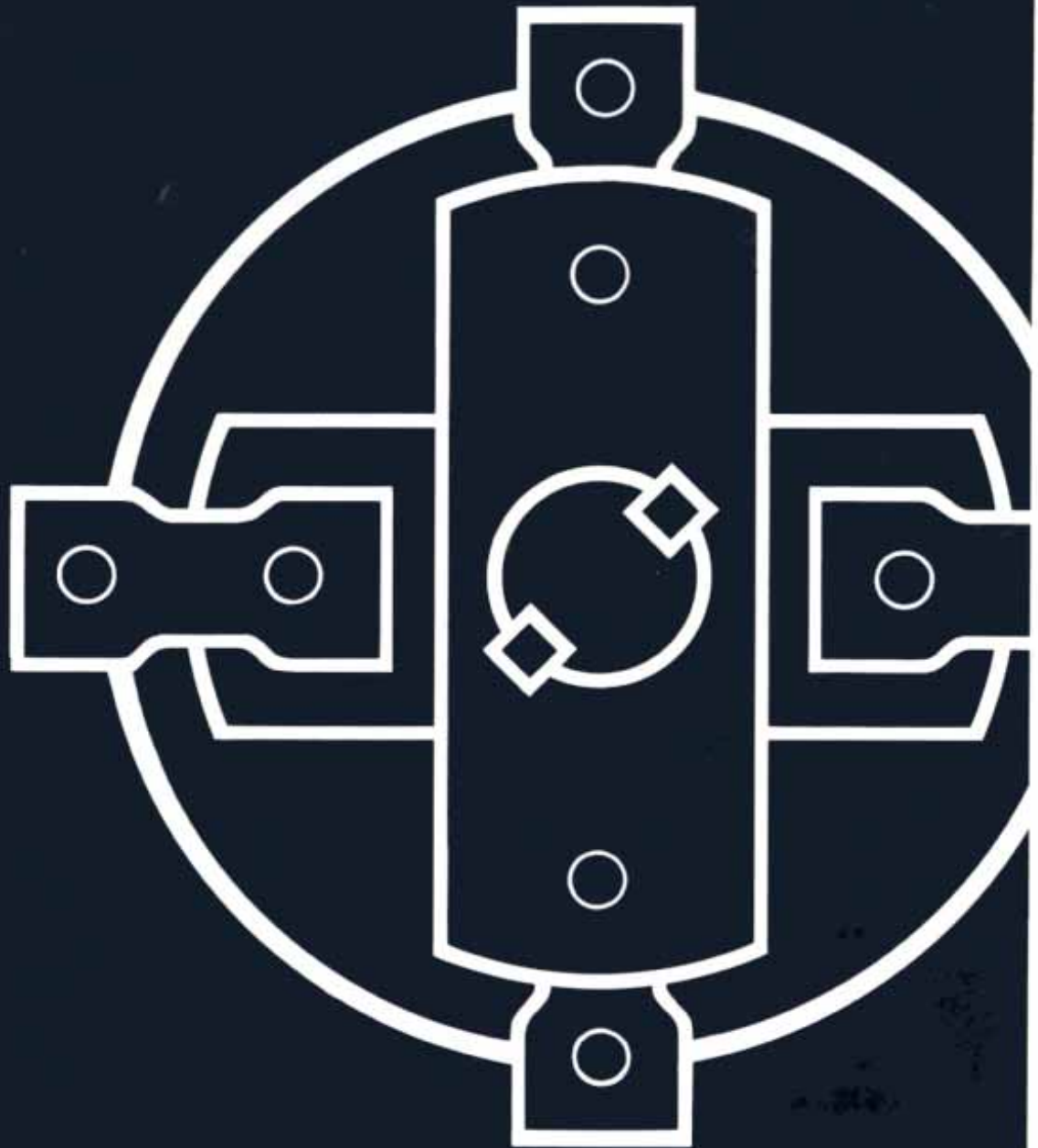


## Hammer Mills



# STEDMAN'S TYPE "A" HAMMER MILL

## UP RUNNING

20" x 12", 20" x 18"  
— with Pulley  
for Belt Drive

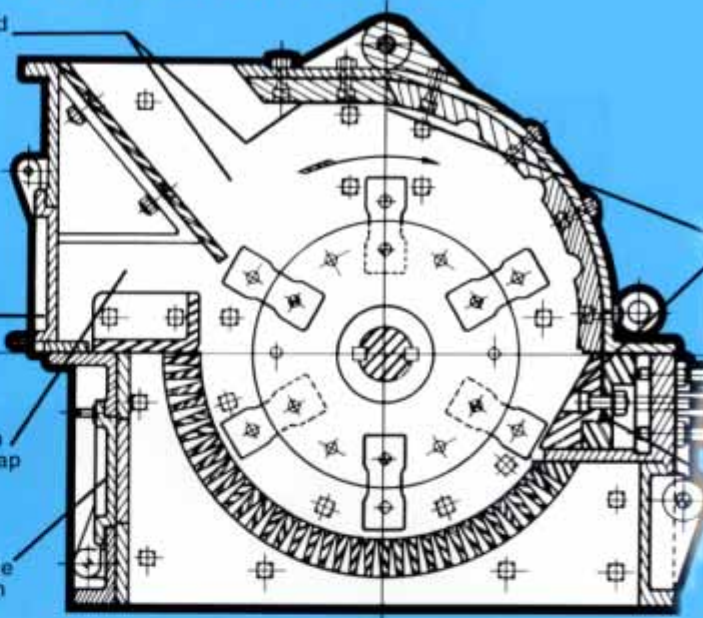


Heavy Breaker and  
Liner Plates

Metal Trap  
Clean-out  
Door

Built-in  
Metal Trap

Large Cage  
Inspection  
Door



Cross Section of Stedman 2-Stage Swing Hammer Machine

## STEDMAN EXCLUSIVE 2-STAGE REDUCTION PRINCIPLE

This is the most effective method yet developed for crushing, grinding or pulverizing. This unique principle operates with a rain of hammer or ring blows which shatter and disintegrate the material being reduced.

Materials are reduced 2 ways: (1) shattered upon entry by the revolving hammers, (2) further disintegrated by forceful impact against the heavy breaker plates in the cover.

This dual mechanical reduction, plus the effect of particles impinging against each other in the air, causes most materials to be sufficiently reduced to pass through the adjustable grinding plate.

Finished product size depends on: (1) the size of openings in perforated screens or spacing between the heavy duty grates; (2) the number, size and type of hammers or rings; (3) the setting of the adjustable grinding plate, and (4) the speed of the rotor.

### ROTORS

The material to be reduced determines the rotor construction of a Stedman Hammer Mill. A series of tough armor plated steel disks or spacer plates is keyed to the extra heavily constructed rotor shaft. Long bolts pass through their outer diameters. From these, sets of hammers or rings are suspended. The rotor revolves within a substantial housing of exclusive cast design insuring maximum return on investment.

All Stedman Type "A" 2-Stage Hammer Mills are fully adjustable, the rotor can be made with adjusting holes for setting out hammers or rings compensating for wear.

### SHAFTS

Shafts for all Stedman Hammer Mills are made of forged alloy steel. Machined to very close tolerances from 50% to 100% oversize to prevent whipping and vibration.

### PERFORATED METAL SCREENS

Punched from tough, high carbon, wear-resistant or stainless steel, perforated metal screens are used in Stedman Type "A"

