"American" Rotary Table Sand Blast Rooms

HUMANE TYPE
DOWN DRAFT TYPE

Rapid, healthful, efficient means of removing sand, scale, rust, etc., producing a clean matt surface upon castings, forgings, stampings, and metal ware in great variety.

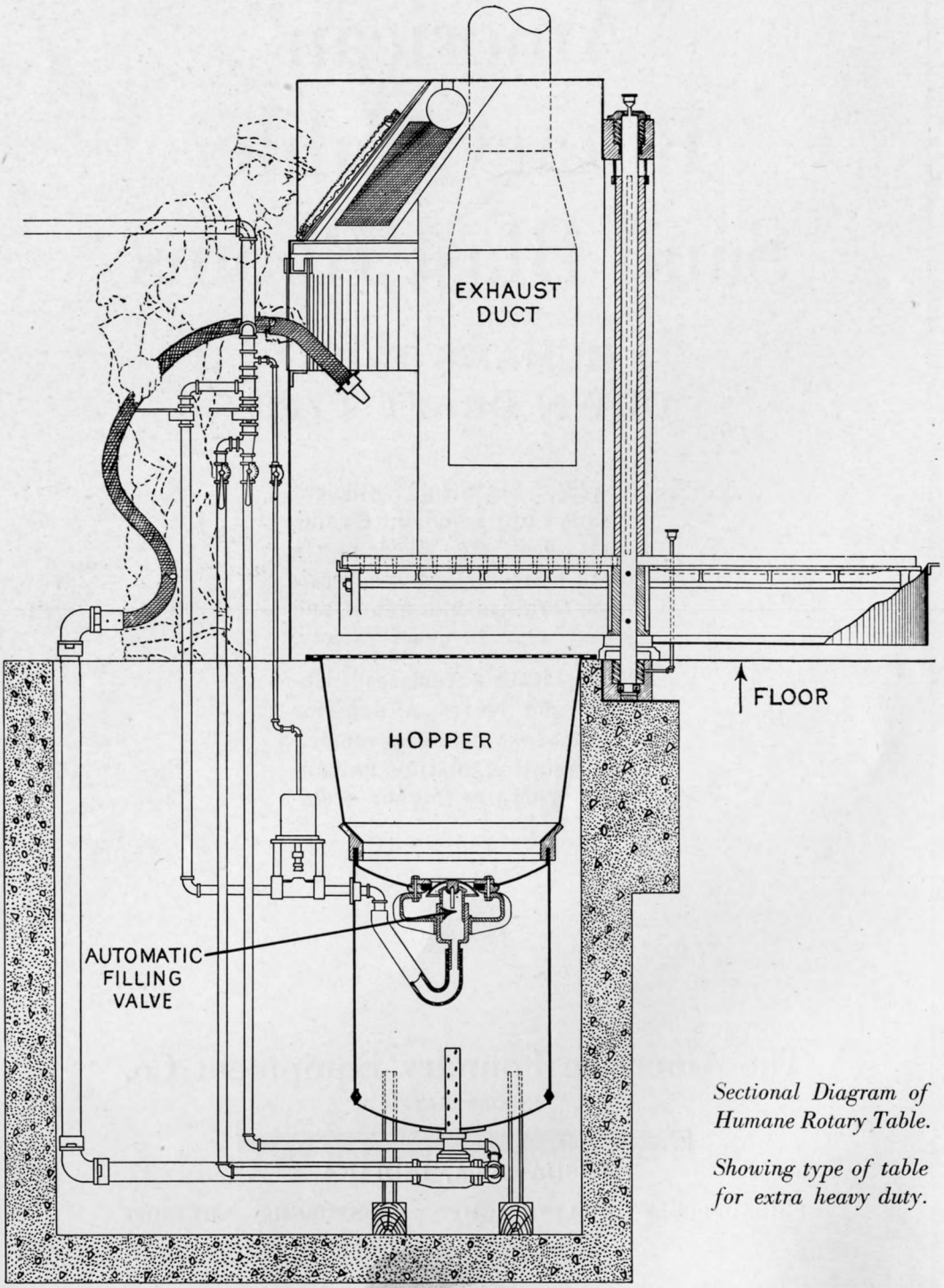
Sand blasting replaces pickling, and leaves a superior surface for machining, enameling, painting, plating, galvanizing, rust-proofing or welding.

