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# MONARCH FLOUR MILLING MACHINERY



No. 115

SPROUT, WALDRON & COMPANY  
□ MUNCY, PA. U. S. A. □

GIFT OF

*Sprout, Walden & Co.*



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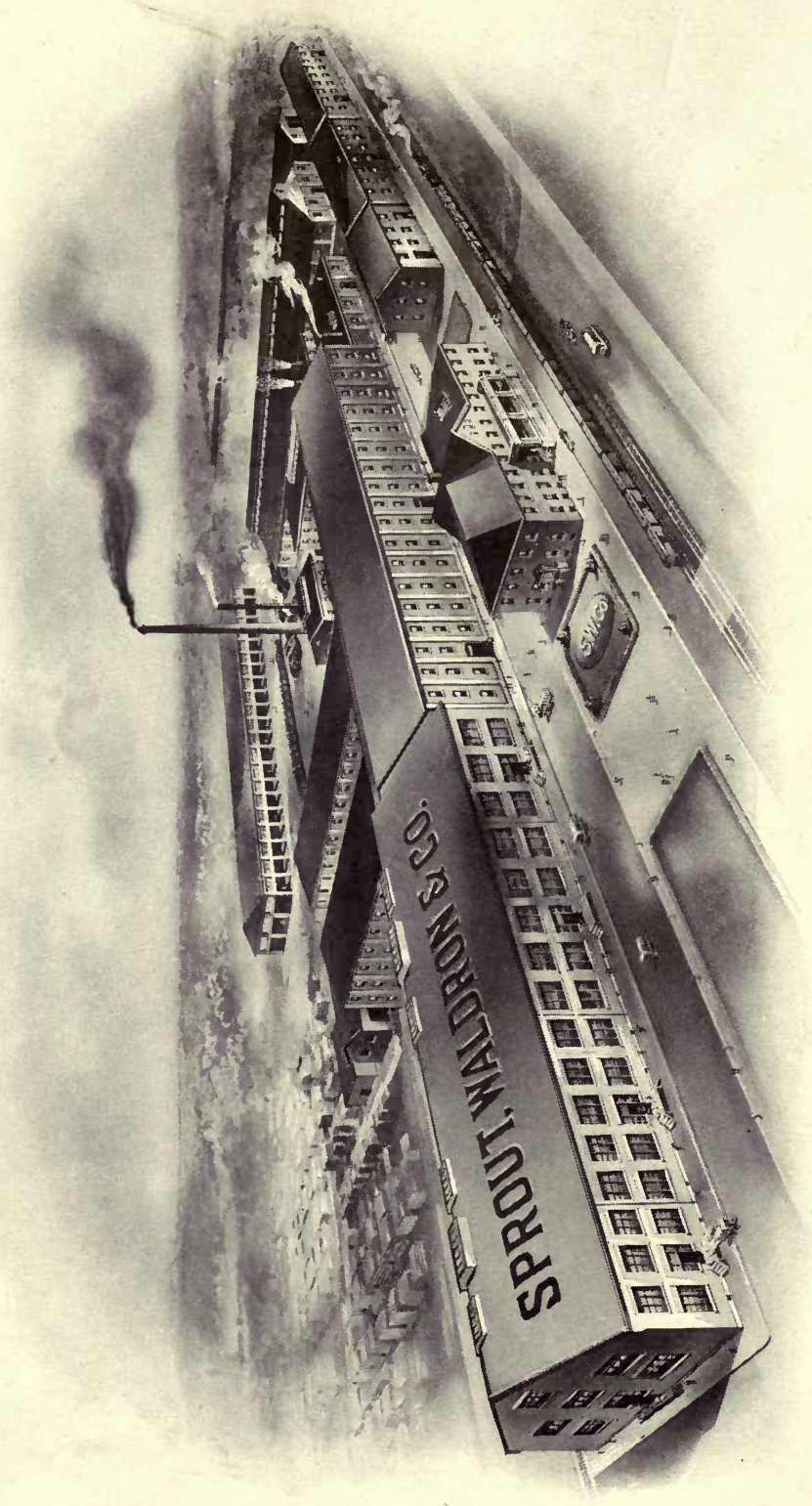












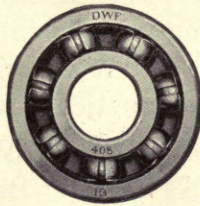
Plant of Sprout, Waldron & Co., Muncy, Pa., U. S. A.  
Floor Space, 300,000 Square Feet.



# MONARCH

BALL BEARING

## ROLLER MILLS



*Section A, No. 115*

*Sections A-I*

Established 1866

94-7 **SPROUT, WALDRON & CO.**

Mill Builders and Mill Furnishers

MUNCY, PA., U. S. A.

MADE IN  
CALIFORNIA

TS 2149  
57

## INTRODUCTORY



COMMERCIAL enterprise is a science and in order to master it, years of hard work must be spent in the school of experience. Many theories have passed into oblivion after being subjected to the test of practicality. All sorts and classes of tools and machines are constantly being brought into existence but only those concerns which produce goods of sufficient quality to withstand the severe tests of practical usage survive the ravages of competition. Many concerns which manufacture inferior goods and sell them at seemingly remarkably low prices, pass into the lists of the unknown and forgotten like the theories above mentioned and their little ripple on the business pond is soon quieted. Competition is, no doubt, the heart of trade but it is also the grave of the inefficient. Quality in a business sense is like care of the health in humanity, it is conducive to long life.

After a reputation has been established for fair dealing, a commercial firm must continue to exercise prudence, honesty and carefulness in all its dealings in order to maintain it. The oldest firms, those who have been in business longest, are the ones that have adhered strictly to these principles in every transaction and have not sacrificed quality in favor of cheapness. They must continue to make and to sell articles of a high grade in order to retain the confidence of their patrons. They shun the imitation like the average mortal avoids a snake, because they know in the end it will poison their business.

In presenting this short argument we wish particularly to emphasize the fact that quality and not price, honesty and not graft, are the ruling factors in the business of the eminently successful firms in the United States and throughout the world. Let us further add in this connection that we have been in business for very nearly fifty years. Does not this mere fact indicate that our patrons are pleased with the treatment received at our hands and the goods marketed by us?



Our beginning was very humble in respect to buildings, equipment and resource, but we have progressed constantly, raising the standard of our product in proportion to any addition we were able to make in equipment. A glance at the illustration of our present quarters, shows the exterior of a model plant with 300,000 square feet of floor space and occupying several acres of ground. Monarch Milling Machinery is well and favorably known throughout the United States. At the present time we are completing a large installation in China and our export trade is rapidly increasing—another testimonial to our careful business methods. Our motto is satisfaction and through our product we have been enabled to give the satisfaction that has drawn to us the trade of the progressive and allowed us to hold it. The use of good material, careful workmanship and long and practical experience have brought their reward in the good name we have made and maintained for the Monarch Line and incidentally for ourselves, the manufacturers.

We take this opportunity to express our appreciation of the confidence and esteem in which we are held by those who have had business dealings with us and to thank them for their patronage which will continue to receive our careful consideration. We are willing and glad at all times to make suggestions and give technical advice for the betterment of milling conditions and to help those who wish to keep in touch with the methods of modern milling engineering.

This catalog is presented with the object of placing before our customers and others a clear and concise summary of the machinery made and handled by us. Flowery language and fictitious names and descriptions have been avoided entirely. We sell our goods on their merits—not on the talk of our advertising manager and salesmen alone. It will give us pleasure to serve you in any way.

SPROUT, WALDRON & COMPANY

## The Monarch Ball Bearing Roller Mills

In presenting this section of our catalog, in which are described and illustrated the Monarch Roller Mills, we feel confident that we are offering to the trade a selection which, for quality, efficiency and economy, has never been equalled or approached.

These mills are the result of necessity and obligation—necessity on the part of our friends of the milling fraternity for efficient machines with which to carry on their work and obligation—on our part to see that the necessity was well met. We know that we have discharged our obligation and the growing popularity of the Monarch Roller Mills and the large number in successful and satisfactory operation, is good and sufficient evidence that our efforts have been and are being appreciated.

Experience is a good teacher and even though our constant observation of milling methods and requirements has not been carried on without considerable expense, we feel that the knowledge thus gained has helped us in a large measure to make the name “Monarch” synonymous with the word “satisfaction.”

Taking into consideration the facts that our guarantee fully covers all points in their construction and operation and that they are widely and favorably known, we feel that it is unnecessary to describe the Monarch Roller Mills in great detail. We do wish, however, to call particular attention to six important points in their construction which we consider of vital importance to prospective purchasers of machinery of this kind.

**First.** Absolutely even reductions are obtained by delivering the stock to the rolls in a thin, even stream, the volume of which is automatically controlled by the speed at which the mill is operating.

**Second.** A broad, massive base gives rigidity and steadiness, allowing the mill to perform its work easily, quietly and without consuming an unnecessary amount of power.

**Third.** For the performance of satisfactory work, ease of adjustment, facility in starting and stopping, noiseless operation, and strength and simplicity of construction, there is nothing which can approach in merit the Monarch Vibratory Feeder with Ball Bearing Eccentrics.

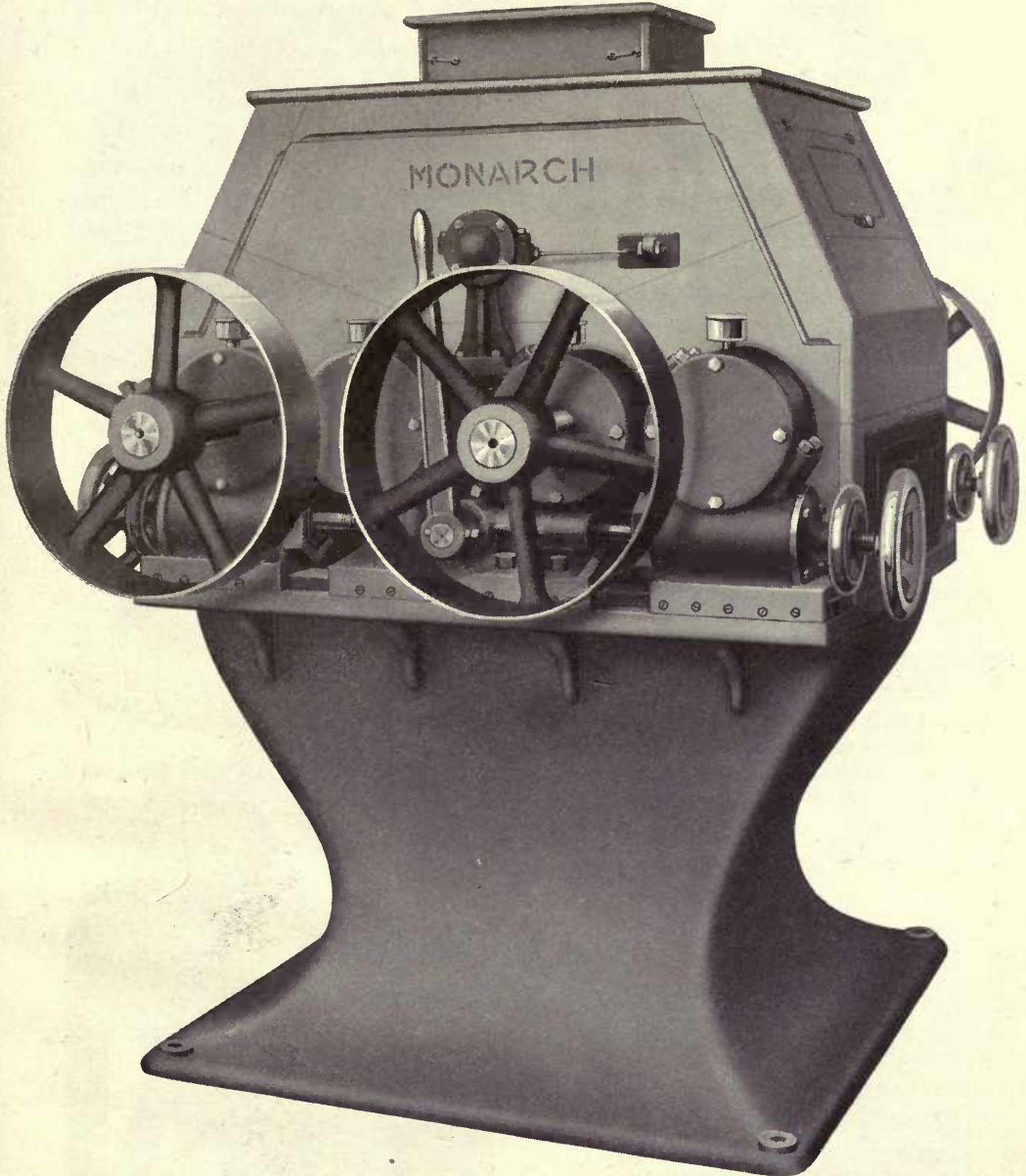
**Fourth.** Bearings are of the most approved type for the service required. They are durable, interchangeable and properly lubricated to overcome any tendency toward overheating.

**Fifth.** All parts are easily accessible, ample provision has been made for examination of the stock and the rolls can be removed without disturbing spouting or feeder top.

**Sixth.** The general appearance of the Monarch Roller Mills makes evident the fact that the highest efficiency can be combined with perfect symmetry of construction without detracting from either quality.



## The Monarch Ball Bearing Double Roller Mill Non-Trammable



**The Monarch Ball Bearing Double Roller Mill—Non-Trammable**

In addition to overcoming the greater part of the friction invariably found in machinery equipped with ordinary babbitt or brass bearings, ball bearings as applied to the mill shown in the above illustration positively eliminate any necessity for trammings the rolls.

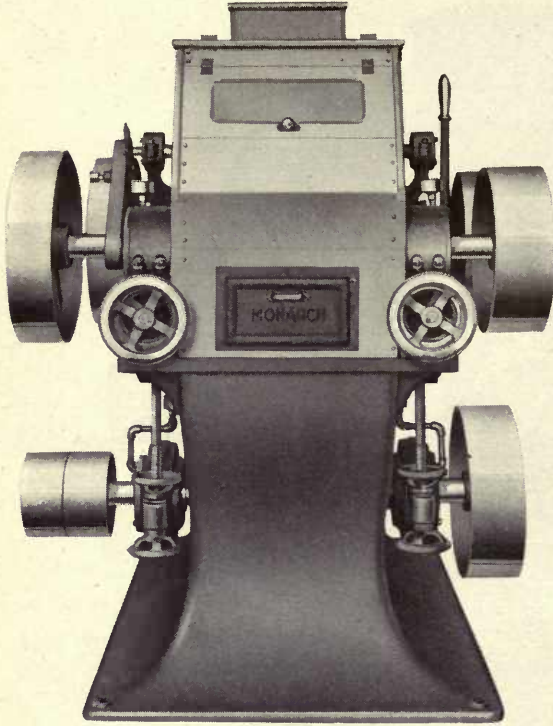
The top surface of the massive base and the bottoms of the castings forming the bearing cases and adjusted by the regulating device for the movable rolls, are accurately dovetailed and the bearing case caps are halved with the lower parts of the cases to an exact fit. The outer races of the ball bearings are securely clamped into the cases designed to hold them and the inner races make an exact fit with the roll spindles, being held in place by a jam nut.

From the foregoing description it can readily be understood how, with the rigidity given to the mill and the absolute alignment of the bearing cases, in addition to the absence of wear and vibration in the bearings, it is impossible for the rolls to get out of tram.

See price list on page 15.

## The Monarch Ball Bearing Double Roller Mill

### Type "C" Drive—Non-Trammable

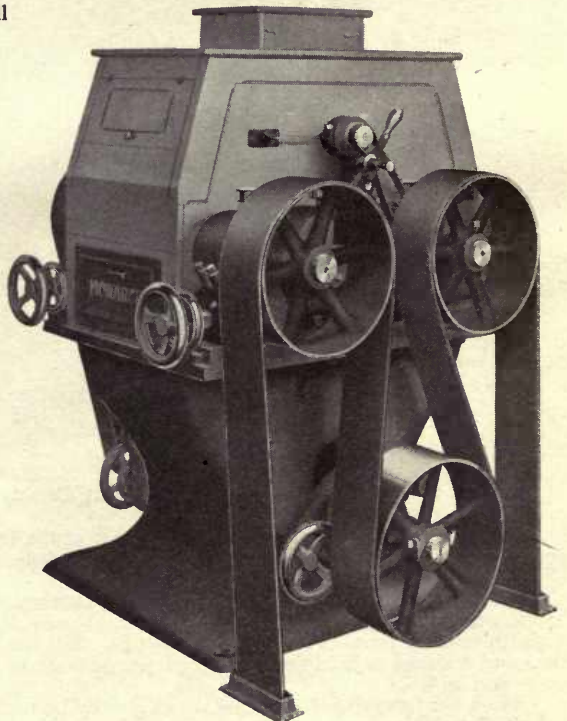


The Monarch Ball Bearing Double Roller Mill  
Type "C" Drive—Non-Trammable

The front view of this mill, shown on the left, gives further evidence as to care taken to combine strength and proportion. A good appearing machine and just as good and substantial as it looks.

The illustration, showing the fast side of the mill, gives a very good idea of the operation of the Ball Bearing Vibratory Feeder. Driven from the roll spindle, it may be started or stopped instantly by throwing the lever, which brings the idler in or out of contact, with the belt.

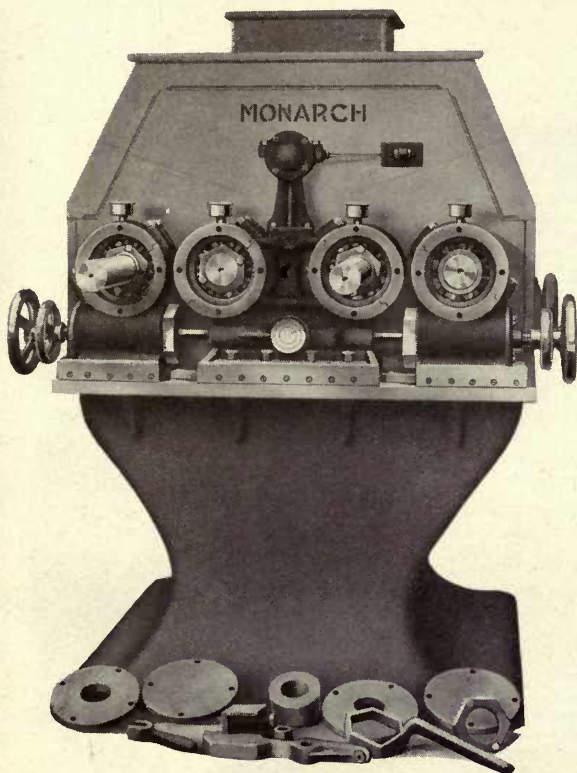
It will be readily understood that starting and stopping the feeder can be accomplished irrespective of the stopping or continued action of the rolls.



The Monarch Ball Bearing Double Roller Mill  
Non-Trammable



## The Monarch Ball Bearing Double Roller Mill Non-Trammable



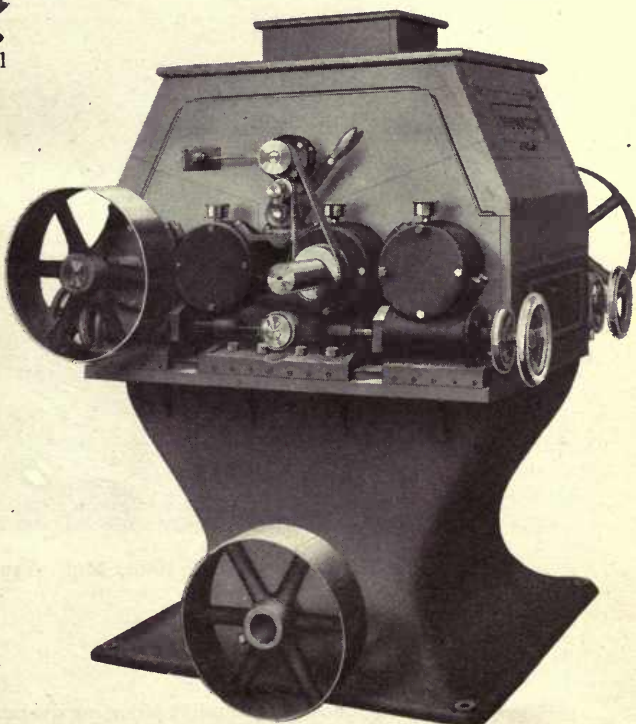
The Monarch Ball Bearing Double Roller Mill  
Non-Trammable

The most important feature of this roller mill is that it requires no device for trammings the rolls. The frame is absolutely rigid; the entire top being carefully machined and the rolls accurately centered to within  $\frac{1}{1000}$  of an inch.

It is the only machine of the kind on the market, is proof against accidental disarrangement and after once being set for proper grinding, needs no further adjustment.

Bearings are practically frictionless, will not heat or wear and therefore do away with any possibility of the rolls getting out of alignment.

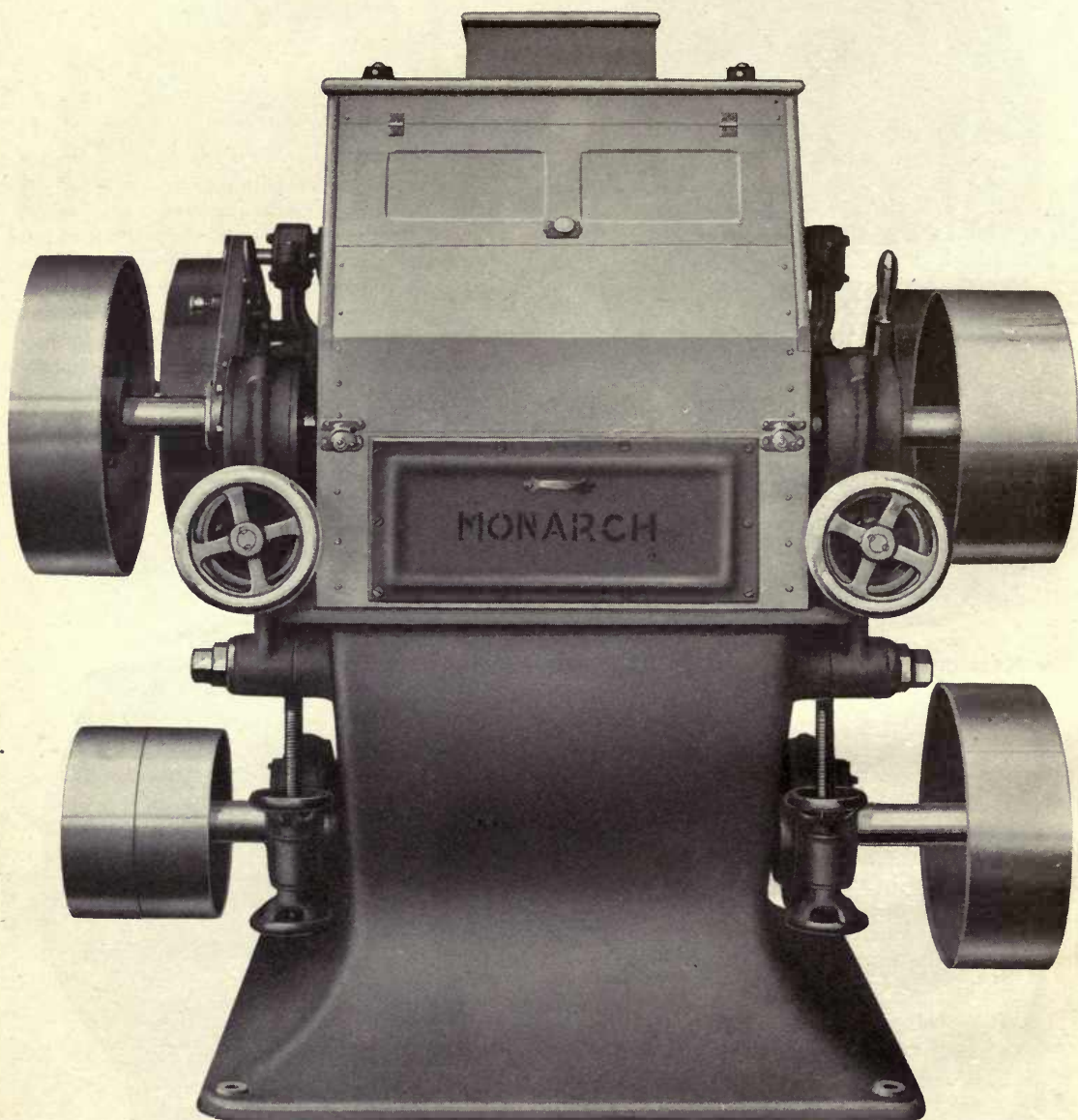
This illustration exhibits the Non-Trammable Ball Bearing Roller Mill with the cover plates of the bearings removed. Note the accurate spacing of the balls and the large-sized compression grease cups conveniently placed. The ball bearings are kept in place on the roll journals by the hexagon nuts; these in turn are secured by the two cap screws, making them immovable. Bearing plates are machined to make the bearings oil tight. Note also the simplicity, convenience and strength of the differential screw, roll adjustment.



The Monarch Ball Bearing Double Roller Mill  
Non-Trammable

## The Monarch Ball Bearing Double Roller Mill

Type "C" Drive—With Tramming Device



The Monarch Ball Bearing Double Roller Mill. Type "C" Drive—With Tramming Device

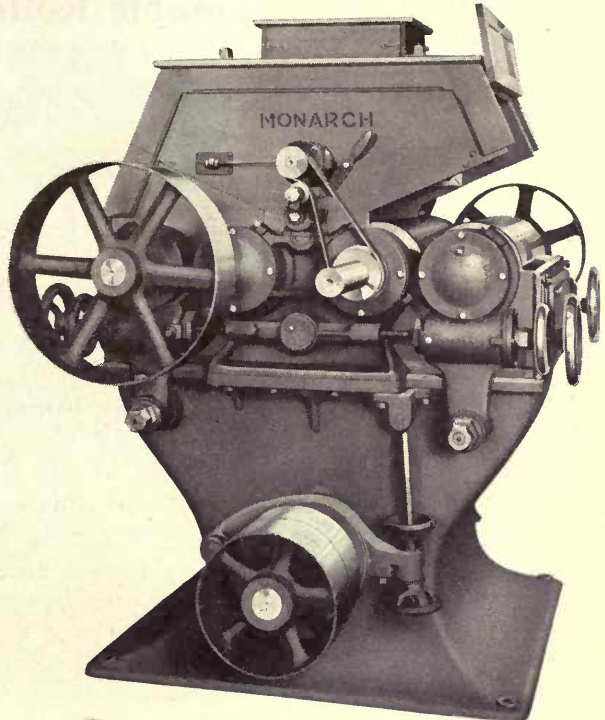
Front view showing the easily accessible adjusting devices for both the Mill and Ball Bearing Vibratory Feeder. Note that while this mill is massive in construction, it still presents a perfectly symmetrical appearance. See price list on page 15.



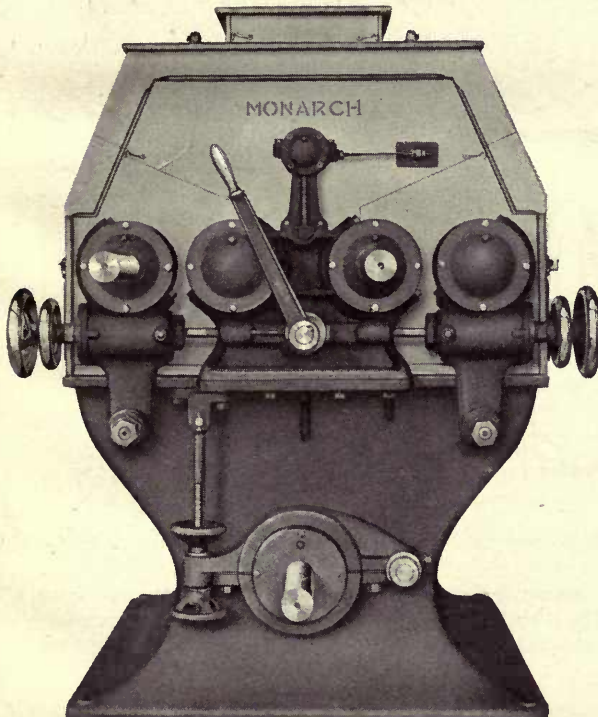
## The Monarch Ball Bearing Double Roller Mill

The accompanying illustration shows method of removing the rolls from their bearings without taking down the spouting. This operation is accomplished by simply taking out a portion of the roll housing, leaving the feeder top in position and doing away with more than one half of the work usually required to change a pair of rolls.

Illustration also shows the Monarch Ball Bearing Vibratory Feeder with tightener and lever for starting and stopping it.



The Monarch Ball Bearing Double Roller Mill

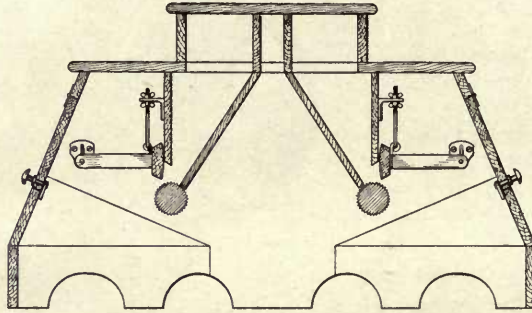


The Monarch Ball Bearing Double Roller Mill

Tramming the mill here illustrated, is accomplished by movement of the hexagon nuts shown in the stems of the bearings holding the movable rolls. These nuts control eccentrics, which, working in a recess in the stem, adjust the rolls to the desired position.

The action of the tunnel shaft adjustment and the lever for spreading the rolls will also be readily understood by reference to this illustration. It should be particularly noted that rolls can be thrown apart without changing the degree of compression of the springs; the whole bearing, spring case included, is moved by the lever.

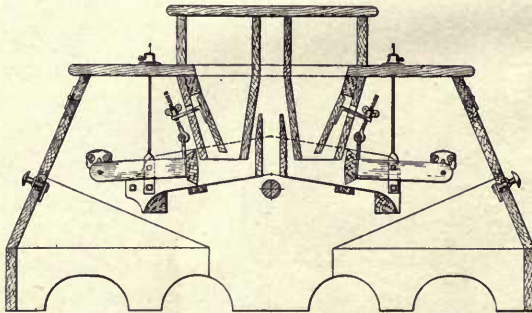
## Roll Feeder for Monarch Ball Bearing Double Roller Mills



**Roll Feeder for Monarch Ball Bearing Double Roller Mills**

This feeder is supplied with adjustable gates and has opening for roll exhaust in the center. The feed rolls are corrugated after being turned true. The corrugations are varied in size and depth to suit the stock. Ball bearings are used throughout.

This style of feeder is supplied with any size of the Monarch Roller Mills when ordered, otherwise the Vibratory Feeder described below will be sent.



