Instruction Book 83900A

Supersedes 83900

SERIES MERCURY ARC RECTIFIER

GENERAL ELECTRIC COMPANY

SCHENECTADY, N. Y.

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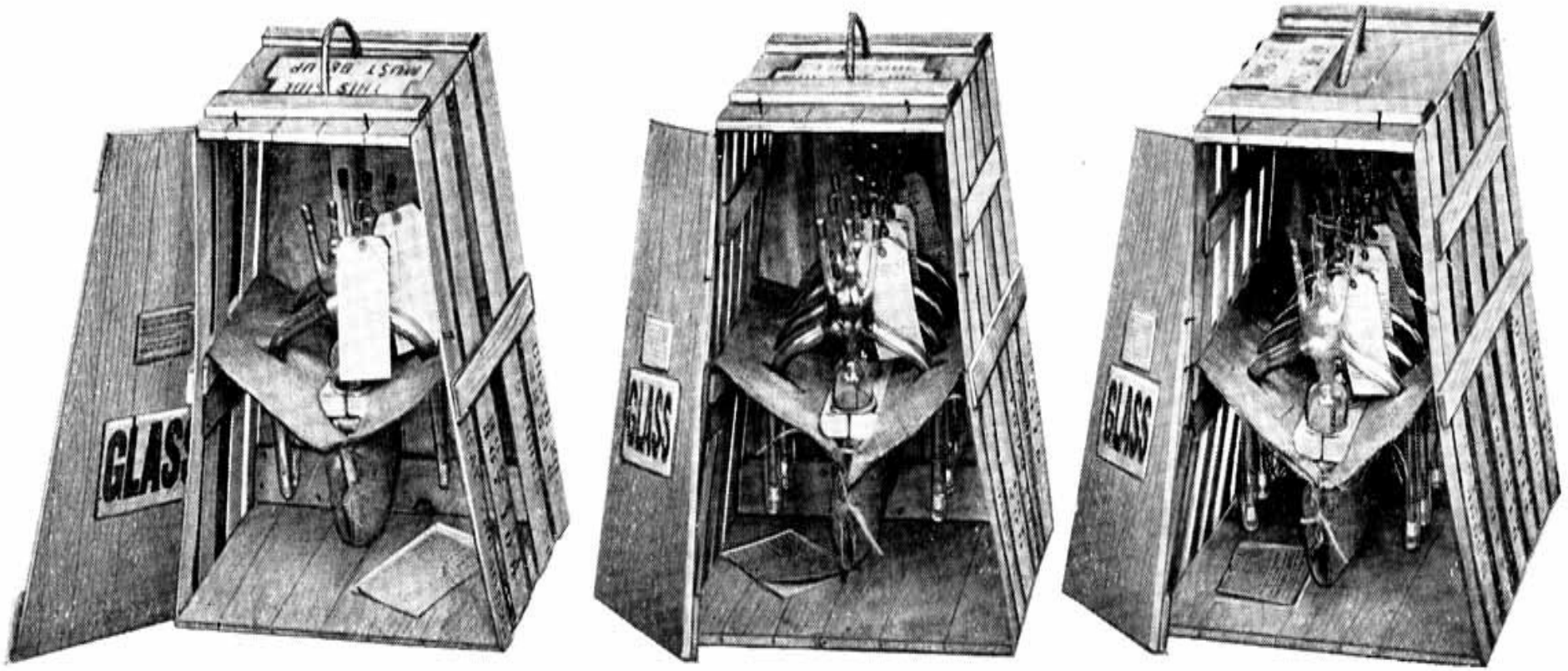

Fig. 1. Shipping Crates for 2, 4, and 6 Mercury Arc Rectifier Series Tubes

MERCURY ARC RECTIFIER TUBES

This book covers the examination, inspection, testing, adjustment, and operation of mercury arc rectifier tubes and must be carefully read before any manipulation is attempted.

When the tube is received:

FIRST

Examine the Crate and Contents. If the crate and contents are broken, receipt for same "Received in damaged condition" and enter claim for damages against the transportation company.

If any tube is found defective, the General Electric Company will replace it, if information is immediately sent to the nearest General Electric Company's sales office. Shipping directions will then be furnished to the customer. Tag number 496 (attached to the tube) should be filled out completely and returned with the tube to the address given by the nearest office.

SECOND

Inspect and Test Immediately. Series tube crates, see Fig. 1, are opened by removing the screws which hold the end in the carrying crate. Remove end, the two wing nuts, and clamp holding the tubes in the burlap, after which the tubes can be removed.