machines for sizing and medium hard materials like tankage, pressed cake, grain or shavings. Screens are mounted in a substantial frame and the entire assembly slides into machined grooves in the side housing. Perforations run from  $\frac{1}{32}$ " to  $2\frac{1}{2}$ " diameters. Worn perforated screens can be removed easily. The cage adds materially to the screen's life, holding it in perfect alignment and preventing bending or sagging.

### HAMMERS AND RINGS

Important to consider when deciding whether to equip a machine with hammers or rings are the materials to be reduced, feed size, whether hard, soft, fibrous, tough, friable or abrasive. Also equally important are finished product specifications. The type of hammers or rings selected depends also upon whether the sized product is to be uniform with a minimum of fines or pulverized with a maximum of fines. Stedman, with over 60 years of practical operating experience is well qualified to recommend the proper size and type of hammers or rings for the reduction to be accomplished. The hammers and rings are made of high grade manganese or alloy steel, alloy steel parts being heat-treated to resist abrasive wear . . . Carbide tip hammers are available.

### GRATE BARS

Heavy duty grate bars are furnished when sizing hard and abrasive materials like limestone, brick bats, raw or junk bone, fertilizer tailings and the like. These bars are of the "rapid discharge" type. Openings between the bars from  $\frac{1}{16}$ -inch to 4-inch are maintained by spacing blocks securely riveted to the bars. The bars are so constructed that they can be shifted around in the machine distributing the wear and getting the maximum service from each set. When a complete set of bars is installed in the machined recesses on the housing sides or bar presses against the spacing blocks of the next bar. This maintains the proper spacing. When the cover is lowered the grate bars are locked into position.



20" x 12", 20" x 18"—Mounted on Unit Base with Direct Drive Blower Fan and Direct Motor Drive.



