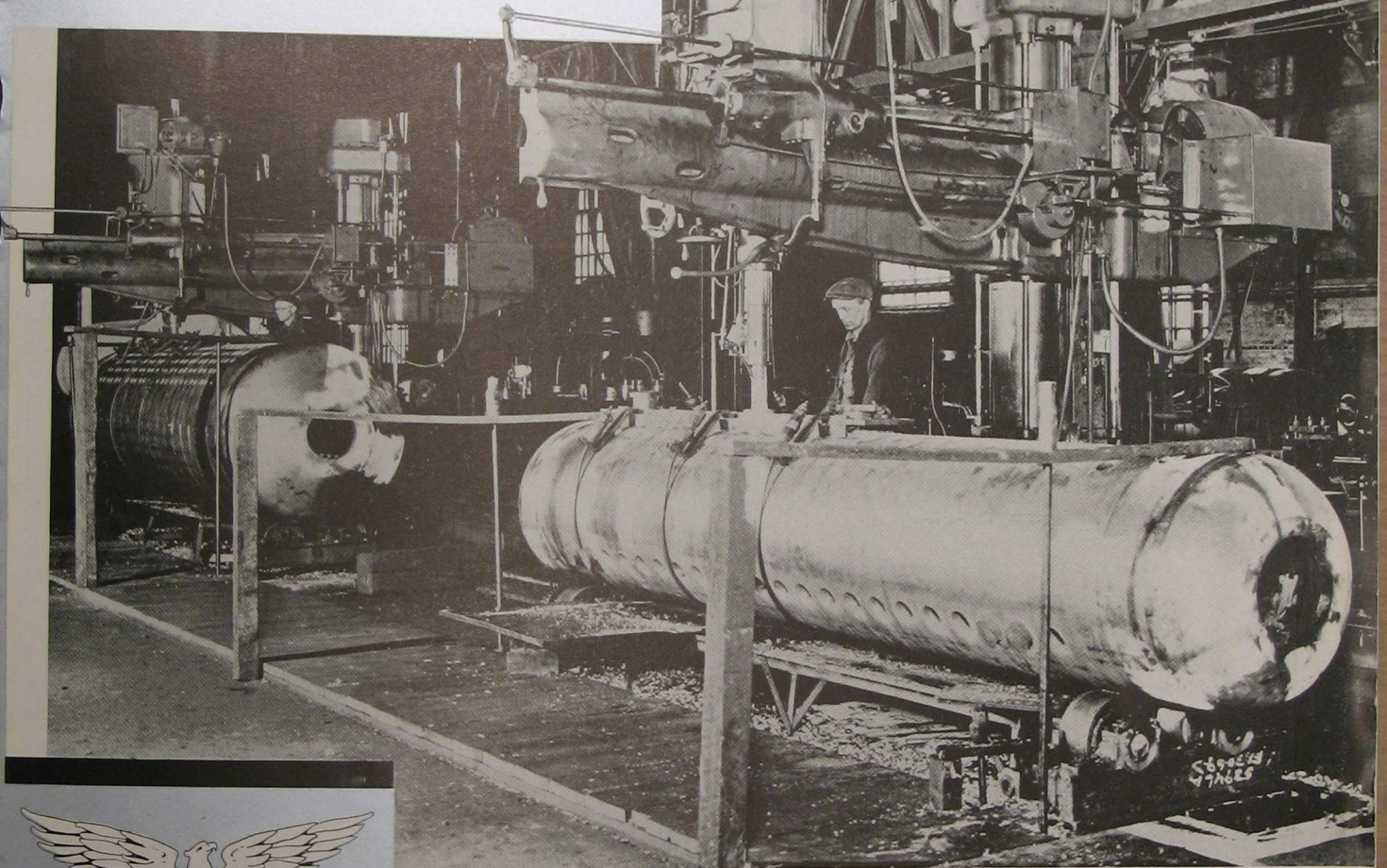


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"AMERICAN" TRAVERSING RADIALS