Multiple tube crates, see Fig. 2, should be very carefully turned on end to remove screws, and the crate then returned to the upright position.

Remove the end of the crate, untie the two strings holding the tube to the burlap and loosen same, carefully removing the tube from the crate.

Spare tubes should be stored, after testing, in their shipping crates if no good closet is available. In case of any desire to reship tubes the regular shipping crates should be used.

EXAMINATION OF TUBE

Examine the tube for vacuum by running the mercury down into the cathode and starting anode arms. If the vacuum is gone, bubbles of air will rise up through the mercury. Run the mercury back into the condensing chamber. If the vacuum is good, a metallic click is invariably heard. If the vacuum is gone, repack the tube without further test, properly *filling out the tag*, and write to the nearest General Electric Company's office for shipping directions.

TESTING OF TUBE

All tubes should be immediately tested generally as called for in the Instruction Book supplied with the rectifier equipment.

Series tubes must be tested and dried out by running on short circuit. After this test they must be kept in an upright position. Mercury must not be allowed to run into the anode arms. If the tubes will not operate on short circuit, fill out the tag attached to the tube and request directions for its return to the Company. If they operate

on short circuit, they must be included in making up average hours' life of tubes which fail during the usual adjustment period.

In case of dissatisfaction on multiple tubes, no adjustment will be entertained after the tube has been in the customer's possession

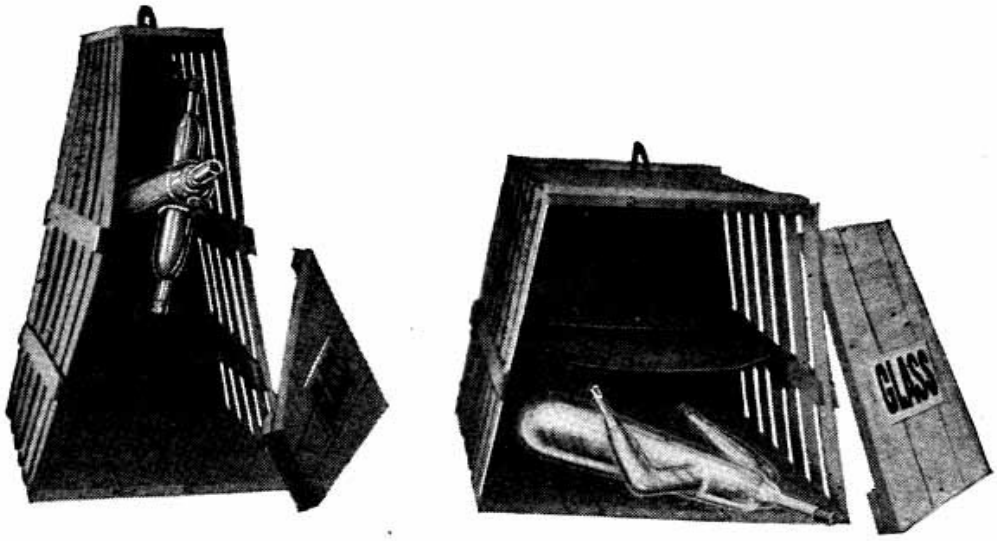

Fig. 2. Shipping Crates, Spring Type for Multiple Mercury Arc Rectifier Tubes, Crate Opened and Tube Partially Removed

over one year. These terms can be easily met by placing the tube in service when received, holding the old tube as a spare. It is very seldom that an adjustment is found necessary.

ADJUSTMENT

Before any adjustment will be made, the tube or tubes with tag properly filled out must be returned to the Company as directed by the nearest office of the General Electric Company.

In addition to the above, on series tubes a report should be sent in on our Form 10517 or similar form giving details of operation.

CAUTION

Mercury must not be thrown violently around in the tube, as it is very liable to damage it.

Care must be taken that no water or other liquid or cold object shall come in contact with the hot glass while the tube is in service, as if the glass is chilled locally, stresses will be set up which are liable to crack the glass.

The brass tube terminals and clips should be kept bright and clean, also the switches on multiple panel boards, especially the starting switch, must be occasionally lubricated with vaseline so that it does not stick. Tubes must operate in a vertical position in the holder.

When operating motion-picture machines the operator must not allow the electrodes of the lamp to remain close together, as this will cause overheating and short life of the tube.

Further information will be supplied on application to the nearest office of the General Electric Company.