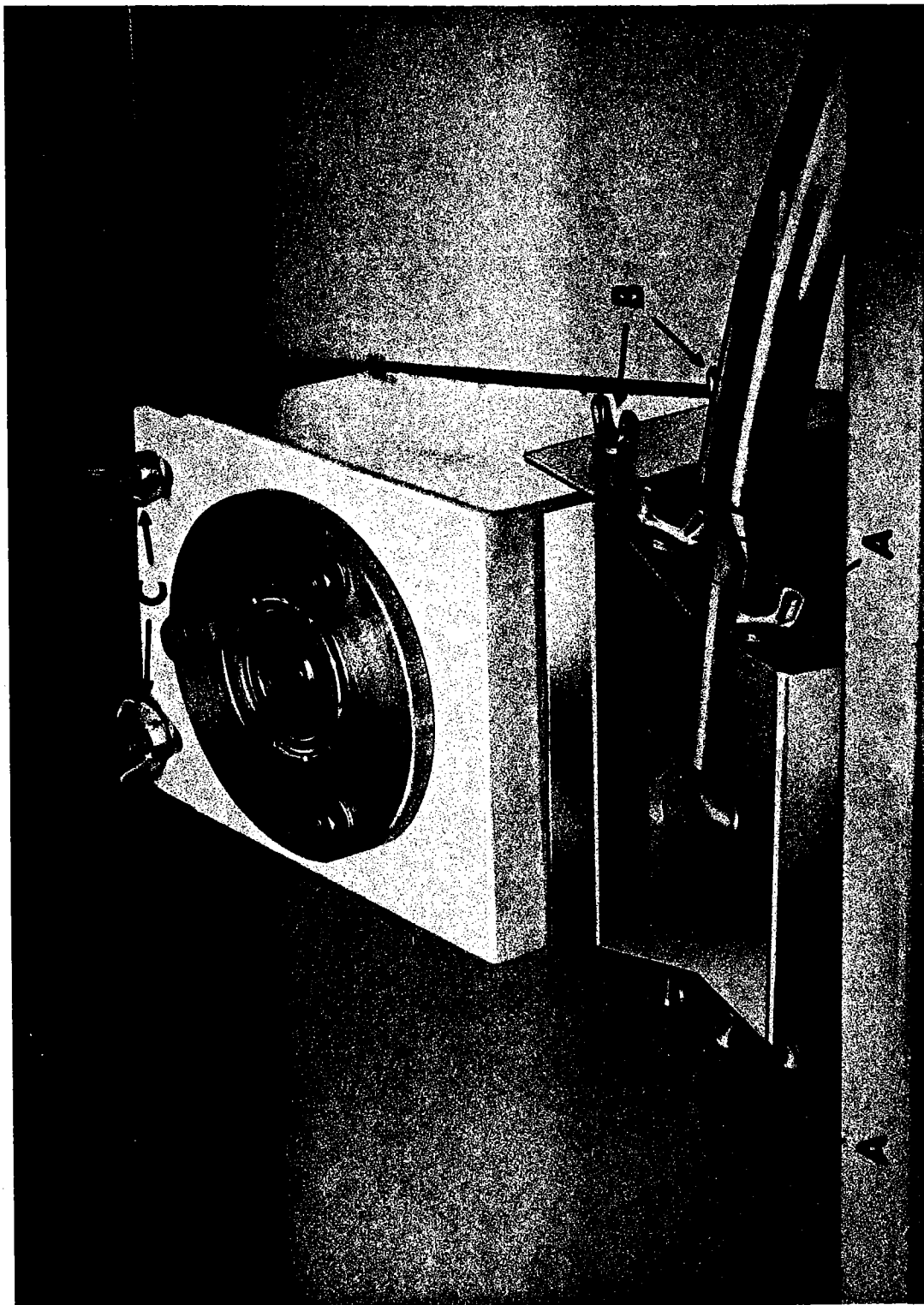


FIG. 9
AUGER HEAD ASSEMBLY
A. Water Inlet Wing Nuts
B. Ice Chute Extension Wing Nuts
C. Auger Assembly Wing Nuts