BULLETIN 378



Economy frequently demands that the machine be moved
to the work instead of moving the work to the machine

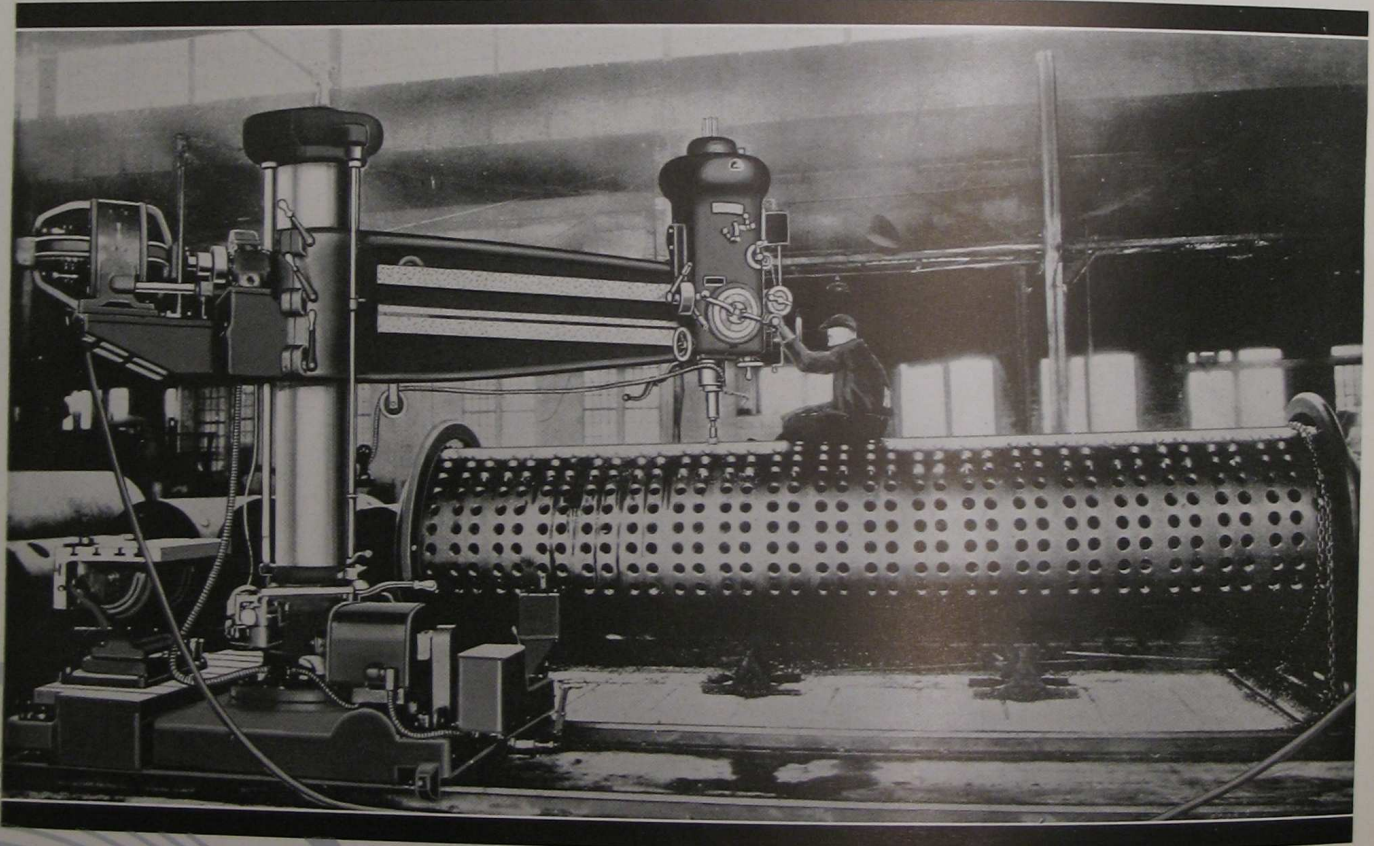
THE AMERICAN TOOL WORKS CO.
LATHES • RADIALS • SHAPERS
CINCINNATI, OHIO, U. S. A.