20" x 12", 20" x 18"—Mounted on Unit Base with Direct Drive Blower Fan and Pulley for Belt Drive.

Two-Stage Reduction

Adjustable Grinding Plate

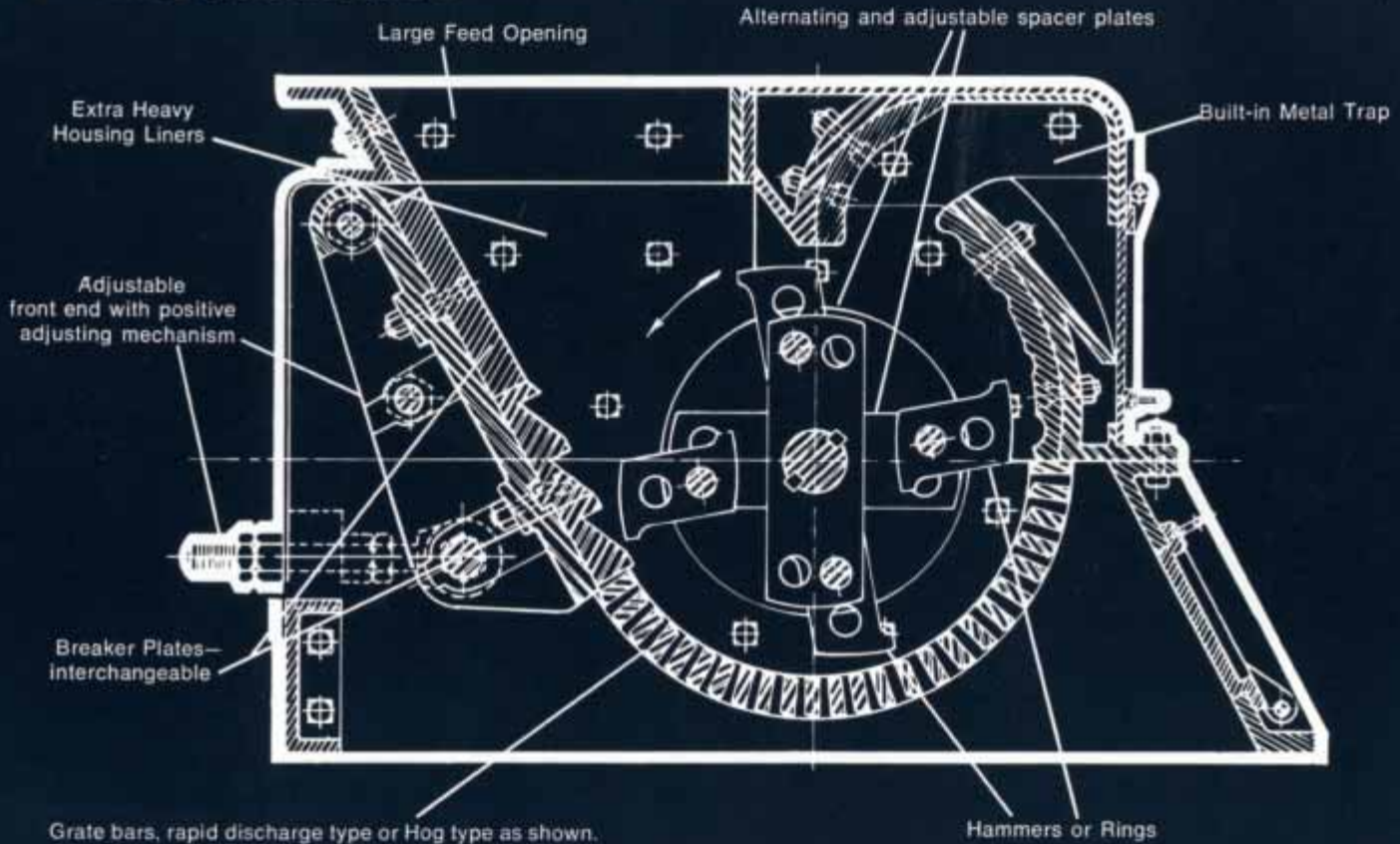


### IDEAL FOR MANY MATERIALS

Animal Tankage • Bark • Bauxite Ore • Bentonite • Bones • Bone & Meat Scraps • Burned Lime Cake • Calcium Carbonate • Carbon • Chemicals • Clays • Coal • Corn • Cracklings • Dolomite • Stone • Dross • Expeller Cake • Fertilizer Materials • Fibre Board Scrap • Fish Scrap • Foundry Cores • Garbage • Garbage Tankage • Glue • Graphite • Green Bone • Gypsum • Hard Rubber • Hog Chips • Hydrated Lime • Junk Bone • Limestone • Magnesite • Meat Cake • Mica • Nitrates • Oil Sand Cores • Phosphate Rock • Potash • Quick Lime • Raw Fish • Resin • Rosin • Salt Cake • Salts • Sawdust • Shellac • Shelled Corn • Soap Powder • Sodium Fluoride • Sodium Sulphate • Steam Bone • Tan Bark Tankage • Urea Crystals • Vermiculite • Whey • Yeast • Zinc Oxide