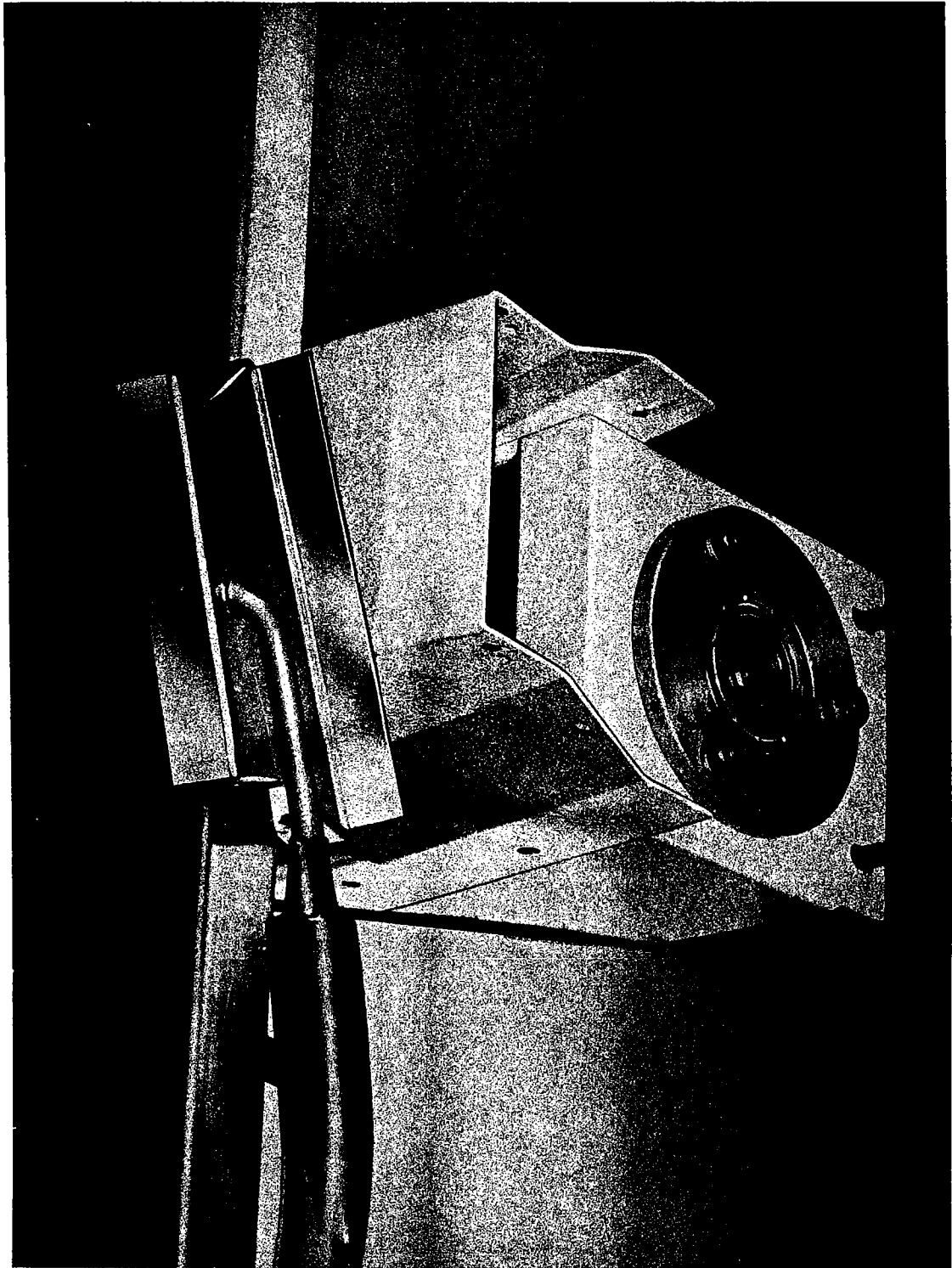


FIG. 10
AUGER HEAD ASSEMBLY WITH WATER INLET AND
CHUTE EXTENSION REMOVED

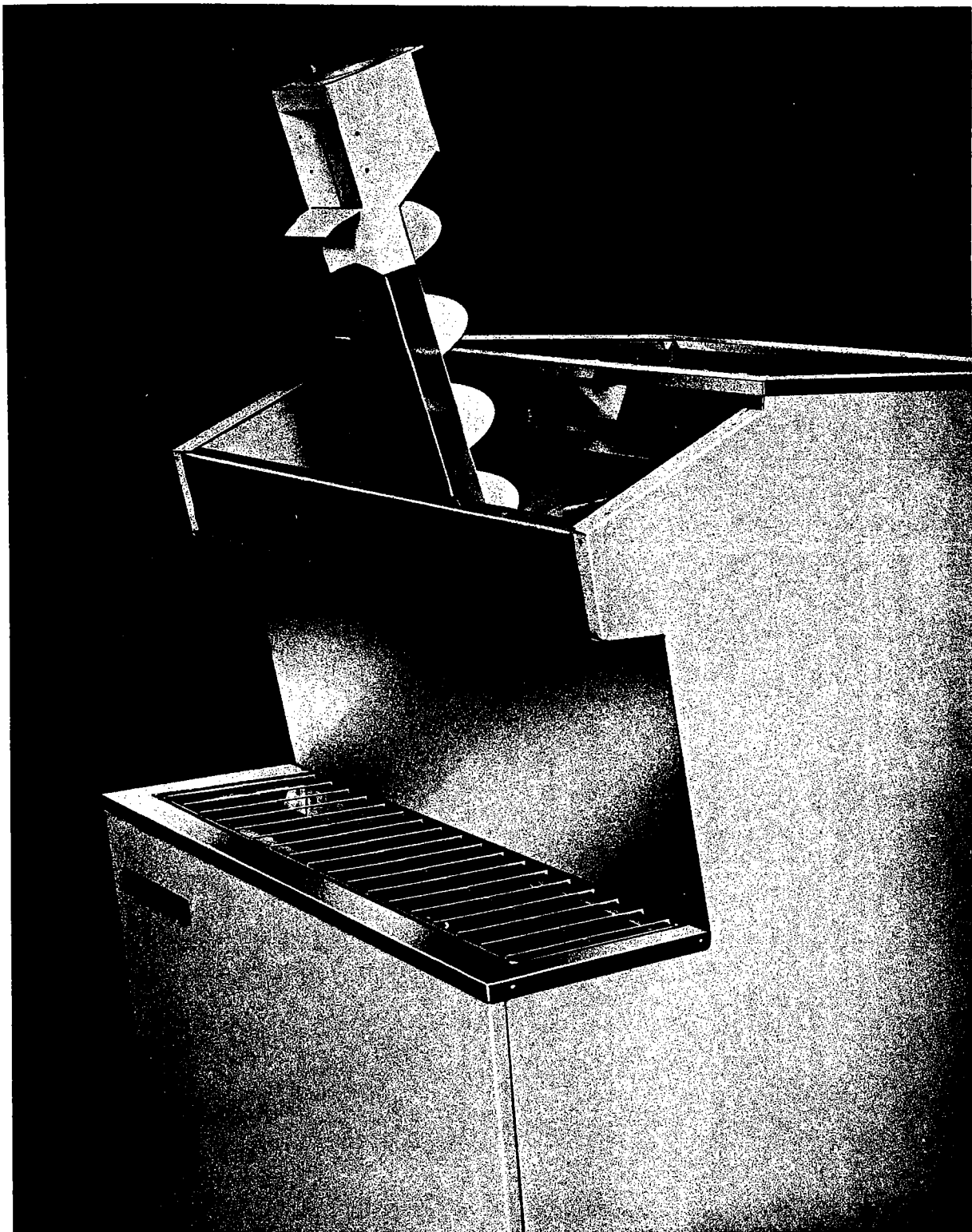


FIG. 11
AUGER ASSEMBLY BEING REMOVED