"American" Traversing Radials are built in two distinct types—the truck type, which consists essentially of a radial drill mounted on a truck which travels back and forth along a railroad track either by hand or power, and the bed type, consisting of a radial drill mounted on a saddle, which in turn moves back and forth along a stationary bed by power.

The purpose of the traversing radial is obviously to move the drill to the work instead of moving the work to the drill. On some classes of work a tremendous saving can be effected by the traversing radial especially where the work is either too heavy or too cumbersome to move economically. In many boiler shops, structural steel shops, Diesel engine plants, and the like, the traversing radial is indispensable to low cost drilling, tapping, reaming and boring operations.

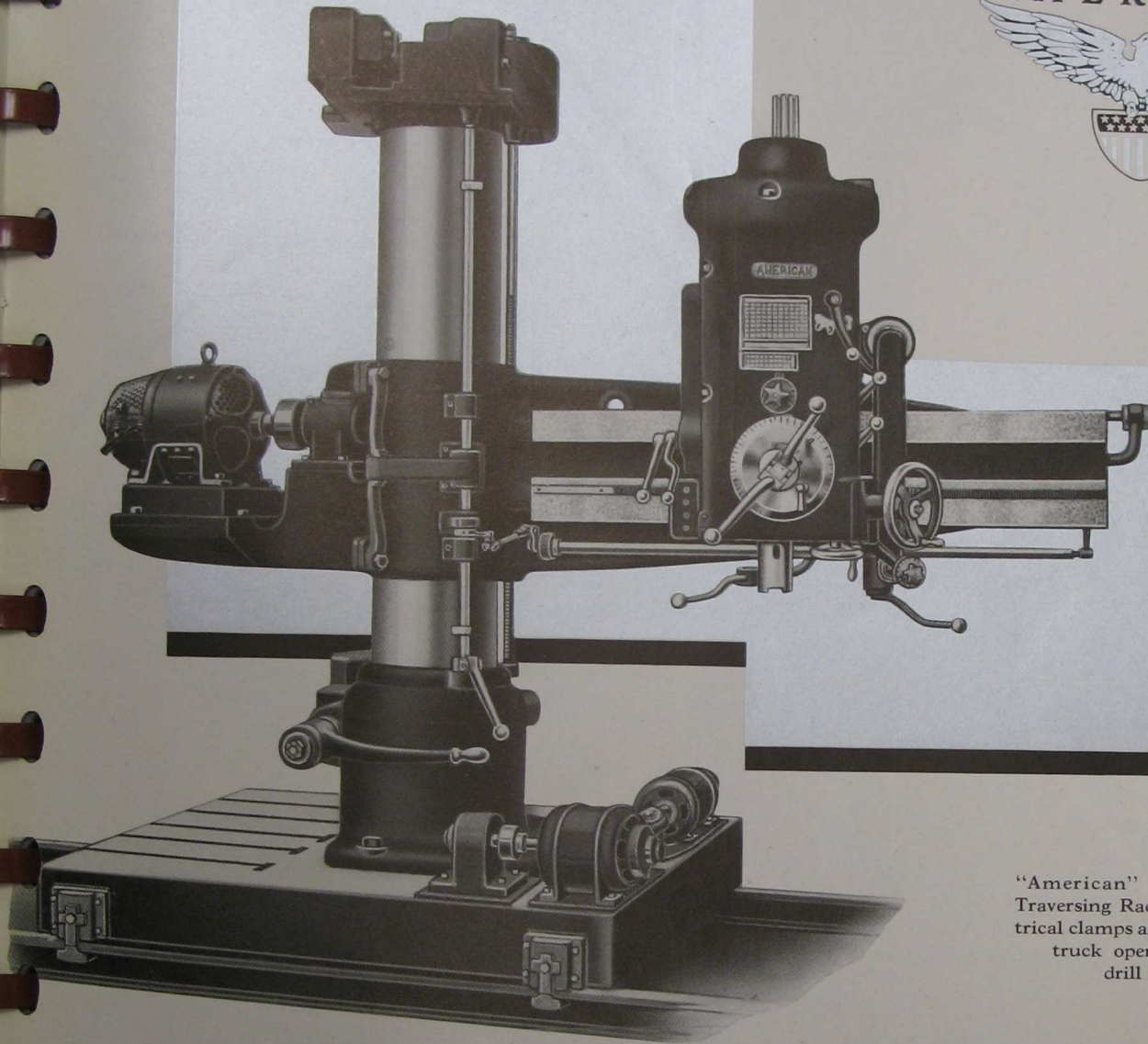
It is not always easy to decide which of these two types of traversing radials is the better suited to the work in mind. The advantages and adaptability of each type should be studied before reaching a definite decision, although in a general way the boiler manufacturing shop and structural steel plant may be considered the logical field for the truck type which operates along a track, while the Diesel engine manufacturer and manufacturing plants having large castings to machine are more likely to find the saddle type mounted on a long bed plate better adapted

