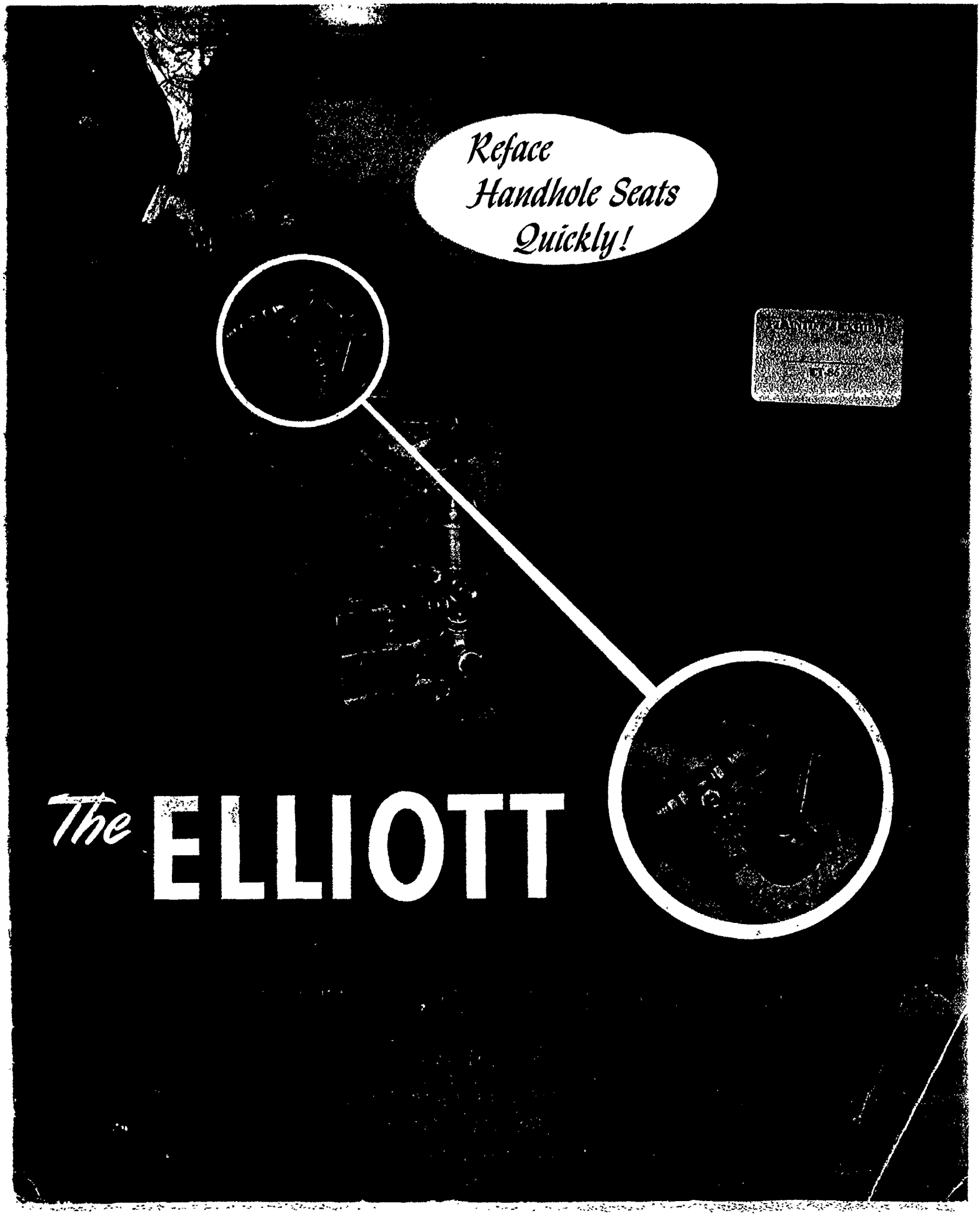