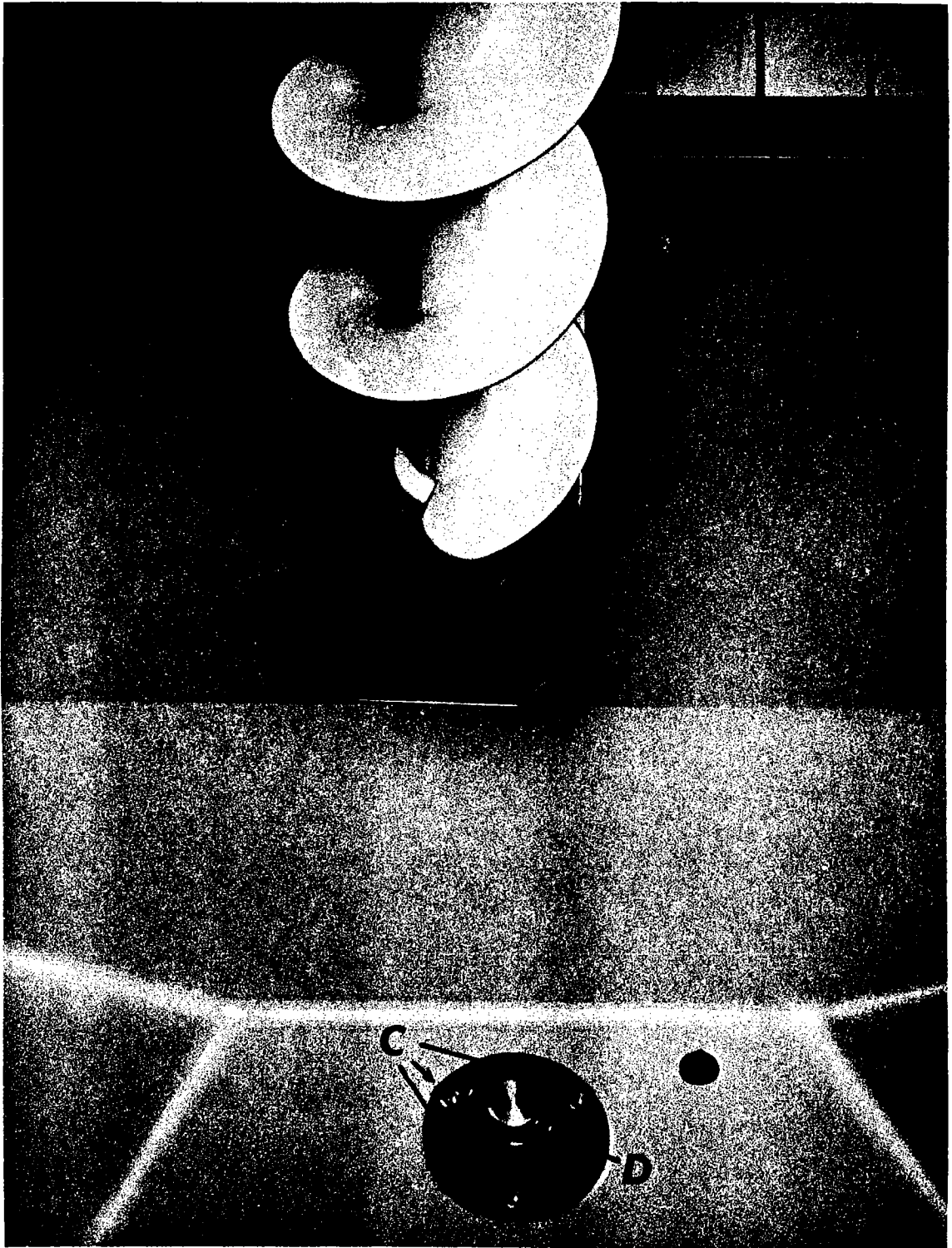


FIG. 12
REINSTALLING AUGER INSIDE BIN

- A. Auger Drive Slot
- B. Acorn Nuts Aligning Holes
- C. Acorn Nuts
- D. Auger Drive Pin