"A M E R I C A N"



"American" Truck Type Traversing Radial drilling, trepanning and reaming $3\frac{9}{32}$ -inch holes from the solid in boiler drums—elapsed time per hole, $1\frac{1}{2}$ minutes.

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"American" Truck Type Traversing Radial with electrical clamps and traverse for truck operated from drill head.

to their work. There is no question but that for drilling and tapping large holes, for boring, stud-driving and spot-facing the saddle type is preferable to the truck type, owing primarily to the greater degree of rigidity offered by the saddle mounting on the bed plate. For drilling, reaming and tapping holes in boiler plates, metal sheets and structural shapes the truck type affords sufficient rigidity and lends itself to an unlimited range of movement at a nominal cost.

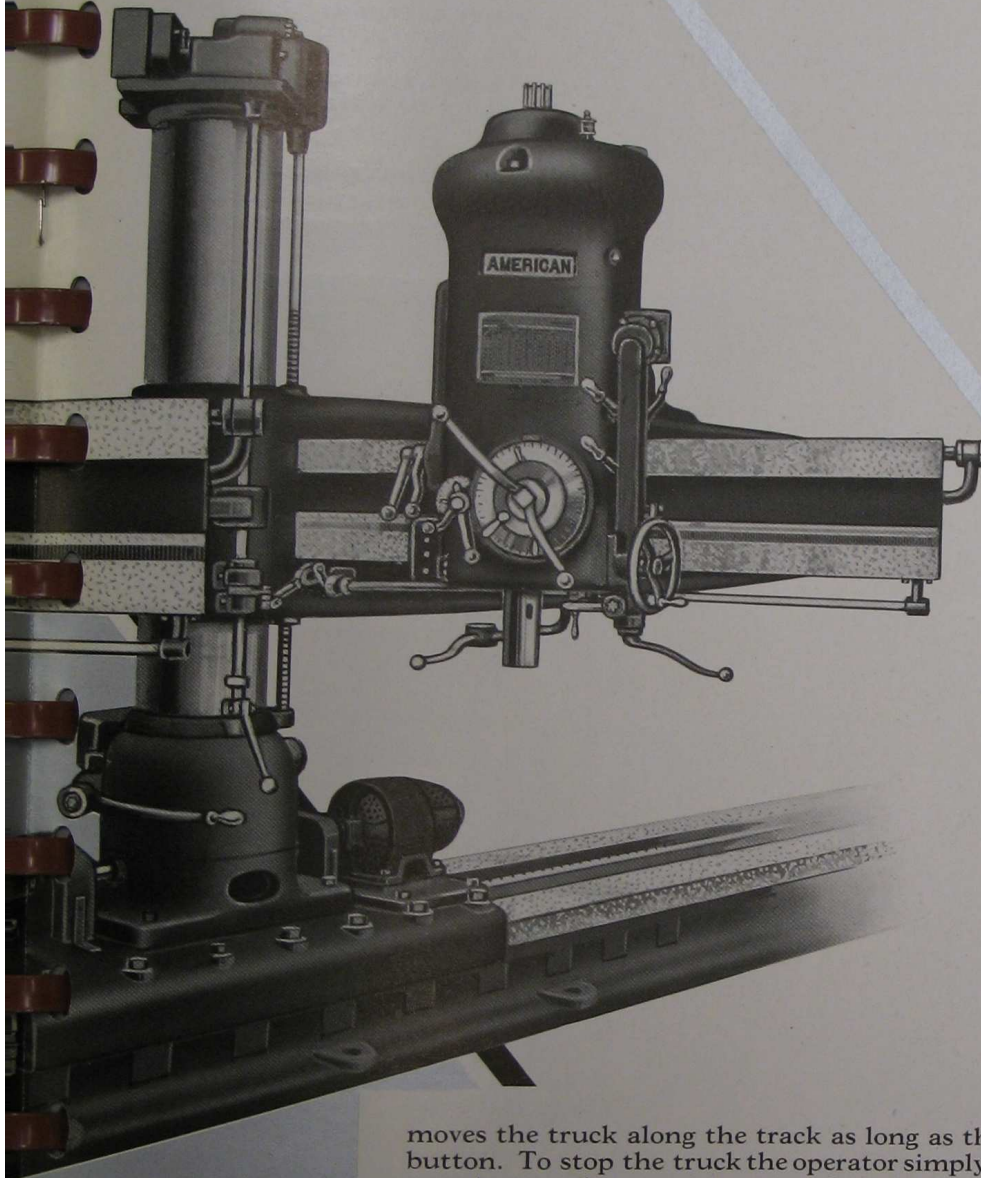
Truck Type with Power Traverse and Power Clamps