- A** Smooth ring
- B** Shredded ring
- C** Double-end, two-corner type, Carbide tipped hammer for special purpose material
- D** Double-end, four-corner type hammer, light duty service
- E** Double-end chisel type hammer for tough and fibrous materials
- F** Double-end four-corner type, medium duty service
- G** Double-end four-corner type, heavy duty service
- H** Heavy duty yoke type—used in small size machines, handling a large feed and hard materials
- I** Assembled disc type rotor for 20" x 18" size machine (without pulley or flexible coupling)
- J** Complete plate type rotor for 24" x 20" size machine, equipped with hammer spacers and four rows of double-end reversible hammers
- K** From left, perforated metal screen only; the cage; (bottom left to right) perforated screen slipped part way into cage, and the complete assembly cage and screen
- L** A few of the sizes and types of grate bars used in Stedman mills

# STEDMAN'S TYPE "B" HEAVY DUTY HAMMER DOWN RUNNING



## DESIGNED BY ENGINEERS WHO SPECIALIZE IN REDUCTION EQUIPMENT

The special combination of features found in the Stedman Type "B" Hammer Mill is the result of over 50 years experience in the field.

Rugged construction coupled with extreme simplicity of design assures you a superior machine that is simple to maintain and easy to operate. Adjustments and replacements can be made quickly without special tools or highly skilled labor.

The Stedman Type "B" Hammer Mill utilizes specially designed heavy reversible hammers. These hammers, working in conjunction with Stedman's exclusive saw-tooth breaker plate, enable the Hammer Mill to produce an exceptionally uniform product with lowest possible maintenance.

### MAINTENANCE FREE SERVICE

All hammers are made of specially formulated alloy steel and heat treated for abrasion resistance. In addition, hammers and spacer plates are provided with radial holes for simple adjustments to compensate for wear. Unlike conventional hammer mills, the reversible hammers will usually give years of service.

### A partial List of Materials Being Reduced:

Alum Cake  
Asbestos Rock  
Asphalt Rock  
Barytes  
Bones  
Brick Bats  
Cast Iron Borings

Clays  
Coal  
Coke  
Fire Brick  
Foundry Sand Cores  
Glass Cullet  
Gypsum

Lump Lime  
Manganese Ore  
Shells  
Silicate  
Slag  
Slate  
Steel Turnings  
Terra Cotta

Tile  
Zinc Ore  
Chemicals  
China  
Refractory Materials  
Rock Salt  
Iron Ore  
Limestone

Zinc Skimmings  
Nitre Cake  
Ores  
Phosphate Rock  
Quartz  
Sand Stone  
Shale  
Saggers

A few minutes is all the time required to reverse the hammers. After the second edge has rounded, the tips can be reground.

### METHOD OF REDUCING MATERIALS:

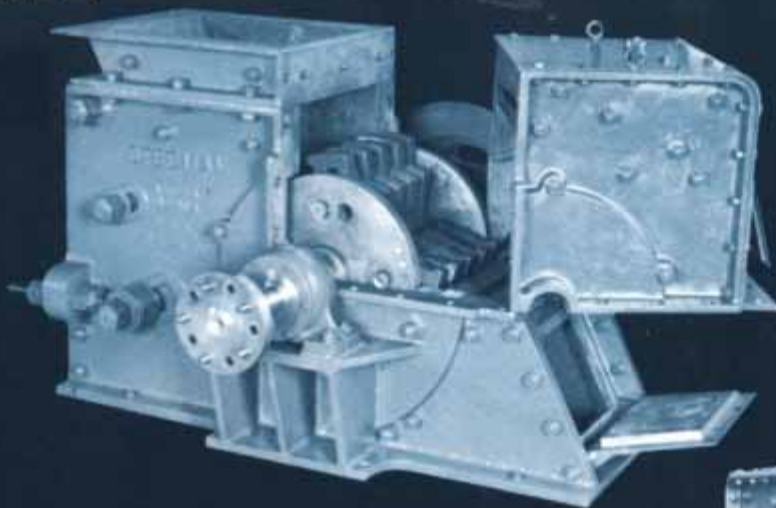
The Stedman Crusher has proved itself a very efficient machine in the reduction of a wide variety of substances, including very abrasive materials.