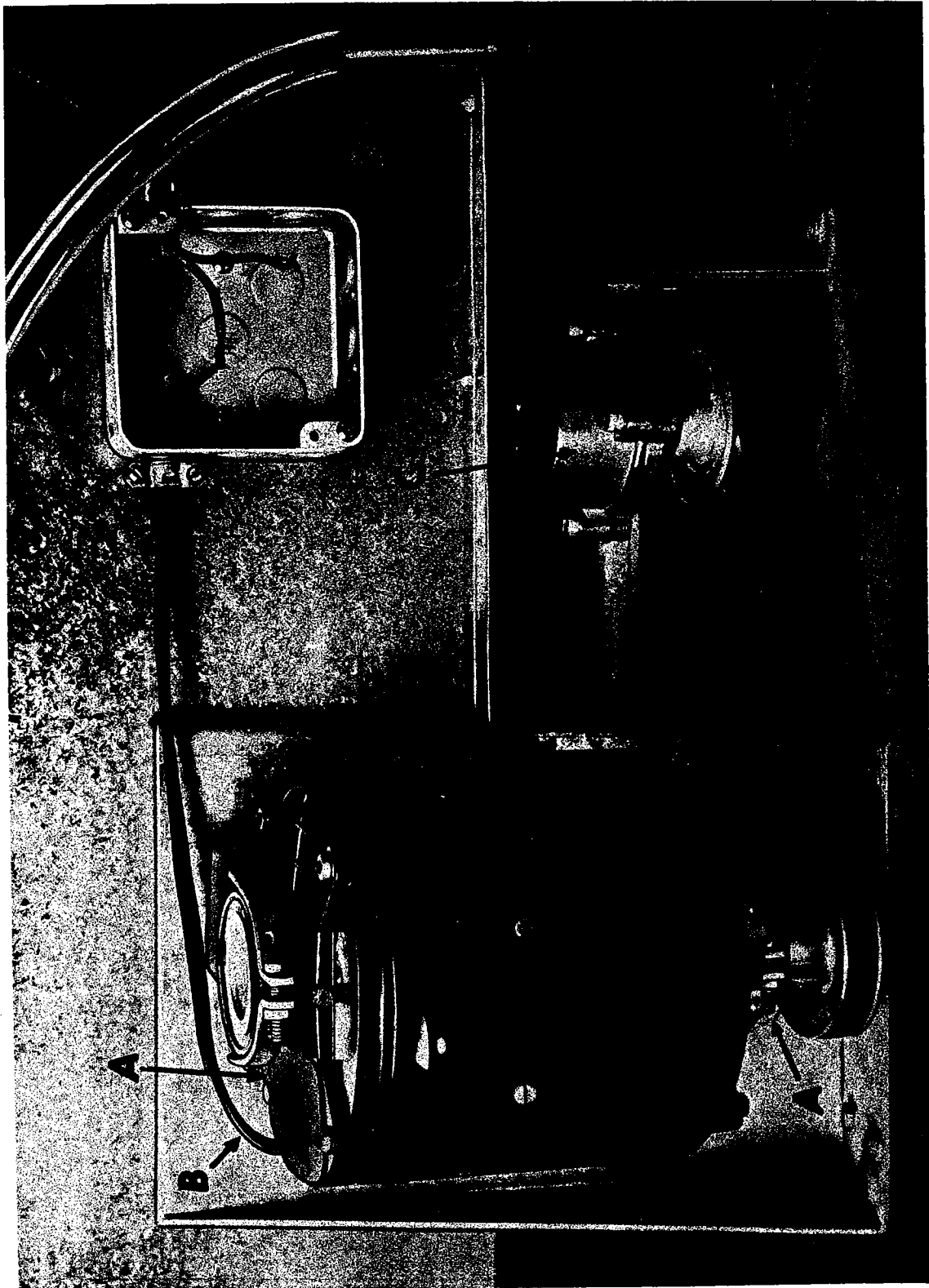


FIG. 13
AUGER DRIVE MECHANISM
A. Motor Mounting Ring Clamps
B. Motor Electrical Leads
C. Auger Gear Drive