**The Monarch Automatic Vibratory Feeder for Monarch Double Roller Mills**

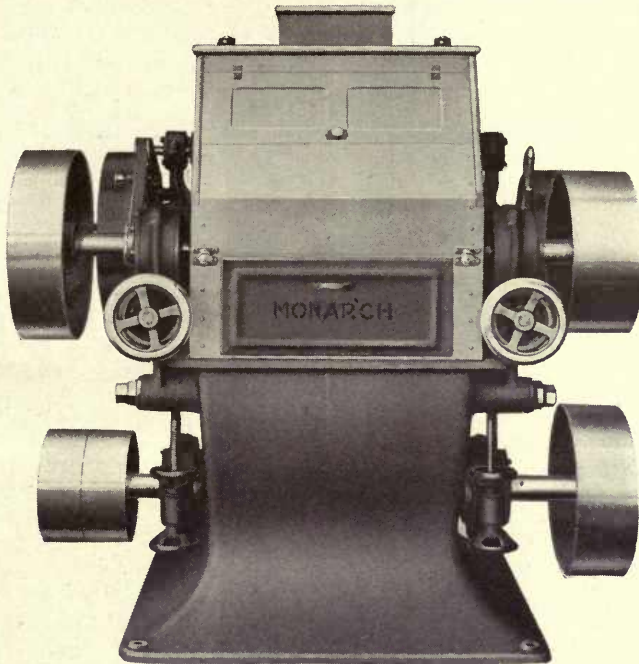
This feeder has ball bearings, noiseless ball bearing eccentrics and adjustable feed gates for spreading the stock.

The feed gates are automatically raised by any accumulation of stock above the feeder, the top being specially designed to receive such accumulations. The additional weight thus provided causes an increased amount of stock to be fed to the rolls until the amount coming to the feeder again becomes normal, when the feeding of a regular amount is resumed.

The front of the shoe is rounded and has a metal covering which delivers the stock to the rolls evenly and smoothly, be the amount large or small,



# The Monarch Ball Bearing Double Roller Mill



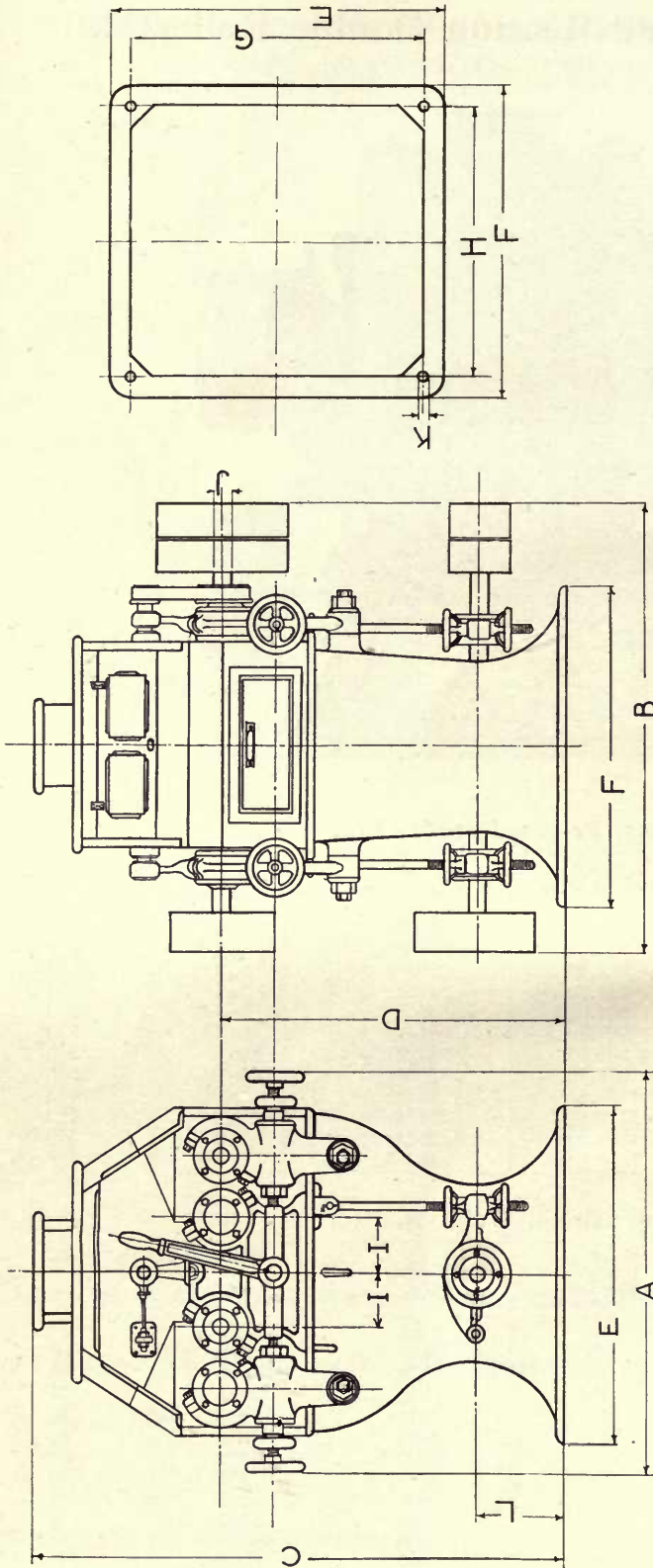
## Sizes, Prices, Speeds, Etc.

Size Inches	Price with Smooth Rolls	Price with Divided Rolls	Price with Corrugated Rolls	Approximate H. P. Required	R. P. M.
6 x 12	\$ 765.00	\$ 772.50	\$ 780.00	½ to 1	600
6 x 16	815.00	822.50	830.00	¾ to 1¼	600
6 x 20	865.00	872.50	880.00	1 to 1¾	600
7 x 14	851.00	858.50	866.00	¾ to 1¼	550
7 x 16	873.50	881.00	888.50	¾ to 1½	550
7 x 18	896.00	903.50	911.00	1 to 1¾	550
7 x 20	918.50	926.00	933.50	1¼ to 2	550
7 x 24	971.00	978.50	986.00	1½ to 2¼	550
9 x 18	1121.00	1133.50	1146.00	1¼ to 2¼	450
9 x 24	1196.00	1213.50	1231.00	1¾ to 2½	450
9 x 30	1281.00	1303.50	1326.00	2¼ to 3	450
9 x 36	1391.00	1418.50	1446.00	3 to 3¾	450

## Dimensions, Weights, Etc.

Size Inches	Size of Driven Pulley Fast Roll Inches	Face of Pulley on Slow Roll Inches	Weight Lbs.	BOXED FOR EXPORT	
				Weight Lbs.	Volume Cubic Feet
6 x 12	10 x 3	3	1630	2030	55
6 x 16	10 x 3½	3½	1750	2225	60
6 x 20	10 x 4	4	2050	2600	66
7 x 14	12 x 3½	3½	2240	2865	79
7 x 16	12 x 4	4	2540	3240	82
7 x 18	12 x 4	4	2650	3425	85
7 x 20	12 x 5	5	2800	3650	88
7 x 24	12 x 5	5	2950	3875	94
9 x 18	16 x 4	4	3600	4575	102
9 x 24	16 x 5	5	4350	5500	113
9 x 30	16 x 6	6	5100	6325	131
9 x 36	16 x 8	8	5400	6475	145

Floor Plan, Side and End Elevation of Monarch Ball Bearing Roller Mill

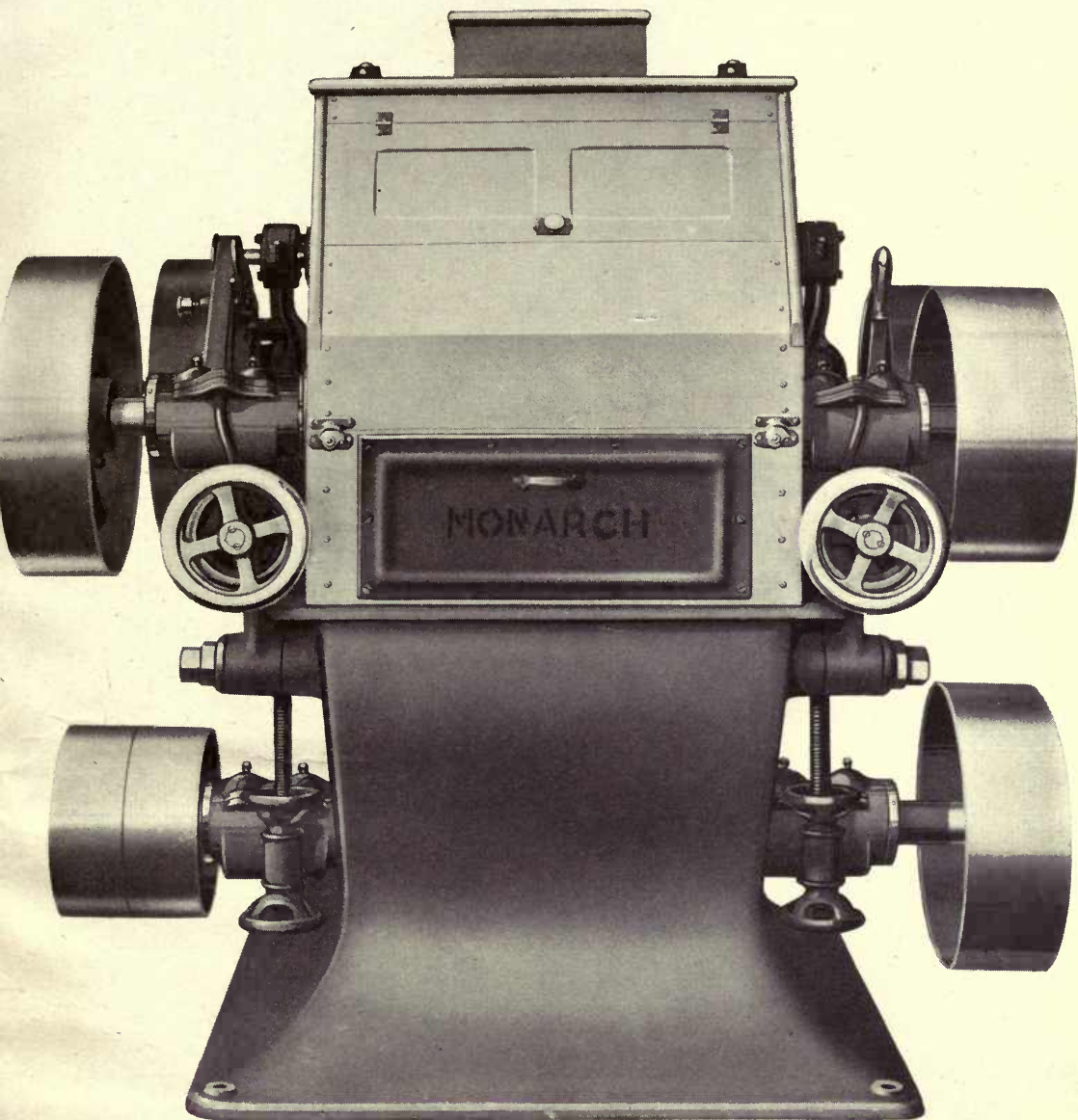


Dimensions

Size Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches	H Inches	I Inches	J Inches	K Inches	L Inches
6 x 12	39	42	58	33 1/4	32	27	28	23	5 1/4	1 7/8	3/4	10 1/4
6 x 16	39	46	58	33 1/4	32	31	28	27	5 1/4	1 7/8	3/4	10 1/4
6 x 20	39	50	58	33 1/4	32	35	28	31	5 1/4	1 7/8	3/4	10 1/4
7 x 14	45	51	59	34	36	30 1/2	32	26 1/2	5 3/4	2 1/8	3/4	10 1/4
7 x 16	45	53	59	34	36	32 1/2	32	28 1/2	5 3/4	2 1/8	3/4	10 1/4
7 x 18	45	55	59	34	36	34 1/2	32	30 1/2	5 3/4	2 1/8	3/4	10 1/4
7 x 20	45	57	59	34	36	36 1/2	32	32 1/2	5 3/4	2 1/8	3/4	10 1/4
7 x 24	45	61	59	34	36	40 1/2	32	36 1/2	5 3/4	2 1/8	3/4	10 1/4
9 x 18	49	56	64	38 1/2	41 1/2	35	37 1/2	31	6	2 1/8	3/4	12
9 x 24	49	62	64	38 1/2	41 1/2	41	37 1/2	37	6	2 1/8	3/4	12
9 x 30	49	72	64	38 1/2	41 1/2	47	37 1/2	43	6	2 1/8	3/4	12
9 x 36	49	80	64	38 1/2	41 1/2	53	37 1/2	49	6	2 1/8	3/4	12



## **The Monarch Double Roller Mill** **With Self-Oiling Phosphor Bronze Bearings**



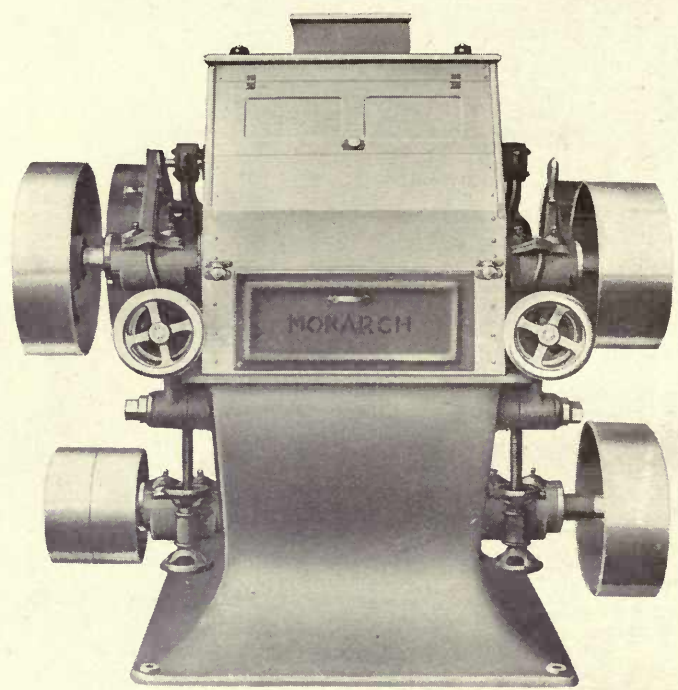
**The Monarch Double Roller Mill, with Self-Oiling Phosphor Bronze Bearings**

In general construction and operation and for convenience and capacity in the production of satisfactory results, the mill pictured in the above illustration is similar to the Monarch Double Roller Mills (described on pages 12 and 13), the only difference being, that it is equipped with self-oiling phosphor bronze bearings instead of ball bearings.

The feeder, however, is of the ball bearing type as on the other mills, the phosphor bronze being used only for the roll journals.

# The Monarch Double Roller Mill

## With Self-Oiling Phosphor Bronze Bearings



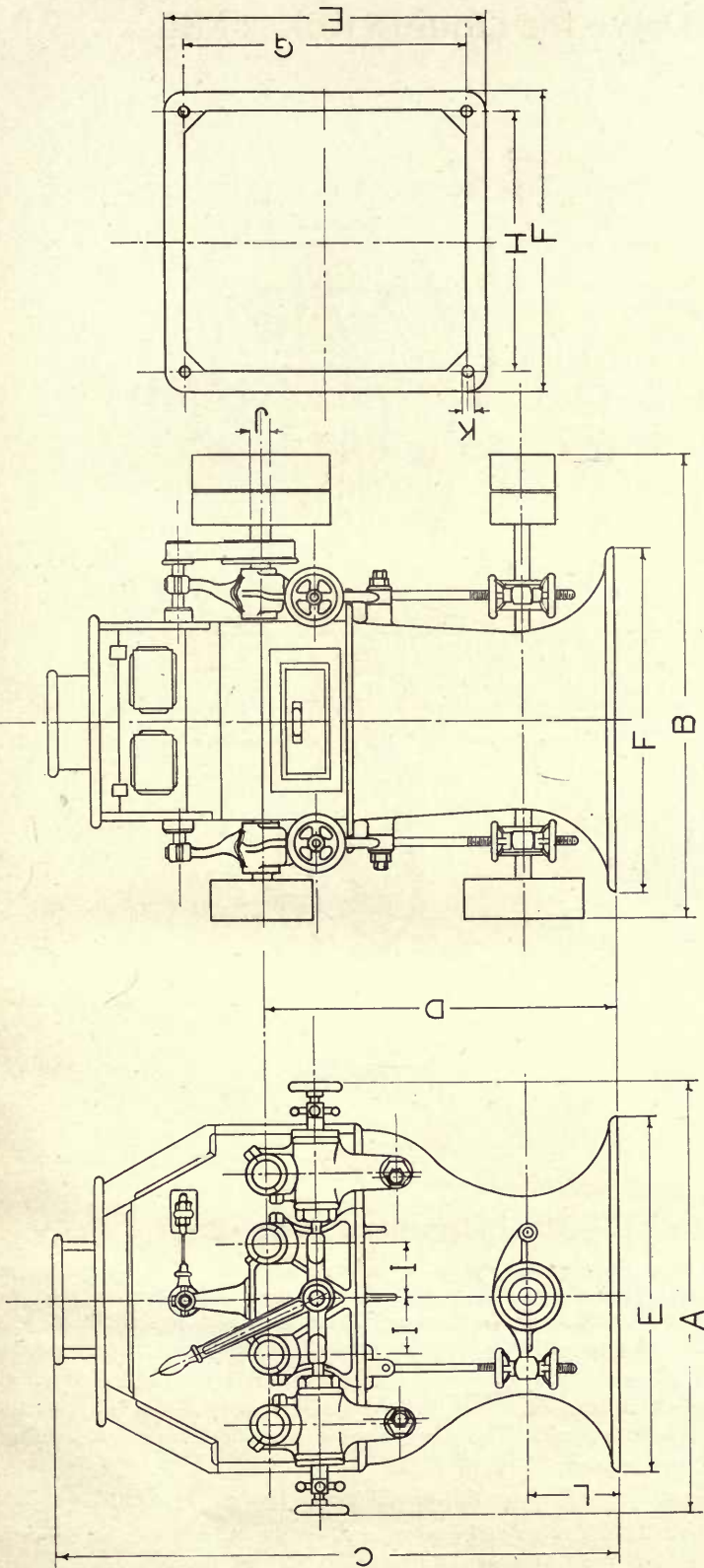
### Sizes, Prices, Speeds, Etc.

Size Inches	Price with Smooth Rolls	Price with Divided Rolls	Price with Corrugated Rolls	Approximate H. P. Required	Fast Roll Speed R. P. M.
6 x 12	\$465.00	\$472.00	\$480.00	1 to 1½	600
6 x 16	515.00	522.50	530.00	1¼ to 2	600
6 x 20	565.00	572.50	580.00	1¾ to 2¾	600
7 x 14	515.00	522.50	530.00	1½ to 2	550
7 x 16	537.50	545.00	552.50	1½ to 2½	550
7 x 18	560.00	567.50	575.00	1¾ to 2¾	550
7 x 20	582.50	590.00	597.50	2 to 3	550
7 x 24	635.00	642.50	650.00	2¼ to 3½	550
9 x 18	625.00	637.50	650.00	2 to 3½	450
9 x 24	700.00	717.50	735.00	3 to 4	450
9 x 30	785.00	807.50	830.00	4 to 5	450
9 x 36	895.00	922.50	950.00	5 to 6	450

### Dimensions, Weights, Etc.

Size Inches	Size of Driven Pulley Fast Roll Inches	Face of Pulley Slow Roll Inches	Weight Lbs.	BOXED FOR EXPORT	
				Weight Lbs.	Volume Cubic Feet
6 x 12	10 x 4	3	1650	2050	58
6 x 16	10 x 4½	3½	1730	2205	63
6 x 20	10 x 5	4	2025	2575	71
7 x 14	12 x 4½	3½	2201	2826	79
7 x 16	12 x 5	4	2350	3050	82
7 x 18	12 x 5	4	2500	3275	85
7 x 20	12 x 6	5	2700	3550	88
7 x 24	12 x 6	5	2900	3825	94
9 x 18	16 x 5	4	3400	4400	101
9 x 24	16 x 6	5	4020	5095	112
9 x 30	16 x 7	6	4650	5800	130
9 x 36	16 x 9	8	5100	6325	144

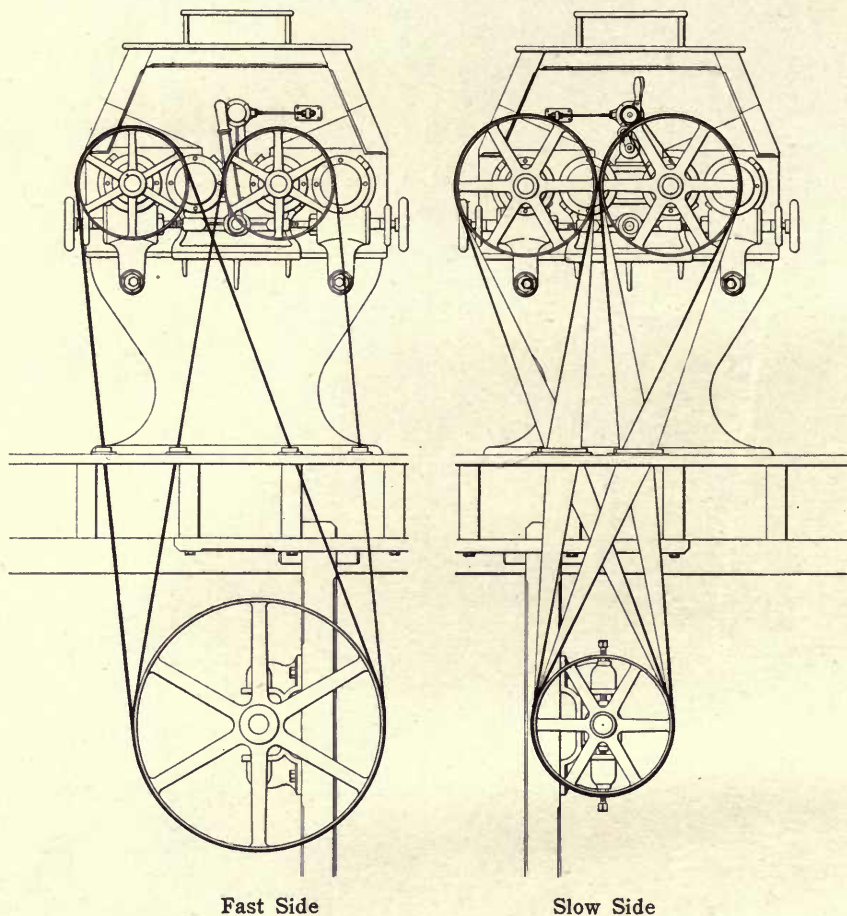




Dimensions

Size Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches	H Inches	I Inches	J Inches	K Inches	L Inches
6 x 12	39	44	58	33 1/4	32	27	28	23	5 1/4	1 7/8	5/8	12 1/2
6 x 16	39	48	58	33 1/4	32	31	28	27	5 1/4	1 7/8	5/8	12 1/2
6 x 20	39	54	58	33 1/4	32	35	28	31	5 1/4	1 7/8	5/8	12 1/2
7 x 16	45	51	59	34	36	30 5/8	32	26 1/2	5 3/4	2 1/8	5/8	13
7 x 18	45	53	59	34	36	32 5/8	32	28 1/2	5 3/4	2 1/8	5/8	13
7 x 20	45	55	59	34	36	34 5/8	32	30 1/2	5 3/4	2 1/8	5/8	13
7 x 24	45	57	59	34	36	36 5/8	32	32 1/2	5 3/4	2 1/8	5/8	13
9 x 18	49	61	63 1/2	38 1/2	41 1/2	40 1/2	32	36 1/2	6	2 7/8	3/4	15
9 x 24	49	62	63 1/2	38 1/2	41 1/2	41 1/2	32	31 1/2	6	2 7/8	3/4	15
9 x 30	49	72	63 1/2	38 1/2	41 1/2	47 1/2	37 1/2	37 1/2	6	2 7/8	3/4	15
9 x 36	49	80	63 1/2	38 1/2	41 1/2	52 3/4	37 1/2	48 3/4	6	2 7/8	3/4	15

## Monarch Drive for Double Roller Mill



Fast Side

Slow Side

### Drive "A"—The Independent Drive

This is usually called the independent drive as each roll is driven by its own belt. This is probably the most economical drive, considering the amount of power consumed. No tighteners of any kind are used, and as all the belts are narrow and light, any one of them can be thrown off at any time, without stopping the mill, and be taken up and re-laced. The roll will run by friction from the other roll during the short time it takes to lace the belt.

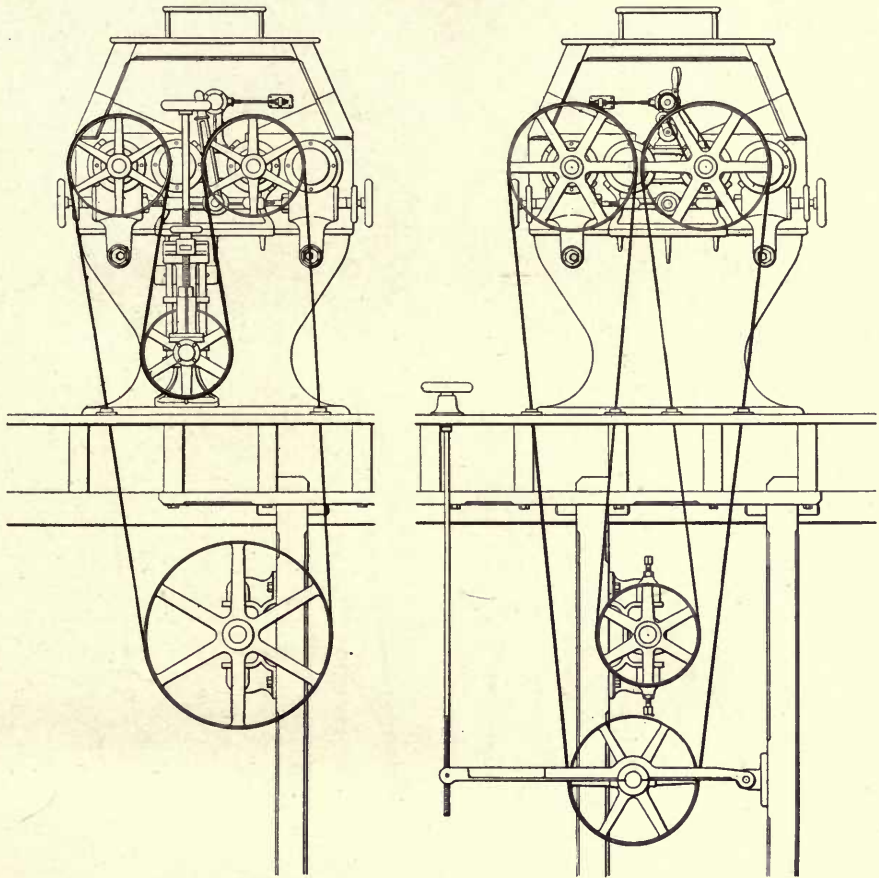
The pulleys used on the roll spindles in this drive are of large diameter and narrow face, the belt pull being slight, making an easy drive on the bearings. This does not in the least affect the roll adjustments when grinding.

The belts are open on the fast side and crossed on slow side, as will be seen by a reference to the two cuts.

Double crown pulleys are used on roll shaft unless the speed required for the differential is not the same on both pairs of rolls; we then use single pulley of right diameter to give the required speed.



## Monarch Drive for Double Roller Mill



Fast Side

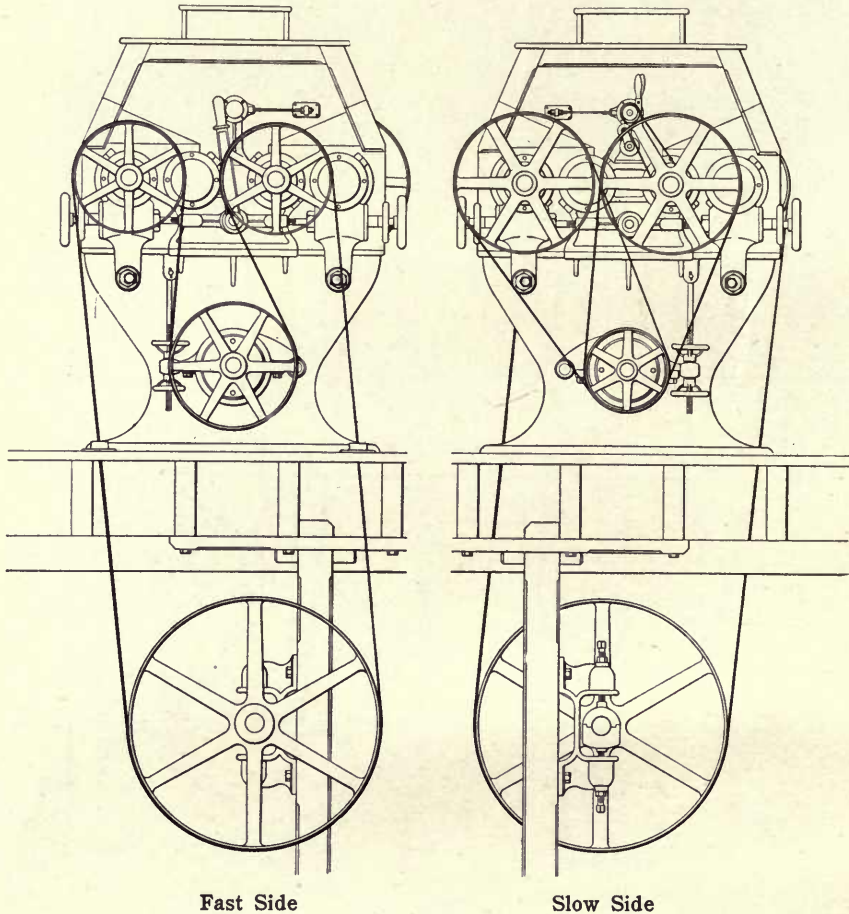
Slow Side

### Drive "B"

This is the drive that is most generally used in the mills we have recently constructed, the tightener for the fast side being above the floor on the side of the roll frame and the one for slow side being below the roll line shaft. (See illustrations.) By this method of driving, belts may be made endless and can be tightened at any time while running; no cross belts are used; both sides are open, and both fast and slow drives are long. Both pulleys on the driving ends of the rolls are in line so that the rolls present a better appearance than with any other drive. The drive is very strong, the only extra power required being just enough to operate the two tightening pulleys, both of which can be moved to take up the slack in the belts, by means of a hand wheel on side of roll frame for the fast side, and hand wheel and lighter rods on the grinding floor for slow side. Both are always in easy reach of the miller.

The pulleys used on rolls are wide of face and smaller in diameter than those on Drive "A." The fact that only two belts are required for each four-roller mill makes this a standard drive. It is the one usually figured in our specifications and will be used unless some other drive is mentioned in the contract.