The machine operates on the principle of reducing the material by striking it while in suspension, thus shattering and distributing over the entire width of the crushing chamber.

Upon reaching the lower breaker plate, the majority of sizing takes place as the material passes between the hammers and the breaker plate, which is adjustable and can be set to produce a specified product or compensate for wear.

After leaving this point, the material passes on to the grate bars, where material of proper size passes between the bars, oversized material being retained on the bars for further contact with the hammers until reduced to the desired product size.

# MILL



Type "B"—24" x 20" Heavy Duty Hammer Mill showing optional chisel type hammers for hard to feed materials.

Type "B"—36" x 42" Heavy Duty Hammer Mill



## ACCESSIBILITY

The Stedman Hammer Mill is designed to allow easy access for adjustments and/or replacements. By removing the back half of the cover, the interior is exposed without removing the feed chute or auxiliary hopper.

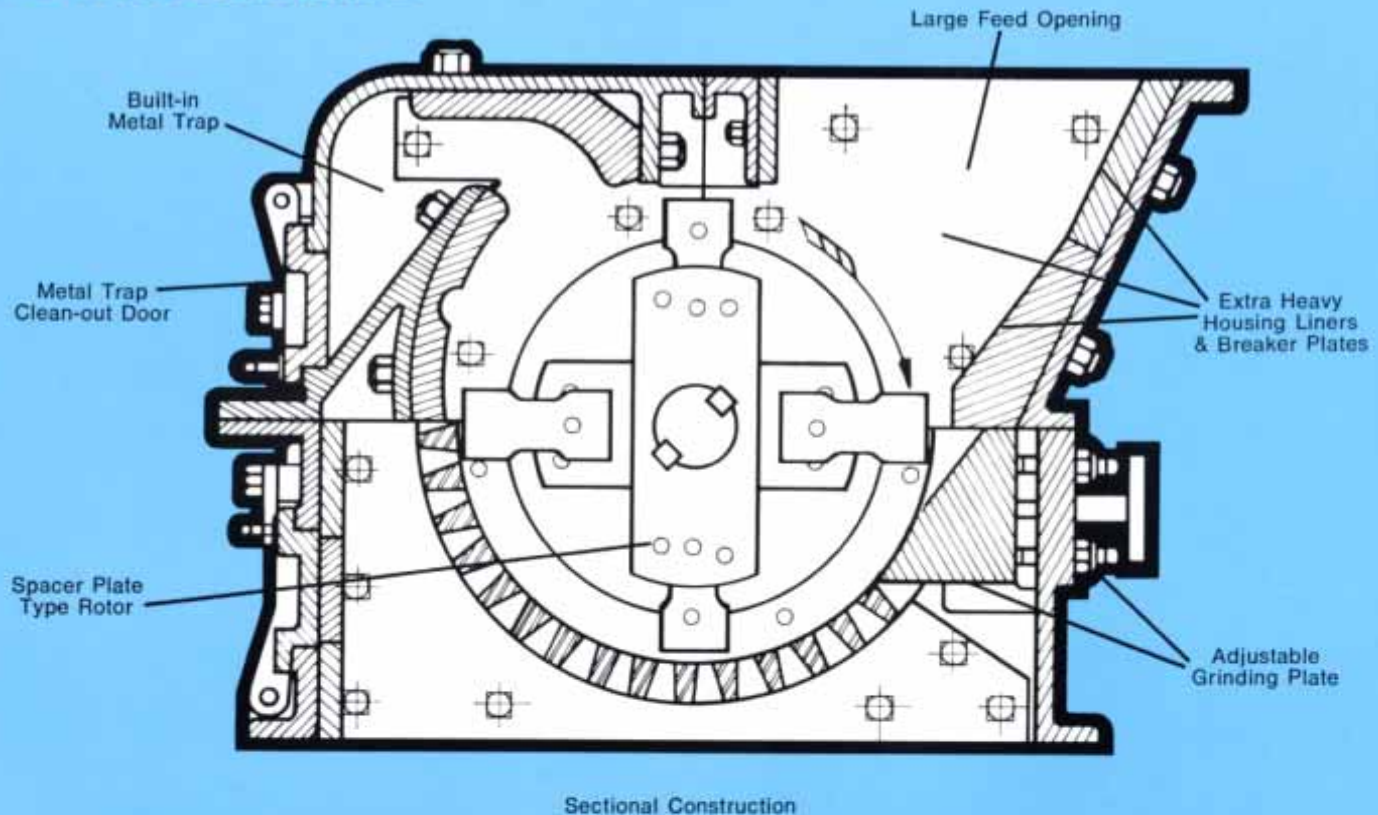
### Capacities and Specifications: STEDMAN Type "B" Heavy Duty Coal Hammer Mills