Several very decided advantages are offered by the "American" Truck Type Radial. Perhaps the most outstanding of all is the complete control of the truck from the head. Both the clamping and the traverse is accomplished thru a push button located on the head, giving the operator full control without moving from his operating position. A very novel feature of the clamping and traversing mechanisms is the manner in which they are linked together in their operation. The electric motors that operate these respective mechanisms are interlocked to produce a definite sequence of operation. When the operator wishes to move the truck he pushes the operating button. This first starts the clamp motor, which loosens the clamps, then the traverse motor starts up and



"American" Bed Type Traversing Radials with electric clamps and traverse for saddle operated from drill

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moves the truck along the track as long as the operator keeps his finger on the button. To stop the truck the operator simply releases the push button. This instantly stops the traverse motor, after which the clamp motor automatically starts and clamps the truck to the rails. The result of this action is that the truck is always securely clamped to the rails except when it is actually traveling. This not only is a valuable safety feature, as it prevents the truck from being accidentally moved, but also prevents work being done by the drill while the truck is unclamped.

The new compensating clamping mechanism now used on "American" Truck Type Radials is a decided improvement over such mechanisms used in the past. Thru an equalizing mechanism it applies equal clamping pressure on each of the four individual clamps. Also thru the use of a wedge type clamp shoe it clamps the truck solidly to the rails at each of the four corners, and takes the clamping effort off the wheels and axles. This produces a much more rigid and solid clamp for the truck than if the clamping force were applied against the wheels and axles.

electrical
drill head.