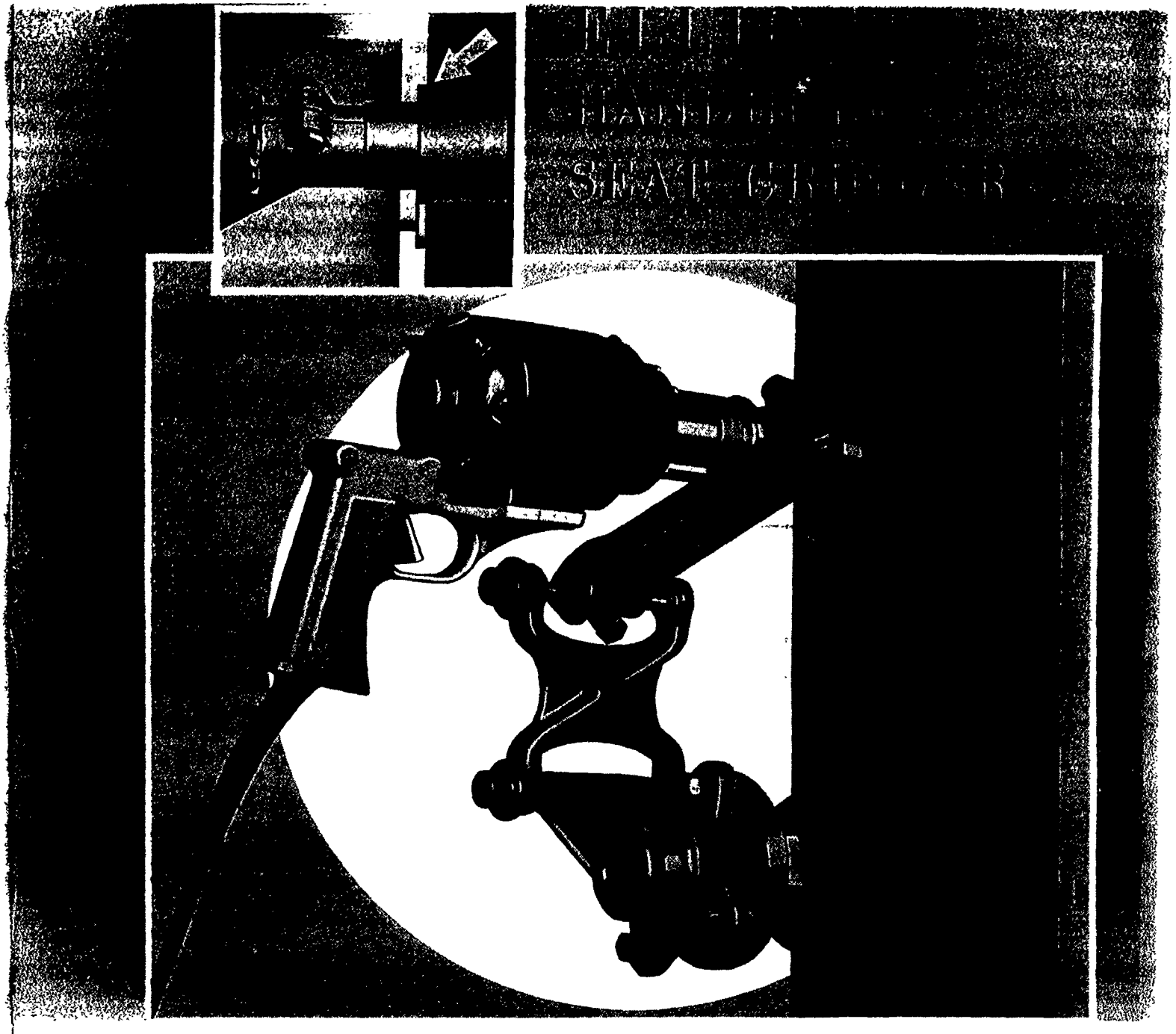