## Monarch Drive for Double Roller Mill



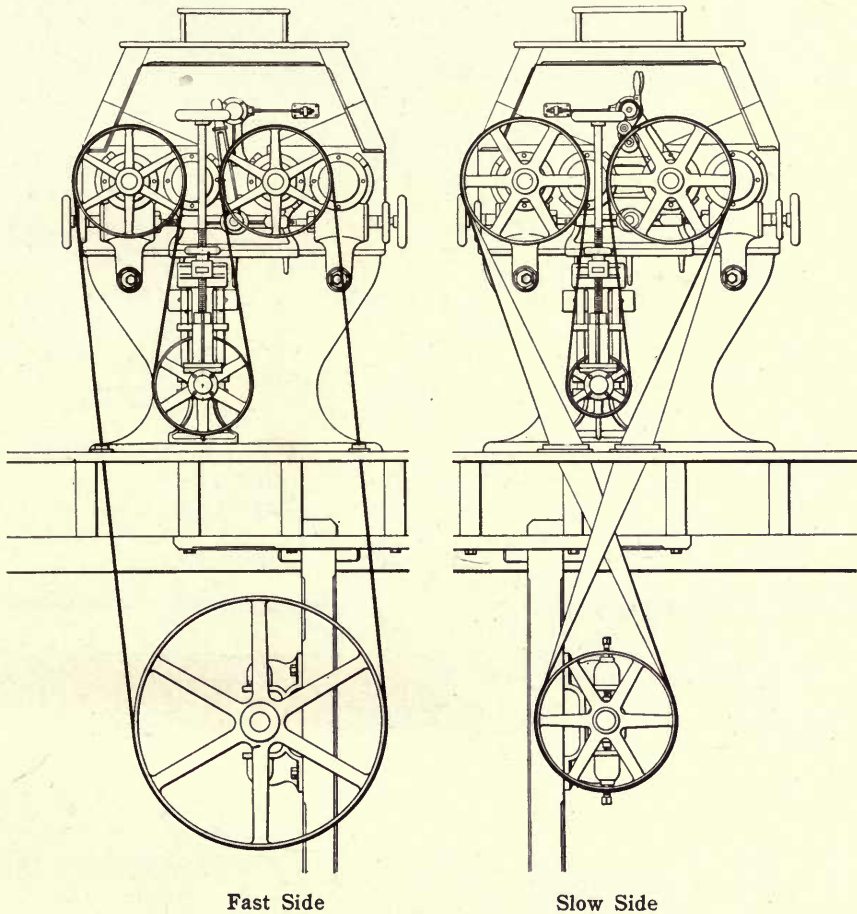
### Drive "C"

Less belting is required with this method and but one main drive pulley is necessary, the slow rolls being driven from one end of the countershaft.

Style "C," or the tunnel drive, employs a countershaft running through a tunnel in the base of mill, the shaft being adjustable and acting as a tightener for both belts. This drive has the advantage over other drives inasmuch as each pair of rolls can have slow pulleys to give any desired differential; one pair of rolls may be smooth and the other corrugated. This is especially convenient in a three or five-break mill where a four-roller mill must be used with one pair smooth and one pair corrugated. By simply placing the proper sized pulleys on the tunnel shaft and roll spindles a differential of  $2\frac{1}{2}$  to 1 may be employed for the corrugated pair of rolls and a differential of  $1\frac{1}{2}$  to 1 for the smooth rolls, the changes being limited only by the number of different diameters of pulleys that can be used. Practically any desired differential can be easily secured by the use of Drive "C." This feature has made it a favorite drive in many of the larger mills.



## Monarch Drive for Double Roller Mill



Fast Side

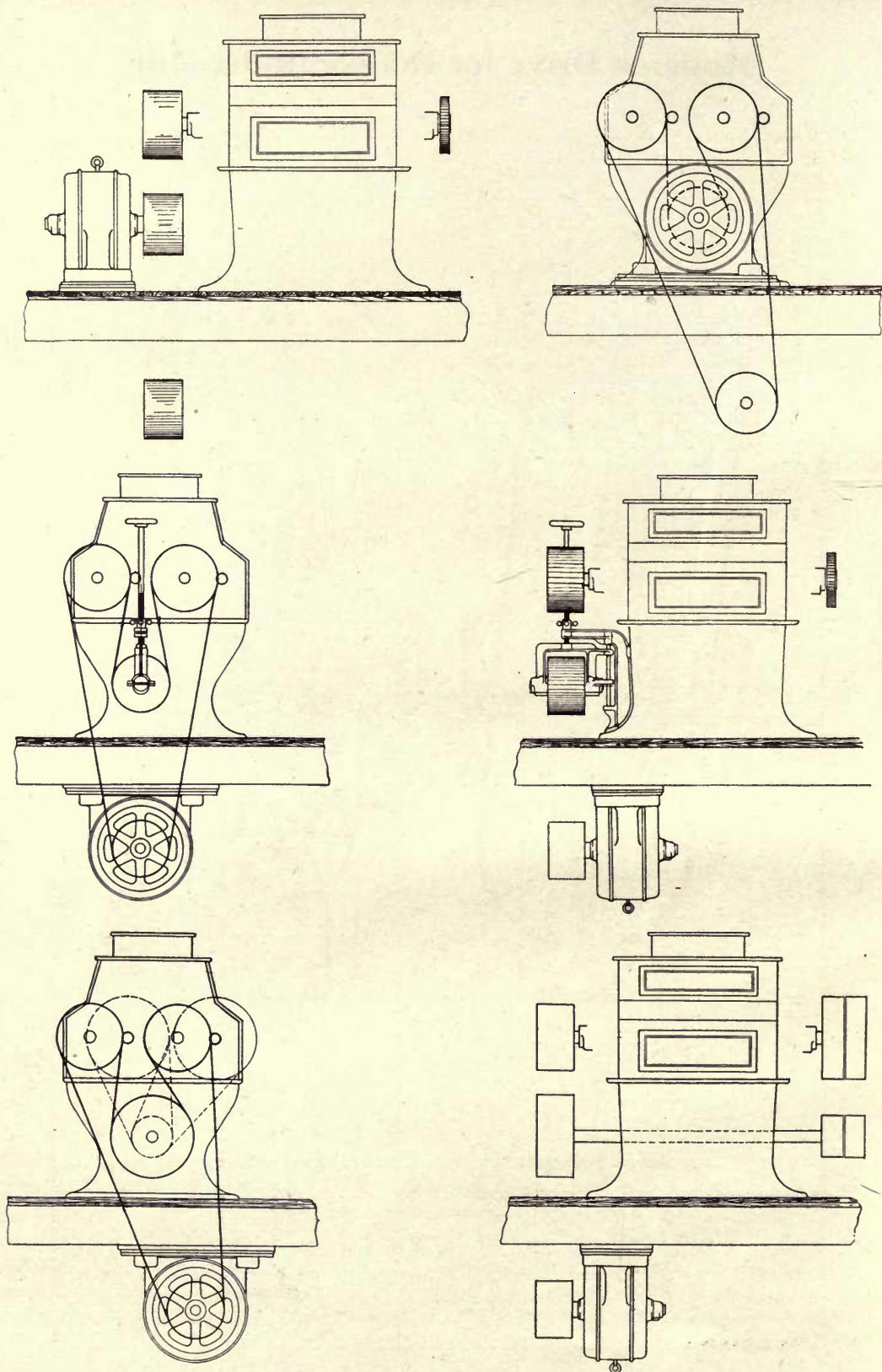
Slow Side

### Drive "D"

Where long belts are required with tighteners on both sides, this device is especially suitable.

Drive "D" is accomplished by using adjustable tighteners on both sides of frame, the belt which drives the slow roll being crossed.

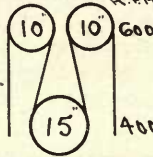
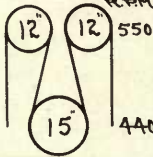
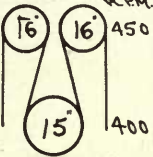
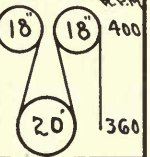
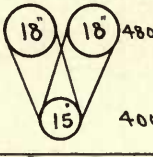
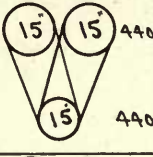
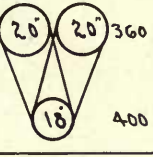
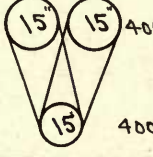
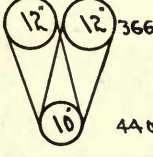
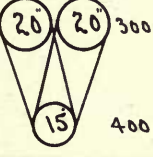
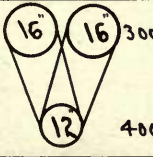
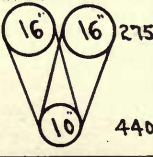
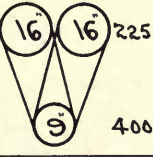
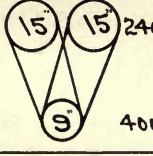
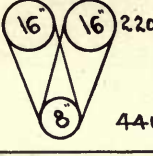
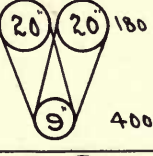
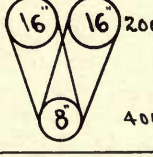
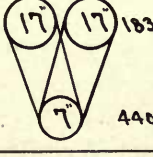
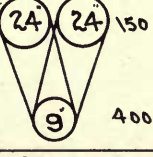
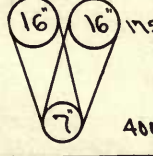
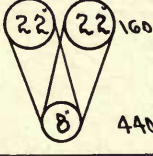
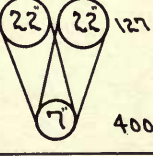
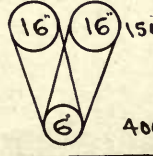
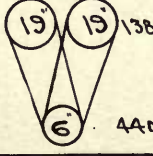
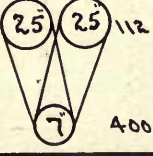
We recommend this drive for corn mills and for locations where there is not room enough to place a "B" belt tightener below the roll line shaft. This drive is one of the oldest in use and the fact that the slow belt is crossed does not interfere with its efficiency or strength. It admits of using slow and fast pulleys of the same size, on roller mills, the differential being the difference in diameter of the fast and slow pulleys on the roll line. For example, a fast pulley 40 inches in diameter and a slow pulley of 16 inches diameter will give a differential of exactly  $2\frac{1}{2}$  to 1. All other differentials being produced in similar manner and the pulleys on the roller mills all being exactly the same size, gives the line of roller mills a uniformity that is pleasing.



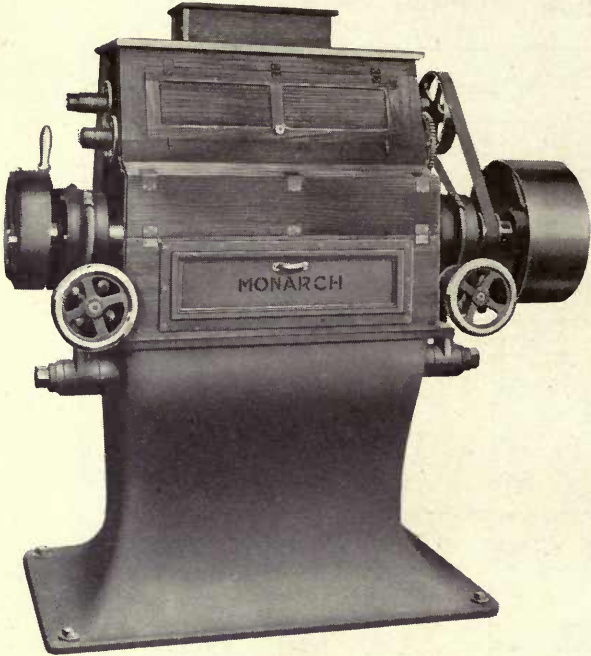
Illustrations Showing Methods of Driving Monarch Double Roller Mills by Motor



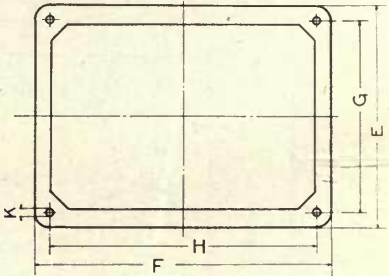
# Monarch Drive for Double Roller Mill Style "C" Drive

Ratio of Differential	Size of Rolls			
	6"	7"	9"	10"
	"C" Drive - Fast Side			
				
Ratio of Differential	Slow Side			
	$\frac{1}{4}$ to 1			
	$\frac{1}{2}$ to 1			
	2 to 1			
	$2\frac{1}{2}$ to 1			
	3 to 1			
	$3\frac{1}{2}$ to 1			
	4 to 1			

# The Monarch Ball Bearing Single Roller Mill



The Monarch Single Roller Mill is used for the same purpose and, in construction and design, is much the same as the double machine. Where space is limited and the requirements do not necessitate the use of more than a single pair of rolls, this machine will give excellent results.



## Sizes, Prices, Speeds, Etc.

Size Inches	Price with Smooth Rolls	Price with Corrugated Rolls	Additional Price for Gear Drive	Fast Roll Speed R. P. M.	H. P. Required	Size of Drive Pulley Fast Side Inches	Size of Drive Pulley Slow Side Inches
6 x 12	\$435.00	\$440.00	\$20.00	600	1/4 to 1/2	10 x 3	12 x 3
6 x 16	460.00	468.00	20.00	600	1/4 to 5/8	10 x 3 1/2	12 x 3 1/2
6 x 20	495.00	503.00	20.00	600	1/4 to 5/8	10 x 3 1/2	12 x 3 1/2
7 x 14	510.00	517.50	20.00	550	1/2 to 3/4	12 x 3 1/2	16 x 3 1/2
7 x 16	520.00	528.00	20.00	550	1/2 to 7/8	12 x 3 1/2	16 x 3 1/2
7 x 18	537.50	545.00	20.00	550	1/2 to 1	12 x 3 1/2	16 x 3 1/2
7 x 20	555.00	565.00	20.00	550	3/4 to 1 1/4	12 x 4	18 x 3 1/2
9 x 18	670.00	682.50	25.00	450	3/4 to 1 1/4	16 x 4	22 x 4
9 x 24	720.00	737.50	25.00	450	1 to 1 1/2	16 x 5	22 x 5
9 x 30	770.00	792.50	25.00	450	1 1/4 to 1 3/4	16 x 5	22 x 5

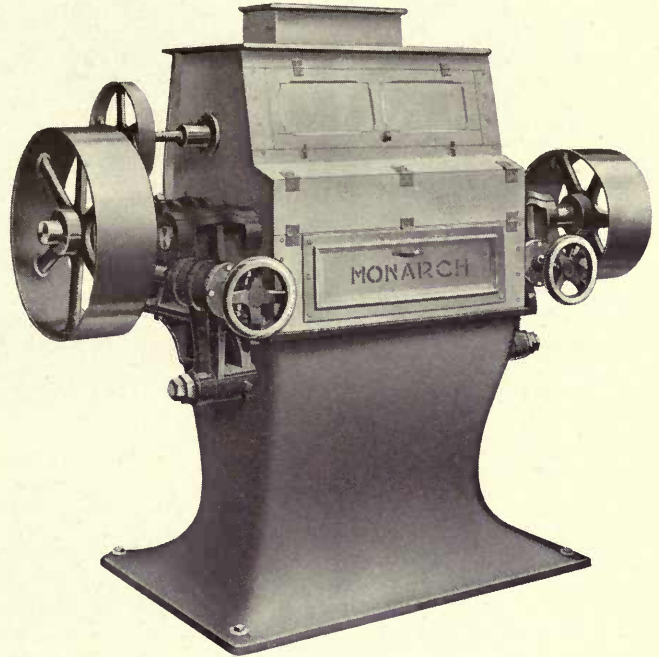
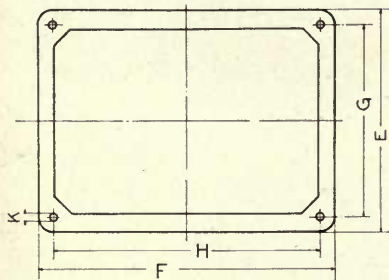
## Dimensions, Weights, Etc.

Size Inches	OVER-ALL DIMENSIONS				Floor to Center of Rolls Inches	FLOOR SPACE, INCHES					Weight Lbs.	BOXED FOR EXPORT	
	Height Inches	Length Pulley Drive Inches	Length Gear Drive Inches	Width Inches		E	F	G	H	K		Weight Lbs.	Volume Cu. Ft.
6 x 12	58	42	38	27	33 1/4	25	27	21	23	3/4	725	1200	38
6 x 16	58	46	42	27	33 1/4	25	31	21	27	3/4	775	1300	42
6 x 20	58	50	46	27	33 1/4	25	35	21	31	3/4	850	1350	46
7 x 14	60	51	47	28	34	27	30	23	26	3/4	1150	1750	50
7 x 16	60	53	49	28	34	27	32	23	28	3/4	1260	1800	52
7 x 18	60	55	51	28	34	27	34	23	30	3/4	1375	2025	54
7 x 20	60	57	53	28	34	27	36	23	32	3/4	1500	2200	56
9 x 18	62	56	51	31	38 1/2	30	35	26	31	3/4	1900	2700	63
9 x 24	62	62	57	31	38 1/2	30	41	26	37	3/4	2250	3000	69
9 x 30	62	72	64	31	38 1/2	30	47	26	43	3/4	2600	3600	80



## The Monarch Single Roller Mill With Self-Oiling Phosphor Bronze Bearings

The Monarch Single Roller Mill is used for the same purpose and, in construction and design, is much the same as the double machine. Where space is limited and the requirements do not necessitate the use of more than a single pair of rolls, this machine will give excellent results.



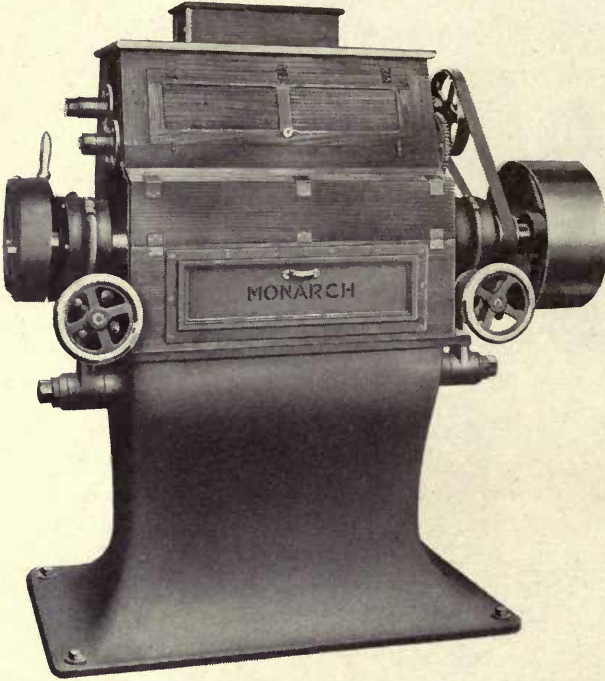
### Sizes, Prices, Speeds, Etc.

Size Inches	Price with Smooth Rolls	Price with Corrugated Rolls	Additional Price for Gear Drive	Fast Roll Speed R. P. M.	H. P. Required	Size of Drive Pulley Fast Side Inches	Size of Drive Pulley Slow Side Inches
6 x 12	\$285.00	\$294.00	\$20.00	600	$\frac{1}{2}$ to 1	10 x 4	12 x 3
6 x 16	309.00	318.00	20.00	600	$\frac{1}{2}$ to $1\frac{1}{4}$	10 x $4\frac{1}{2}$	12 x $3\frac{1}{2}$
6 x 20	339.00	348.00	20.00	600	$\frac{1}{2}$ to $1\frac{1}{2}$	10 x 5	12 x 4
7 x 14	345.00	352.50	20.00	550	$\frac{3}{4}$ to $1\frac{1}{4}$	12 x $4\frac{1}{2}$	16 x 3
7 x 16	360.00	367.00	20.00	550	$\frac{3}{4}$ to $1\frac{1}{2}$	12 x 5	16 x $3\frac{1}{2}$
7 x 18	375.00	382.50	20.00	550	1 to $1\frac{3}{4}$	12 x 5	16 x 4
7 x 20	390.00	397.50	20.00	550	1 to 2	12 x 6	18 x $3\frac{1}{2}$
9 x 18	415.00	427.50	25.00	450	$1\frac{1}{4}$ to 2	16 x 5	22 x 4
9 x 24	465.00	482.50	25.00	450	$1\frac{3}{4}$ to $2\frac{1}{2}$	16 x 6	22 x 5
9 x 30	525.00	547.50	25.00	450	$2\frac{1}{2}$ to 3	16 x 7	22 x 6

### Dimensions, Weights, Etc.

Size Inches	OVER-ALL DIMENSIONS				Floor to Center of Rolls Inches	FLOOR SPACE, INCHES					Weight Lbs.	BOXED FOR EXPORT	
	Height Inches	Length Gear Driven Inches	Length Pulley Driven Inches	Width Inches		E	F	G	H	K		Weight Lbs.	Volume Cu. Ft.
6 x 12	58	40	44	27	$33\frac{1}{4}$	25	27	21	23	$\frac{3}{4}$	750	1225	40
6 x 16	58	44	48	27	$33\frac{1}{4}$	25	31	21	27	$\frac{3}{4}$	800	1325	44
6 x 20	58	50	54	27	$33\frac{1}{4}$	25	35	21	31	$\frac{3}{4}$	875	1390	49
7 x 14	60	47	51	28	34	27	30	23	26	$\frac{3}{4}$	1200	1785	50
7 x 16	60	49	53	28	34	27	32	23	28	$\frac{3}{4}$	1300	1970	52
7 x 18	60	51	55	28	34	27	34	23	30	$\frac{3}{4}$	1450	2100	54
7 x 20	60	53	57	28	34	27	36	23	32	$\frac{3}{4}$	1560	2300	56
9 x 18	62	51	56	31	$38\frac{1}{2}$	30	35	26	31	$\frac{3}{4}$	2100	2800	63
9 x 24	62	57	62	31	$38\frac{1}{2}$	30	41	26	37	$\frac{3}{4}$	2500	3100	69
9 x 30	62	65	72	31	$38\frac{1}{2}$	30	47	26	43	$\frac{3}{4}$	2900	3780	80

## The Monarch Roller Oat Crusher



The Monarch Roller Oat Crusher

The Monarch Roller Oat Crusher will be furnished with either a single or double pair of rolls in sizes from 7 x 20 to 9 x 36 inches and with either phosphor bronze or ball bearings as desired and specified.

The roller force feeder is driven from the roll spindle and both the crushing and feeder rolls are corrugated in a manner proven by experience to be most desirable and efficient. The machine has no differential and can be arranged on one side for either pulley or gear drive.

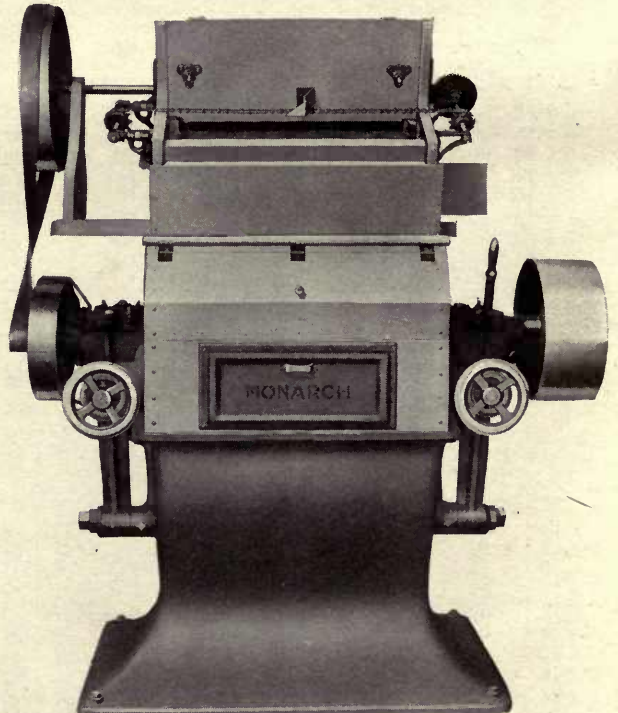
Materials and workmanship are first-class in every respect, adjustments are convenient and positive and a glance at the illustration will show a symmetrical and well-balanced machine.

## The Monarch Single Roller Mill for Cracking Corn

Equipped with Monarch Magnetic Separator and with the rolls properly corrugated, the mill shown opposite gives excellent service as a "Corn Cracker."

Furnished in either single or double type and with plain or ball bearings as desired.

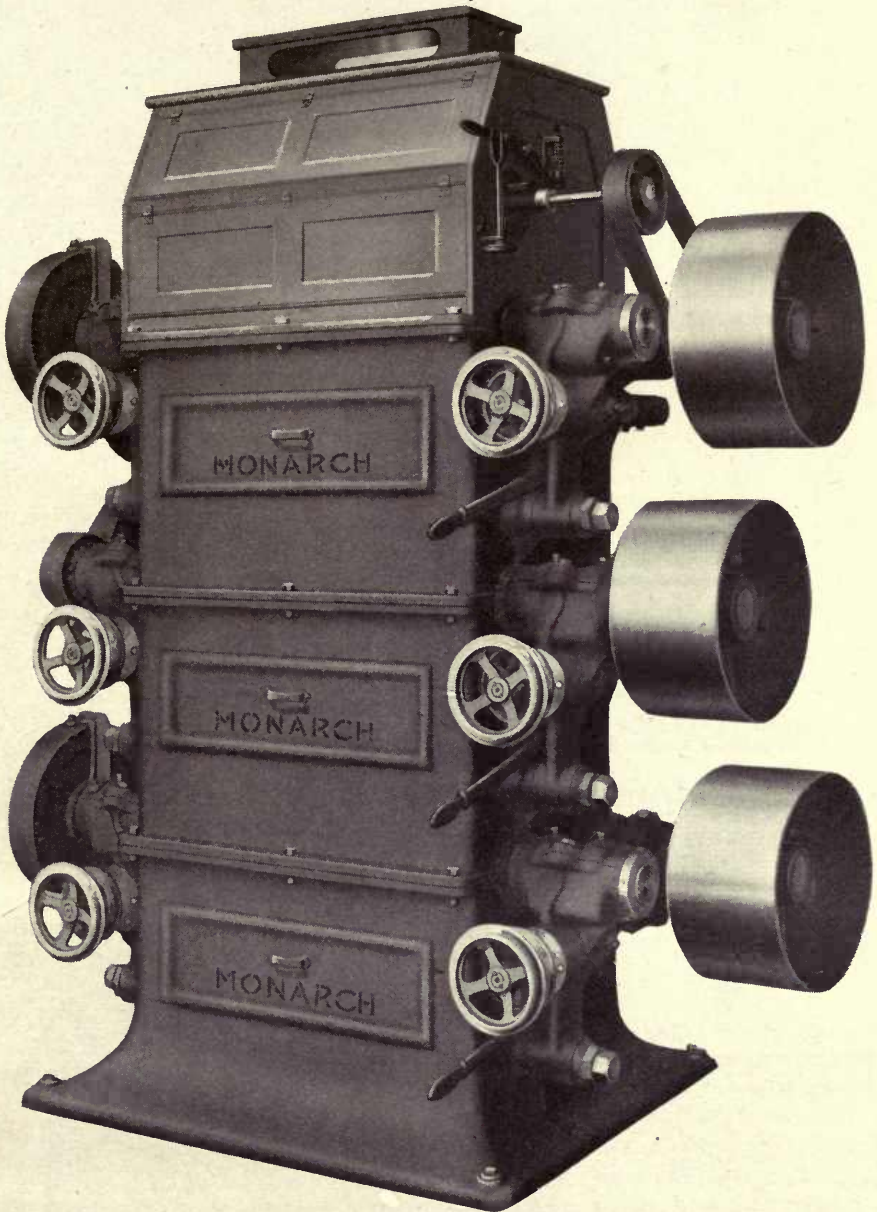
To ascertain price of the combination, refer to section of catalog containing price list of the Monarch Magnetic Separator and add price of size of separator desired to the price of roller mill desired.



The Monarch Single Roller Mill—For Cracking Corn



## **The Monarch Three Pair High Roller Mill With Self-Oiling Phosphor Bronze Bearings**



**Monarch Three Pair High Roller Mill, Self-Oiling Phosphor Bronze Bearings**

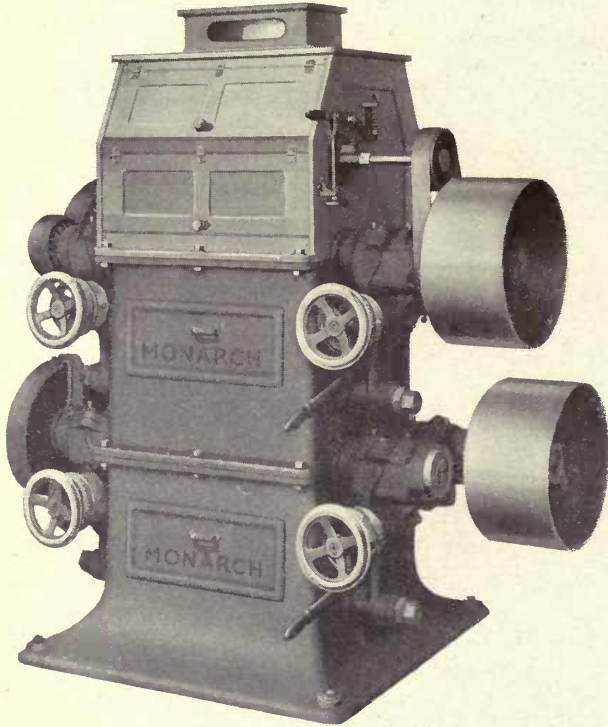
Recommended for use in feed and corn meal grinding. The three pairs of rolls, mounted one above the other, are corrugated beginning with the top pair, coarse, medium and fine, thus providing for three successive reductions of an increasing degree of fineness.

The illustration shows machine equipped with gear drive on slow side and belt drive on fast side. This is our standard construction, but to suit the preference of the purchaser we will furnish the mill with any of the drives shown on pages 37 and 38. Roll differential provided by gear drive ranges from 1 to 1 to 3 to 1.

Floor idlers for both slow and fast sides are shown in another section of our general catalog, which will be furnished on application.

Unless otherwise ordered, we furnish machine-cut gears for driving differential of the slow side of the mills shown above.

## The Monarch Two Pair High Roller Mill With Self-Oiling Bearings



The Monarch Two Pair High Roller Mill,  
with Self-Oiling Bearings

This mill is similar to the one shown on page 29, the difference being in the omission of one unit.

Where medium fine grinding and moderate capacity are desired, we guarantee the Monarch Two Pair High to give satisfactory service in reducing corn, rye, oats, screenings, spices, etc.

Reports which we have had from time to time, indicate that this mill is gaining preference where fine grinding is desired and where economy is a consideration.

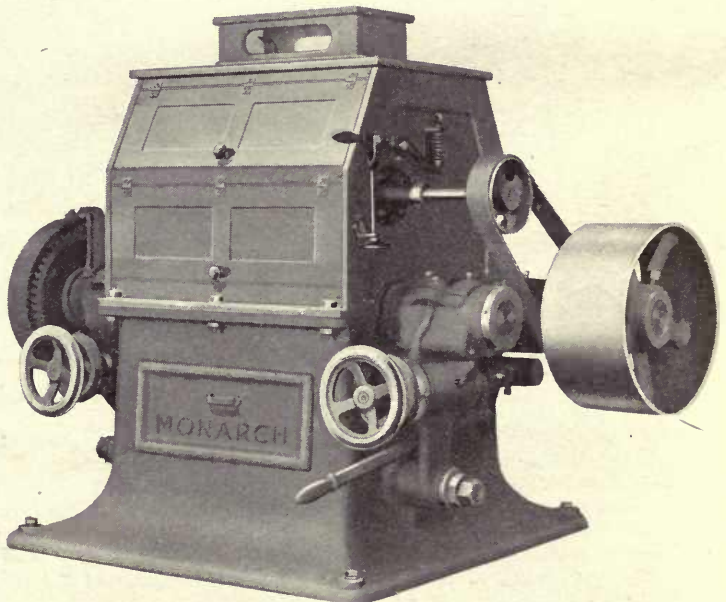
## The Monarch One Pair High Roller Mill With Self-Oiling Bearings

### The Bottom Unit of The Monarch Three Pair High Roller Mill

For cracking corn, rolling oats or grinding screenings or other materials requiring only one reduction, the Monarch One Pair High will give the desired results.