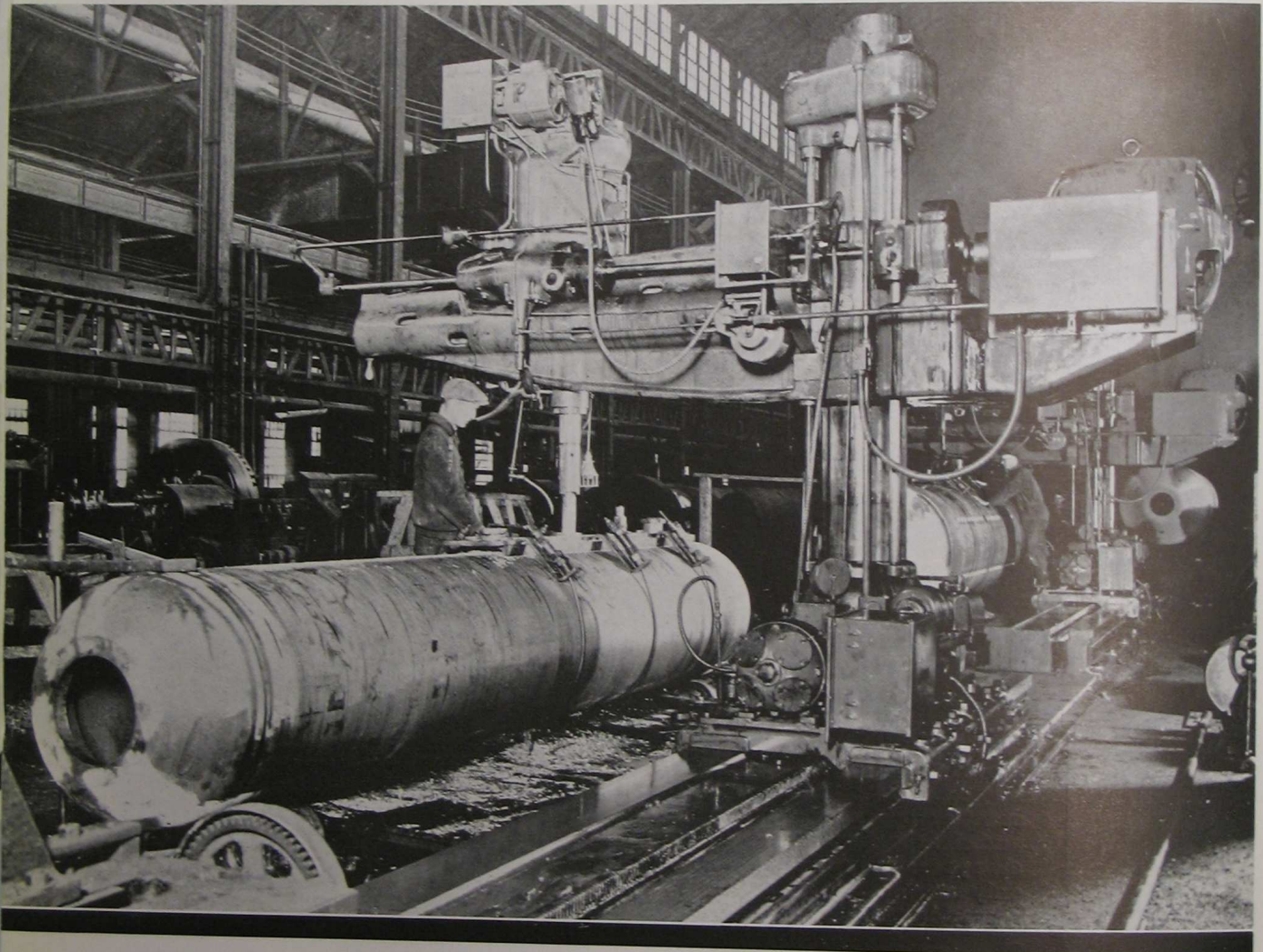
"AMERICAN"



As the illustration shows, the rear portion of the truck is planed and tee-slotted so as to be used either for mounting work directly on it or for holding a removable work table. The column is usually located about the center of the truck, although at times, for the purpose of securing a greater reach of arm at one side of the truck, the column is moved over to the edge of the truck. The wheels are tight on the axles and are made of steel castings. The axles are heat-treated, alloy steel forgings and mounted in Hyatt roller bearings. The axles are so mounted that they may be removed readily and the truck used as a base for floor mounting.