The American Foundry Equipment Co.
INCORPORATED

500 Madison Avenue, New York
MISHAWAKA, INDIANA

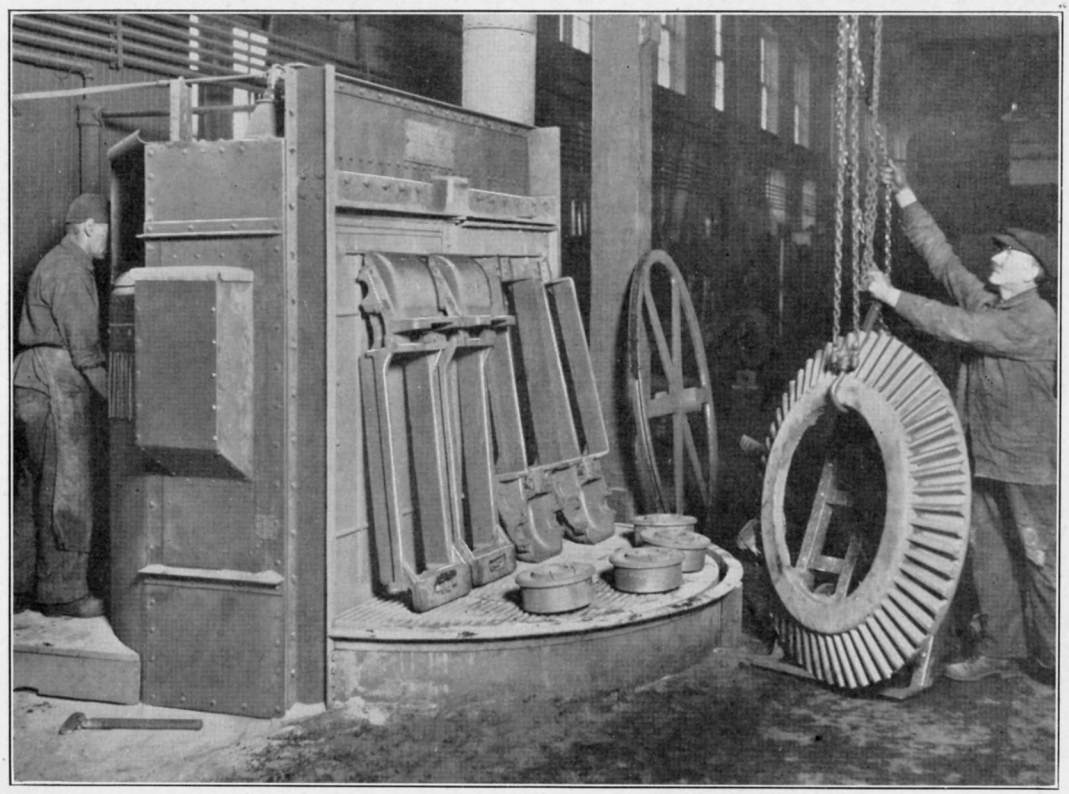
PHILADELPHIA CLEVELAND PITTSBURGH DETROIT
YORK CHICAGO

Bulletin No. 537



Sectional Diagram of Humane Rotary Table.

Showing type of table for extra heavy duty.



Humane Rotary Table Room in Heavy Machinery Plant.
Two man operation—one blasts continuously, the other loads, unloads, and turns the table.