A glance at the illustration shows a strongly built machine and the name "Monarch" guarantees workmanship and materials.

Unless otherwise ordered, we furnish machine-cut gears for driving differential of the slow side of the mills shown above.

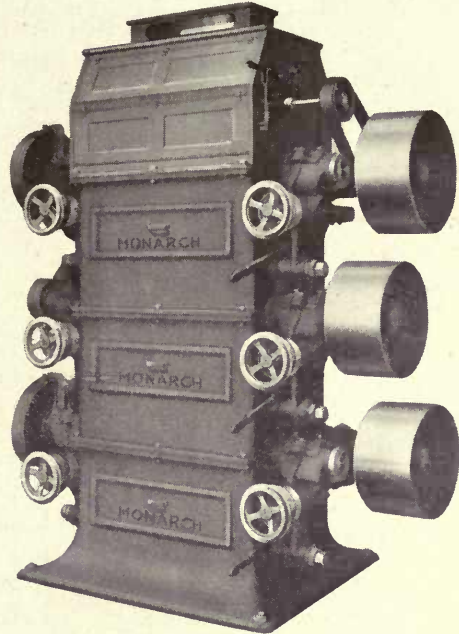
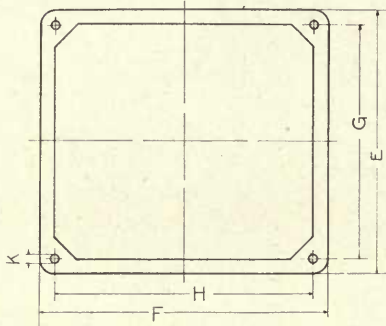


The Monarch One Pair High Roller Mill,  
with Self-Oiling Bearings



# The Monarch Three Pair High Roller Mill

## With Self-Oiling Phosphor Bronze Bearings—Pulley or Gear Driven



### Sizes, Prices, Capacities, Etc.

Size Inches	List Price	Size of Pulleys on Fast Side Inches	Size of Pulleys on Slow Side Inches	Fast Roll Speed R. P. M.	Capacity Per Hour Bushels of Meal	Capacity Per Hour Bushels of Feed	H. P. Required
9 x 14	\$ 830.00	15 x 6 14 x 6 13 x 6	16 x 5 15 x 5 14 x 5	550	20 to 35	40 to 60	9 to 13
9 x 18	900.00	18 x 7 16 x 7 14 x 7	20 x 6 17 x 6 16 x 6	550	30 to 45	50 to 75	10 to 15
9 x 24	1000.00	18 x 8 16 x 8 14 x 8	20 x 7 17 x 7 16 x 7	550	40 to 60	65 to 100	12 to 20
9 x 30	1150.00	18 x 9 16 x 9 14 x 9	20 x 8 17 x 8 16 x 8	550	50 to 75	85 to 125	15 to 25

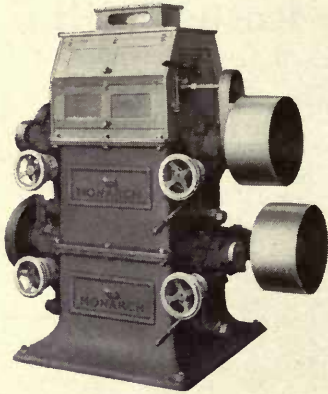
### Dimensions, Weights, Etc.

Size Inches	OVER-ALL DIMENSIONS				FLOOR SPACE, INCHES					Weight Lbs.	BOXED FOR EXPORT	
	Height Inches	Length Pulley Driven Inches	Length Gear Driven Inches	Width Inches	E	F	G	H	K		Weight Lbs.	Volume Cu. Ft.
9 x 14	87½	55	49	36	35¾	29¼	31¾	25¼	¾	4200	4700	101
9 x 18	87½	59	53	36	35¾	33¼	31¾	29¼	¾	4900	5475	108
9 x 24	87½	66	60	36	35¾	39¼	31¾	35¼	¾	5700	6350	121
9 x 30	87½	73	67	36	35¾	45¼	31¾	41¼	¾	6400	7125	133

### Machine-Cut Spur Gears for Roller Mills

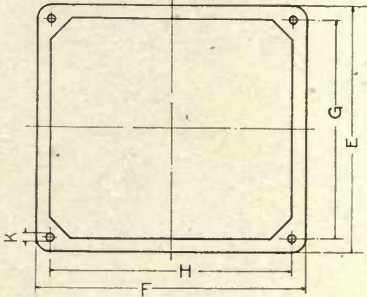
In order to facilitate delivery, when ordering gears for roll driving, give the exact diameter of rolls and roll spindles and depth and width of key seat. Also state what differential is desired.

Roll Diameter Inches	Price Both Iron Gears	Price Iron and Rawhide	Roll Diameter Inches	Price Both Iron Gears	Price Iron and Rawhide
6 and 7	\$20.00	\$30.00	12	\$ 45.00	\$ 70.00
9	25.00	40.00	14	65.00	100.00
10	30.00	50.00	18	100.00	160.00



The Monarch  
Two Pair High  
Roller Mill

With Self-Oiling Phosphor  
Bronze Bearings—Pulley or  
Gear Driven

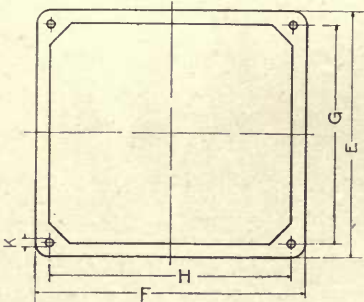


Sizes, Prices, Capacities, Etc.

Size Inches	List Price	Size of Pulleys on Fast Side Inches	Size of Pulleys on Slow Side Inches	Fast Roll Speed R. P. M.	Capacity Per Hour Bushels of Meal	Capacity Per Hour Bushels of Feed	H. P. Required
9 x 14	\$600.00	15 x 6 14 x 6	15 x 5 14 x 5	550	15 to 20	30 to 45	5 to 8
9 x 18	650.00	16 x 7 15 x 7	16 x 6 15 x 6	550	20 to 30	45 to 60	7 to 10
9 x 24	735.00	16 x 8 15 x 8	16 x 7 15 x 7	550	25 to 40	55 to 80	9 to 14
9 x 30	830.00	16 x 9 15 x 9	16 x 8 15 x 8	550	35 to 50	65 to 100	12 to 18

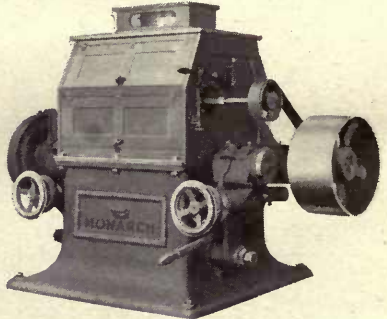
Dimensions, Weights, Etc.

Size Inches	OVER-ALL DIMENSIONS				FLOOR SPACE, INCHES					Weight Lbs.	BOXED FOR EXPORT	
	Height Inches	Length Pulley Driven Inches	Length Gear Driven Inches	Width Inches	E	F	G	H	K		Weight Lbs.	Volume Cu. Ft.
9 x 14	67	55	49	36	35 3/4	29 1/4	31 3/4	25 1/4	3/4	2500	3250	77
9 x 18	67	59	53	36	35 3/4	33 1/4	31 3/4	29 1/4	3/4	3200	4150	83
9 x 24	67	66	60	36	35 3/4	39 1/4	31 3/4	35 1/4	3/4	3700	4700	92
9 x 30	67	73	67	36	35 3/4	45 1/4	31 3/4	41 1/4	3/4	4300	5425	103



The Monarch  
One Pair High  
Roller Mill

With Self-Oiling Phosphor  
Bronze Bearings—Pulley or  
Gear Driven



Sizes, Prices, Speeds, Etc.

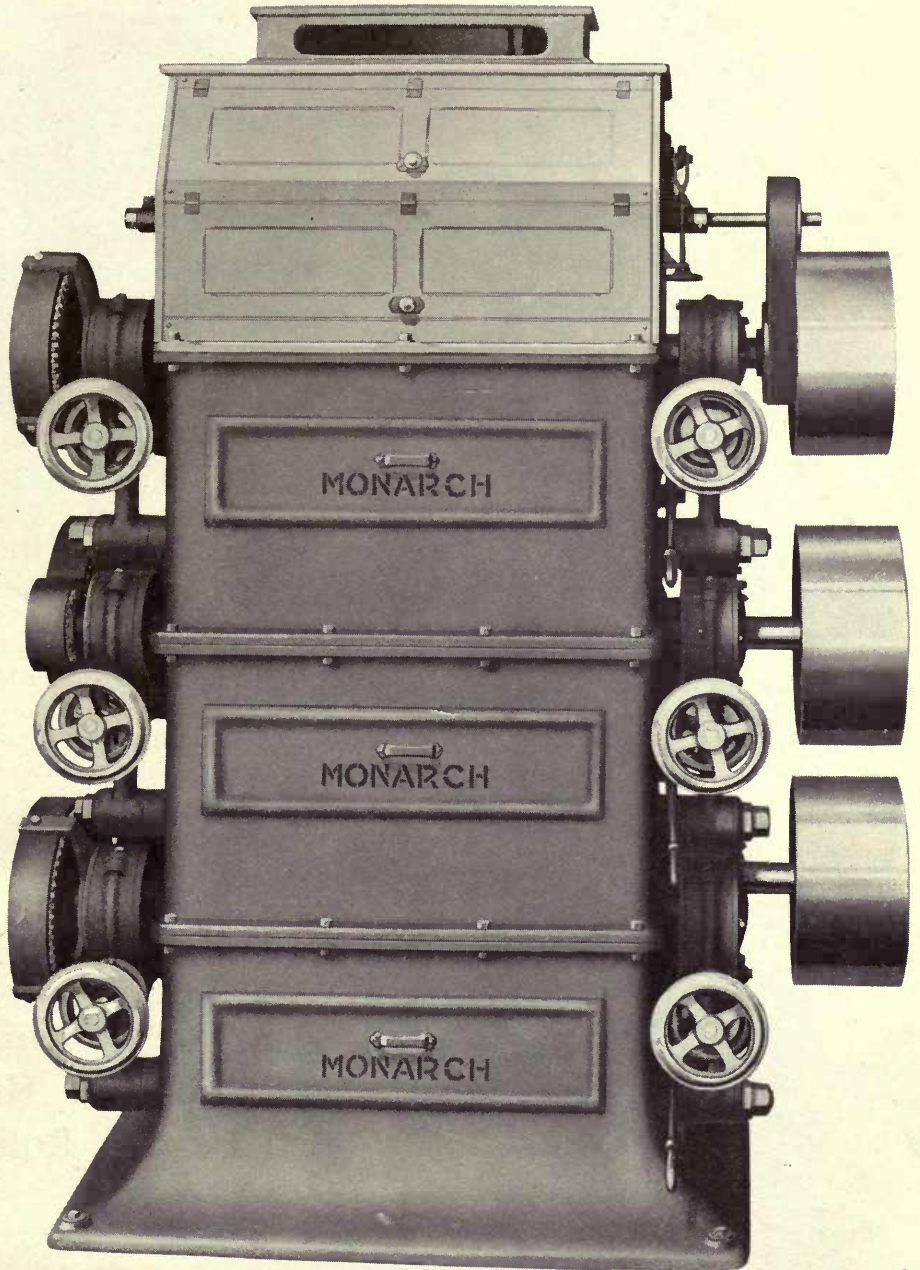
Size Inches	List Price	Size of Pulleys on Fast Side Inches	Size of Pulleys on Slow Side Inches	Fast Roll Speed R. P. M.	H. P. Required
9 x 14	\$380.00	16 x 6	18 x 5	500	1 to 1 1/2
9 x 18	410.00	16 x 7	18 x 6	500	1 1/4 to 2
9 x 24	460.00	16 x 8	18 x 7	500	1 3/4 to 2 1/2
9 x 30	520.00	16 x 9	18 x 8	500	2 1/4 to 3

Dimensions, Weights, Etc.

Size Inches	OVER-ALL DIMENSIONS				FLOOR SPACE, INCHES					Weight Lbs.	BOXED FOR EXPORT	
	Height Inches	Length Pulley Driven Inches	Length Gear Driven Inches	Width Inches	E	F	G	H	K		Weight Lbs.	Volume Cu. Ft.
9 x 14	46 1/2	55	49	36	35 3/4	29 1/4	31 3/4	25 1/4	3/4	1500	1950	54
9 x 18	46 1/2	59	53	36	35 3/4	33 1/4	31 3/4	29 1/4	3/4	1700	2300	57
9 x 24	46 1/2	66	60	36	35 3/4	39 1/4	31 3/4	35 1/4	3/4	2000	2620	64
9 x 30	46 1/2	73	67	36	34 3/4	45 1/4	31 3/4	41 1/4	3/4	2300	3000	71



## The Monarch Ball Bearing Three Pair High Roller Mill



**The Monarch Ball Bearing Three Pair High Roller Mill**

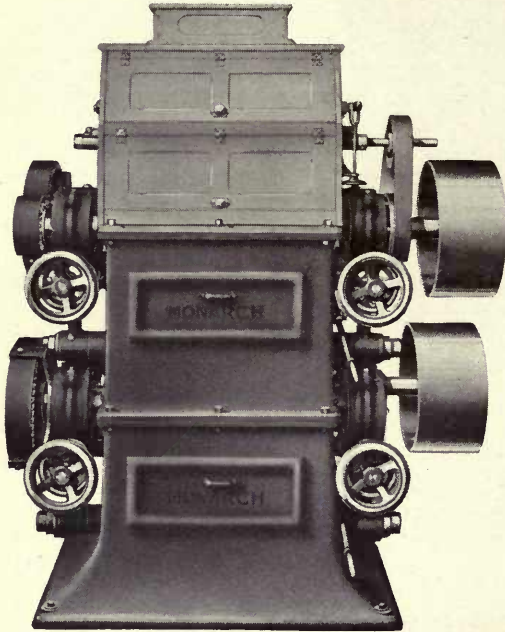
The notation accompanying illustration on page 29 applies as well to the Three Pair High Roller Mill shown above and in addition to the advantages which it clearly sets forth, this mill is equipped with ball bearings.

Not only will the ball bearing mill grind oats, corn or mixed feed to a finish, but it will perform the operation in the most economical manner, saving power, reducing lubrication expense, and requiring very little attention.

Drive will be arranged to suit local conditions.

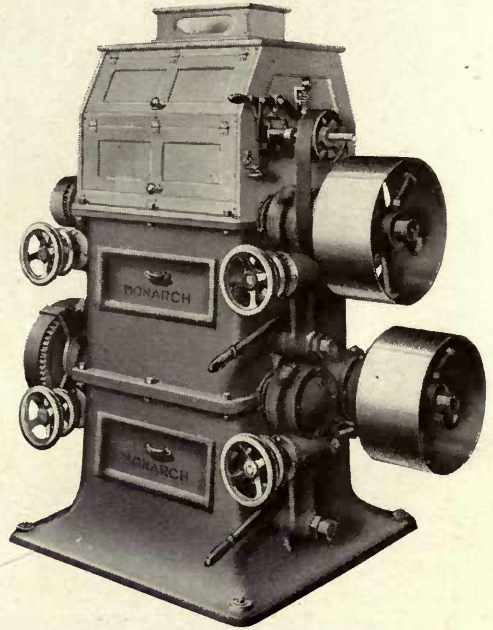
Unless otherwise ordered, we furnish machine-cut gears for driving differential of the slow side of the mill shown above.

## The Monarch Two Pair High Ball Bearing Roller Mill



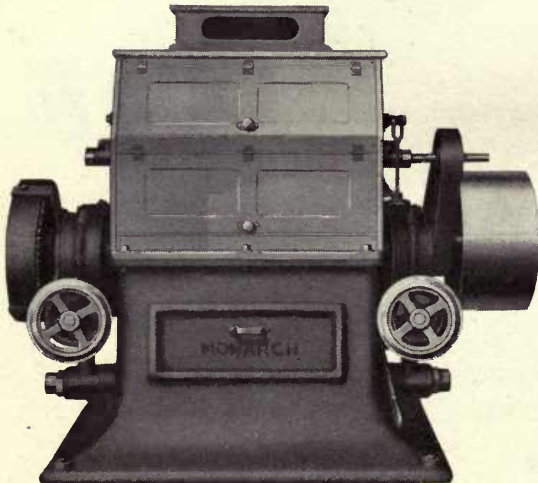
**The Monarch Two Pair High  
Ball Bearing Roller Mill**

Another view of the Two Pair High Ball Bearing Mill. Both views of this mill show gear drive on slow side.



**The Monarch Two Pair High  
Ball Bearing Roller Mill**

This is another modification of the Monarch Three Pair High Ball Bearing Roller Mill which will make a closer reduction and has a larger capacity than the Monarch One Pair High shown below



**The Monarch One Pair High  
Ball Bearing Roller Mill**

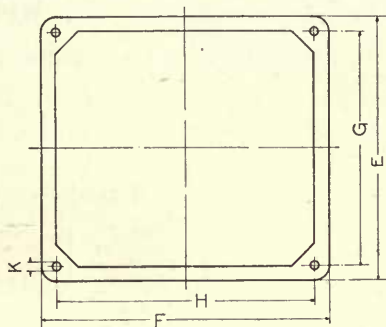
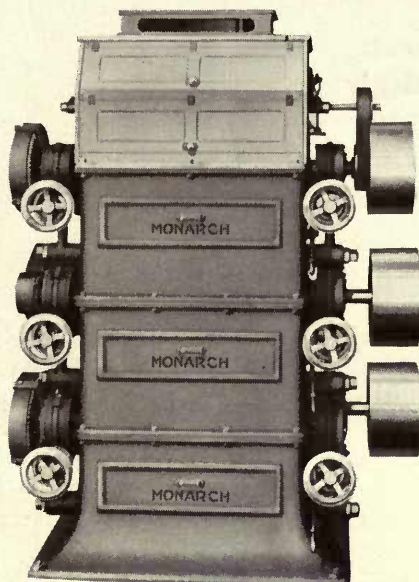
Showing mill with gear drive on slow side. This is the bottom unit of our Three Pair High Ball Bearing Roller Mill and was designed to supply a growing demand for a one-reduction machine for grinding screenings, rolling oats, cracking corn, etc.

Unless otherwise ordered, we furnish machine-cut gears for driving differential of the slow side of the mills shown above.

## The Monarch One Pair High Ball Bearing Roller Mill



# The Monarch Three Pair High Ball Bearing Roller Mill Pulley or Gear Driven



## Sizes, Prices, Capacities, Etc.

Size Inches	List Price	Size of Pulleys on Fast Side Inches	Size of Pulleys on Slow Side Inches	Fast Roll Speed R. P. M.	Capacity Per Hour Bushels of Meal	Capacity Per Hour Bushels of Feed	H. P. Required
9 x 14	\$1245.00	15 x 4 1/4 14 x 4 1/2 13 x 4 3/4	16 x 3 1/2 15 x 3 1/2 14 x 3 1/2	550	20 to 35	40 to 60	5 to 7
9 x 18	1350.00	18 x 5 16 x 5 14 x 5	20 x 4 17 x 4 16 x 4	550	30 to 45	50 to 75	6 to 9
9 x 24	1500.00	18 x 6 16 x 6 14 x 6	20 x 5 17 x 5 16 x 5	550	40 to 60	65 to 100	7 to 12
9 x 30	1725.00	18 x 7 16 x 7 14 x 7	20 x 6 17 x 6 16 x 6	550	50 to 75	85 to 125	9 to 15

## Dimensions, Weights, Etc.

Size Inches	OVER-ALL DIMENSIONS				FLOOR SPACE, INCHES					Weight Lbs.	BOXED FOR EXPORT	
	Height Inches	Length Pulley Driven Inches	Length Gear Driven Inches	Width Inches	E	F	G	H	K		Weight Lbs.	Volume Cu. Ft.
9 x 14	87 1/2	58	47	36	35 3/4	29 1/4	31 3/4	25 1/4	3 1/4	4200	5225	106
9 x 18	87 1/2	62	51	36	35 3/4	33 1/4	31 3/4	29 1/4	3 1/4	4400	5625	113
9 x 24	87 1/2	68	57	36	35 3/4	39 1/4	31 3/4	35 1/4	3 1/4	5700	7025	124
9 x 30	87 1/2	74	64	36	35 3/4	45 1/4	31 3/4	41 1/4	3 1/4	6000	7475	135

## Roll Scrapers and Scraper Holders

We have on hand constantly a full line of Adjustable Automatic Holders and Tampico Brush, Steel and Cotton Duck Scrapers, for use with Monarch and other makes of roller mills.

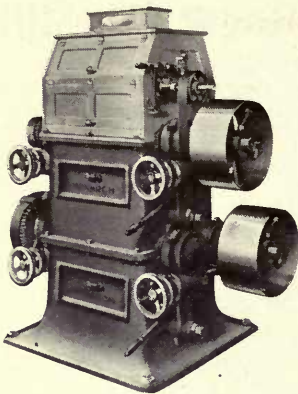
### Prices Per Pair

Roll Scraper Parts	LENGTH OF ROLLS, INCHES							
	12	14	16	18	20	24	30	42
Scraper Holders	\$4.00	\$4.00	\$4.00	\$5.00	\$5.00	\$5.00	\$5.00	\$6.00
Duck Scrapers	2.00	2.25	2.50	2.75	3.00	3.50	4.00	5.00
Steel Scrapers	3.00	3.50	3.75	4.00	4.50	5.25	6.00	7.50
Tampico Brushes	2.00	2.50	2.75	3.00	3.75	4.00	5.00	7.00

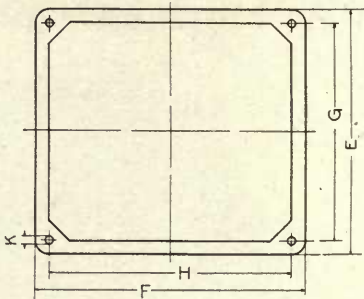
## Roll Tram Plates

Tram Plates suitable for use with all makes of Roller Mills, will be furnished at the following list prices.

Roll Diameter	6 Inch	7 Inch	9 Inch	10 Inch	12 Inch	14 Inch	18 Inch
Price of Tram Plate	\$3.00	\$4.00	\$5.00	\$6.00	\$8.00	\$10.00	\$15.00



The Monarch  
Two Pair High  
Ball Bearing  
Roller Mill  
Pulley or Gear Driven

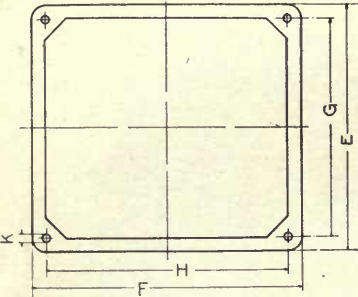


Sizes, Prices, Capacities, Etc.

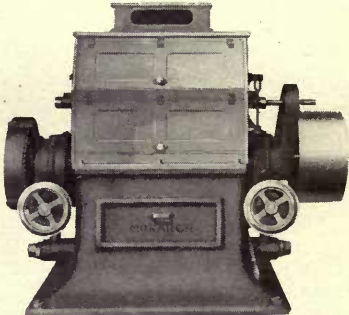
Size Inches	List Price Pulley Driven	Size of Pulleys on Fast Side Inches	Size of Pulleys on Slow Side Inches	Fast Roll Speed R. P. M.	Capacity Per Hour Bushels of Feed	Capacity Per Hour Bushels of Meal	H. P. Required
9 x 14	\$900.00	15 x 4 1/2	15 x 3 1/2	550	30 to 45	15 to 20	3 to 5
9 x 18	975.00	14 x 4 1/2	14 x 3 1/2	550	45 to 60	20 to 30	4 to 6
9 x 24	1100.00	18 x 5	18 x 4	550	55 to 80	25 to 40	5 1/2 to 8 1/2
9 x 30	1245.00	18 x 6	18 x 5	550	65 to 100	35 to 50	7 to 10 1/2

Dimensions, Weights, Etc.

Size Inches	OVER-ALL DIMENSIONS				FLOOR SPACE, INCHES					Weight Lbs.	BOXED FOR EXPORT	
	Height Inches	Length Pulley Driven Inches	Length Gear Driven Inches	Width Inches	E	F	G	H	K		Weight Lbs.	Volume Cu. Ft.
9 x 14	67	58	47	36	35 3/4	29 1/4	31 3/4	25 1/4	3/4	2500	3300	81
9 x 18	67	62	51	36	35 3/4	33 1/4	31 3/4	29 1/4	3/4	3200	4200	87
9 x 24	67	68	57	36	35 3/4	39 1/4	31 3/4	35 1/4	3/4	3700	4750	95
9 x 30	67	74	64	36	35 3/4	45 1/4	31 3/4	41 1/4	3/4	4300	5475	104



The Monarch  
One Pair High  
Ball Bearing  
Roller Mill  
Pulley or Gear Driven



Sizes, Prices, Speeds, Etc.

Size Inches	List Price	Size of Pulley on Fast Side Inches	Size of Pulley on Slow Side Inches	Fast Roll Speed R. P. M.	H. P. Required
9 x 14	\$550.00	16 x 4 1/2	18 x 4	500	1/2 to 1
9 x 18	650.00	16 x 5	18 x 4 1/2	500	3/4 to 1 1/4
9 x 24	700.00	16 x 6	18 x 5	500	1 to 1 1/2
9 x 30	750.00	16 x 7	18 x 6	500	1 1/2 to 2

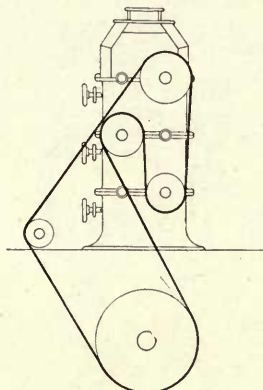
Dimensions, Weights, Etc.

Size Inches	OVER-ALL DIMENSIONS				FLOOR SPACE, INCHES					Weight Lbs.	BOXED FOR EXPORT	
	Height Inches	Length Pulley Driven Inches	Length Gear Driven Inches	Width Inches	E	F	G	H	K		Weight Lbs.	Volume Cu. Ft.
9 x 14	46 1/2	58	47	36	35 3/4	29 1/4	31 3/4	25 1/4	3/4	1550	2000	56
9 x 18	46 1/2	62	51	36	35 3/4	33 1/4	31 3/4	29 1/4	3/4	1780	2255	60
9 x 24	46 1/2	68	57	36	35 3/4	39 1/4	31 3/4	35 1/4	3/4	2100	2650	66
9 x 30	46 1/2	74	64	36	35 3/4	45 1/4	31 3/4	41 1/4	3/4	2400	3025	72

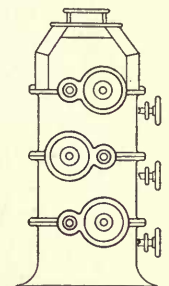


# **Monarch Drives for Three Pair High Roller Mills**

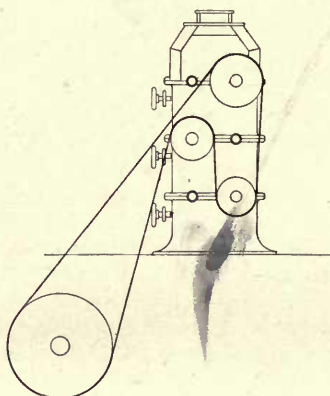
**Drive No. 1, No. 2 and No. 3**



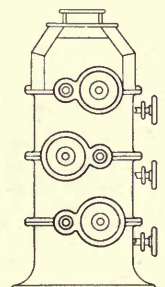
**Drive No. 1—Fast Side**



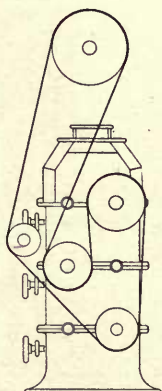
**Drive No. 1—Slow Side**



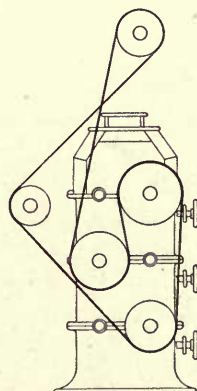
**Drive No. 2—Fast Side**



**Drive No. 2—Slow Side**



**Drive No. 3—Fast Side**



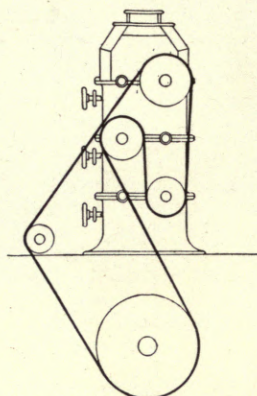
**Drive No. 3—Slow Side**

Shows method of driving by belt, fast and slow rolls of right-hand Monarch Three Pair High Roller Mill. It can also be driven from shaft on same floor or from above.

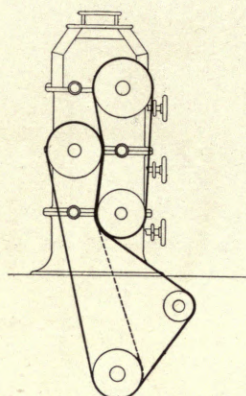
Unless otherwise ordered, we furnish machine-cut gears for driving the differential or slow side. Gears are provided with guards to prevent accident. In this way mill is driven by only one belt from the line shaft and a positive differential is maintained.