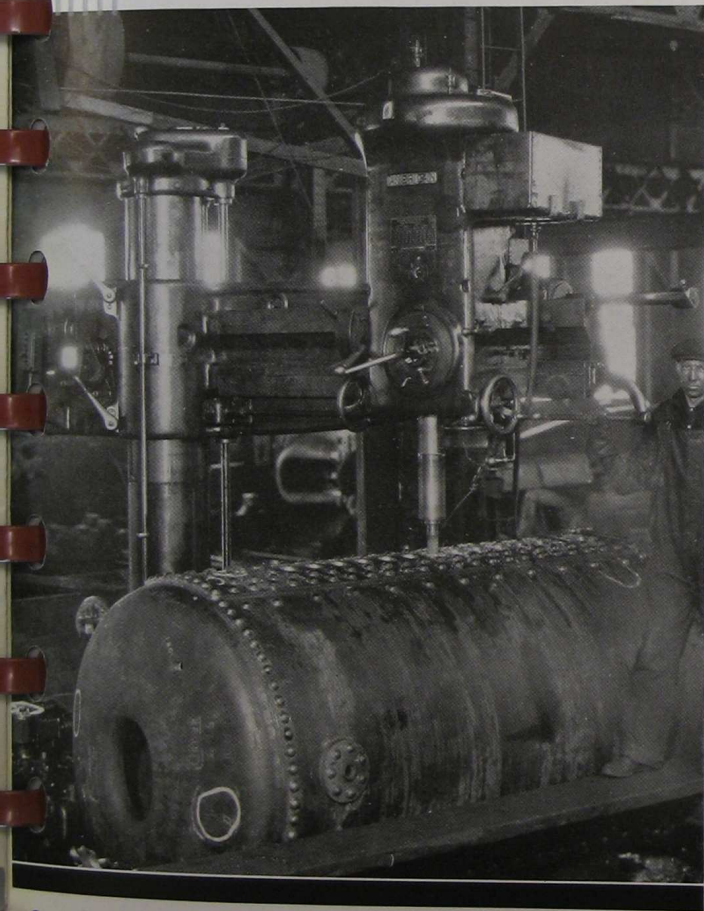
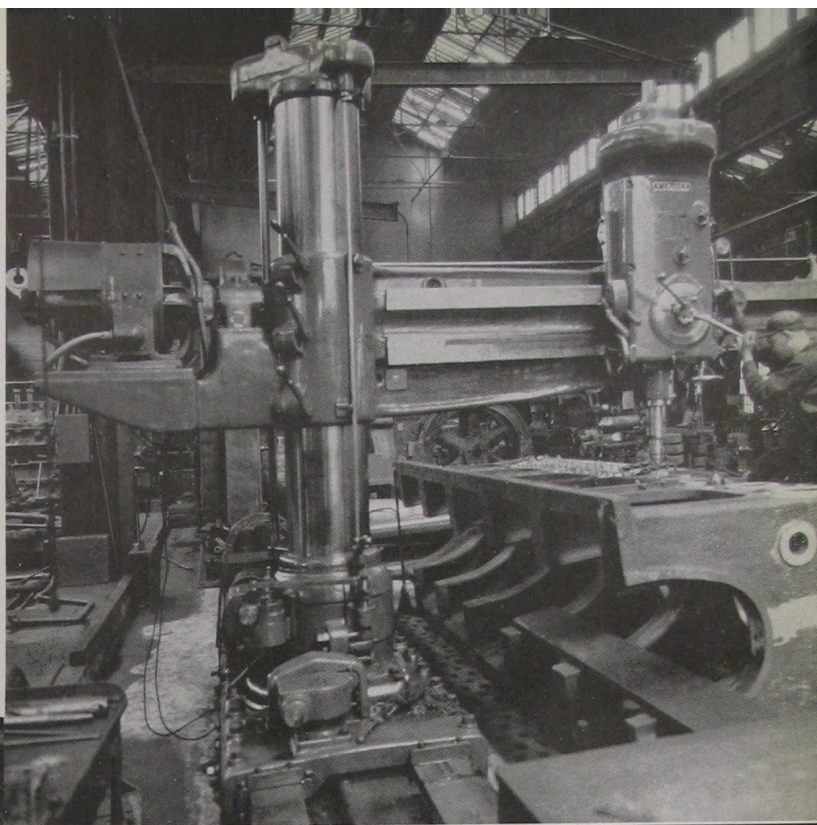
Usually these trucks are made A. R. A. standard gauge, to operate along any standard railway rail; however, either narrow gauge or wide gauge trucks within reasonable limits may be furnished.