"American" Rotary Table Sand Blast Rooms

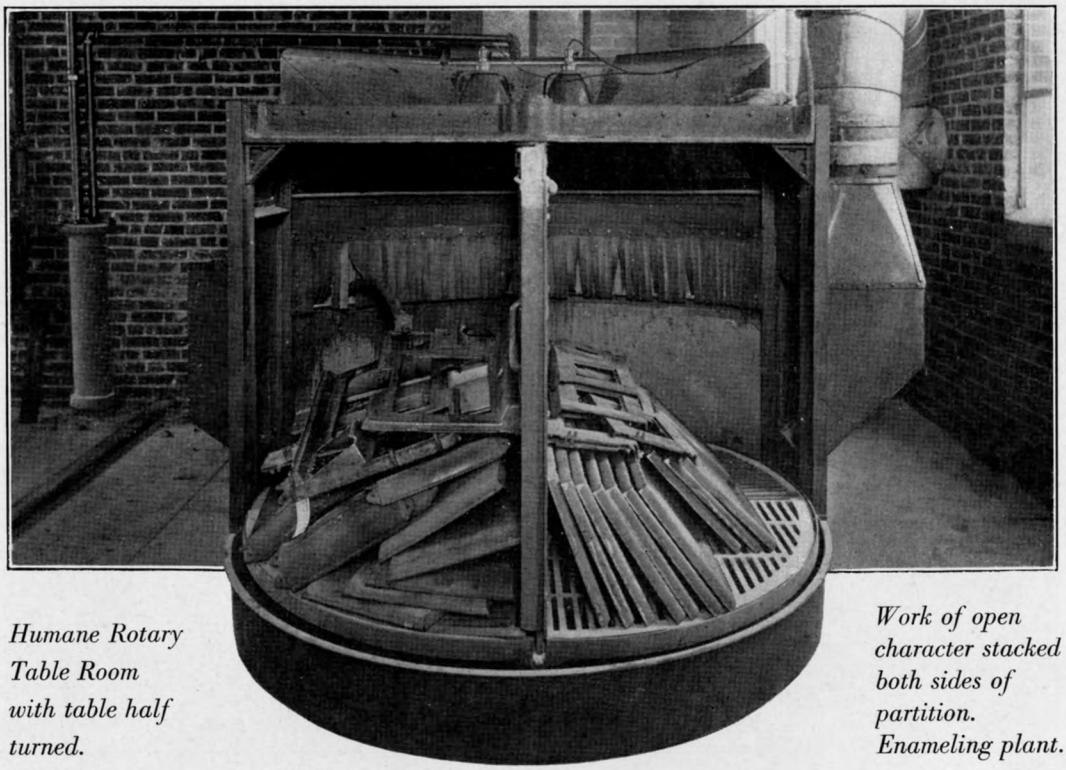
"Humane" Type

SAND blast equipment of the *Humane Type* was originated by this Company in 1917.

Prior to that time it was customary for sand blast operators to work within ill-ventilated closed compartments amid choking dust and pelting sand. These unhealthful and inefficient conditions justly aroused an unfavorable attitude toward sand blasting, not alone among workmen but among many employers as well.

Every such objection is overcome by the "American" Humane Type Blast Room, in which the operator works outside the compartment in safety and comfort, effectively screened from dust and rebounding abrasive without requiring a stifling helmet or respirator.

Standing in similar relation to his work as though inside a larger sand blast room, the operator sees clearly through a shaded vision screen and operates the hose between double slit rub-



Humane Rotary Table Room with table half turned.

Work of open character stacked both sides of partition. Enameling plant.

ber curtains. The interior is well lighted and ventilated, and the atmosphere remains clear during blasting.

The net results of Humane working conditions are: more work of better quality, contentment, steady employees, and a full day's work. We especially recommend the Humane Type where dissatisfaction due to unhealthful conditions has existed.

Humane Rotary Table Rooms are regularly built in five sizes, 6-, 7-, 8-, 9-, and 10-foot table diameters, and with the table surface located at floor level, for heavy castings, or at standard elevations above the floor.

Operator Works in Natural Standing Position

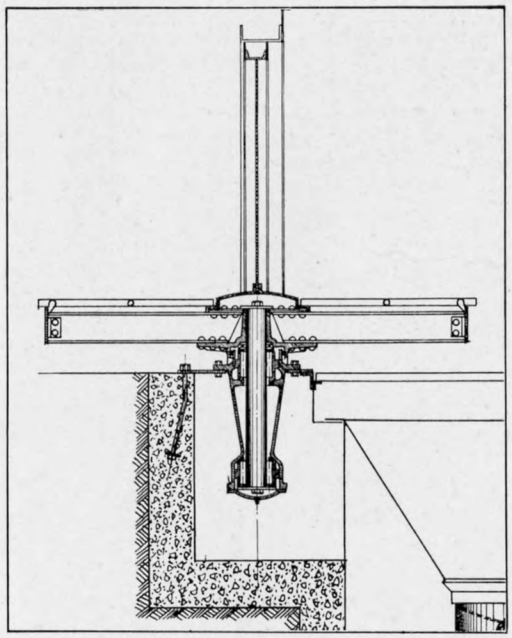
The housing is a compact dust-tight room or compartment of structural and sheet steel construction, lighted and ventilated, conforming both to the curve of the turntable and the natural postures of the operator.

Turntable Doubles Production

A half turn of the circular table carries out finished work from inside for unloading and carries in new work to be blasted. One man may load, unload, and turn the table as required while another blasts without interruption, thus making the equipment practically equal in capacity to two ordinary sand blast units. Surprisingly high production records have been made by proper team work.

Construction of Turntable

The circular table is constructed of steel bars, assembled on edge with spacers, forming a sectional grating that can be easily removed and inverted or replaced when worn.



Section of Blast Room Showing Standard Pedestal Type of Rotary Table.

A vertical steel partition across one diameter of the table forms the front wall of the housing. This partition can be quickly replaced when worn by the blast.

The table is supported by a substantial subframe, carried on a steel spindle, the weight of the table and spindle coming on a ball thrust bearing. Large roller bearings at top and bottom hold the spindle in place. This assembly is contained in a dust-proof housing with only one moving joint. This joint is doubly guarded against dust; first, by a close fitting rubber curtain that stops practically all particles; second, by a tight felt washer that will surely stop any specks that might get by the rubber. Grease cups supply the lubricant.

For the largest sized tables and heaviest duty the type of table support shown on page 2 is used. This also turns on a ball bearing, guided by roller bearings, but heavier construction is used.