# Monarch Drives for Three Pair High Roller Mills

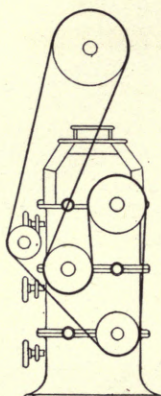
## Drive No. 4 and No. 5



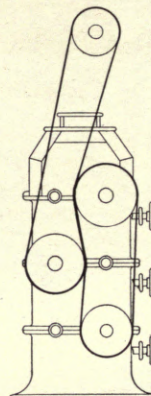
Drive No. 4—Fast Side



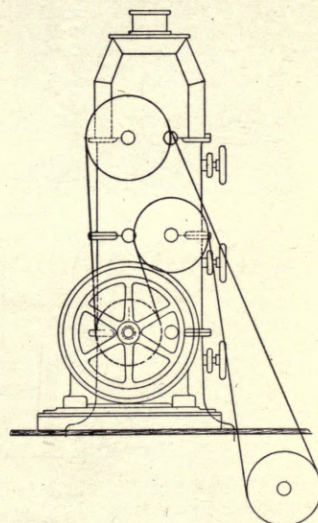
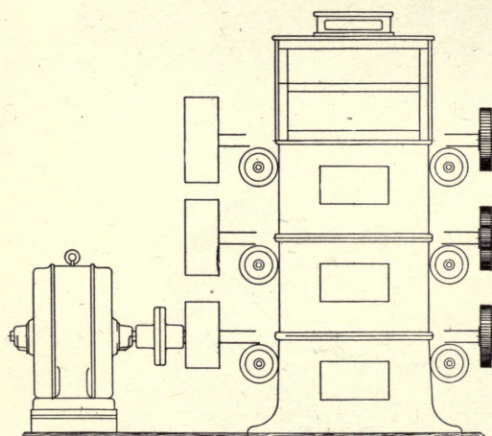
Drive No. 4—Slow Side



Drive No. 5—Fast Side



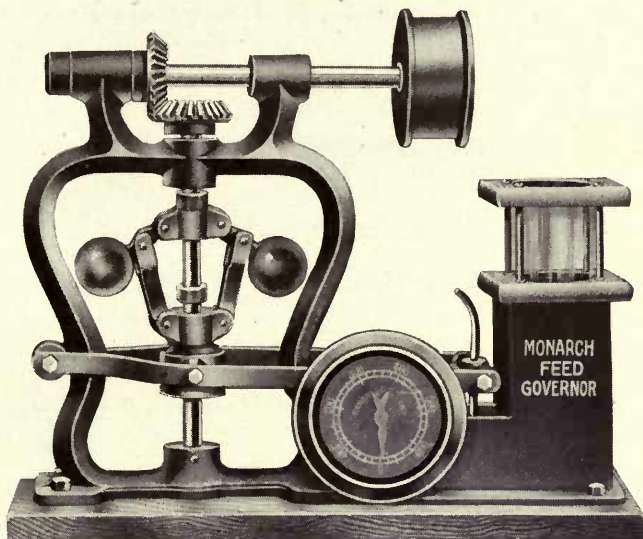
Drive No. 5—Slow Side



Monarch Three Pair High Roller Mill with Direct Connected Motor Drive.  
Idler under floor adjustable to keep the belt tight.



## The Monarch First Break Feed Governor



**The Monarch First Break Feed Governor**

There is no doubt about the necessity for a feed governor in every flouring mill, the only question being the selection of the one best suited to perform the necessary work. The old type of governor, regulated by the striking force of the grain and supplying a regular feed is being rapidly replaced by the Monarch, the new type, which is belted directly to the roll spindle and which delivers a thin stream of grain to the rolls at a rate governed by the speed at which the mill is running. It can be easily understood, how, when the speed of a mill is increased or decreased either purposely or accidentally, the grinding capacity of the rolls will change in proportion and an automatic feed regulator becomes a necessity. The regulation of the amount of stock supplied to the first break rolls regulates, of course, the amount supplied to the entire mill and relieves the operator of the necessity for constantly changing the amount of power.

The Monarch Feed Governor also acts in the capacity of a speed indicator, the dial shown in the above cut indicating to the operator of the mill when the machinery has attained the speed desired.

In ordering, give size and speed of roll and spindle.

### Sizes, Prices, Etc.

Size No.	Bushels Per Hour	List Price	Size No.	Bushels Per Hour	List Price
1	3 to 15	\$50.00	6	50 to 75	\$ 85.00
2	10 to 25	60.00	7	60 to 90	90.00
3	20 to 35	70.00	8	75 to 115	95.00
4	30 to 50	75.00	9	90 to 125	100.00
5	45 to 60	80.00			

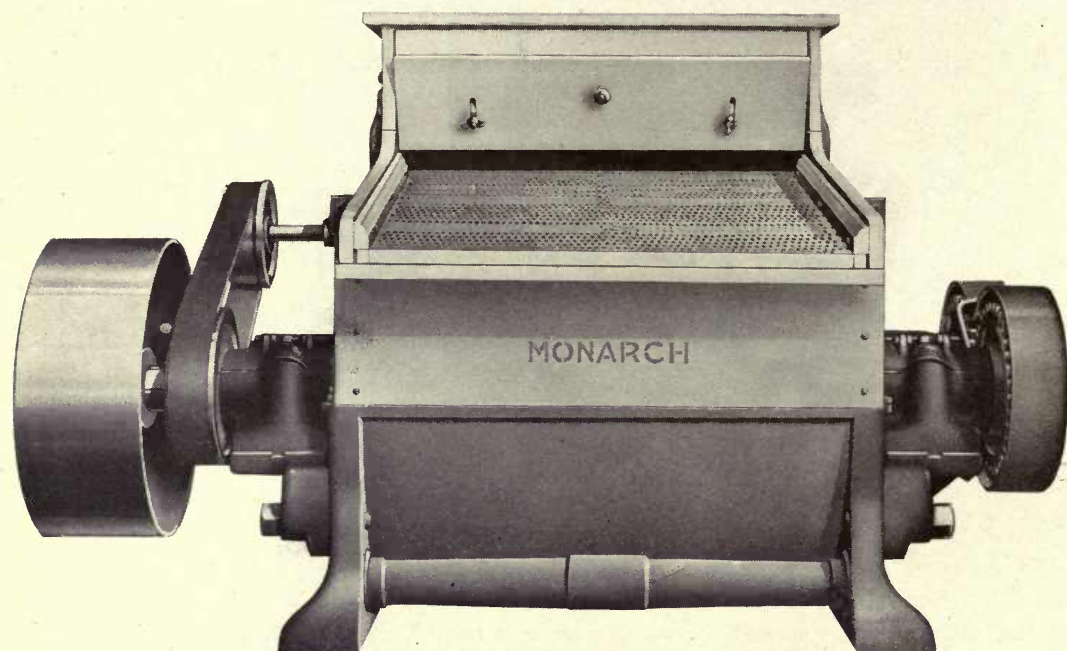
## The Columbian First Break Feed Governor

Not Recommended where there is a variable Speed

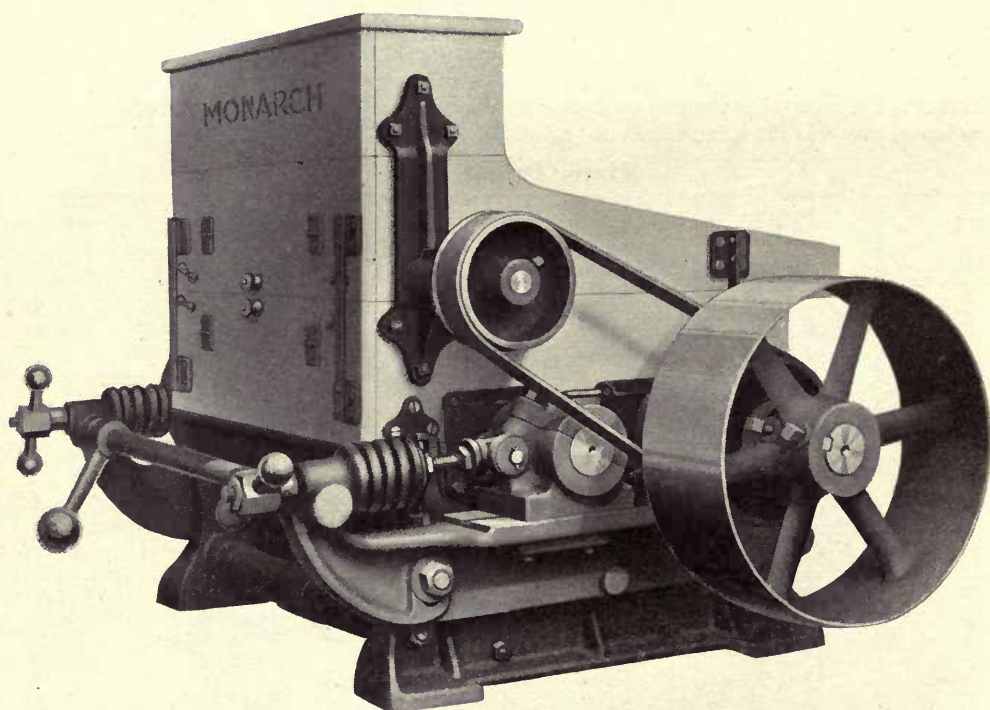
### Sizes, Prices, Etc.

Size No.	Bushels Per Hour	List Price	Size No.	Bushels Per Hour	List Price
0	3 to 8	\$25.00	7	35 to 50	\$37.50
1	7 to 12	25.00	8	40 to 60	40.00
2	10 to 15	25.00	9	50 to 75	42.50
3	12 to 18	27.50	10	60 to 90	45.00
4	15 to 25	30.00	11	75 to 115	47.50
5	20 to 30	32.50	12	90 to 130	50.00
6	25 to 40	35.00			

## The Monarch Oat Crusher



Front View of the Monarch Oat Crusher



Side and Rear View of the Monarch Oat Crusher



## The Monarch Oat Crusher

The nutritious part, or kernel of the oat is contained in a very coarse, tough and indigestible hull and unless this is broken before the grain is used as feed, about one fourth of the amount fed is wasted.

Crushing is therefore necessary, but this is by no means a haphazard operation. Oats generally are, and always should be, fed in a dry state; therefore to avoid waste or expense entailed in taking out finely crushed material, the machine used for crushing should simply break the tough hull, leaving hull and kernel together.

This is exactly the function of the Monarch Roller Oat Crusher, illustrations of which appear on the opposite page, and that it performs what is expected of it, is a matter of satisfaction both to us and to a large number of our patrons who have it in successful operation.

The Monarch is provided with an automatic feeder and also a shaking sieve which takes out all coarse or foreign substances. When equipped with differential gears and the rolls properly corrugated, this machine gives excellent service as a Corn Cracker and produces a very small percentage of meal.

Construction is "Monarch Quality" throughout. All parts are easily accessible, adjusting devices are convenient and very little attention is required on the part of the operator.

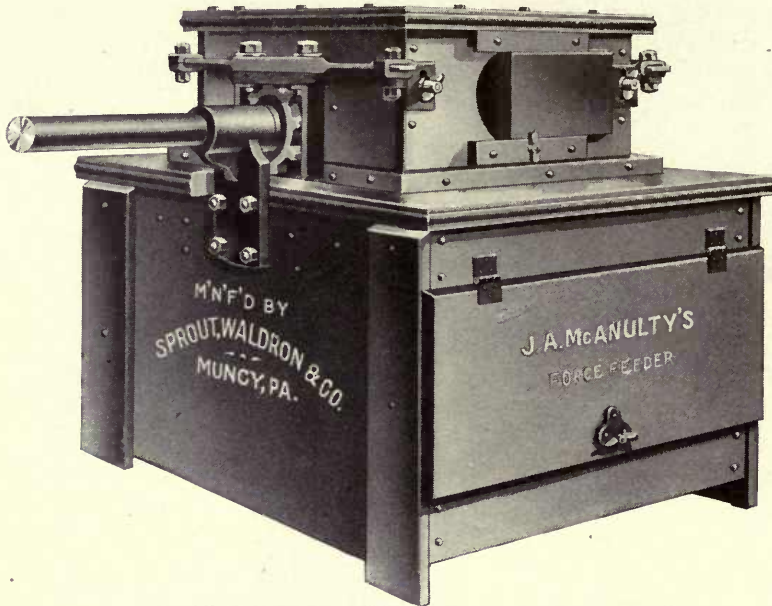
### Sizes, Prices, Dimensions, Etc.

Size No.	List Price	OVER-ALL DIMENSIONS			Floor Space Inches	Distance Floor to Center of Shaft Inches	Size of Pulley Inches	Fast Roll Speed R. P. M.
		Height Inches	Width Inches	Length Inches				
612	\$190.00	32	30	37	20 x 21	12	10 x 4	550
616	200.00	32	30	42	20 x 25	12	10 x 4½	550
620	230.00	32	30	46	20 x 29	12	10 x 5	550
714	270.00	32	32	40	22 x 23	12	12 x 4½	525
716	300.00	32	32	42	22 x 25	12	12 x 5	525
718	350.00	32	32	44	22 x 27	12	12 x 5½	525
720	375.00	32	32	47	22 x 29	12	12 x 6	525
918	360.00	32	36	44	26 x 27	12	16 x 5	500
924	400.00	32	36	51	26 x 33	12	16 x 6	500
930	450.00	32	36	58	26 x 39	12	16 x 7	500

### Capacities, Weights, Etc.

Size No.	H. P. Required	Capacity Pounds	Weight Lbs.	BOXED FOR EXPORT	
				Gross Weight Lbs.	Volume Cubic Feet
612	1.5	500	550	750	22
616	2	600	650	900	23
620	2.3	900	750	1000	24
714	3	750	850	1140	23
716	3.2	920	1000	1400	23
718	4	1200	1100	1500	24
720	4.3	1500	1200	1600	25
918	4.5	2000	1400	1750	27
924	5	3000	1500	1850	28
930	5.4	4000	1650	2000	29

# The McAnulty Slow Motion Automatic Force Feeder



The McAnulty Slow Motion Automatic Force Feeder

The McAnulty, like the Monarch, has this distinctive feature: It evenly distributes the stock in a thin stream across the entire surface of the rolls.

We lay special stress upon this feature because it is highly important, and because, so far as we know, our two types of feeders (the McAnulty and the Monarch) are the only ones which successfully accomplish this distribution.

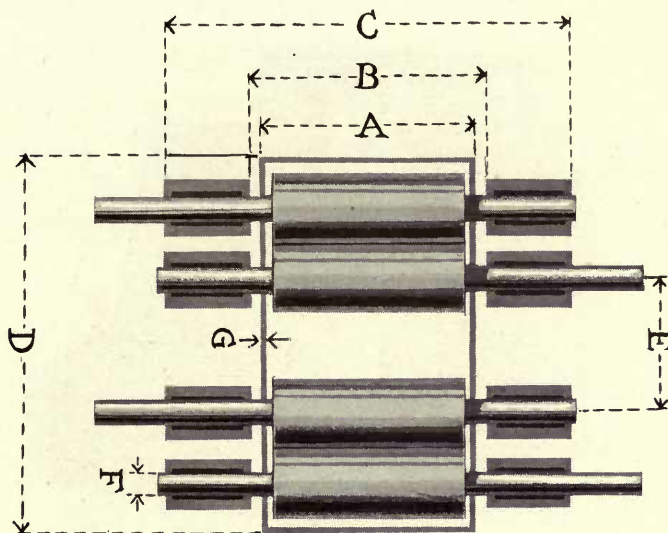
Irregularity of feeding, as every miller knows, is one of the prime causes of inferior grinding. The choice of either of our feeders will positively remove any possibility of this trouble.

Another advantage of the McAnulty Slow Motion Automatic Force Feeder is its ready adaptability to any size or make of rolls. It can be perfectly controlled for a large or small stream, as may be desired.

See directions for ordering on the following page.



## Directions for Ordering McAnulty Feeders For Double Roller Mills



McAnulty Feeders for Double Roller Mills

A—Width of housing. B—Distance between journals. C—Distance outside of journals. D—Length of housing. E—Distance center to center of rolls. F—Diameter of roll shafts. G—Thickness of housing.

Give diameter of pulley that drives old Feeder.

Give speed of pulley that drives old Feeder.

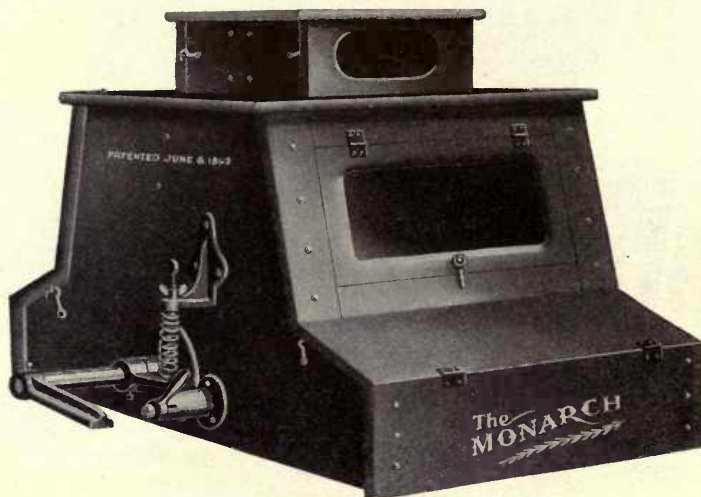
State the kind of Stock Feeder is to be used for.

Give size of rolls.

### Price List

Size of Rolls Inches	Price of Feeder	Price of Housing	Size of Rolls Inches	Price of Feeder	Price of Housing
6 x 12	\$27.00	\$6.10	7 x 24	\$33.00	\$7.00
6 x 15	28.00	6.25	9 x 11	30.00	6.55
6 x 16	29.00	6.40	9 x 14	31.00	6.70
6 x 18	30.00	6.55	9 x 18	32.00	7.00
6 x 20	31.00	6.70	9 x 24	34.00	7.30
7 x 14	29.00	6.40	9 x 30	35.00	7.60
7 x 16	30.00	6.55	9 x 36	37.00	7.90
7 x 18	31.00	6.70	10 x 30	39.00	8.20
7 x 20	32.00	6.85	10 x 36	44.00	9.25

## The Monarch Vibratory Feeder



**Steady Feed—Even Reductions**

The construction of the Monarch Vibratory Feeder insures delivery of the stock in a thin even sheet the entire width of the rolls. This prevents the material from becoming "bunched" and results in absolutely uniform reductions.

It is simple in construction throughout and can be used with equal success on all makes of roller mills.

Out of all the number of feeding devices on the market, we do not know of any other so simple and so satisfactory as the Monarch, unless perhaps it may be the McAnulty Feeder described on page 42.

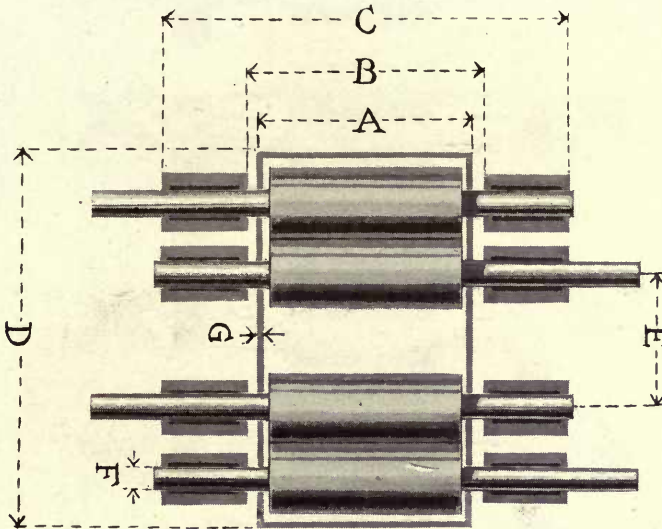
Many millers prefer the Monarch because it is the most advanced type of feeding apparatus. So popular has it become, that we now construct it to fit every make of roller mill.

The Monarch must be driven from the fast roll spindle and when properly attached to the roll frames we guarantee that the feeder will perform its work to the letter.

Great care should be taken, when ordering this feeder, to furnish us with all necessary dimensions of the roller mills with which it is to be used.



## Directions For Ordering The Monarch Vibratory Feeder For Double Roller Mills



The Monarch Vibratory Feeder for Double Roller Mills

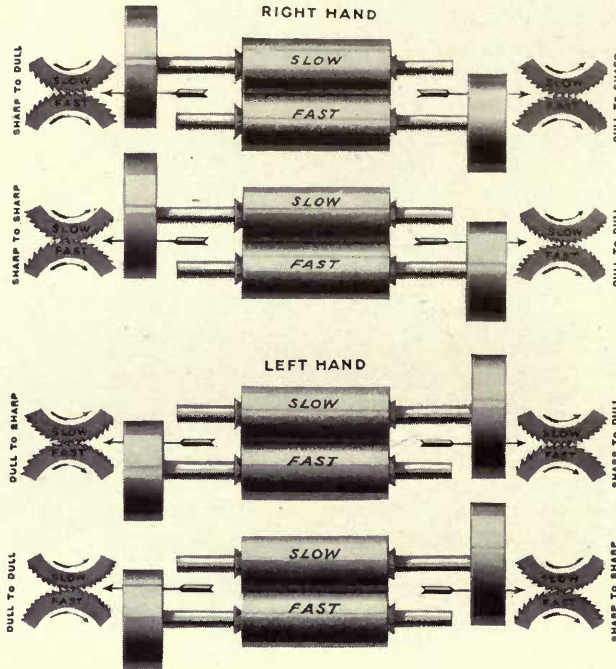
A—Width of housing. B—Distance between journals. C—Distance outside of journals. D—Length of housing. E—Distance center to center of rolls. F—Diameter of roll shafts. G—Thickness of housing.  
 Give diameter of pulley that drives old Feeder.  
 Give speed of pulley that drives old Feeder.  
 State the kind of Stock Feeder is to be used for.  
 Give size of rolls.

### Price List

Size of Rolls Inches	Price of Feeder	Price of Housing	Size of Rolls Inches	Price of Feeder	Price of Housing
6 x 12	\$34.00	\$6.10	7 x 24	\$40.00	\$7.00
6 x 15	35.00	6.25	9 x 11	37.00	6.55
6 x 16	36.00	6.40	9 x 14	38.00	6.70
6 x 18	37.00	6.55	9 x 18	40.00	7.00
6 x 20	38.00	6.70	9 x 24	42.00	7.30
7 x 14	36.00	6.40	9 x 30	44.00	7.60
7 x 16	37.00	6.55	9 x 36	46.00	7.90
7 x 18	38.00	6.70	10 x 30	48.00	8.20
7 x 20	39.00	6.85	10 x 36	55.00	9.25

## Directions for Marking and Shipping Rolls

### To be Re-ground or Re-corrugated, and General Information Concerning this Work



In sending rolls to us for re-grinding or re-corrugating we prefer, as a method of identification and an aid in the avoidance of mistakes, the use of special tags which we have prepared for the purpose, a supply of which will be furnished on application. If, however, use of the tags is not convenient, refer to diagram above and proceed as follows:

Make a diagram of each pair of rolls sent and if more than one pair, mark the pairs A, B and C, respectively. Mark the fast roll as such and indicate the end on which the drive pulley belongs. Give each pair of rolls the same letter as given to it on the diagram. In boxing, see that shipping and shipper's name and address, the letter given to the pair and the word fast or slow are plainly marked on each box. Send the diagram with your order, stating plainly what you wish done. Your work will have our very best attention and will be promptly returned to you.

The working life of corrugated rolls varies from two to five years, according to the amount of care used in handling them and the character of the service required. They may be very quickly spoiled by allowing them to run together. When thus dull it is advisable to have them re-ground and re-corrugated at once, as it is poor economy to use rolls that are dull. They do poor work and consume more power than is necessary.

Smooth rolls will give a much longer period of service than corrugated rolls if care is used to keep them in tram. It is a good plan to examine smooth rolls occasionally when the mill is not in operation. By putting them together, holding a lighted candle below and looking down from the top, if the light is entirely shut off the entire length of the rolls they are in good grinding condition; if, on the other hand, the light cannot be entirely shut off when the rolls are in perfect tram, they should be re-ground.

Our facilities for roll grinding and corrugating are large enough to insure prompt deliveries. Our machinery is of the very best and latest design and the operators are careful and experienced mechanics. Some idea of the care taken in this work may be gained from the fact that the finished product is accurate to the ten thousandth part of an inch. We do special corrugating work to order and do it well and promptly. A trial will be sufficient to convince you that our service is unsurpassed.



## New Chilled Iron Rolls

Sizes, Prices, Weights, Etc.

Size Inches	Price Per Pair Smooth	Price Per Pair Corrugated	EACH ROLL BOXED		Size Inches	Price Per Pair Smooth	Price Per Pair Corrugated	EACH ROLL BOXED	
			Weight Lbs.	Volume Cu. Ft.				Weight Lbs.	Volume Cu. Ft.
6 x 6	\$ 87.25	\$ 93.75	90	1.01	9 x 18	\$ 156.50	\$ 170.00	385	3.57
6 x 9	93.00	100.00	110	1.17	9 x 20	166.00	180.00	430	3.73
6 x 12	98.75	106.25	130	1.26	9 x 24	185.00	200.00	490	4.04
6 x 15	106.50	114.00	155	1.39	9 x 30	215.00	235.00	600	4.51
6 x 16	110.00	119.50	165	1.44	9 x 36	246.00	267.00	700	4.98
6 x 18	118.75	127.50	175	1.53	10 x 10	119.50	129.00	275	3.50
6 x 20	127.50	136.50	200	1.62	10 x 30	268.00	289.00	785	5.83
6 x 24	136.50	145.50	240	1.80	10 x 36	317.00	342.00	935	6.50
7 x 9	110.00	117.50	150	1.58	10 x 42	368.00	397.00	1090	7.20
7 x 12	117.50	125.00	170	1.76	12 x 18	314.65	339.85	775	7.03
7 x 14	122.50	131.00	190	1.88	12 x 20	338.00	363.00	840	7.38
7 x 15	124.75	133.50	205	1.94	12 x 24	385.00	415.80	970	8.07
7 x 16	127.00	136.00	220	2.00	12 x 30	465.00	501.20	1150	9.11
7 x 18	131.50	142.00	240	2.12	12 x 36	545.00	587.00	1330	10.15
7 x 20	140.00	152.00	260	2.24	14 x 12	232.00	250.50	590	8.42
7 x 24	150.00	163.00	300	2.48	14 x 16	315.00	340.20	820	9.30
7½ x 20	153.00	167.00	320	2.72	14 x 18	341.65	369.00	905	9.74
7½ x 24	167.50	183.50	380	2.95	14 x 20	358.55	387.25	985	10.18
7½ x 30	190.00	207.50	480	3.29	14 x 24	427.40	461.60	1150	11.06
9 x 8	124.00	132.00	215	1.71	14 x 30	512.20	553.25	1366	12.38
9 x 11	132.00	143.25	263	2.26	18 x 18	832.30	898.80	1720	15.82
9 x 14	138.00	150.00	311	2.81	18 x 24	890.00	961.20	2130	17.61
9 x 15	142.00	154.00	330	3.00	18 x 30	1020.00	1101.60	2540	19.40

We can furnish rolls of any size but must call attention to the necessity of great care in ordering.

A pair of right-hand rolls when running sharp against sharp, changed end for end in journal boxes, become left-hand rolls sharp against sharp. If you reverse the same rolls by putting the slow roll in journal boxes belonging to the fast roll and vice versa without changing ends, they will become left-hand rolls running dull against dull. Left-hand rolls, both sharp, when turned end for end, become right-hand rolls, both running sharp. Left-hand rolls, both sharp, when removed and changed, the slow roll being made to occupy the place belonging to the fast roll and vice versa, become right-hand rolls, both dull.

## Grinding and Corrugating Rolls

Price Per Pair

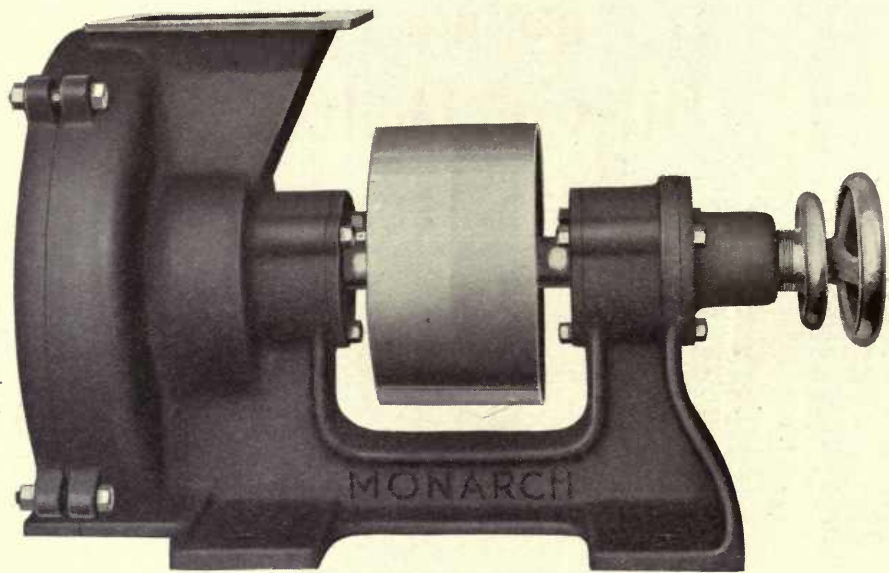
Size Inches	Re-grinding Smooth Rolls	Corrug'd Rolls Ground Smooth	Corrugated Rolls Ground and Re-corrugat'd	Smooth Rolls Re-ground and Corrugated	Size Inches	Re-grinding Smooth Rolls	Corrug'd Rolls Ground Smooth	Corrugated Rolls Ground and Re-corrugat'd	Smooth Rolls Re-ground and Corrugated
6 x 6	\$ 4.00	\$ 6.00	\$ 8.00	\$ 7.00	9 x 18	\$10.00	\$13.00	\$20.00	\$17.00
6 x 9	5.00	7.00	10.00	8.00	9 x 20	10.75	14.00	21.75	18.50
6 x 12	6.00	8.00	12.00	10.00	9 x 24	12.00	16.00	25.00	21.00
6 x 15	7.50	9.50	14.00	12.00	9 x 30	15.00	20.00	30.00	25.00
6 x 16	8.00	10.50	15.00	12.50	9 x 36	18.00	24.00	35.00	29.00
6 x 18	9.00	12.00	16.00	13.00	10 x 10	10.00	16.00	20.00	18.00
6 x 20	10.00	13.00	18.00	15.00	10 x 30	16.50	22.00	33.00	27.50
6 x 24	12.00	15.60	21.60	18.00	10 x 36	20.50	27.50	40.50	33.50
7 x 9	5.00	7.00	11.00	9.00	10 x 42	25.50	34.00	49.50	41.00
7 x 12	6.75	9.00	13.50	11.25	12 x 18	18.00	22.50	36.00	28.80
7 x 14	8.00	10.50	15.00	12.50	12 x 20	20.00	25.00	40.00	32.00
7 x 15	8.00	10.50	15.00	12.50	12 x 24	24.00	30.00	44.00	36.00
7 x 16	8.50	11.00	16.00	13.50	12 x 30	30.00	36.00	50.00	42.00
7 x 18	9.00	11.50	17.00	14.50	12 x 36	36.00	42.00	56.00	48.00
7 x 20	9.75	12.50	18.25	15.75	14 x 12	13.00	18.00	26.00	20.00
7 x 24	10.50	13.50	19.50	17.00	14 x 16	17.00	27.00	35.00	27.00
7½ x 20	11.00	14.00	19.50	16.50	14 x 18	19.80	30.80	39.60	30.60
7½ x 24	11.50	16.00	24.00	20.00	14 x 20	22.00	32.00	44.00	34.00
7½ x 30	13.50	17.50	26.50	22.50	14 x 24	26.40	38.40	52.80	40.80
9 x 8	6.00	8.00	12.00	10.00	14 x 30	33.00	48.00	66.00	51.00
9 x 11	8.50	11.25	15.50	12.75	18 x 18	27.00	33.75	54.00	43.00
9 x 14	9.00	11.50	16.00	13.50	18 x 24	36.00	45.00	66.00	54.00
9 x 15	9.50	12.00	17.00	14.50	18 x 30	45.00	54.00	75.00	63.00

Price for one roll, one-half the price per pair. For truing up roll journals an extra charge is made. Prices for grinding and corrugating rolls of odd sizes will be quoted on application.