Reface
Handhole Seats
Quickly!
The ELLIOTT



This automatic handhole seat grinder solves a serious boiler room maintenance problem. Faulty seating of plugs in the handhole openings in the headers of boilers for access to the generating, waterwall, superheater, and economizer tubes, causes leaks to develop when the plugs are replaced after having been removed for boiler inspection, cleaning, or repairs. The metallic gasket rusts and portions may adhere to the seat. Seats become scarred from contact with tools. When units are put back into service and the plugs are pulled up tight using gaskets on uneven or badly scarred seats, steam leakage wire-cuts the seats.

Hand filing the seats is an extremely slow operation and the use of a hand-held motor-driven grinder results in uneven seats due to the difficulty of keeping the grinding wheel operating in one plane.

The Elliott handhole seat grinder provides easy, fast, and accurate resurfacing of handhole seats of all sizes and shapes. It takes the grief out of a mean, time-consuming operation and does a precision job on internal, hard-to-reach seats, impossible by hand methods. The grinder is a carefully engineered piece

of equipment, designed to hold a grinding wheel in one plane, while permitting its free movement in that plane.

The unit is set up for use by threading a face plate to a handhole plate stud of an adjacent handhole. An adjusting plate is screwed to the face plate on a ball joint, and adjusted by four leveling screws. This plate rigidly controls the alignment of the grinding wheel relative to the seat face. The grinder can be set up to work at any angle.

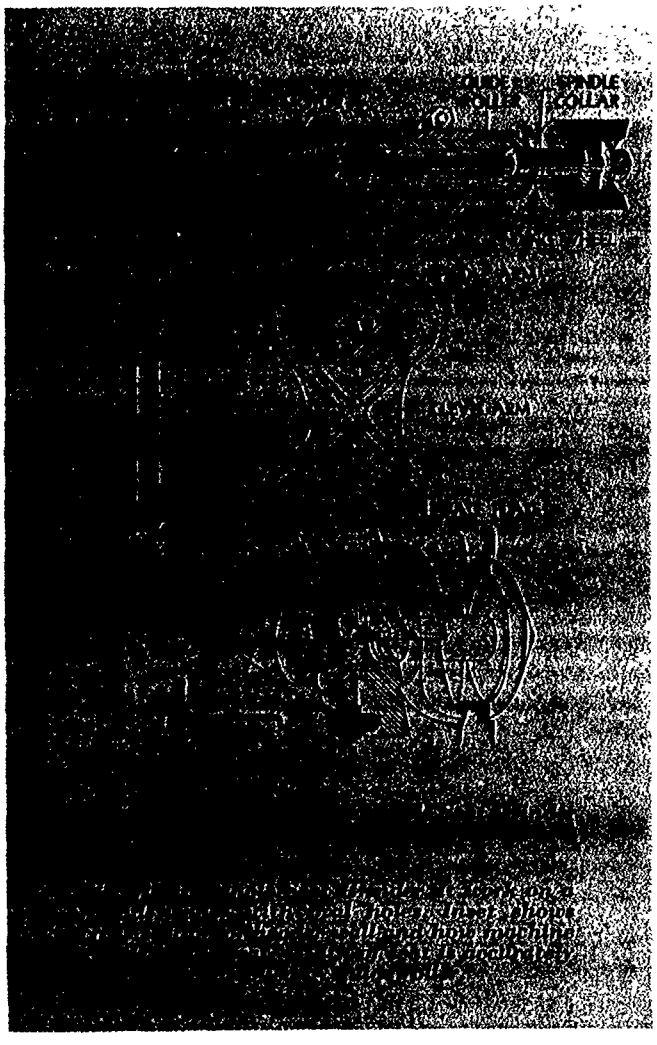
In a unit of this nature there would normally be the possibility of end-play in clevis bearings. However, this possibility is eliminated by providing adjustable point clevis bearing spindles. As wear occurs, centers can be advanced to relative tightness and locked in the new position. By this means the alignment of the grinding spindle is rigidly maintained.

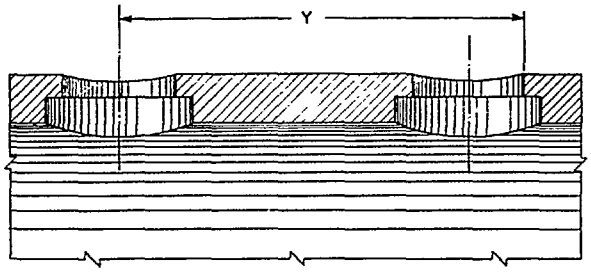
The width of the seat to be ground is controlled by a guide roller on the spindle housing, which bears against the side of the handhole. Guide rollers can be supplied in four diameters and four different diameters of grinding wheels are available. Adapters for ¾-in. and 1-in. handhole studs are furnished. A convenient spacer on the grinding spindle is used to adjust the level of the grinding wheel for various thicknesses of headers.

Handholes of any shape can be ground. Any handhole within range of the unit can be faced with a single setting. In case the reach is greater than 11½ in., an extension link can be furnished as extra equipment. See below and illustration on next page.

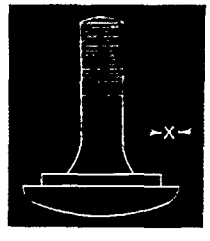
The Elliott handhole seat grinder is driven by either an air or an electric motor. The drives are interchangeable.

In the air-driven model, the motor is an Elliott standard "600 series" tube cleaner motor which is operated with compressed air at 80- to 100-psi pressure. The motor is enclosed in a detachable housing and drives the spindle through a self-aligning slip coupling. The backing off of one nut permits the removal of grinding wheel and spindle assembly when it is necessary to change guide rollers.