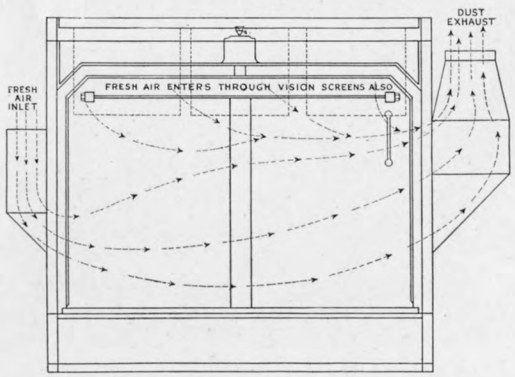
Double Sealing Strips Stop the Dust

Double sealing strips of rubber around the turntable partition assure dust-tight joints, a feature not usually appreciated in full unless one has had experience with single strips that do not stop the flying abrasive. These strips also act as buffers to check the table when it swings into place.

Air Currents Whisk Dust Away

There is a hooded fresh air inlet with damper at one side of the housing, and a large hooded exhaust opening opposite, the latter connecting by suitable blow piping to the factory exhaust system, or to an American Cloth Screen Dust Arrester and exhaust fan, as may be desired.

A vigorous horizontal air current is thus directed across the blasting area. This is supplemented by a downward rush of air through the wire mesh vision screens (no glass) which prevents dust from rising. All floating material is promptly swept into the exhaust outlet and the inside atmosphere is maintained clear, affording the operator an unclouded view of his work at all times.



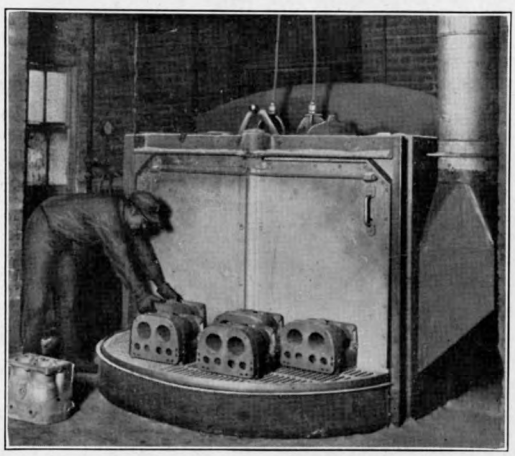
Course of Ventilating Air Currents Downward and Across Work Table to Exhaust.

Work in Plain Sight

Obliquely placed vision screens of fine mesh copper wire in removable frames enable the operator to see his work clearly without danger from rebounding particles of abrasive. The screens are well shaded from outside light, and the copper screening is protected from rapid wear by coarse mesh wire on the under side of the frame. The interior is brightly lighted by electric lamps, enclosed and protected.

Handy Control of Sand and Air

This equipment operates on the pressure system, with steel pressure tank which, to save floor space and mechanism, is located in a pit beneath the housing. The tank contains the working supply of sand or other abrasive. While blasting, the sand flows freely from the tank into a special form of patented mixing chamber, designed on stream-line principles, where it is caught by the rush of compressed air and driven under pressure to the nozzle through steel piping and flexible rubber sand blast hose.



Humane Room on Automobile Cylinder Work.
Man loading outer half of table while operator is blasting at the rear.

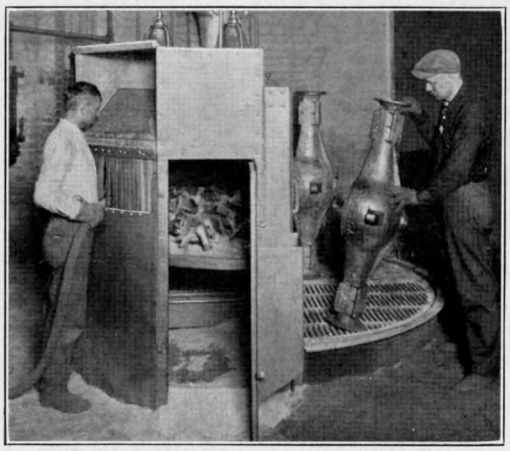


Table Gratings Built on Two Levels.
For small and large work.