Occasionally for purposes of economy hand-operated traverse along rails and hand clamps are desired in place of the usual motor-driven units. We are prepared to supply such manually operated trucks but do not recommend them.



Battery of "American" Bed Type—Traversing Radials—drilling 3-inch holes from the solid in high-pressure boiler drums—Bethlehem Steel Co.

"American" Bed Type Traversing Radial—drilling, boring, facing, tapping and setting studs in Diesel engine crank cases—Morris-De la Vergne Machine Co.—Philadelphia, Pa.



"American" Bed Type Traversing Radial—drilling boiler drums—Springfield Boiler Co.—Springfield, Ill.

The Bed Type Traversing Radial

This highly-efficient drilling unit was developed by this company some 15 years ago to meet a growing demand for a substantially-mounted traversing radial drilling unit capable of satisfactorily performing the more severe classes of drilling, tapping, stud-driving and boring operations. A number of these units have been installed in the most prominent electrical, Diesel engine and boiler shops, and without exception are giving excellent service.

The heavy, substantial bed upon which one or more drilling units are mounted is supplied in any length sufficient to give the travel range required by the work. These beds are usually mounted on floor plates and the work set up on both sides of the bed. When this method is employed the drill can be continuously operated. Upon completion of the work on one side of the bed the arm is swung to the work on the other side while a new set-up is made to replace the piece just finished. If the pieces to be machined are sufficiently long it may be advantageous to mount two or more drilling units on the bed. The outstanding characteristics of the "American" Bed Type Traversing Radial are substantiality and operating



convenience. The traversing saddle upon which the drill is mounted has a very large bearing area on the bed, with powerful clamps for binding it solidly to the bed when drilling. Both the clamps and the traverse along the bed are electrically operated and are controlled from the radial drill head. These units are interlocked so as to operate in sequence. When the operator wishes to move the drill along the bed he pushes the traversing button in the head. This energizes the clamp motor first, which unclamps the saddle, then after a predetermined interval sufficient to allow for the unclamping, the traverse motor starts up and moves the saddle along the bed as long as the operator keeps his finger on the traverse button. The instant he releases the push button the traverse motor stops, and the clamp motor again is energized and the clamps set. This arrangement prevents the use of

the drill with the saddle loose on the bed. It also eliminates the possibility of the operator engaging the traverse mechanism while the saddle is clamped. This is a very valuable safety feature as well as one of great convenience for the operator.

This bed type traversing radial is always furnished with electrical traverse for saddle along the bed, but occasionally the electrical saddle clamps are replaced by hand clamps. While it is possible to furnish this combination, we do not recommend it, as the saving in initial cost is insufficient to compensate for the difference in the relative efficiency of the two clamps.

The "American" Bed Type Traversing Radial is the most effective and efficient traversing radial unit ever developed, and unquestionably would prove a great cost-reducer in many shops having large and bulky pieces to machine.



Prominent users of Bed Type Traversing Radials

Bethlehem Steel Co.
 Busch Sulzer Bros. Diesel Engine Co.
 Chicago Pneumatic Tool Co.
 General Electric Co.
 I. P. Morris & De la Vergne Machine Co.
 Standard Oil Co., of N. J.
 Springfield Boiler Co.
 Titusville Iron Works

Prominent users of Truck Type Traversing Radials

American Bridge Co.
 Atlantic Coast Line Ry. Co.
 Chesapeake & Ohio R. R. Co.
 Commonwealth Steel Co.
 Dravo Contracting Co.
 Erie City Iron Works
 Hedges, Walsh, Weidner Co.
 Heine Boiler Co.
 Illinois Central R. R. Co.
 New York, New Haven & Hartford R. R. Co.
 Pittsburgh-Des Moines Steel Co.

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