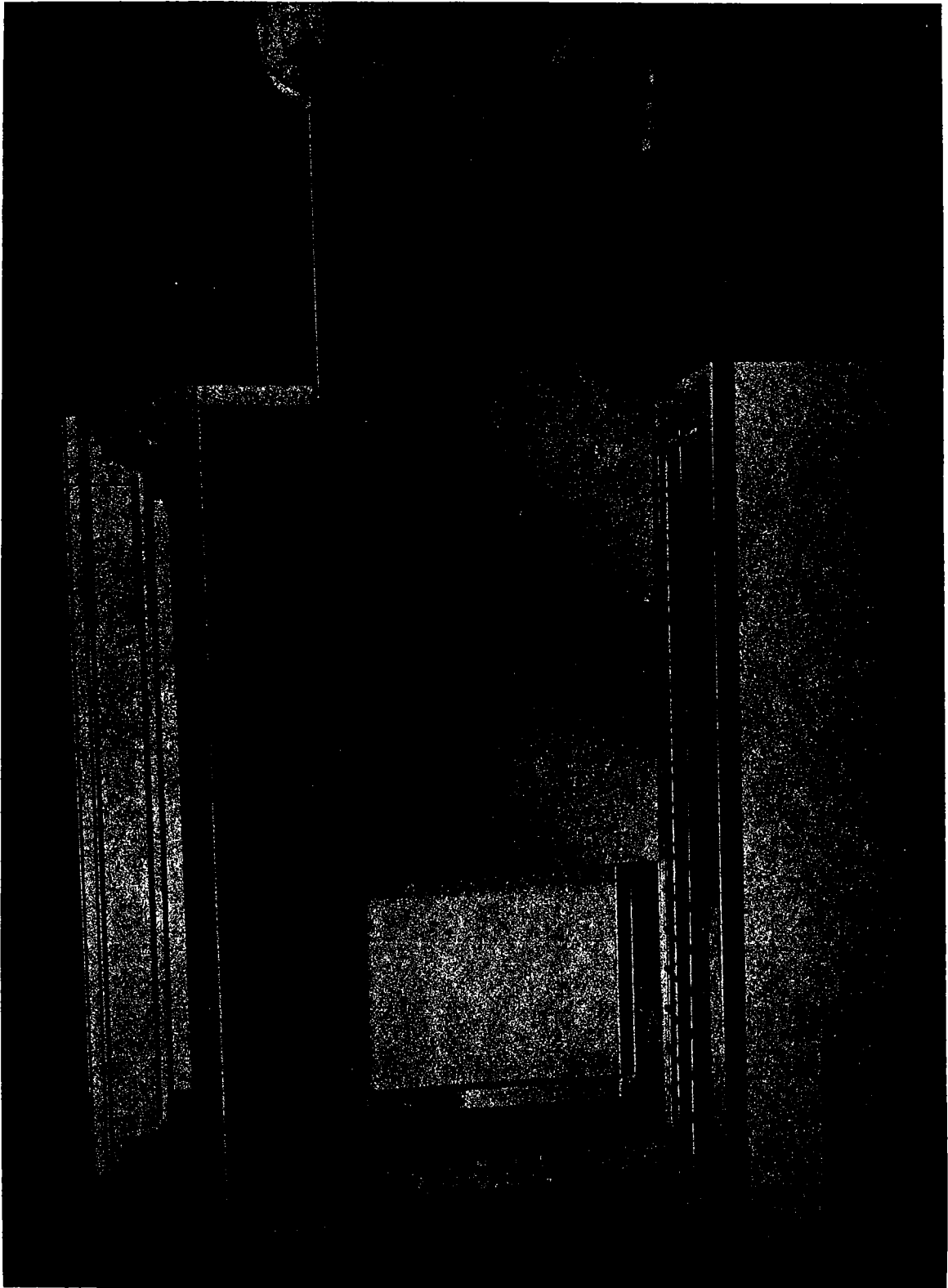


FIG. 14

REMOVING OUTER STORAGE BIN ACCESS PANEL

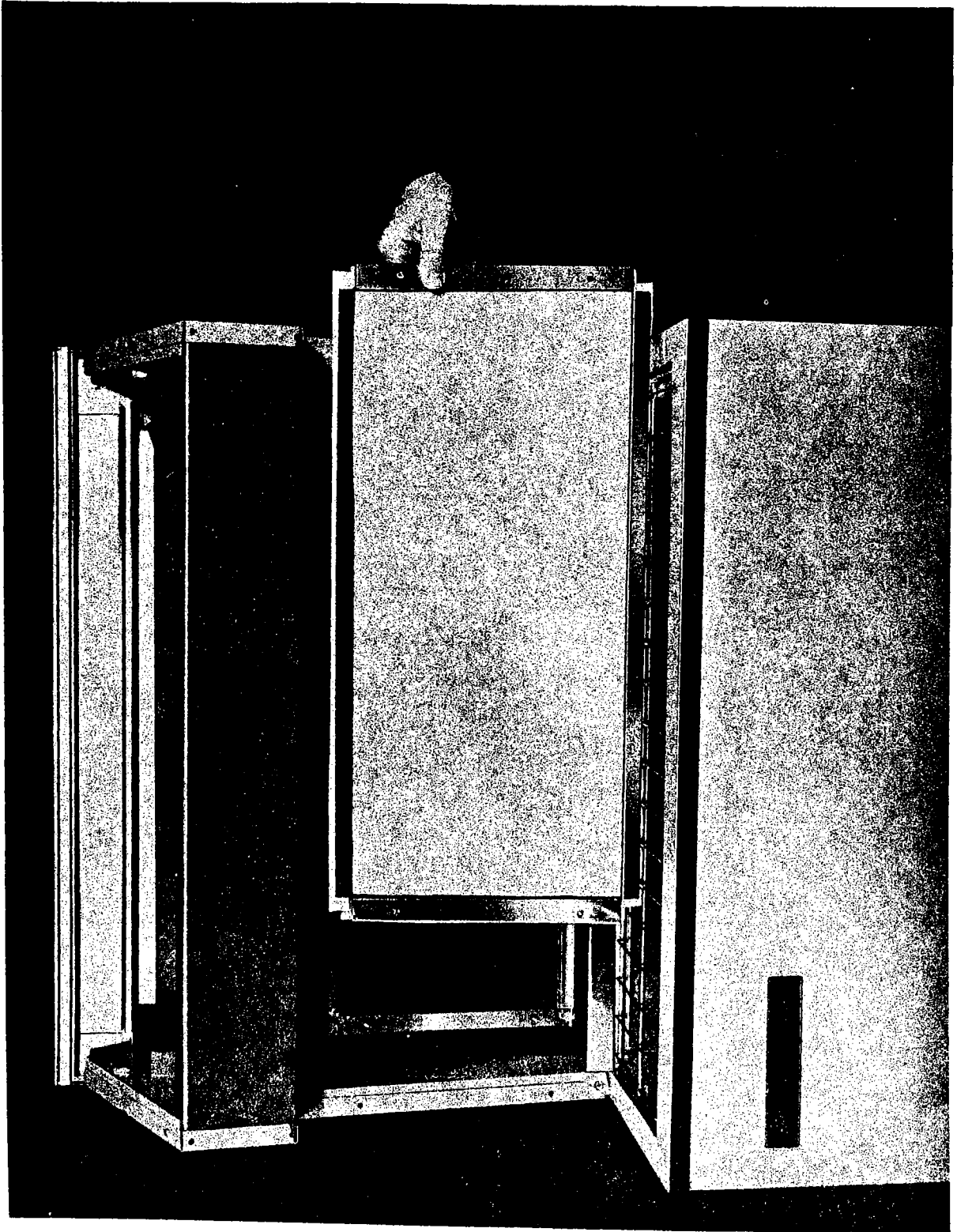


FIG. 15
REMOVING INNER STORAGE BIN ACCESS PANEL

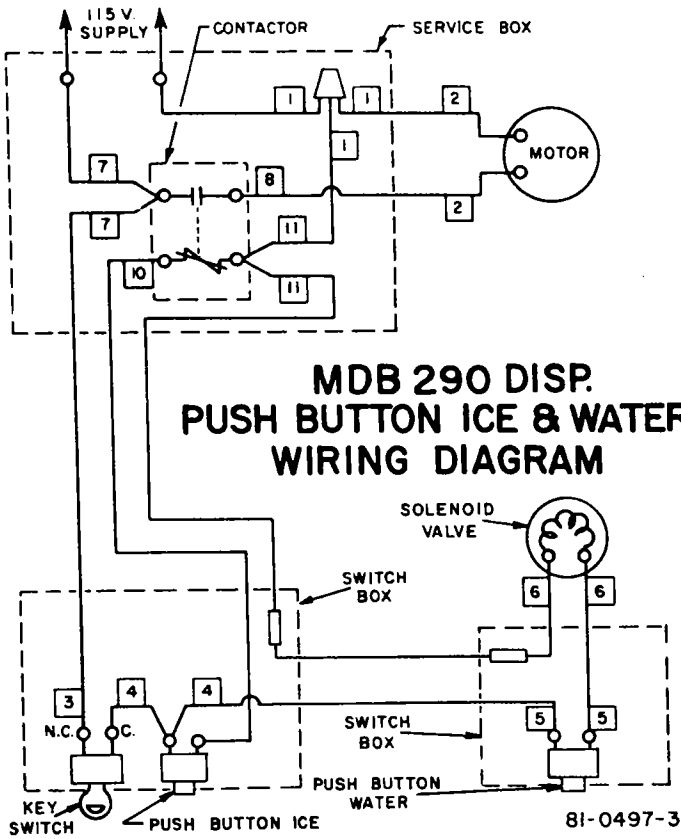


Fig. 16

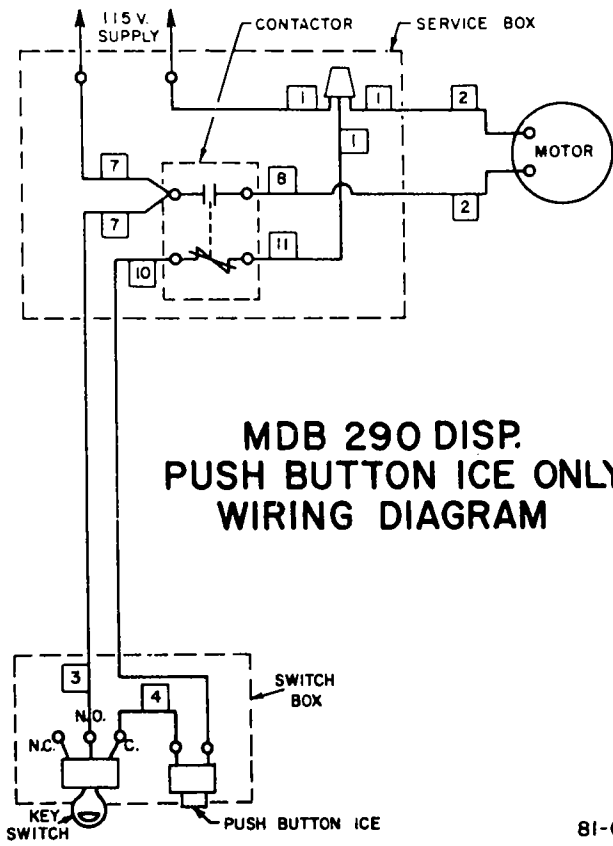


Fig. 17

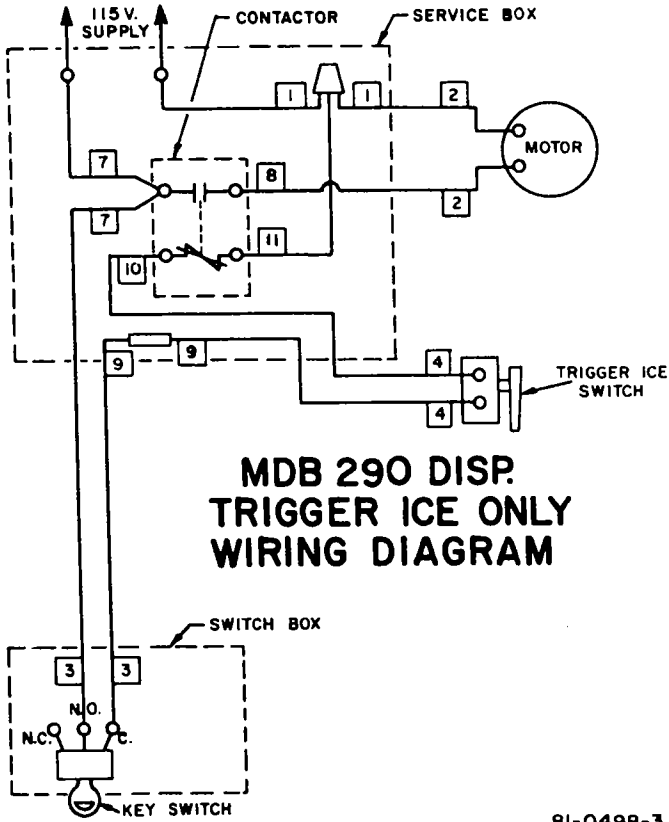


Fig. 18

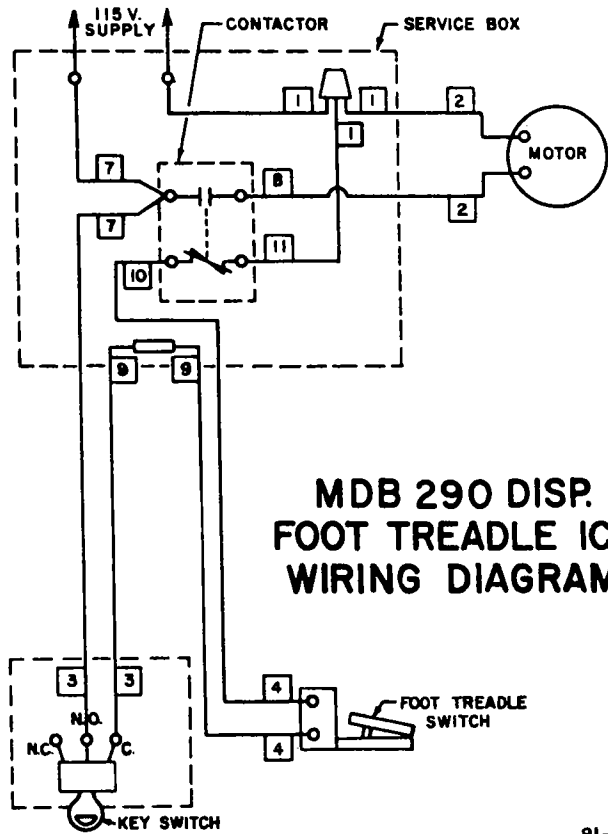


Fig. 19

SERVICE ANALYSIS

Complaint	Cause	Corrective Measures
Will not dispense ice	Power off	Check main switch, fuses and wiring.
	Defective push button or trigger	Check and replace if necessary
	Drive belt slipping	Check and replace
	Motor defective	Replace
Drive motor operates but auger doesn't.	Belt slipping	Replace
	Drive chain broken	Replace
Water will not operate	Defective solenoid	Replace
	Power off	Check power at water switch.
	Water line plugged	Check and clean.
	Defective switch	Replace

SERVICE AND PARTS PROCEDURESOrder and Pricing Procedure

All replacement parts for the Manitowoc ice machine equipment are to be ordered directly from the factory; however, any distributors or dealers who may be interested in stocking replacement parts for the machines they sell, in order to provide their customers with a prompt and efficient service, may purchase these parts with the understanding that, any time they feel they have parts they no longer need or feel they no longer want to carry replacement parts, they are to notify the factory's Parts Department as to which parts they wish to return

Upon receipt of this listing, we will immediately send them written authorization to return these parts; and upon receipt of these parts, full credit will be issued. There will be no charge for restocking these parts. Of course, credit can only be issued if the parts are returned in a new and unused condition.