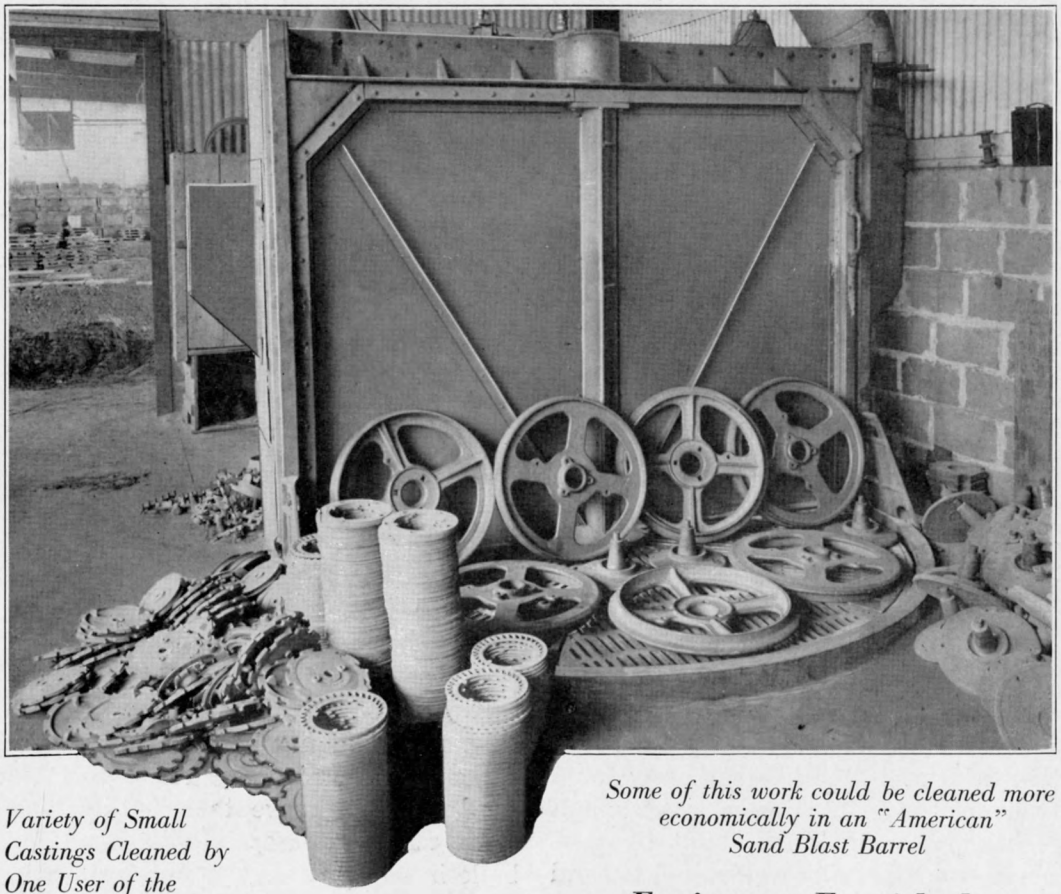
Air valves beside the operator effectively control the main blast and adjust its strength and density. The mixing is entirely air operated, and any variation from a lean to a dense mixture of sand and air is easily obtainable. The system is simple, safe, and suited for a wide range of pressures.

Abrasive Recovered and Cleaned Without Power

The spent abrasive drops through the perforated floor of the housing, which catches nails, wires, gaggers, cores, etc., into a conical steel hopper that empties into the head of the pressure tank. The abrasive collects in this hopper during the blasting; when the air pressure is released in the tank an automatic filling valve opens and passes the accumulated abrasive into the tank for further use. This cycle is continuous and automatic, new sand being added from time to time to replace the disintegrated sand (dust) that is carried off by the ventilation system.

Economy of Power

The only use of power in connection with a Humane blast room is for com-



Variety of Small Castings Cleaned by One User of the Humane Room.

Some of this work could be cleaned more economically in an "American" Sand Blast Barrel

pressing air and driving the exhaust fan. No power is employed at the blast equipment itself. The table turns easily by hand, and the screening and return of abrasive to the pressure tank are entirely by gravity.

Economy of Abrasives

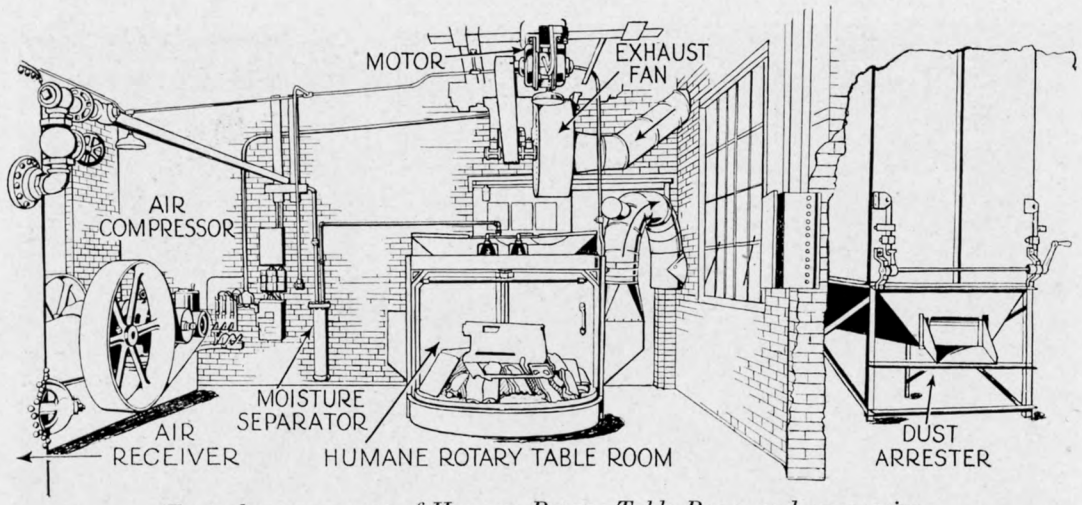
"American" equipment utilizes all the cutting qualities of the abrasive, no usable abrasive being wasted. Sand is most commonly used. Other abrasive materials, such as shot and steel grit, may be used equally well without any change whatsoever in the mechanism, and without any increase of power.