Size of Crusher Dia. - Width	Approximate Tons Per Hour 85-90% Passing Through the Sizes Indicated					Mine Debris to 1/4" and Finer	Feed Opening	Approx. Weight Lbs.	Approx. H. P.	Speed R.P.M.	Approximate Floor Space		
	1/2"	3/4"	1"	1 1/4"	1 1/2"						Length	Width	Height
20" - 12"	8-10	9-12	12-15	12-15	15-20	7-9	18" x 13"	3,800	25	720-870	4'-7"	4'-5"	2'-10"
20" - 16"	15-20	15-20	15-20	20-25	25-30	10-12	18" x 17"	4,150	30	720-870	4'-7"	4'-9"	2'-10"
24" - 20"	15-20	20-25	25-30	30-40	40-50	13	21" x 21"	6,700	40	720-870	5'-2 3/4"	5'-5"	3'-4"
24" - 24"	20-25	30-35	30-40	40-50	50-60	15	21" x 25 1/2"	7,200	40	720-870	5'-2 3/4"	5'-11 1/2"	3'-4"
24" - 30"	25-30	35-40	45-50	55-65	70-80	16-22	21" x 31 1/2"	8,000	40	720-870	5'-2 3/4"	6'-5 1/2"	3'-4"
30" - 16"	25-30	30-35	35-40	45-50	50-60	14	26" x 17"	9,500	40	600-870	6'-2"	5'-7 3/4"	4'-0"
30" - 20"	30-35	35-40	45-55	55-65	65-75	15-18	26" x 21"	10,300	50	600-870	6'-2"	5'-11 3/4"	4'-0"
30" - 24"	35-40	40-45	55-65	70-75	75-90	18-24	26" x 25 1/2"	11,000	50	600-870	6'-2"	6'-8"	4'-0"
30" - 32"	40-45	55-65	70-90	90-115	110-135	25-30	26" x 33 1/2"	12,700	60	600-870	6'-2"	7'-5 1/2"	4'-0"
36" - 24"	45-55	60-70	80-100	100-120	115-140	26-32	32" x 25 1/2"	15,000	60	600-870	7'-4 1/2"	7'-3 1/2"	4'-8"
36" - 30"	65-75	100-110	140-160	175-185	175-200	38-45	32" x 31 1/2"	17,000	75	600-870	7'-4 1/2"	7'-11 1/2"	4'-8"
36" - 36"	85-95	130-140	175-195	215-230	240-260	55-60	32" x 38"	19,500	100	600-870	7'-4 1/2"	8'-6"	4'-8"
36" - 42"	120-130	170-190	210-230	260-275	300-325	70-75	32" x 44"	21,000	150	600-870	7'-4 1/2"	9'-2"	4'-8"
42" - 54"	180-200	235-270	300-325	350-400	425-440	90-130	38" x 56"	32,400	200	600-870	9'-10"	8'-3"	5'-4"
42" - 60"	220-230	300-340	385-400	485-510	550-560	140-160	38" x 62"	33,300	250	600-870	10'-4"	8'-3"	5'-4"
42" - 84"	280-300	375-425	470-500	600-620	700-750	175-200	38" x 86"	35,000	300	600-870	12'-4"	8'-3"	5'-4"

### Capacities and Specifications: STEDMAN Type "B" Heavy Duty Steel Turnings Hammer Mills

Size of Crusher Dia. - Width	Approx. Tons Per Hour	Feed Opening	Approx. Weight Lbs.	Approx. H. P.	Speed R. P. M.	Approximate Floor Space		
						Length	Width	Height
20" - 12"	1/4 - 1	18" x 13"	3,800	25	1150 - 1200	4' - 7"	4' - 5"	2' - 10"
20" - 16"	1 1/4 - 1 1/2	18" x 17"	4,150	30	1150 - 1200	4' - 7"	4' - 9"	2' - 10"
24" - 20"	1 3/4 - 2	21" x 21"	6,700	40	1150 - 1200	5' - 2 3/4"	5' - 5"	3' - 4"
24" - 24"	2 1/4 - 2 1/2	21" x 25 1/2"	7,200	50	1150 - 1200	5' - 2 3/4"	5' - 11 1/2"	3' - 4"
36" - 24"	3 - 3 1/2	32" x 25 1/2"	15,000	60	860 - 870	7' - 4 1/2"	7' - 3 1/2"	4' - 8"
36" - 30"	3 3/4 - 4 1/4	32" x 31 1/2"	17,000	75	860 - 870	7' - 4 1/2"	7' - 11 1/2"	4' - 8"
36" - 36"	4 1/2 - 5	32" x 38"	19,500	100	860 - 870	7' - 4 1/2"	8' - 6"	4' - 8"
36" - 42"	6 - 8	32" x 44"	21,000	150	860 - 870	7' - 4 1/2"	9' - 2"	4' - 8"