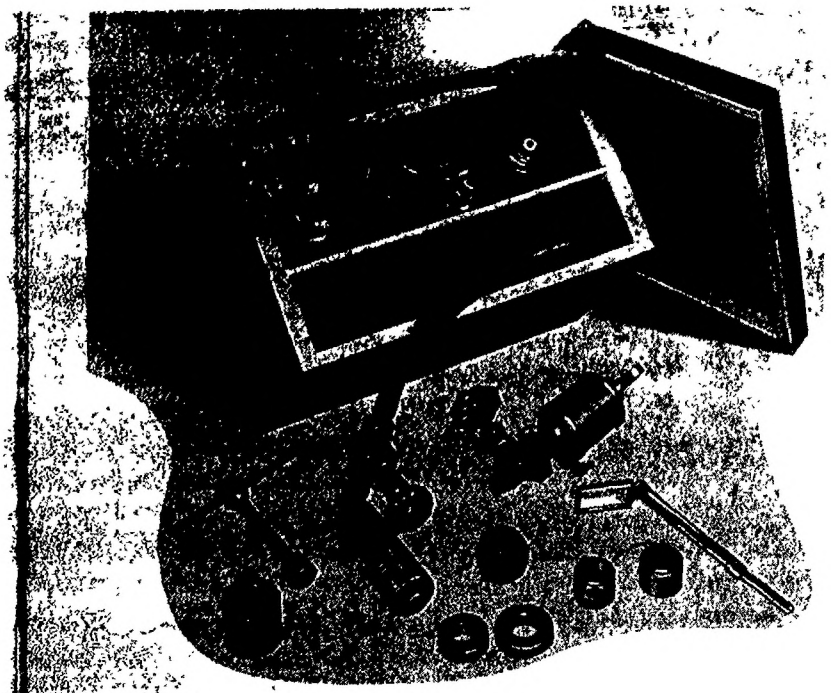
Specify dimension "Y". If more than 11½ in. the extension link, illustrated on the following page, must be ordered as extra.



SPECIFY WHEN ORDERING

Either give dimension "X" or pick the correct guide roller and diameter wheel from the tabulation below. If more than one width of seat is to be ground order additional guide rollers and grinding wheels as extras.

Width "X"	Wheel Dia.	Guide Roller	Width "X"	Wheel Dia.	Guide Roller
3/16"	2"	No. 10	7/16"	2½"	No. 10
7/32"	2"	No. 11	15/32"	2½"	No. 11
¼"	2"	No. 11X	½"	2½"	No. 11X
9/32"	2"	No. 12	17/32"	2½"	No. 12
5/16"	2¼"	No. 10	9/16"	2¾"	No. 10
11/32"	2¼"	No. 11	19/32"	2¾"	No. 11
3/8"	2¼"	No. 11X	5/8"	2¾"	No. 11X
13/32"	2¼"	No. 12	21/32"	2¾"	No. 12



Air-driven Handhole Seat Grinder in carrying case, which is furnished complete with shoulder strap. Shown in foreground, besides the motor in housing and lubricator, are grinding wheel, T-wrench, two spacers, cup brush, two extra guide rollers, and viewing mirror.

The electric-driven machine incorporates a special high-speed, 110-volt universal motor which has a trigger handle mounted on it. The switch can be locked in the "on" position and released by a quick pull of the trigger.

The grinding wheel is interchangeable with a wire brush for *cleaning* gasket seat surfaces which require no refacing, or for cleaning before refacing. For this operation the grinder is used as a detachable hand-held cleaning tool, which, as a power-driven brush, can serve a variety of cleaning purposes.

The complete outfit for this handhole seat grinder includes one coarse grinding wheel, one fine grinding wheel and one guide roller for the width of seat specified; also, a cup-type wire brush, a stud adapter, a plastic mounted viewing mirror, wrenches, and in the case of the air-driven machine, air hose and a sight-feed lubricator. The complete outfit, fitted into a special case, with shoulder strap for carrying, weighs only 25 pounds.

The Elliott handhole grinder provides a means for finishing with precision and speed a job which has long been an inaccurate and time-consuming operation. An intelligent operator quickly masters its operation, learns to level it off properly, and is delighted with the perfectly smooth, accurate finish of the handhole seat.

The cost of the unit is easily recovered in the time saving gained in a single application where expensive and needed equipment is shut down. Already proved in service in many plants and aboard ships, an example might be cited. A man who had spent more than a day in satisfactorily refacing a single handhole in a marine economizer by hand methods, was able with the Elliott handhole grinder to reface 14 badly cut handholes in a similar marine economizer in five hours.



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