Special corrugations, special price. (Corrugations six cuts to the inch and coarser are considered special corrugations.)

Prices for corrugating smooth rolls that do not need re-grinding same as prices in second column above, for re-grinding corrugated rolls.

# The Monarch Ball Bearing Middlings Mill



The Monarch Ball Bearing Middlings Mill

The cut above represents a perfected and valuable agent for the reduction, granulation and disintegration of middlings after the first reduction on smooth rolls and for substitution for and alternation with the rolls in subsequent reductions. It can also be used with highly beneficial results for finishing the feed at the end of the system.

The principal advantages to be derived from the use of the Monarch Ball Bearing Middlings Mill are a greatly increased yield, a superior grade of flour and the absence of expense for installation and upkeep.

This is a substantial machine, the value of which is by no means a matter of doubt or speculation, and so great are the savings accomplished by its use, that it will repay its first cost in three months.

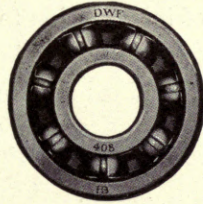
## Sizes, Prices, Dimensions, Weights, Etc.

Size No.	List Price	OVER-ALL DIMENSIONS			Capacity Equal to One Pair of	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
		Height Inches	Width Inches	Length Inches					Weight Lbs.	Volume Cu. Ft.
1	\$130.00	11	10	20	6 x 20-in. Rolls	6 x 3	600	175	210	2.0
2	150.00	13	12	21	7 x 20-in. Rolls	7 x 3½	550	185	240	2.2
3	170.00	15	14	22	9 x 24-in. Rolls	8 x 4	500	200	275	3.7
4	200.00	17	16	23	9 x 36-in. Rolls	9 x 4½	475	225	320	5.0



# MONARCH

Ball Bearing  
Sieve Bolters  
and Reels



*Section B, No. 115*

Established 1866

**SPROUT, WALDRON & CO.**  
Mill Builders and Mill Furnishers  
MUNCY, PA., U. S. A.

## The Monarch Sectional Sifter

**W**ITH the competition daily growing more acute and the standard of quality in the finished product constantly advancing, the buyer of milling machinery is, today, much better informed and more exacting in his requirements than formerly.

With full knowledge of this fact and realizing in addition, that the production of the highest grades of flour cannot be accomplished without the aid of a strictly high class, satisfactory and efficient bolting machine, we have not spared trouble, effort or expense in bringing the Monarch Sectional Sifter to the highest plane of mechanical perfection.

While we describe and illustrate the component parts of this machine in detail, in succeeding paragraphs, we wish, by way of introduction to emphasize the following vital points, to which we have given particular attention and which are in a great measure, responsible for the success of the Monarch Sectional Sifter as a peerless milling utility.

**First.** The crank shaft, which is contained in the hollow square formed by the assembled sections of the sifter, is connected to the main driving shaft which is located in the base of the machine, by a flexible joint, which allows the two shafts to deviate from alignment, without interfering with their continued, satisfactory motion.

**Second.** All bearings are ball bearings and have adjustable races which accommodate themselves to the position of the shaft.

**Third.** The shaft in the base runs in oil and the two upper bearings are packed in grease, thus obviating the necessity for constant attention to their lubrication.

**Fourth.** The sieve box is constructed in sections and can be separated into four or more parts for convenience in shipping and erecting.

**Fifth.** The sieve box surrounds the driving mechanism and the weights are located in the center of the box where they are entirely out of the way.

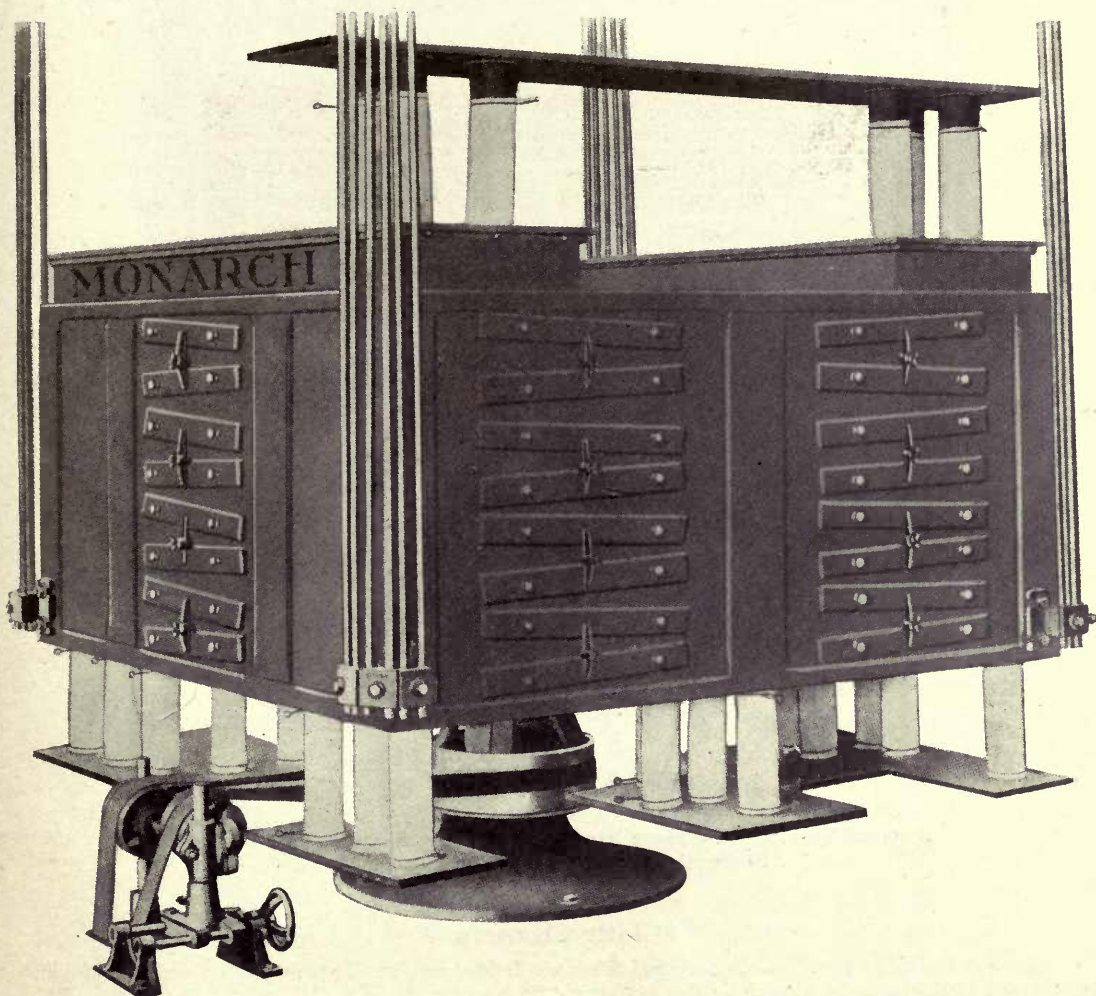
**Sixth.** The sieves being of the same size are interchangeable and any one of them can be drawn out at the side without interfering with another.

**Seventh.** The box can be built of a height suitable to the capacity of the mill for which the sifter is intended and can contain from four to twelve flour sieves with the necessary scalping sieves above and below, thus providing ample flour bolting space.



## **The Monarch Ball Bearing Sectional Sifter**

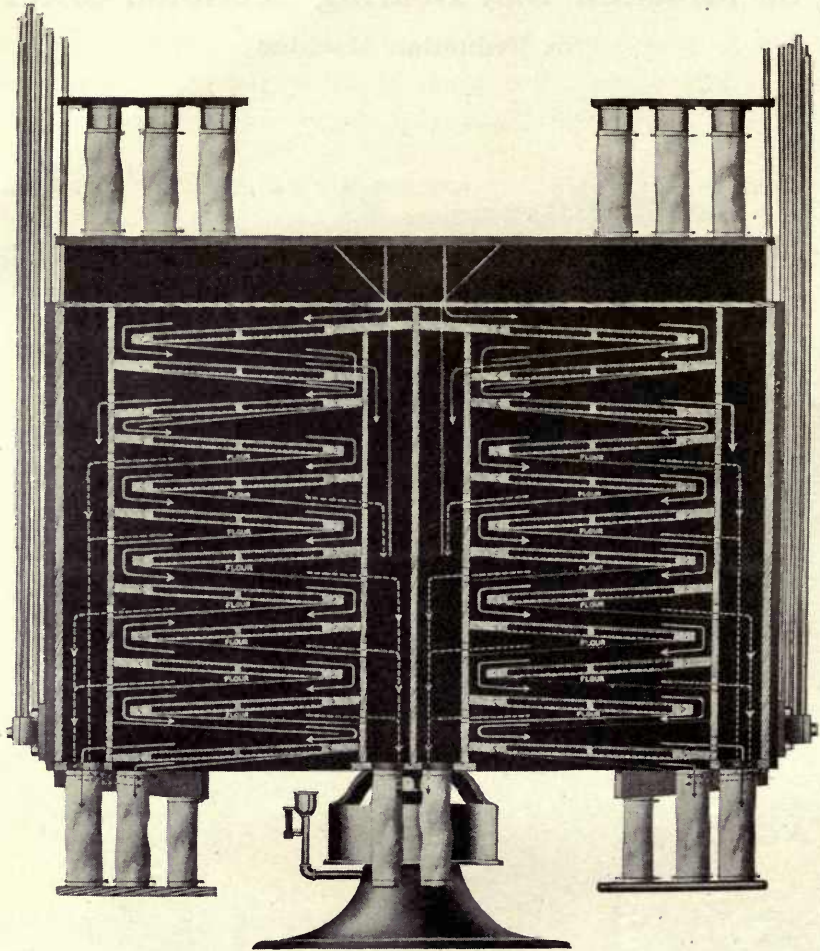
### **Six Reduction Machine**



**Style "S"**

**The Monarch Ball Bearing Sectional Sifter—Six Reduction Machine**

## Sectional View Showing Sieve Arrangement of the Monarch Ball Bearing Sifter Six Reduction Machine



Style "S"

Sectional View Showing Sieve Arrangement of the Monarch Ball Bearing  
Sectional Sifter—Six Reduction Machine

### Cloth Cleaners

The sieve frames in the Monarch Sectional Sifter are divided into small square spaces, each one of which has its own cloth cleaner, actuated by the motion of the machine.

While there are many varieties of cloth cleaning devices, and while we are prepared to furnish any style that may be preferred by the purchaser, we recommend the use of any one of the following:

A square of Scandinavian belting with a metal button on the bottom side.

A metallic ring with bristles protruding from the upper edge.

A double leather loop with small tufts of bristles at each end—the bristles being kept against the cloth by the weight of the leather.

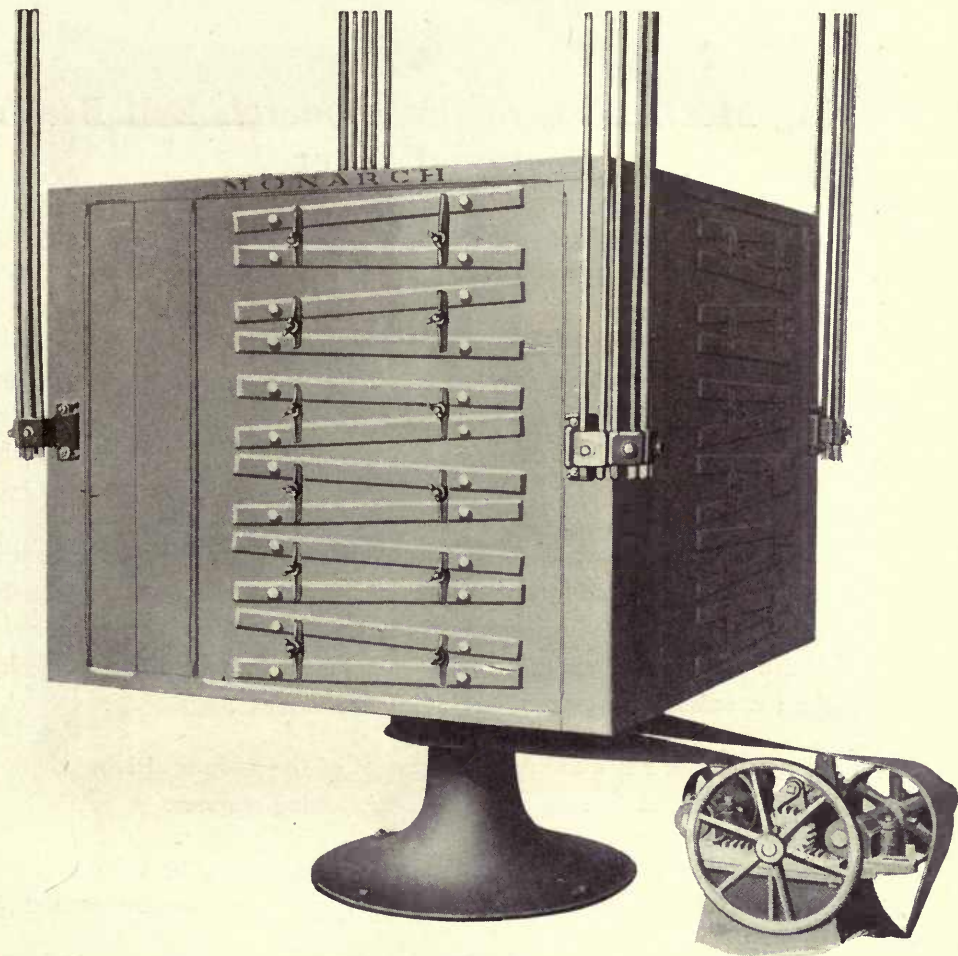
These three devices are designed for use beneath silk and grit gauze cloths and travel in a space between the cloths and a coarse wire screen which is tacked to the bottom of the sieve.

Wire cloths are usually kept clean by means of a chain, which sways across the cloth with each gyration of the sifter.

It can be easily understood that these cleaners are automatic in action and require no attention whatever



## The Monarch Ball Bearing Sectional Sifter Four Reduction Machine



Style "F"  
The Monarch Ball Bearing Sectional Sifter—Four Reduction Machine

### Interchangeable Sieves

The Interchangeable Sieves, which are a feature of both the Monarch Sectional and the Styles "H" and "E" Self-Balancing Sifters, are carefully made of selected wood and well padded to prevent dust leakage.

In the case of the Sectional Sifter, the sieves are held in place by specially designed clamps and wood knobs are provided for convenience in removal and replacement.

Emergency sieves can be kept conveniently at hand, ready clothed, to instantly take the place of any worn member, thereby avoiding lengthy delays or shut-down.

### The Sieve Box

The Sieve Box is composed of either four or six sections, each one complete in itself. These sections are connected at two of the inside corners by a cast iron bearing frame which reaches across one diagonal of the square opening in the center. The other two diagonal corners are secured by means of angle irons.

Each section can have from 6 to 14 sieves and being exactly alike in construction and size, these are interchangeable. Each sieve has four or more compartments and each compartment is provided with a cloth cleaner. Where sieves are clothed with silk, the cloth cleaner is arranged to operate below; where they are clothed with wire cloth, the cleaner operates on top of the sieve.

The construction of the sieve box permits of its being taken apart either for shipment or for convenient erection in a limited space.

## **Driving Mechanism of the Monarch Ball Bearing Sectional Sifter**

One of the strongest points leading to the successful operation of the Monarch Sectional Sifter is the efficiency of the Ball Bearing Driving Mechanism, which imparts the gyratory motion to the machine.

The main shaft, which is made from carefully selected steel, is accurately machined, fitted with driving pulley and ball bearings and placed in the bore of the cast iron base. At the bottom of the base is a machined casting on which rest the steel toe and chill which form the lower end of the shaft.

The crank shaft, which is made of forged steel and turned to exactly the required size, is fitted with ball bearings, supported by a rigid cast iron frame which extends across the square opening in the center of the sieve box. The steel ball toe, which comprises the lower end of the shaft, fits into a step, central with the main driving mechanism, making a flexible joint as described in the succeeding paragraph.

In order to provide for any possible disalignment of the main or driving shaft with the crank shaft, the two are flexibly connected in the following manner:

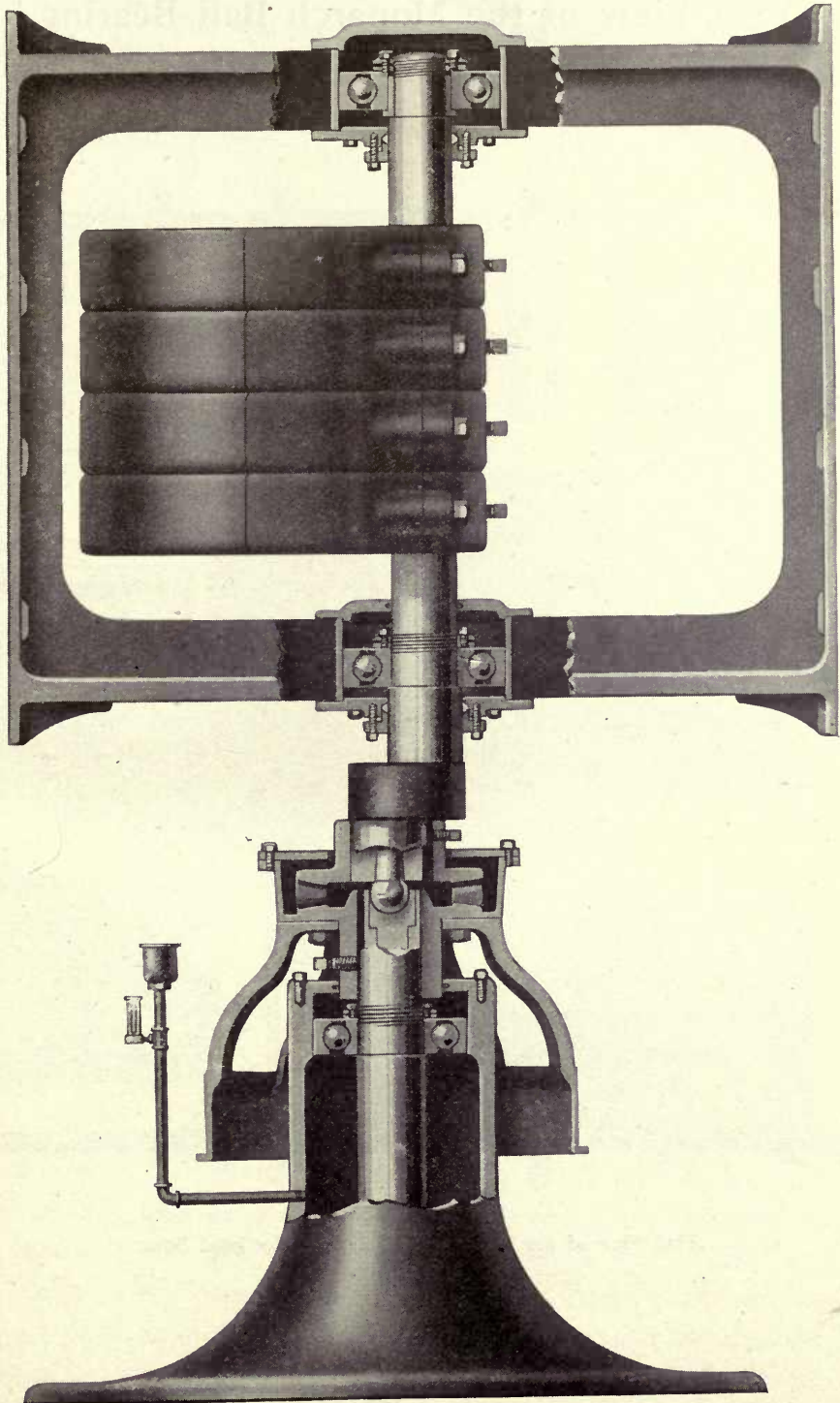
On the upper end of the driving shaft and surrounding the step provided for the support of the ball toe, is placed the driver casing, on the inside of which are a number of teeth, arranged in a circle.

These teeth engage with a second series similarly arranged on the driver which is attached to the lower end of the crank shaft.

The ball bearings on the main or drive shaft run in oil and those on the crank shaft are contained in grease-packed, dust-proof casings. This method of lubrication obviates the necessity for replenishing oftener than at intervals of several months.

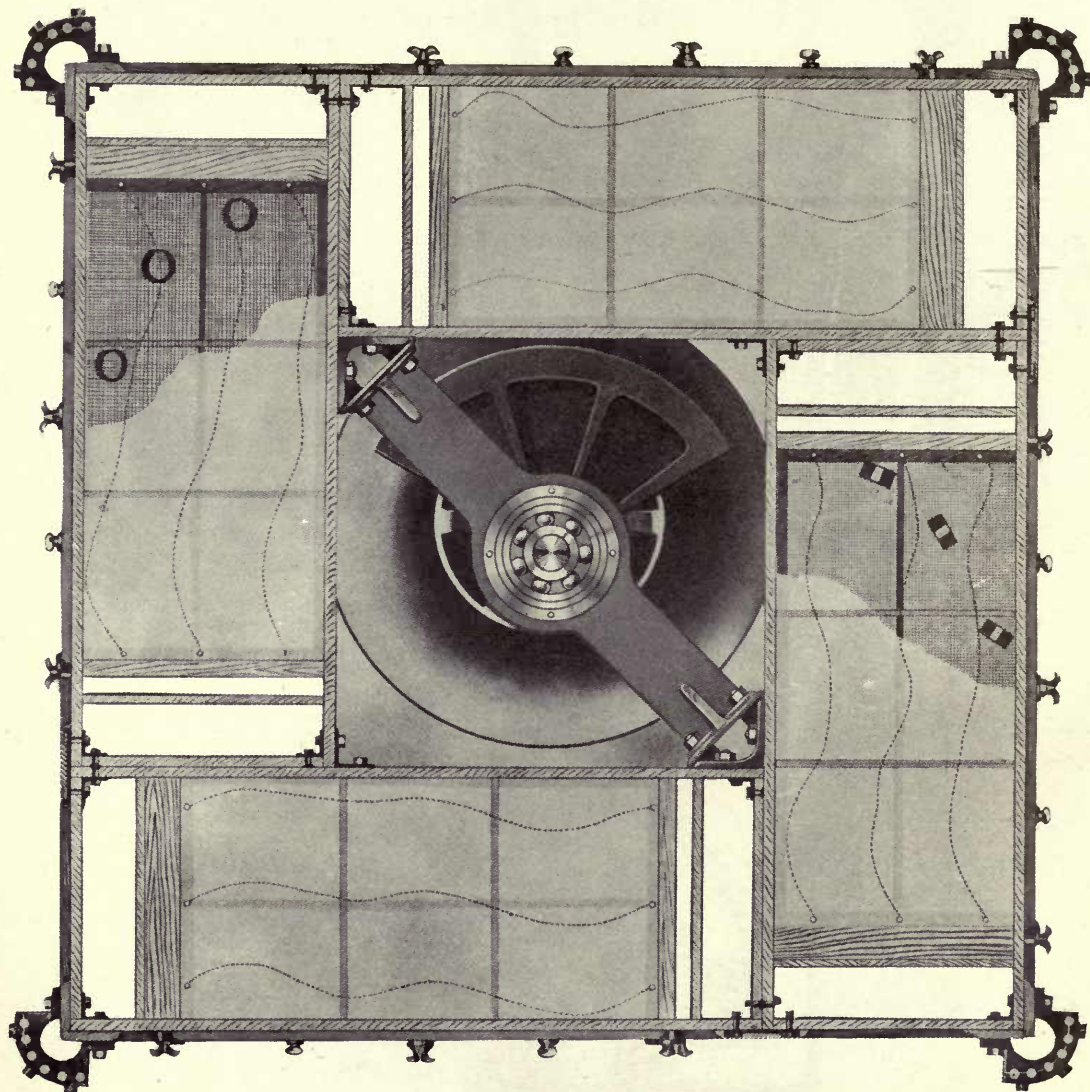


## Sectional View of Driving Mechanism for the Monarch Ball Bearing Sectional Sifter



Sectional View of Driving Mechanism for the Monarch Ball Bearing Sectional Sifter

## Plan View of the Monarch Ball Bearing Sectional Sifter



Plan View of the Monarch Ball Bearing Sectional Sifter



# The Monarch Ball Bearing Sectional Sifter

## Six Reductions—Style "S"

### Prices, Dimensions, Weights, Etc.

Size In.	No. of Sieves	Price	Sq. Ft. of Cloth on Mach.	Size of Sieves Inches	Extreme Length and Width	Width to Remove Sieves	Floor to Center of Pulley Inches	Floor to Bottom of Box Inches	Floor to Top of Box	Floor to Top of Spout Landing	Weight Pounds	BOXED FOR EXPORT	
												Weight Lbs.	Volume Cu. Ft.
67	48	\$ 894.00	82	19 x 13	6' 0"	7' 4"	12½	24	4' 10"	6' 6"	4025	5275	128
67	54	941.00	93	19 x 13	6' 0"	7' 4"	12½	24	5' 2"	6' 10"	4115	5425	134
67	60	983.00	103	19 x 13	6' 0"	7' 4"	12½	18	5' 0"	6' 8"	4200	5575	140
67	66	1025.00	113	19 x 13	6' 0"	7' 4"	12½	18	5' 4"	7' 0"	4290	5730	146
67	72	1067.00	123	19 x 13	6' 0"	7' 4"	12½	18	5' 7"	7' 3"	4375	5880	152
67	78	1113.00	134	19 x 13	6' 0"	7' 4"	12½	18	5' 11"	7' 7"	4465	6030	158
67	84	1155.00	144	19 x 13	6' 0"	7' 4"	12½	18	6' 2"	7' 10"	4550	6185	165
67	90	1197.00	154	19 x 13	6' 0"	7' 4"	12½	18	6' 6"	8' 2"	4640	6335	173
67	96	1243.00	165	19 x 13	6' 0"	7' 4"	12½	18	6' 9"	8' 5"	4725	6485	178
77	48	1059.00	133	20 x 20	7' 0"	9' 8"	12½	24	5' 0"	6' 8"	4400	6100	184
77	54	1105.00	150	20 x 20	7' 0"	9' 8"	12½	24	5' 4"	7' 0"	4500	6255	196
77	60	1151.00	167	20 x 20	7' 0"	9' 8"	12½	18	5' 2"	6' 10"	4600	6410	208
77	66	1194.00	183	20 x 20	7' 0"	9' 8"	12½	18	5' 6"	7' 2"	4700	6565	220
77	72	1240.00	200	20 x 20	7' 0"	9' 8"	12½	18	5' 9"	7' 5"	4800	6720	232
77	78	1311.00	217	20 x 20	7' 0"	9' 8"	12½	18	6' 1"	7' 9"	4900	6875	244
77	84	1379.00	233	20 x 20	7' 0"	9' 8"	12½	18	6' 4"	8' 0"	5000	7035	256
77	90	1450.00	250	20 x 20	7' 0"	9' 8"	12½	18	6' 8"	8' 4"	5100	7185	268
77	96	1521.00	267	20 x 20	7' 0"	9' 8"	12½	18	6' 11"	8' 7"	5200	7350	279
87	48	1235.00	187	28 x 20	8' 0"	10' 6"	12½	24	5' 6"	7' 4"	4525	6225	210
87	54	1307.00	210	28 x 20	8' 0"	10' 6"	12½	24	5' 11"	7' 9"	4640	6415	228
87	60	1379.00	233	28 x 20	8' 0"	10' 6"	12½	18	5' 9"	7' 7"	4750	6600	246
87	66	1479.00	257	28 x 20	8' 0"	10' 6"	12½	18	6' 2"	8' 0"	4865	6790	264
87	72	1576.00	280	28 x 20	8' 0"	10' 6"	12½	18	6' 7"	8' 5"	4975	6975	282
87	78	1673.00	303	28 x 20	8' 0"	10' 6"	12½	18	7' 0"	8' 10"	5090	7165	300
87	84	1773.00	327	28 x 20	8' 0"	10' 6"	12½	18	7' 5"	9' 3"	5200	7350	318
97	48	1446.00	243	28 x 26	9' 0"	12' 6"	12½	24	5' 6"	7' 4"	4900	6775	270
97	54	1547.00	273	28 x 26	9' 0"	12' 6"	12½	24	5' 11"	7' 9"	5040	6955	295
97	60	1673.00	303	28 x 26	9' 0"	12' 6"	12½	18	5' 9"	7' 7"	5175	7135	320
97	66	1803.00	334	28 x 26	9' 0"	12' 6"	12½	18	6' 2"	8' 0"	5315	7270	345
97	72	1925.00	363	28 x 26	9' 0"	12' 6"	12½	18	6' 7"	8' 5"	5450	7400	370

# The Monarch Ball Bearing Sectional Sifter

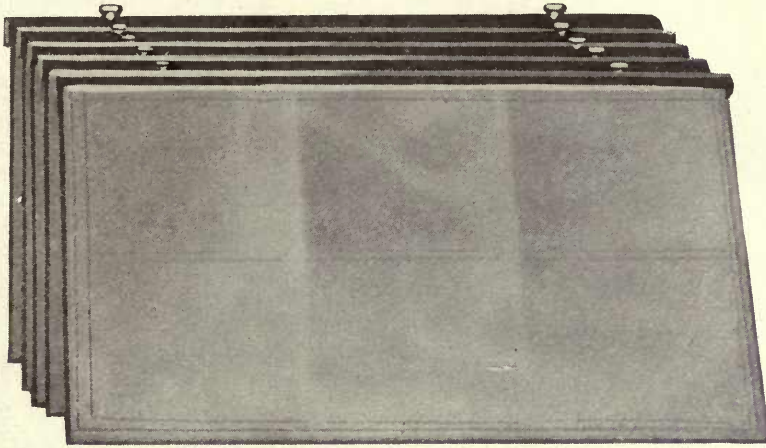
Four Reductions—Style “F”

Prices, Dimensions, Weights, Etc.