Equipment Furnished

Moisture separator to drain water and oil from the air line; air pressure gauge; suitable length of first quality 1¼ inch rubber sand blast hose; 50 hard iron nozzles (⅜-inch unless otherwise specified); pair of operator's gloves. Helmet and respirator are not used with this type of sand blast room.

Installation

We provide a competent erector to superintend the installation of sand blast equipment and instruct operators in its use, all as covered by our proposal forms. "Humane" rooms can be erected in two to five days' time, depending on local conditions, such as plant facilities and preliminary preparations.



Typical arrangement of Humane Rotary Table Room and accessories.

Blast Accessories

Suitable accessory equipment of standard manufacture, such as air compressors, receiver tanks, and exhaust fans may be purchased from us. We are glad to advise concerning the selection of these items, whether ordered from us or not. "American" Cloth Screen Dust Arresters, built by ourselves, are especially well suited to sand blast, grinder, and tumbling mill service. Bulletin 532 describes these Arresters in detail and explains the proper method of rating their capacity.

Other Sand Blast Items

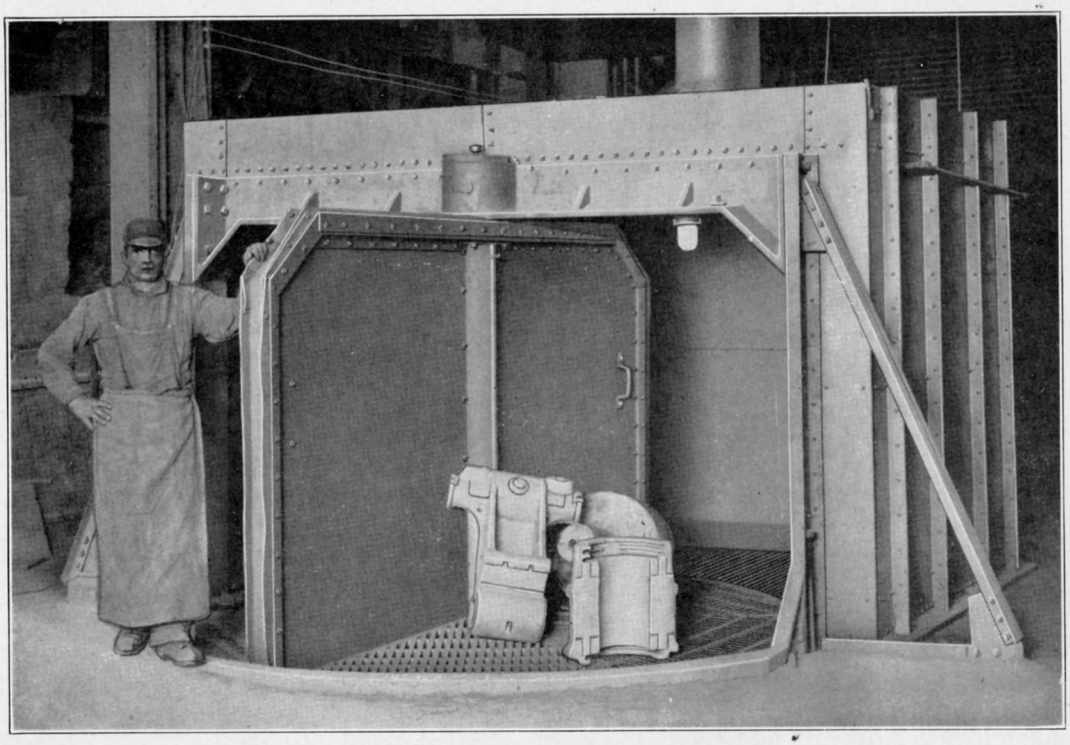
Our line includes all approved forms of sand blast equipment, such as automatic rotary tables, sand blast rooms of various types, sand blast barrels, machines for blasting bar and tube stock, chinaware cleaning machines, portable sand blast pressure tank outfits, and cloth screen dust arresters. Send for bulletin on any item that interests you, or describe your requirements and we will recommend suitable equipment.