# STEDMAN'S TYPE "BX" HAMMER MILL DOWN RUNNING



## SUCCESSFULLY USED FOR CRUSHING AND HOGGING A WIDE VARIETY OF NON FRIABLE MATERIALS

Stedman Type BX Medium-Duty Crushers are recommended for reductions which do not require the use of heavy-duty machines. In construction and design, they are similar, including practically all features as offered in Stedman Type "B" Heavy-Duty Crushers.

Unusually large feed openings simplify the feeding of medium hard lumpy or bulky materials—difficult to feed the average crusher.

Type "BX" Hammer Mills are recommended for hogging and crushing Metal Turnings, Wood Waste, Bark, Cork and similar materials.

A partial list of materials:

- Burned Lime
- Cannery Waste
- Clay
- Coal
- Fertilizer Tailings
- Egg Shells
- Foundry Cores
- Fruit Hulls
- Garbage
- Junk Bone
- Oyster Shells
- Pitch
- Pressed Cake
- Shavings
- Steam Bone

### BUILT-IN METAL TRAP

Positive, Gravity type. Trap contents will discharge by gravity by simply raising the hinged clean-out door.

### EXTRA HEAVY HOUSING LINERS AND BREAKER PLATES

The entire crusher housing is protected from wear by heavy liners of maximum thickness. In the 20" x 12" and 20" x 18" sizes, liners are provided below the screen bars and at the lower back end.

### RADIAL ADJUSTING SPACER PLATES

Full hammer or ring coverage is provided at every fractional part of the crushing chamber through the use of alternating spacer plates.

Radial adjusting holes can be provided in the spacer plates for setting out the hammers or rings to compensate for wear—maintaining a uniform clearance between revolving and stationary forces.

### LARGE FEED OPENING

The feed openings in all Type "BX" machines are unusually large—simplifying the feeding of large lumpy or bulky materials.

### EXTREME SECTIONAL CONSTRUCTION

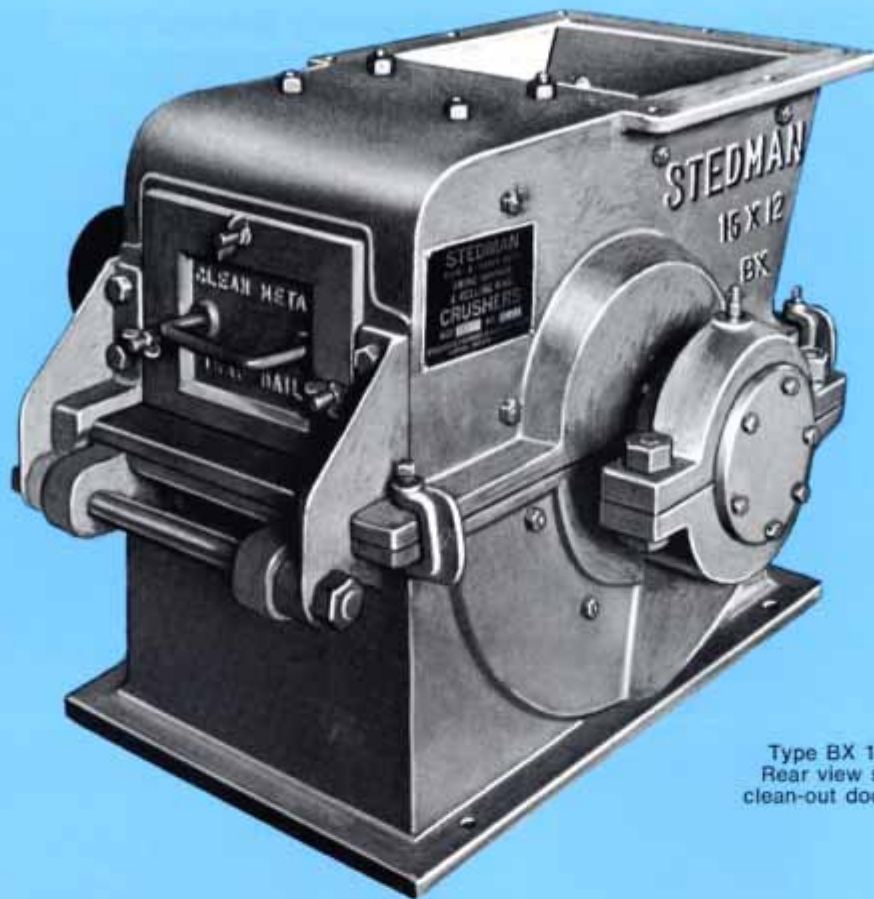
As accessibility is very important in equipment of this kind—considerable thought has been given to this subject.