Size In.	No. of Sieves	Price	Sq. Ft. of Cloth on Mach.	Size of Sieves Inches	Extreme Length and Width	Width to Remove Sieve	Floor to Center of Pulley Inches	Floor to Bottom of Box Inches	Floor to Top of Box Inches	Floor to Top of Spout Landing	Weight Pounds	BOXED FOR EXPORT	
												Weight Lbs.	Volume Cu. Ft.
66	32	\$ 888.00	97	33 x 13	6' 0"	7' 4"	12½	24	5' 2"	6' 10"	4025	5275	128
66	36	936.00	109	33 x 13	6' 0"	7' 4"	12½	24	5' 7"	7' 3"	4115	5425	134
66	40	984.00	121	33 x 13	6' 0"	7' 4"	12½	18	5' 5"	7' 1"	4200	5575	140
66	44	1032.00	133	33 x 13	6' 0"	7' 4"	12½	18	5' 10"	7' 6"	4290	5730	146
66	48	1080.00	145	33 x 13	6' 0"	7' 4"	12½	18	6' 2"	7' 10"	4375	5880	152
66	52	1128.00	157	33 x 13	6' 0"	7' 4"	12½	18	6' 7"	8' 3"	4465	6030	158
66	56	1176.00	169	33 x 13	6' 0"	7' 4"	12½	18	6' 11"	8' 7"	4550	6185	165
66	60	1224.00	181	33 x 13	6' 0"	7' 4"	12½	18	7' 4"	9' 0"	4640	6335	173
66	64	1276.00	194	33 x 13	6' 0"	7' 4"	12½	18	7' 8"	9' 4"	4725	6485	178
76	32	1176.00	169	38 x 20	7' 0"	9' 8"	12½	24	5' 4"	7' 0"	4350	6050	199
76	36	1235.00	190	38 x 20	7' 0"	9' 8"	12½	24	5' 9"	7' 5"	4450	6240	212
76	40	1294.00	211	38 x 20	7' 0"	9' 8"	12½	18	5' 8"	7' 4"	4550	6425	225
76	44	1353.00	232	38 x 20	7' 0"	9' 8"	12½	18	6' 0"	7' 8"	4650	6620	238
76	48	1412.00	253	38 x 20	7' 0"	9' 8"	12½	18	6' 5"	8' 1"	4750	6800	251
76	52	1490.00	274	38 x 20	7' 0"	9' 8"	12½	18	6' 9"	8' 5"	4850	6990	264
76	56	1584.00	296	38 x 20	7' 0"	9' 8"	12½	18	7' 2"	8' 10"	4950	7175	277
76	60	1664.00	316	38 x 20	7' 0"	9' 8"	12½	18	7' 7"	9' 3"	5050	7365	290
76	64	1752.00	338	38 x 20	7' 0"	9' 8"	12½	18	7' 11"	9' 7"	5150	7555	303
86	32	1338.00	222	40 x 25	8' 0"	11' 4"	12½	24	5' 6"	7' 4"	4500	6340	237
86	36	1425.00	250	40 x 25	8' 0"	11' 4"	12½	24	5' 11"	7' 9"	4625	6565	269
86	40	1532.00	278	40 x 25	8' 0"	11' 4"	12½	18	5' 9"	7' 7"	4750	6790	301
86	44	1624.00	306	40 x 25	8' 0"	11' 4"	12½	18	6' 2"	8' 0"	4875	7015	333
86	48	1732.00	335	40 x 25	8' 0"	11' 4"	12½	18	6' 7"	8' 5"	5000	7240	365
86	52	1844.00	361	40 x 25	8' 0"	11' 4"	12½	18	7' 0"	8' 10"	5125	7465	397
86	56	1956.00	389	40 x 25	8' 0"	11' 4"	12½	18	7' 5"	9' 3"	5250	7690	429
96	32	1625.00	300	52 x 26	9' 0"	12' 6"	12½	24	5' 11"	7' 9"	4750	6845	340
96	36	1752.00	338	52 x 26	9' 0"	12' 6"	12½	24	6' 4"	8' 2"	4900	7085	385
96	40	1904.00	376	52 x 26	9' 0"	12' 6"	12½	18	6' 4"	8' 2"	5050	7325	430
96	44	2052.00	413	52 x 26	9' 0"	12' 6"	12½	18	6' 9"	8' 7"	5250	7565	475
96	48	2204.00	451	52 x 26	9' 0"	12' 6"	12½	18	7' 2"	9' 0"	5350	7800	520
96	52	2352.00	488	52 x 26	9' 0"	12' 6"	12½	18	7' 8"	9' 6"	5500	8045	565
96	56	2504.00	526	52 x 26	9' 0"	12' 6"	12½	18	8' 1"	9' 11"	5650	8275	610



# Sieves for the Monarch Ball Bearing Sectional Sifter



A good supply of extra sieves for a Monarch Sectional Sifter is inexpensive and on account of the great convenience they afford are almost invaluable. A change in climatic conditions, change in grade or quality of wheat, matching competing grades of flour, bolting different varieties of material, etc., make it desirable for the use of a change to finer or coarser bolting cloths. With interchangeable sieves this change is made quickly and easily at any time while machine is standing or in full operation—then, too, shut downs are avoided in replacing cloths.

## Extra Sieves for the Monarch Ball Bearing Sectional Sifter Style "F"

Size Inches	Size of Sieves Inches	PRICE WITHOUT CLOTH			PRICE WITH CLOTH		
		With Chain Cleaners Only	With Underneath Cleaners Only	With Combined Chain and Underneath Cleaners	With Chain Cleaners Only	With Underneath Cleaners Only	With Combined Chain and Underneath Cleaners
66	33 x 13	\$3.20	\$4.50	\$4.90	\$ 5.10	\$ 7.00	\$ 7.35
76	38 x 20	3.80	5.20	5.60	7.00	8.90	9.30
86	40 x 25	4.40	6.40	7.20	8.70	11.30	12.00
96	52 x 26	4.70	7.30	8.40	10.40	13.50	14.60

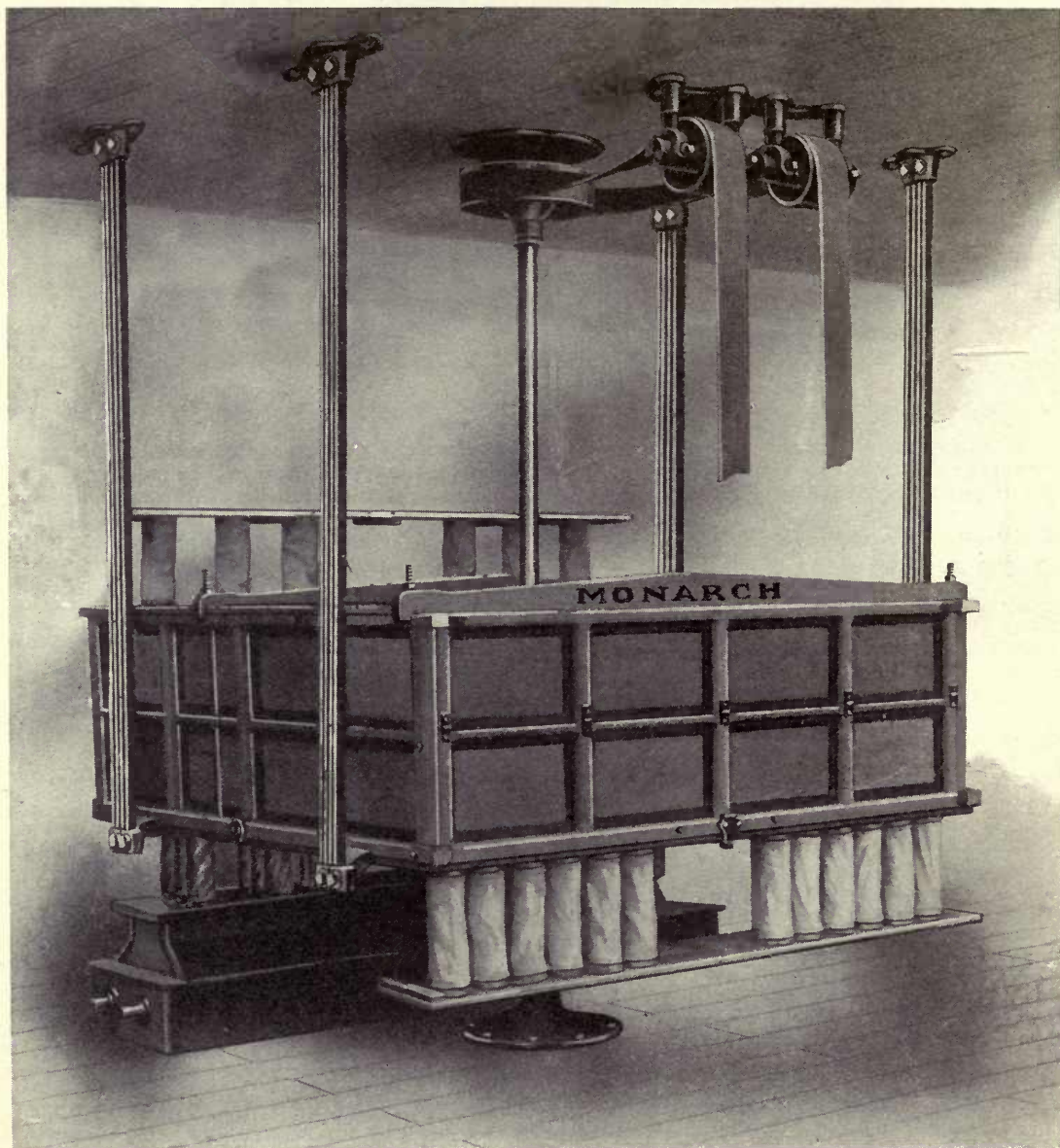
## Style "S"

Size Inches	Size of Sieves Inches	PRICE WITHOUT CLOTH			PRICE WITH CLOTH		
		With Chain Cleaners Only	With Underneath Cleaners Only	With Combined Chain and Underneath Cleaners	With Chain Cleaners Only	With Underneath Cleaners Only	With Combined Chain and Underneath Cleaners
67	19 x 13	\$2.50	\$2.90	\$3.10	\$4.00	\$4.40	\$4.60
77	20 x 20	3.00	4.00	4.30	5.30	6.30	6.60
87	28 x 20	3.50	4.70	5.10	6.00	7.20	7.60
97	28 x 26	3.90	5.40	6.00	7.40	8.90	9.50

Chain for cleaning sifter cloths, per foot.....	\$0.04
Underneath cleaners, imported 8-ply fabric, each.....	.20
Underneath cleaners, leather, each.....	.20
Underneath cleaners, spiral spring, each.....	.20
Underneath wire for supporting cleaners, per square foot.....	.18

Prices for sieves clothed with wire or silk at no higher cost than No. 12 XX silk.

## The Monarch Ball Bearing Sieve Bolter Self-Balancing



Style "E"

The Monarch Ball Bearing Self-Balancing Sieve Bolter

The Monarch is the only self-contained bolter working on the true principle. The shaft is suspended from the ceiling and all of the weight and motion is carried and taken care of by the flexible reeds and the self-balancing device. The base or pedestal shown in the various illustrations is used simply for the attachment of a pulley-shaped cup in which the small pulley on the end of the shaft revolves when stopping or starting the machine.



## The Monarch Ball Bearing Self-Balancing Sieve Bolter Style "E"

The Monarch Style "E" Ball Bearing Self-Balancing Sieve Bolter is by no means a wholly recent contrivance, built on theoretical lines and offered to the trade with the hope or prophecy that it will perform the desired operations in a satisfactory manner, nor is it an obsolete reminder of the way bolting used to be accomplished. It is a strong, compact, easy running and non-vibrating machine, which has reached its present state of high efficiency through a gradual evolution and has proved to be, in actual operation, worthy of being classed with the first of the three essentials of successful milling, good machinery, good products and good prices.

Lengthy technical explanations and descriptions are more often unread or misunderstood than correctly interpreted and for this reason, we avoid the presentation of the minute details of the Monarch Style "E" Bolter. However, as the question will naturally arise in the mind of the prospective purchaser as to the advantage of this particular machine to his business, we illustrate and describe in succeeding pages such features as we deem worthy of special study and consideration. These features, which have been assembled after years of experience, give the Monarch Style "E" Ball Bearing Self-Balancing Bolter the following five points of distinction which have been largely instrumental in accomplishing its growing popularity.

**First.** The elimination of friction, noise and wear has been accomplished by applying ball bearings, which run in oil, to both the main bearing which is attached at the center of the box and the oscillating bearing where the weight of the shaft and balancing device is carried.

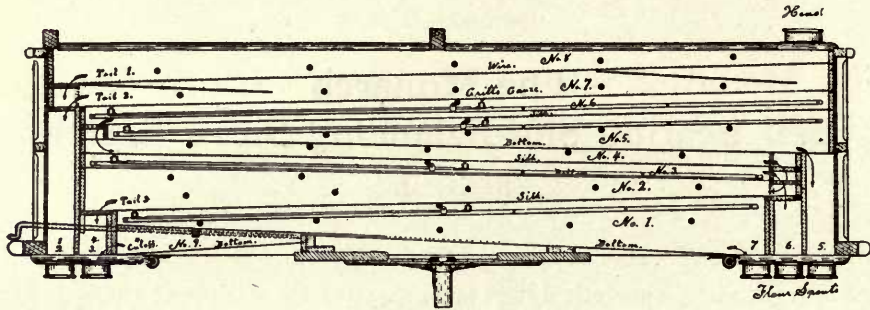
**Second.** Capacity has been raised to the maximum through the agency of our Patent Brush Cloth Cleaner which automatically keeps the cloths free and open.

**Third.** Ease of operation and control is insured by convenience of construction.

**Fourth.** Perfect balance and easy running are secured by the construction of the driving mechanism.

**Fifth.** Regular listed sizes and special machines which we are prepared to build for special places or purposes give the purchaser a wide range of selection.

# The Construction and Arrangement of the Sieves



Style "E"

Sectional View of Monarch Improved Sieve Bolter

When the stock enters the head of the machine it travels over a coarse wire screen (No. 8), the tailings passing over into the outlet marked No. 1, as indicated by the arrow.

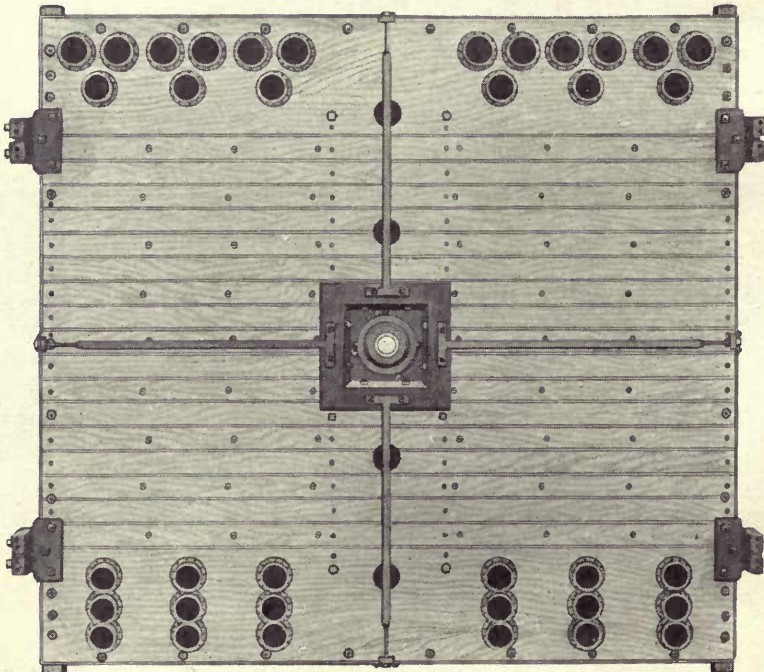
The stock from screen No. 8 passes to screen No. 7, which is made of Grit gauze, the tailings passing off into outlet No. 1, as indicated by the arrow.

The stock from No. 7 then passes to screen No. 6, which is of fine silk, after which it passes to sieve No. 5. From Screen No. 5 the stock passes off into flour spout indicated by the arrow.

This constitutes the first series of sieves.

Starting from screen No. 4, the unscreened stock from No. 5 is sifted through No. 4 and thence to the bottom marked No. 3, where it passes off through flour spout marked No. 6.

The stock from screen No. 4 which does not pass off into the flour spout then passes to sieve No. 2, as indicated by the arrow, and finally to the bottom through the flour spout marked No. 7, as indicated by the arrow.



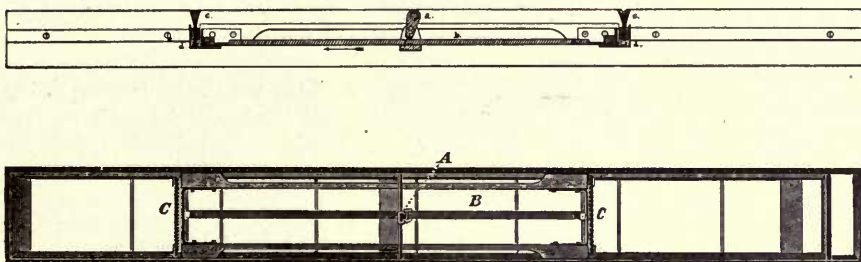
Bottom of Sieve Box

Notice the substantial manner in which the box is constructed. It is made from the very choicest of maple and poplar, in the strongest possible manner. No leaky joints. It is built for service and durability.



# The Monarch Automatic Brush Cloth Cleaner

For Style "E" Ball Bearing Self-Balancing  
Sieve Bolter



"A"—Toggle used to clamp together the two sections of sieve. Set to hold one way, it forces the brushes to move in the opposite direction. When the brush reaches one end of its run it automatically starts back, the toggle reversing itself and setting the pull in the opposite direction and forcing the brush that way.

"B"—Strip of wood on which the toggle travels—a couple of inches at a time.

"C" "C"—The brushes at the outer end of the brush frame.

The brush permits the use of a much finer cloth than would be advisable under other methods; it allows the lighter stock to rise to the top and tail over the end of sieve, which insures a more perfect and uniform separation.

The matter of the varying conditions of stock which formerly resulted from changes due to atmospheric conditions, is also disposed of by remembering that, with the use of modern mills, especially Monarch Roller Mills, the stock goes to the sifter in the condition most favorable for perfect bolting, and the miller of today does not have occasion to quarrel with the weather or with other conditions with which the old-time miller had to contend.

We therefore lay down the principle that though the stock be soft or hard, or the weather hot or cold, wet or dry, the **Monarch Improved Sieve Bolter** will produce the most perfectly dressed flour because our process of arranging the sieves and keeping them perfectly clean without disturbing the stock causes every particle of undesirable material to pass in the tailings.

As will be readily understood, the keeping of the cloths open at all times and under all conditions, enables the miller to get full bolting capacity out of the machine. Sometimes this increased output amounts to as much as 20 per cent.

# Assembled Driving Mechanism of the Monarch Ball Bearing Self-Balancing Sieve Bolter

## Style "E"

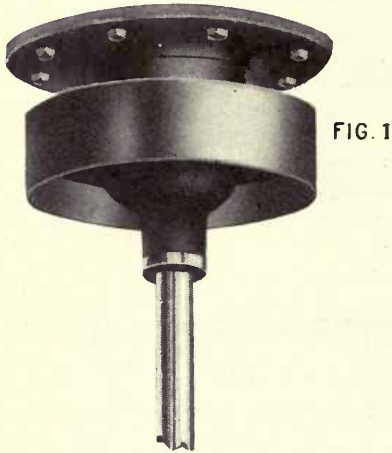


FIG. 1

**Figure 1.** Shows the weighted balance pulley and oscillating ball bearing where the weight of the shaft and balancing device is carried. The detail of this part of the mechanism is shown in the separate illustration on page 65. The oscillating motion of the ball bearing allows the shaft to move freely at any angle and accommodate itself to the motion of the sieve box.

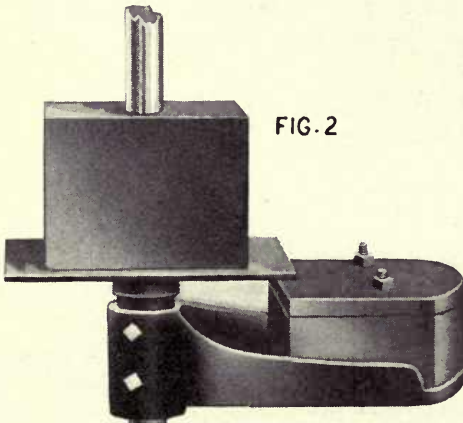


FIG. 2

**Figure 2.** Shows the main bearing which is attached at the centre of the box and imparts the motion to the machine. It contains a ball and socket bearing, which adjusts itself to any position of the shaft. **It runs in oil.**

**Figure 3.** Shows the balancing weight for regulating the throw of the box. Moving the weight in or out gives the box more or less throw. This patented device is very easily regulated.

**Figure 4.** Shows a short crank with shaft and small pulley attached for controlling the motion of the main shaft when starting and stopping the machine, and works inside of Figure 5. The object of this arrangement is to control the motion of the sieve box when starting or stopping.

FIG. 3

When the machine has attained its proper speed, this revolving pulley on the end of the shaft will remain central in the controlling cup-shaped pulley. When starting or stopping the machine, the swing of the box is irregular and naturally would be thrown out of circuit without a controller. The revolving pulley on the end of the shaft runs loose and does not touch the bottom of the cup at all. Consequently none of the weight of the machine rests on the floor.

**Figure 5.** Shows pulley-shaped cup for controlling the shaft-end when starting or stopping the machine. This cup revolves in either direction; so does the pulley on the end of the shaft—which eliminates all resistance.

**Figure 6.** Shows a neat bell-shaped base fastened to the floor by small bolts. The top of the base contains a bearing for accommodating the revolving pulley-shaped cup shown in Figure 5. As explained, this base supports none of the weight of the machine.

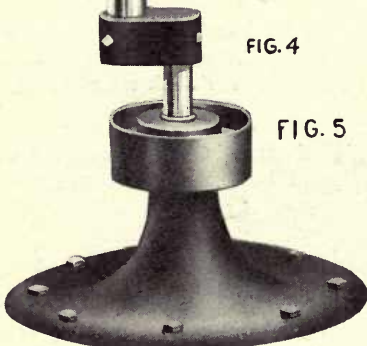


FIG. 4

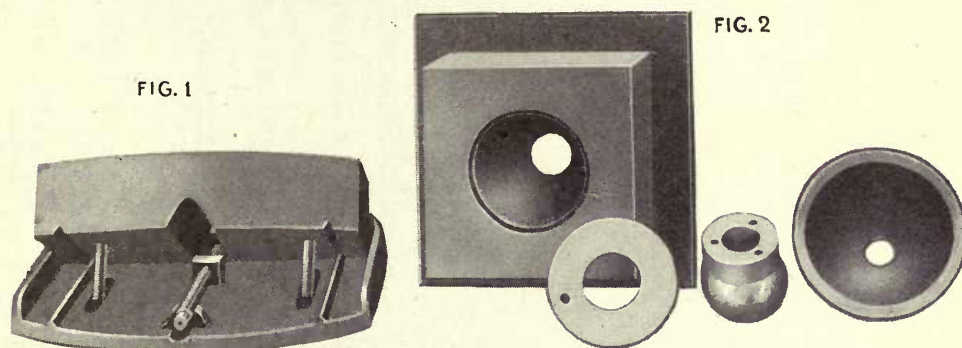
FIG. 5

FIG. 6



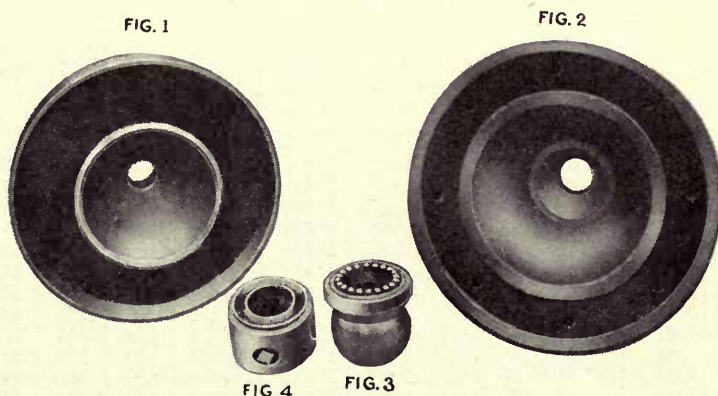
# Disassembled Driving Mechanism of the Monarch Ball Bearing Sieve Bolter

## Self-Balancing—Style “E”



**Figure 1.** Shows detail of balancing weight for regulating throw of box (Figure 3, page 64).

**Figure 2.** Shows detail of main bearing, including the ball and socket bearing, which adjusts itself to any position of the shaft.



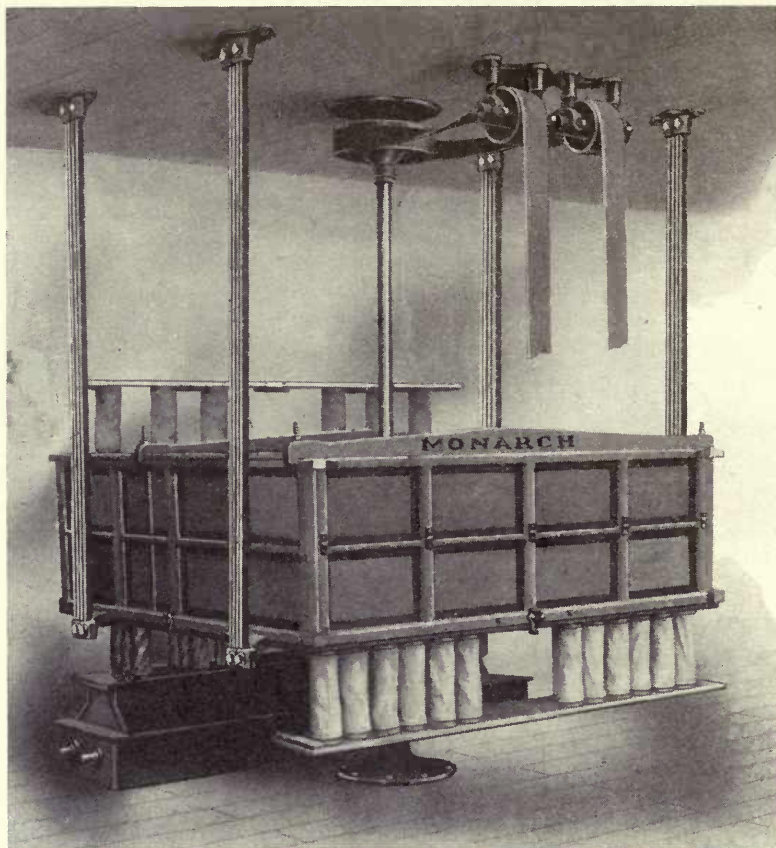
**Figure 1.** Inside of Balance Pulley (Figure 1, page 64).

**Figure 2.** Upper Socket Flange.

**Figure 3.** Ball and Ball Bearing for Upper Socket Flange.

**Figure 4.** Collar for Ball Race.

# The Monarch Ball Bearing Self-Balancing Sieve Bolter Style "E"



Style "E"—The Monarch Ball Bearing Self-Balancing Sieve Bolter

## Prices, Dimensions, Weights, Etc.

No. of Div.	Width of Each Div.	Price	Extreme Length Including Throw of Machine	Extreme Width Including Throw of Machine	Height to Top of Landing Board	Distance from Floor to Bottom of Box	Size of Pulley Inches	Rev. per Min.	Sq. Ft. Cloth Surface	Weight Lbs.	BOXED FOR EXPORT	
											Weight Lbs.	Volume Cu. Ft.
4	8	\$ 740.00	7' 6"	5' 3 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	85	2070	3350	174
6	8	845.00	7' 6"	6' 7 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	106	2430	3700	201
8	8	1025.00	7' 6"	7' 11 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	142	2800	4300	254
10	8	1214.00	7' 6"	9' 3 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	177	3150	4860	285
4	10	752.00	7' 6"	5' 11 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	88	2025	3200	179
6	10	958.00	7' 6"	7' 7 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	133	2550	3770	228
8	10	1178.00	7' 6"	9' 3 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	177	3000	4630	279
10	10	1416.00	7' 6"	10' 11 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	221	3375	5110	303
2	12	656.00	7' 6"	4' 7 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	64	1890	3000	158
4	12	824.00	7' 6"	6' 7 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	106	2340	3660	202
6	12	1072.00	7' 6"	8' 7 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	160	2790	4220	267
8	12	1332.00	7' 6"	10' 7 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	212	3200	5025	321
2	16	740.00	7' 6"	5' 3 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	85	1980	3180	180
4	16	968.00	7' 6"	7' 11 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	142	2430	3880	246
6	16	1290.00	7' 6"	10' 7 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	212	3130	4910	321
2	20	752.00	7' 6"	5' 11 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	88	1980	3160	179
4	20	1108.00	7' 6"	9' 3 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	177	2700	4340	276
2	24	824.00	7' 6"	6' 7 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	106	2160	3440	201
4	24	1248.00	7' 6"	10' 7 1/2"	5' 8"	2' 4 1/2"	16 x 4	130	212	3060	4890	321



## Price List of Silk Sieve Cloths for the Monarch Style "E" Sieve Bolters

Width	No. 2 SIEVE					No. 4 SIEVE					No. 6 SIEVE				
	8"	10"	12"	16"	20"	8"	10"	12"	16"	20"	8"	10"	12"	16"	20"
Cloth															
5xx	\$1.98	\$2.36	\$2.72	\$3.08	\$3.82	\$1.98	\$2.36	\$2.72	\$3.08	\$4.20	\$1.98	\$2.28	\$2.72	\$3.08	\$4.20
6xx	2.02	2.40	2.78	3.16	3.92	2.02	2.40	2.78	3.16	4.28	2.02	2.40	2.78	3.16	4.28
7xx	2.06	2.42	2.80	3.18	3.96	2.06	2.42	2.80	3.18	4.34	2.06	2.42	2.80	3.18	4.34
8xx	2.10	2.50	2.90	3.30	4.10	2.10	2.50	2.90	3.30	4.50	2.10	2.50	2.90	3.30	4.50
9xx	2.20	2.64	3.06	3.48	4.34	2.20	2.64	3.06	3.48	4.78	2.20	2.64	3.06	3.48	4.78
10xx	2.34	2.80	3.26	3.72	4.64	2.34	2.80	3.26	3.72	5.12	2.34	2.80	3.26	3.72	5.12
11xx	2.50	3.02	3.52	4.02	5.04	2.50	3.02	3.52	4.02	5.54	2.50	3.02	3.52	4.02	5.54
12xx	2.74	3.30	3.86	4.42	5.54	2.74	3.30	3.86	4.42	6.10	2.74	3.30	3.86	4.42	6.10
13xx	2.96	3.58	4.18	4.80	6.04	2.96	3.58	4.18	4.80	6.66	2.96	3.58	4.18	4.80	6.66
14xx	3.12	3.78	4.44	5.10	6.42	3.12	3.78	4.44	5.10	7.08	3.12	3.78	4.44	5.10	7.08
15xx	3.30	4.00	4.70	5.40	6.80	3.30	4.00	4.70	5.40	7.50	3.30	4.00	4.70	5.40	7.50

### All Sizes of Grit Gauze

#### No. 7 Sieve

Width-----	8"	10"	12"	16"	20"
Price-----	\$2.60	\$3.02	\$3.44	\$4.28	\$5.12

## Price List of Wire Sieve Cloths

### Nos. 7 and 8 Sieves

Width-----	8"	10"	12"	16"	20"
No. Wire					
8	\$1.18	\$1.33	\$1.50	\$1.85	\$2.16
10	1.31	1.49	1.70	2.12	2.50
12	1.31	1.49	1.70	2.12	2.50
14	1.31	1.49	1.70	2.12	2.50
16	1.31	1.49	1.70	2.12	2.50
18	1.31	1.49	1.70	2.12	2.50
20	1.40	1.88	2.16	2.75	3.27
22	1.76	2.04	2.37	3.02	3.61
24	1.76	2.04	2.37	3.02	3.61
26	1.76	2.04	2.37	3.02	3.61
28	1.76	2.04	2.37	3.02	3.61
30	1.76	2.04	2.37	3.02	3.61
32	1.76	2.04	2.37	3.02	3.61
34	1.99	2.32	2.70	3.47	4.17
36	2.62	2.70	3.16	4.10	4.94

The above prices include making up.