STYLES AND PRINCIPAL DIMENSIONS
Humane Rotary Table Room

Styles	Rotary Table		Partition Height	Steel Room			Exhaust Conn.	Pressure Tank	Pit		
	Diam.	Height		Width	Depth	Height			Length Including Man-hole	Width	Depth
F	6′ 0″	‡	60″	6′ 6″	3′ 10″	5′ 6″	13″	24″ x 30″	6′ 1″	6′ 1″	7′ 0″
C	6′ 0″	12″	47″	6′ 6″	3′ 3″	5′ 4½″	13″	24″ x 30″	5′ 3″	6′ 3″	6′ 0″
D	6′ 0″	19¼″	34¾″	6′ 6″	3′ 4″	5′ 0″	13″	24″ x 30″	5′ 7″	6′ 0″	5′ 11″
W	6′ 0″	24″	36″	6′ 6″	3′ 4″	5′ 6″	13″	24″ x 30″	5′ 7″	6′ 0″	5′ 11″
J	7′ 0″	‡	66″	7′ 6″	4′ 7″	6′ 0″	14″	30″ x 30″	6′ 6″	7′ 0″	7′ 4″
S	7′ 0″	12″	47″	7′ 6″	4′ 0″	5′ 4½″	14″	30″ x 30″	6′ 6″	7′ 0″	6′ 5″
X	8′ 0″	‡	73″	8′ 6″	5′ 0″	6′ 6″	18″	30″ x 30″	7′ 7″	8′ 0″	7′ 3″
AD	8′ 0″	12″	48″	8′ 6″	4′ 6″	6′ 3″	18″	30″ x 30″	6′ 6″	8′ 0″	6′ 6″
Z	9′ 0″	‡	72″	9′ 6″	5′ 6″	6′ 9″	21″	30″ x 30″	7′ 6″	9′ 0″	7′ 7″
	10′ 0″	‡	72″	(Supplied in proposals according to job.)							

‡Floor level.

Dimensions in feet and inches. Construct pit to official blue print only.



"American" Rotary Table Sand Blast Rooms

Down Draft Type

THIS type of rotary table blast room is similar in essentials to the "Humane" Type except that the operator of the "Down Draft" works inside of the housing, which is enlarged to accommodate him, and must therefore wear helmet and respirator.

He lacks the freedom obtainable with the "Humane" Type, but he has the advantage of getting closer to his work and being able to blast intricate castings more thoroughly.

The normal field for the Down Draft Room embraces the classes of work done in the Humane Rotary Table Rooms and the method of operation is substantially the same, the control valves being located beside the operator inside the housing. For small work a number of pieces can be placed on the table and blasted together. Pieces too large for the table may be wheeled in through the operator's entrance and blasted on the floor of the room.

Perfected Down Draft Ventilation

Fresh air enters through the roof with uniform distribution obtained by means of a system of angle plates rigid-

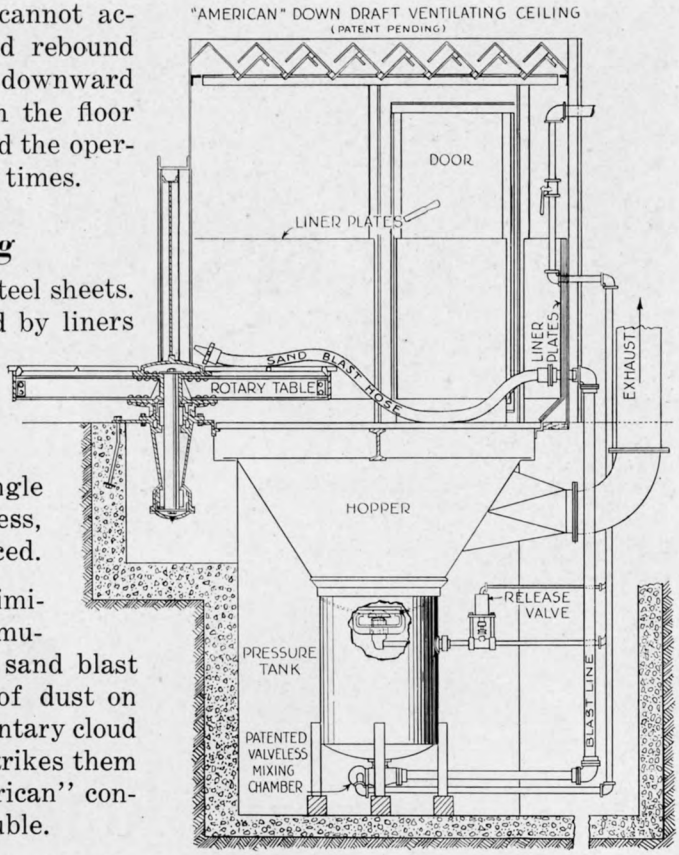
ly held by cross ties. Dust cannot accumulate upon nor can sand rebound past these plates. An even downward draft draws all dust through the floor grating as soon as formed and the operator's view is kept clear at all times.