When placing your order, be sure to do as follows:

1. Print name and address plainly.
2. If special routing is requested, please show the name of the carrier.
3. Indicate quantity desired, print catalogue part number plainly and print name as shown in the catalogue.
4. Indicate model and serial number of the unit. The complete serial number is needed.
5. If uncertain as to the proper part number, please give a complete description or sketch of the part and the location of the part which is needed.
6. Check to see that all required information is contained in your order to facilitate prompt shipment.

All replacement parts are shipped from the factory on a f.o.b. Manitowoc basis. It is company policy to bill for all field replacement parts, according to terms as specified by our Credit Department.

All parts orders will be honored by the factory and will be billed according to our parts list schedules.

Parts which are covered by our warranty policy are to be returned to the factory for credit, transportation charges prepaid. Upon receipt of these parts here at the factory, they will be inspected; and if they are found to be defective, in material and workmanship, under normal use and service, credit will be issued.

Ice Machine and Bin Warranty

From the date of original installation, we do hereby warrant each new Ice Machine and Bin to be free from defects in material and workmanship, under normal use and service, for a period of one year, and four additional years on the hermetic motor compressor in the Ice Machine.

Our obligation under this warranty is limited solely to correcting or replacing without charge at the factory in Manitowoc, Wisconsin any part or parts of this equipment which shall have been returned, transportation prepaid, and which our examination discloses to our satisfaction to be defective.

This warranty does not apply to any equipment that has been damaged by flood, fire, or suffered abuse, misuse, neglect or accident, or to any Ice Machine which has been altered so as to affect performance or reliability, except where such alteration has been accomplished with our prior written consent.

We further limit this warranty in that we shall not be held liable under this contract for any special, indirect, or consequential damages whatsoever resulting from any defect in material and workmanship which interferes with the normal use and service of such Ice Machine and Bin.

This warranty is a complete and exclusive statement of all terms of the agreement between the Manitowoc Equipment Works and the owner of the equipment, and all representations of the parties. This agreement shall not be varied, supplemented, qualified or interpreted by any prior course of dealing between the parties or by any usage of the trade.

Sales are made on the express understanding that there are no express or implied warranties other than the express warranty herein contained and that there are no implied warranties that the goods shall be merchantable or fit for a particular purpose other than the expressed one year and five year warranty set forth above.

To validate this warranty, the registration card must be signed on the date of installation and mailed promptly to the Manitowoc Equipment Works, Manitowoc, Wisconsin.

DEALER _____

INSTALLATION DATE _____

MANITOWOC EQUIPMENT WORKS
Div. of THE MANITOWOC COMPANY
2110 South 26th Street
Manitowoc, Wisconsin 54220

Transportation companies are responsible for damage in transit as all shipments are tendered to them in good condition; and our responsibility ceases upon receipt of a signed bill of lading from the carrier. If the shipment arrives in a damaged condition or is short, the delivering carrier should be notified immediately.

Return of Defective Parts

All defective parts returned to the factory, transportation prepaid, must be tagged with a return material tag properly filled in. It is especially important that the cabinet serial number be secured and recorded on the tag, securing as much information as possible about the nature of the defect to prevent any delays in issuing credit. All parts should be returned as they are removed from the cabinet and not mutilated or tampered with. The return material tags are provided on a no-charge basis by the factory upon receipt of your request.

Our warranty and protection plan does not apply to cabinets that are not registered; therefore, it is necessary that, upon completion of the installation of the cabinet, the registration card be signed on the date of installation and mailed promptly to the factory Service Department in order for the cabinet to be registered.

Return of Hermetically-Sealed Units

Extreme care should be used in servicing the hermetically-sealed mechanism. It is important that the trouble be correctly determined before the unit is changed. Be sure it is not the control, relay, or overload causing the trouble. The defect must be listed on the return material tag.

The inoperative assembly should be returned to the factory, freight prepaid, making certain that all service valves and tubing are sealed properly so as not to let in dirt, air, or moisture into the system. After inspection of the returned hermetic mechanism, if it has been determined that the reason for failure is the result of defective workmanship and material, credit will be issued. If a returned hermetic mechanism is found, after inspection, not to be defective, it will be returned to the sender, along with the necessary charges to cover the inspection, handling, and freight. Credit will not be allowed for defective mechanisms damaged from improper packaging or handling.

Return of Complete Machines

No complete machines may be shipped back to the factory for repairs without first securing prior permission from the factory. If an unauthorized shipment is received at the factory, it will be refused by our warehouse and immediately returned to the sender. Upon receipt of your request to return a cabinet, if we feel that your request is legitimate, you will be sent an authorized return label authorizing you to return this cabinet to the factory freight prepaid.

Service and Labor Charges

In accordance with our warranty and protection plan, which is included in each cabinet, this protection plan provided is available only through distributors and dealers who will be solely responsible for service and labor charges.