By raising the back half of the cover in the larger machines or the one-piece hinged cover of the smaller machines—the interior is immediately accessible for inspection, adjustments, cleaning or replacements.

### ADJUSTABLE GRINDING PLATE

The grinding plate against which materials are reduced, is of the fully adjustable type. By adjusting, proper clearance can be maintained between hammers or rings and grinding plate face—controlling size of finished product.

The adjusting mechanism is positive and simple in operation—located at the outer side of the crusher and readily accessible.



Type BX 15" x 12" Crusher.  
Rear view showing metal trap  
clean-out door and hinged cover.

#### SPECIFICATIONS

Size Inches	Speed R.P.M. Min. & Max.		Horse Power	Feed Opening Inches	Approx. Weight Lbs. (Net)	
	Belt or V-Belt Drive	Direct Motor Drive			Belt Drive with Pulley	Motor Drive on Base with Motor and Starter
12" x 9"	680 3600	680 3500	10-20	9" x 9½"	675	1500
15" x 12"	680 3600	680 3500	15-30	12" x 12½"	1200	2350
20" x 12"	680 3600	680 3500	25-40	15" x 12½"	2600	4400
20" x 18"	680 3600	680 3500	40-60	15" x 19"	3650	6000
24" x 20"	680 2400	680 1800	50-75	18" x 21"	6670	8500

Dimensions and weights as listed are approximate. Weights apply to standard machines when equipped with hammers, rings, perforated metal screens or screen bars most commonly used. Weights and dimensions of direct motor driven machines will vary with horsepower, type and speed of motor required.

Proper operating speeds for specified reductions will be recommended by our Engineering Department. Speeds as listed are minimum and maximum.

Rolling rings are not available in the 12" x 9" size.

Flywheels are not standard equipment and are furnished only when required.

Unless otherwise specified, all machines are built for right hand drive — determined when facing the machine at the feed end.

Certified foundation plans and accurate shipping weights will be furnished on request.

For crushing, mixing, or sizing—Stedman has precisely the equipment you need.



Single Toggle Jaw Crusher  
See Catalog No. 613



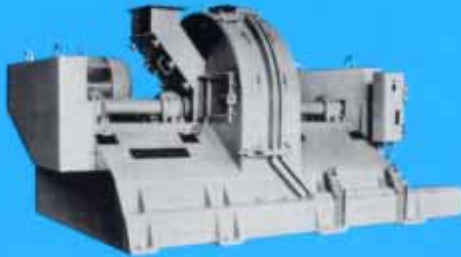
Single Row Cage Mill  
See Catalog No. 526



Grand Slam Secondary Impactor  
See Catalog No. 610-R3



King Series Reversible Multi-Cage Mill  
See Catalog No. 527



'G' Series Cage Mill  
See Catalog No. 608-R3



Flared Series Multi-Cage Mill  
See Catalog No. 604



Medium Duty Cage Mill  
See Catalog No. 606



Up Running Hammer Mill—Type "A"  
See Catalog No. 600



Heavy Duty Hammer Mill—Type "B"  
See Catalog No. 600



Down Running Hammer Mill—Type "BX"  
See Catalog No. 600



Low Profile Hammer Mill—Type "T"  
See Catalog No. 1753

## TEST PLANT - Select the perfect crusher for your application

Stedman has one of the finest testing facilities available. With over 175 years of experience, many materials already have test reports on file. Whether hard granite, gravel, limestone, coal, metal or raw garbage, call us for a comparison report or to schedule testing with our selection of full size equipment.

For a full-scale test, 800-1200 lbs. of your feed material will be required. 55 gallon drums are the most suitable container for shipment and should be clearly marked with your company name. Best routing is to Cincinnati, Ohio, and then through Aikins Lines, Inc. to Aurora, Indiana. Ship prepaid to: Stedman Machine Company, c/o Test Center, 108 Indiana Ave., Aurora, IN 47001.



Originator of the Cage Mill

SINCE 1834

# STEDMAN

# 1-800-262-5401

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