Durable Housing

The blast room is built of steel sheets. The lower inside is protected by liners of several extra layers of sheet steel bolted together. These liners will withstand the abrasive action of the sand far better than a single sheet of equivalent thickness, and they can be easily replaced.

The use of fillet corners eliminates ledges that might accumulate dust. The experienced sand blast user knows how little piles of dust on such ledges throw up a momentary cloud when the blast accidentally strikes them and he will appreciate "American" construction that avoids this trouble.

Large doors, opening flush with the floor, are carefully flanged and fitted with a rubber seal across the bottom to make them dust tight.



Down Draft Rotary Table Room
Pedestal type of table.

Well Lighted Interior

Illumination is by electric bulbs mounted in vaporproof fixtures and enclosed in heavy glass globes to protect them from rebounding sand. A special wire guard is recommended in case a metal abrasive is used.

Strong Floor Built in Sections

The floor is built of flat steel bars assembled on edge with through tie-bars and spacers. It is designed to support a weight of 200 pounds per square foot over the entire area even after considerable wear, and is built in sections to allow ready removal and replacement. When partly worn it can be inverted, thus giving extra wear. A wire screen in the hopper catches wires, nails, and other foreign matter.

Turntable for Quantity Production

The turntable is identical in construction and mechanical detail with that used in the "Humane" type. A high production rate is obtainable with a team of men; one to load, unload and turn, while the other blasts steadily.

Patented Dust Separator

The ventilating air, drawn downward through the floor grating, enters a hopper, the shape of which increases the air velocity to a point where all dust is removed with the ventilating air when the direction of flow is suddenly changed into the exhaust duct. All float dust is carried off, while the still usable abrasive is caught by the sand hopper to be returned to the pressure tank.

No extra power is required to separate the dust and no conveying mechanism is used. The unused abrasive is recovered without expense, this feature representing a striking economy in the operation of "American" sand blast equipment.

Mechanical Features

The automatic filling valve, pressure tank, and patented mixing chamber are the same as used with the "Humane" type. The air controls are the same, but they are placed inside the blast room near the operator.

No power is used except to provide compressed air and to drive the exhaust fan.

Any of the usual abrasives, sand, chilled shot, or steel grit, may be used equally well without any change whatsoever in the mechanism and without any increase of power.

Installation and Equipment

Erection plans showing the size and arrangement of the pit and blast room are supplied. A competent erector will be sent to superintend the installation and to instruct operators in its use, as covered by proposal forms by this Company.

"Down Draft" Type blast rooms are furnished with moisture separator, air gauge, suitable length of first quality 1¼-inch rubber sand blast hose, 50 hard iron nozzles (⅜-inch unless otherwise specified), air valves with adjacent piping, operator's helmet, respirator, and pair of gloves.

STYLES AND PRINCIPAL DIMENSIONS

Down Draft Rotary Table Room

Styles	Rotary Table		Partition Height	Steel Room			Exhaust Conn.	Pressure Tank	Pit		
	Diam.	Height		Width	Depth	Height			Length Including Man-hole	Width	Depth
A	6′ 0″	19″	35″	6′ 0″	6′ 0″	7′ 0″	13″	24″ x 30″	8′ 3″	5′ 9″	5′ 9″
H	6′ 0″	19″	48″	6′ 0″	6′ 0″	7′ 0″	13″	24″ x 30″	8′ 3″	5′ 9″	5′ 9″
G	7′ 0″	‡	66″	7′ 0″	7′ 0″	7′ 0″	14″	24″ x 30″	9′ 9′	6′ 4″	7′ 4″
U	7′ 0″	12″	54″	7′ 0″	7′ 0″	7′ 0″	14″	30″ x 30″	9′ 9″	6′ 4″	6′ 4″
M	7′ 0″	12″	66″	7′ 0″	7′ 0″	7′ 0″	14″	30″ x 30″	9′ 9″	6′ 4″	6′ 8″
T	7′ 0″	18″	47″	7′ 0″	7′ 0″	7′ 0″	14″	30″ x 30″	10′ 3″	6′ 4″	6′ 4″
P	8′ 0″	18″	36″	8′ 4″	7′ 6″	7′ 0″	16″	30″ x 30″	10′ 9″	6′ 0″	6′ 2″
	9-ft. and 10-ft. tables specified in proposals according to job.										

‡Floor level.

Dimensions in feet and inches. Construct pit to official blue print only.

AMERICAN EQUIPMENT

Sand Cutters
For any size of floor and all kinds of sand

Sand Blast
Barrels
"Humane" Rooms
Down Draft Rooms
Rotary Tables
Cabinets
Tanks
Guns

Dust Arresters and Fans

Core Machines and Accessories

Molding Machines

Pattern Compound

Pattern Frames

Snap Flasks

Pouring Jackets

Steel Flask Bars

Charging Buckets

Oven Trucks