## Length of Cloths Including Webbing

### Seven-Foot Box—Eight-Inch and Ten-Inch Sieves

Sieve No. 8 clothed with wire on scalper 80 in. long.	Sieve No. 4 clothed with xx silk 73 in. long, 2nd flour sieve
" No. 7 " " Grit gauze on grader 80 in. long	" No. 2 " " xx silk 69 in. long, 3rd flour sieve bottom
" No. 6 " " xx silk 77 in. long, 1st flour sieve	

### Seven-Foot Box—Twelve-Inch and Sixteen-Inch Sieves

Sieve No. 8 clothed with wire on scalper 79 in. long	Sieve No. 4 clothed with xx silk 72 in. long, 2nd flour sieve
" No. 7 " " Grit gauze on grader 79 in. long	" No. 2 " " xx silk 68 in. long, 3rd flour sieve bottom
" No. 6 " " xx silk 76 in. long, 1st flour sieve	

### Six-Foot Box—Eight-Inch and Ten-Inch Sieves

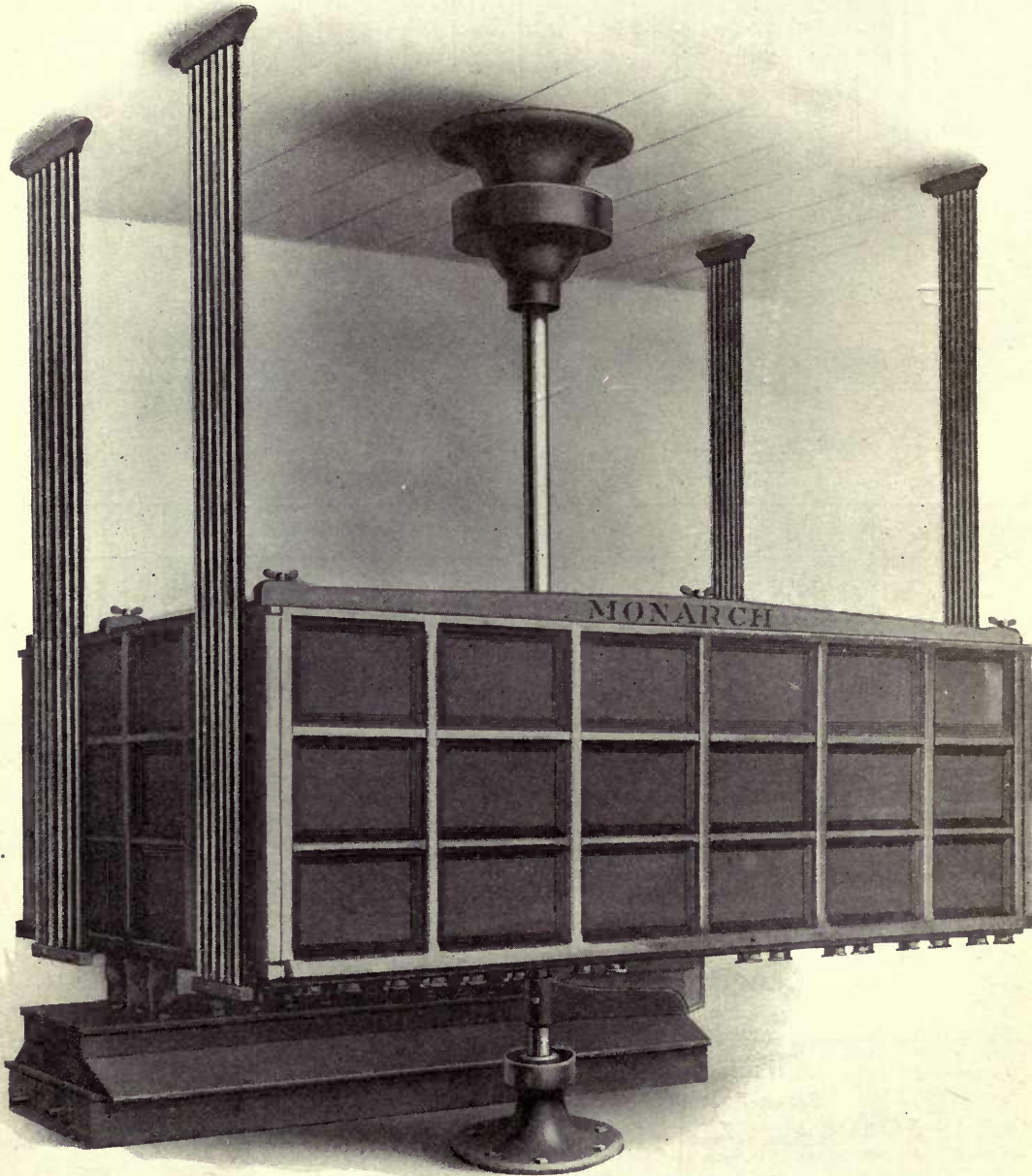
Sieve No. 8 clothed with wire on scalper 68 in. long.	Sieve No. 4 clothed with xx silk 61 in. long, 2nd flour sieve
" No. 7 " " Grit gauze on grader 68 in. long	" No. 2 " " xx silk 57 in. long, 3rd flour sieve bottom
" No. 6 " " xx silk 64 in. long, 1st flour sieve	

### Six-Foot Box—Twelve-Inch and Sixteen-Inch Sieves

Sieve No. 8 clothed with wire on scalper 67 in. long	Sieve No. 4 clothed with xx silk 60 in. long, 2nd flour sieve
" No. 7 " " Grit gauze on grader 67 in. long	" No. 2 " " xx silk 56 in. long, 3rd flour sieve bottom
" No. 6 " " xx silk 64 in. long, 1st flour sieve	

# The Monarch Ball Bearing Self-Balancing Sieve Bolter

## Two to Ten Reduction



Style "H"

The Monarch Ball Bearing Self-Balancing Sieve Bolter—Two to Ten Reduction



## **The Monarch Ball Bearing Self-Balancing Sieve Bolter Style "H"**

In contemplating the purchase of a bolter, there are many important points which should be given careful study and consideration. Least worthy of thought among these is the cost, or commercial value of the machine; vital in every respect is the economic value or, in other words, the value from a consideration of capacity for actual utility and service.

Our object, therefore, in describing and recommending our Style "H" Ball Bearing Self-Balancing Sieve Bolter, is not to give it, or any of the several bolters listed in this section of our catalog, an increased or decreased prominence on account of price, but to offer the trade a wide range of selection and to allow the individual to choose the machine best suited to his individual needs and to the local conditions under which installation will take place.

The Monarch Style "H" machine is very similar in construction and operation to the Monarch Style "E" Ball Bearing Self-Balancing Bolter which has been described in the preceding pages. The principle of the balancing and driving mechanism is the same as described on pages 64 and 65, but some minor improvements have been made in the mechanical details of the drive, in order to provide for the slight variation from the general construction of the Style "E."

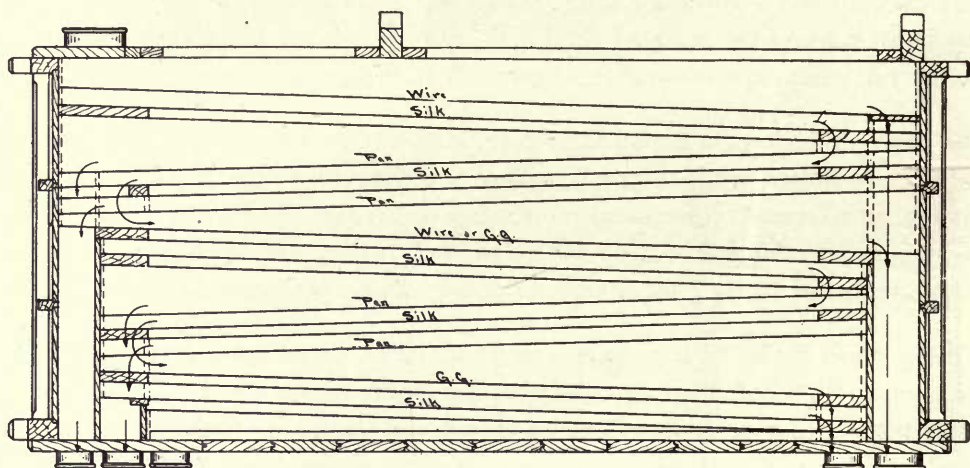
The Style "H" design provides space for eight sieves in each section instead of five as found in the Style "E." This makes a greater depth of box necessary, but gives the former machine a substantial increase in capacity. The automatic method of keeping the cloths clean and open for the maintenance of maximum capacity is described on page 71.

The undisputed advantages which Monarch Bolting Machines offer, should be determining factors in the minds of those who are or expect to be engaged in the flour milling business and who look upon a machine of this kind as an investment, desiring to consider only the highest grade and proven worth. These advantages have long been desired by the trade and combine to make our machines the most reliable, practical and economical ever built, accomplishing closer work than has hitherto been possible, with very little attention and a negligible amount of maintenance expense.

# The Monarch Ball Bearing Self-Balancing Sieve Bolter

## Style "H"

### Sectional View Showing Sieve Arrangement



Style "H" Machine

The Style "H" Monarch Ball Bearing Self-Balancing Bolter can be adapted to meet the conditions of mills of any size or capacity and can be arranged for a great variety of separations.

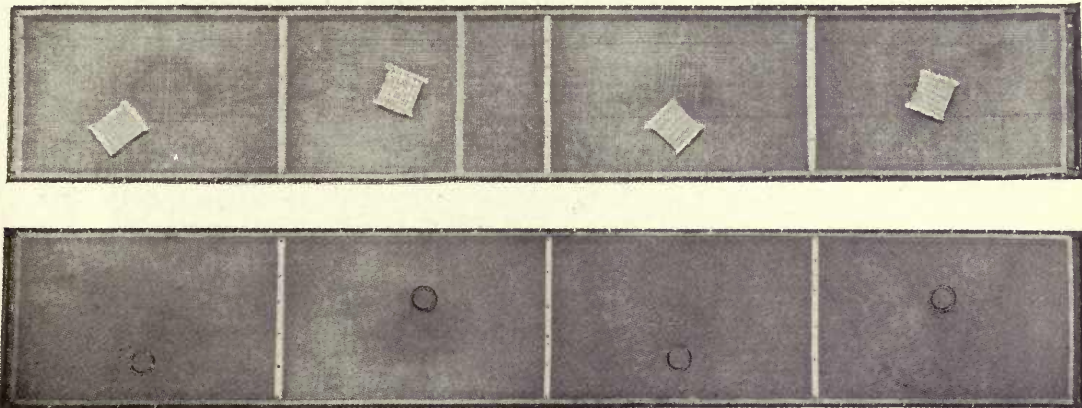
All sieves are interchangeable and easy of access for removal or replacement. This feature will be greatly appreciated as the miller, by having conveniently at hand, sieves of various grades, can quickly and conveniently make any changes deemed necessary by reason of the quality of the wheat or the desired texture of the finished product.

The stock is flowed in such manner as to discharge all the flour from the machine on the inlet side, where it enters two or three-way conveyors. All outlets for the tailings from the scalping sieves are located on the opposite side of the machine. For this reason, the spouting of the separated stock between the bolter and other machines, can be arranged with the greatest convenience.

Each flour sieve has a separate discharge spout, allowing the positive determination of the source of specky flour, without the inconvenience of opening up the machine.



## Sieves Showing Cloth Cleaners of the Monarch Ball Bearing Self-Balancing Sieve Bolter Style "H"



Referring to the above illustrations you will observe that the sieve frames are divided into small square spaces, each one of which has its own cloth cleaner, which is actuated by the motion of the machine.

While there are many varieties of cloth cleaning devices, and while we are prepared to furnish any style that may be preferred by the purchaser, we recommend the use of any one of the following:

A square of Scandinavian belting with a metal button on the bottom side.

A metallic ring with bristles protruding from the upper edge.

A double leather loop with small tufts of bristles at each end—the bristles being kept against the cloth by the weight of the leather.

These three devices are designed for use beneath silk and grit gauze cloths and travel in a space between the cloths and a coarse wire screen which is tacked to the bottom of the sieve.

Wire cloths are usually kept clean by means of a chain, which sways across the cloth with each gyration of the sifter.

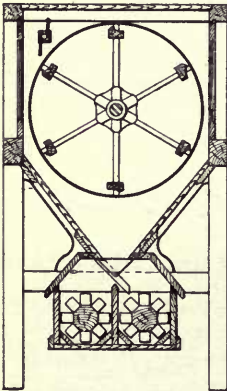
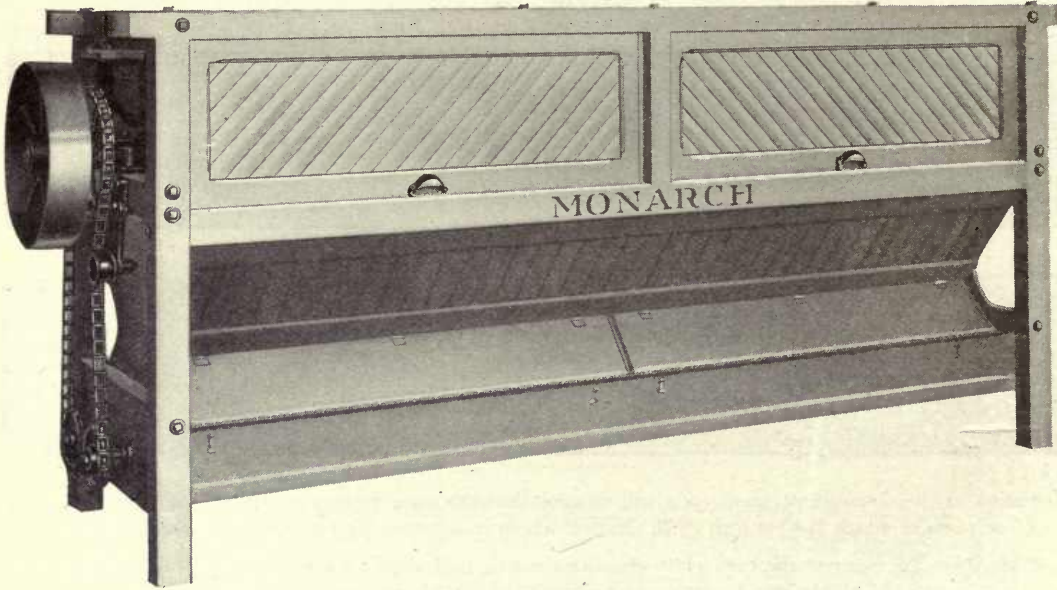
It can be easily understood that these cleaners are automatic in action and require no attention whatever.

### Prices, Dimensions, Weights, Etc.

No. of Div.	Width of Div.	Price	Extreme Length Includ'g Throw of Machine	Extreme Width Including Throw of Machine	Height to Top of Landing Board	Distance from Floor to Bottom of Box	Size of Pulley Inches	Rev. per Min.	Sq. Ft. of Cloth Surface	Weight Lbs.	BOXED FOR EXPORT	
											Weight Lbs.	Vol. Cu.Ft.
4	8	\$ 800.00	7' 6"	5' 3½"	6' 0"	2' 4½"	16 x 4	180	100	2490	3820	187
6	8	1025.00	7' 6"	6' 7½"	6' 0"	2' 4½"	16 x 4	180	149	2920	4250	216
8	8	1275.00	7' 6"	7' 11½"	6' 0"	2' 4½"	16 x 4	180	199	3380	4950	272
10	8	1545.00	7' 6"	9' 3½"	6' 0"	2' 4½"	16 x 4	180	249	3780	5570	306
4	10	896.00	7' 6"	5' 11½"	6' 0"	2' 4½"	16 x 4	180	124	2430	3650	192
6	10	1185.00	7' 6"	7' 7½"	6' 0"	2' 4½"	16 x 4	180	187	3060	4340	245
8	10	1495.00	7' 6"	9' 3½"	6' 0"	2' 4½"	16 x 4	180	249	3590	5300	300
10	10	1830.00	7' 6"	10' 11½"	6' 0"	2' 4½"	16 x 4	180	311	4050	5865	326
2	12	700.00	7' 6"	4' 7½"	6' 0"	2' 4½"	16 x 4	180	75	2270	3430	170
4	12	996.00	7' 6"	6' 7½"	6' 0"	2' 4½"	16 x 4	180	149	2800	4180	217
6	12	1340.00	7' 6"	8' 7½"	6' 0"	2' 4½"	16 x 4	180	224	3350	4850	287
8	12	1715.00	7' 6"	10' 7½"	6' 0"	2' 4½"	16 x 4	180	299	3840	5750	345
2	16	800.00	7' 6"	5' 3½"	6' 0"	2' 4½"	16 x 4	180	100	2780	4030	194
4	16	1196.00	7' 6"	7' 11½"	6' 0"	2' 4½"	16 x 4	180	199	2920	4440	264
6	16	1655.00	7' 6"	10' 7½"	6' 0"	2' 4½"	16 x 4	180	299	3750	5620	345
2	20	900.00	7' 6"	5' 11½"	6' 0"	2' 4½"	16 x 4	180	125	2380	3610	192
4	20	1396.00	7' 6"	9' 3½"	6' 0"	2' 4½"	16 x 4	180	249	3240	4960	296
2	24	996.00	7' 6"	6' 7½"	6' 0"	2' 4½"	16 x 4	180	149	2600	3940	216
4	24	1596.00	7' 6"	10' 7½"	6' 0"	2' 4½"	16 x 4	180	299	3680	5600	345

# The Monarch Round Flour Dresser

## Style "A"



This machine has an inter-elevating round reel made in the most substantial way with an iron shaft, tight head, conveyor feed, and open tail peripheral discharge. The spiders are made with wooden arms and an iron hub. Each separate spoke passes through the rib which extends the entire length of the reel. It thus forms an inter-elevator carrying the stock over and dropping it on the down-going side. Consequently the bolting capacity is nearly two-thirds of the circumference. This in a machine of this character, is unusually large.

In changing the stock from one conveyor to the other in the Monarch Round Reel simply raise the lid on the conveyor box and throw the tin discharge spout so they will discharge in either of the conveyors, as the case demands.

The frame of the machine is of rock maple and the body of poplar. The whole is highly finished with bleached shellac and varnish. The doors are held in place by a patent fastener and handle of our own. These come flush with the inside of the frame and leave no place for flour to accumulate and fall out when the door is opened.

In ordering state whether reel is to turn to the right or to the left when standing at the head end.

### Prices, Dimensions, Weights, Etc.

Size No.	Price With Two Conveyors	Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
				Length	Width	Height						Weight Lbs.	Vol. Cu.Ft.
1	\$240.00	6' 0"	21	7' 1"	2' 6 1/2"	4' 9 1/2"	8' 4"	3' 6"	16 x 3	33	850	1250	103
2	250.00	7' 0"	21	8' 1"	2' 6 1/2"	4' 9 1/2"	9' 4"	3' 6"	16 x 4	33	900	1350	116
3	260.00	8' 0"	21	9' 1"	2' 6 1/2"	4' 9 1/2"	10' 4"	3' 6"	16 x 4	33	950	1450	130
4	270.00	9' 0"	21	10' 1"	2' 6 1/2"	4' 9 1/2"	11' 4"	3' 6"	16 x 4 1/2	33	1000	1550	144
5	270.00	6' 0"	26	7' 1"	2' 9 1/2"	4' 10"	8' 4"	3' 6"	18 x 3	30	1050	1500	115
6	285.00	7' 0"	26	8' 1"	2' 9 1/2"	4' 10"	9' 4"	3' 6"	18 x 4	30	1125	1625	128
7	300.00	8' 0"	26	9' 1"	2' 9 1/2"	4' 10"	10' 4"	3' 6"	18 x 4 1/2	30	1200	1750	142
8	315.00	9' 0"	26	10' 1"	2' 9 1/2"	4' 10"	11' 4"	3' 6"	18 x 5	30	1275	1875	155
9	330.00	10' 0"	26	11' 1"	2' 9 1/2"	4' 10"	12' 4"	3' 6"	18 x 5 1/2	30	1350	2000	169
10	320.00	7' 0"	30	8' 1"	3' 1 1/2"	5' 4"	9' 4"	3' 10 1/2"	20 x 4	28	1225	1750	158
11	340.00	8' 0"	30	9' 1"	3' 1 1/2"	5' 4"	10' 4"	3' 10 1/2"	20 x 4 1/2	28	1290	1865	175
12	360.00	9' 0"	30	10' 1"	3' 1 1/2"	5' 4"	11' 4"	3' 10 1/2"	20 x 5	28	1350	1975	192
13	380.00	10' 0"	30	11' 1"	3' 1 1/2"	5' 4"	12' 4"	3' 10 1/2"	20 x 5 1/2	28	1420	2095	210
14	340.00	8' 0"	32	9' 1"	3' 4"	5' 8 1/2"	10' 4"	4' 1"	22 x 4	26	1350	1975	198
15	360.00	9' 0"	32	10' 1"	3' 4"	5' 8 1/2"	11' 4"	4' 1"	22 x 4 1/2	26	1425	2125	218
16	380.00	10' 0"	32	11' 1"	3' 4"	5' 8 1/2"	12' 4"	4' 1"	22 x 5	26	1500	2275	238
17	420.00	12' 0"	32	13' 1"	3' 4"	5' 8 1/2"	14' 4"	4' 1"	22 x 5 1/2	26	1650	2575	258

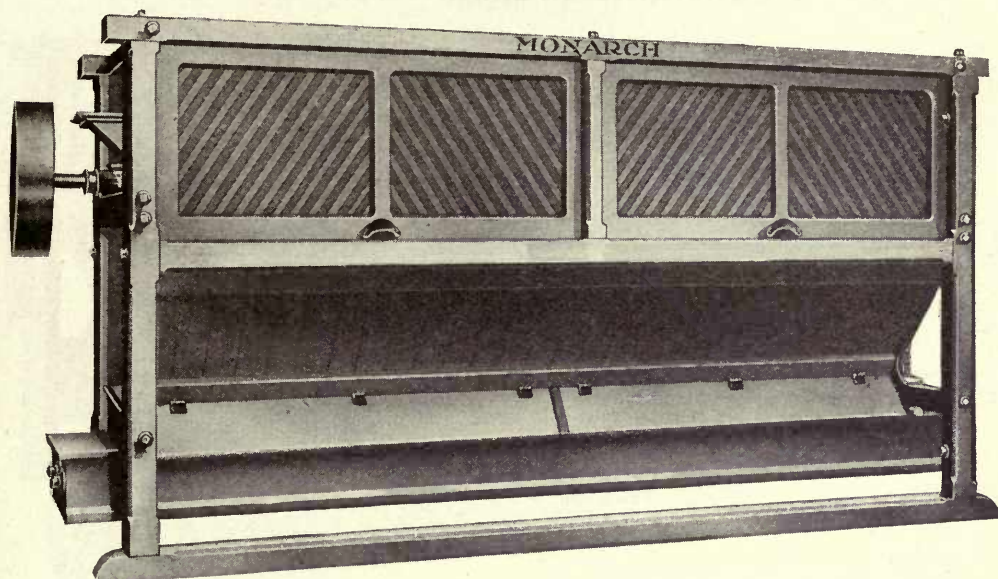
The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard prices.  
Price additional for Cross Shaft Drive:

For Reels 21 inches in diameter, \$20.00; 26 inches in diameter, \$30.00; 30 and 32 inches in diameter, \$40.00.



# The Monarch Hexagon Flour Dresser

## Style "B"

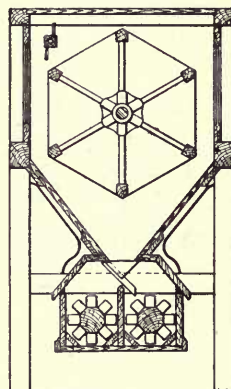


This machine has a hexagon reel made in the most substantial way with an iron shaft, tight head, conveyor feed, and open tail and peripheral discharge. The spiders are made with wooden arms and an iron hub.

An improvement which the Monarch Hexagon Reel has over the old-style flour dresser is that the cut-offs are operated from the inside of the machine instead of from the outside, by means of raising slides with buttons attached. In changing the stock from one conveyor to the other in the Monarch Hexagon Reel, simply raise the lid on the conveyor box and throw the tin discharge spouts so that they will discharge in either of the conveyors, as the case demands.

The frame of the machine is of rock maple and the body of poplar. The whole is highly finished with bleached shellac and varnish. The doors are held in place by a patent fastener and handle of our own. These come flush with the inside of the frame and leave no place for flour to accumulate and fall out when the door is opened.

In ordering state whether reel is to turn to the right or to the left when standing at the head end.



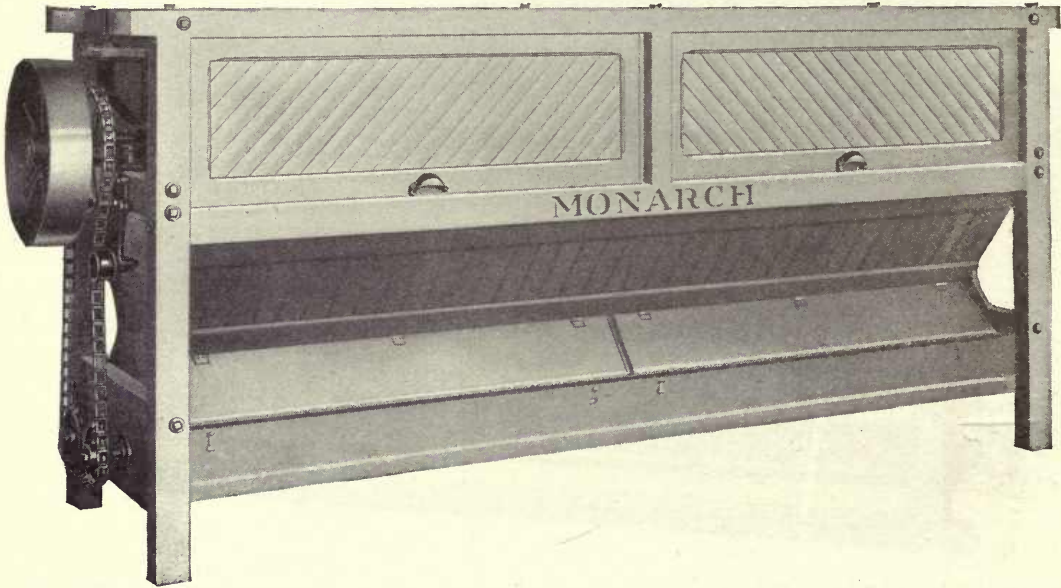
### Prices, Dimensions, Weights, Etc.

Size No.	Price With Two Conveyors	Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
				Length	Width	Height						Weight Lbs.	Vol. Cu.Ft.
18	\$240.00	6' 0"	21	7' 1"	2' 6 1/2"	4' 9 1/2"	8' 4"	3' 6"	16 x 3	33	850	1250	103
19	250.00	7' 0"	21	8' 1"	2' 6 1/2"	4' 9 1/2"	9' 4"	3' 6"	16 x 4	33	900	1350	116
20	260.00	8' 0"	21	9' 1"	2' 6 1/2"	4' 9 1/2"	10' 4"	3' 6"	16 x 4	33	950	1450	130
21	270.00	9' 0"	21	10' 1"	2' 6 1/2"	4' 9 1/2"	11' 4"	3' 6"	16 x 4 1/2	33	1000	1550	144
22	270.00	7' 0"	26	7' 1"	2' 9 1/2"	4' 10"	8' 4"	3' 6"	18 x 3	30	1050	1500	115
23	285.00	8' 0"	26	8' 1"	2' 9 1/2"	4' 10"	9' 4"	3' 6"	18 x 4	30	1125	1625	128
24	300.00	9' 0"	26	9' 1"	2' 9 1/2"	4' 10"	10' 4"	3' 6"	18 x 4 1/2	30	1200	1750	142
25	315.00	10' 0"	26	10' 1"	2' 9 1/2"	4' 10"	11' 4"	3' 6"	18 x 5	30	1275	1875	155
26	330.00	10' 0"	30	11' 1"	2' 1 1/2"	4' 10"	12' 4"	3' 6"	18 x 5 1/2	30	1350	2000	169
27	320.00	7' 0"	30	8' 1"	3' 1 1/2"	5' 4"	9' 4"	3' 10 1/2"	20 x 4	28	1225	1750	158
28	340.00	8' 0"	30	9' 1"	3' 1 1/2"	5' 4"	10' 4"	3' 10 1/2"	20 x 4 1/2	28	1285	1865	175
29	360.00	9' 0"	30	10' 1"	3' 1 1/2"	5' 4"	11' 4"	3' 10 1/2"	20 x 5	28	1350	1975	192
30	380.00	10' 0"	30	11' 1"	3' 1 1/2"	5' 4"	12' 4"	3' 10 1/2"	20 x 5 1/2	28	1420	2095	210
31	380.00	8' 0"	32	9' 1"	3' 4"	5' 8 1/2"	10' 4"	4' 1"	22 x 4	26	1350	1975	198
32	360.00	9' 0"	32	10' 1"	3' 4"	5' 8 1/2"	11' 4"	4' 1"	22 x 4 1/2	26	1425	2125	218
33	380.00	10' 0"	32	11' 1"	3' 4"	5' 8 1/2"	12' 4"	4' 1"	22 x 5	26	1500	2275	238
34	400.00	12' 0"	32	13' 1"	3' 4"	5' 8 1/2"	14' 4"	4' 1"	22 x 5 1/2	26	1650	2575	258

The above prices include cloth not more expensive than 12XX silk. More expensive cloth to be charged additional at standard prices. Price additional for Cross Shaft Drive:

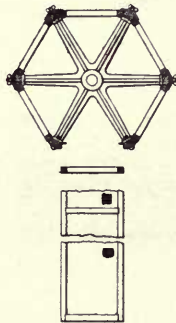
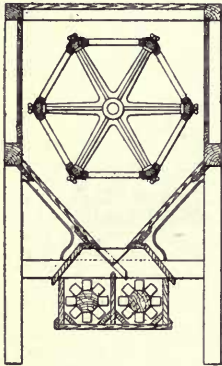
For Reels 21 inches in diameter, \$20.00; 26 inches in diameter, \$30.00; 30 and 32 inches in diameter, \$40.00.

## The Monarch Hexagon Flour Reel with Removable Frames—Style "C"



This Reel is designed for use where it is desirable to make quick changes in the bolting cloth or quick repairs as extra cloth frames can be furnished. The cloth frames are interchangeable and can be furnished in six or more sections the length of the Reel.

The Reel proper is made by bolting wooden ribs to heavy cast iron spiders. To these ribs are fastened steel angle irons which form grooves in which the removable cloth frames fit. The cloth frames are made by clothing wooden frames with any kind of cloth desired. After the frame is in position it is held in place by iron clamps and thumb nuts as shown in cut.



The Reel is enclosed in a hardwood frame with ends and cant-boards of poplar which presents a very neat appearance.

We make them with either single or double conveyor as ordered, and use either pulleys or sprockets for driving as desired.

The price list covers the Reel with straight drive. Cross drive can be furnished for which an extra charge is made.

Pulley or sprocket wheel is included for driving.

In ordering state whether Reel is to turn to the right or to the left when standing at the head end.

### Prices, Dimensions, Weights, Etc.

Size No.	PRICE		Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
	With One Conveyor	With Two Convs			Length	Width	Height						Weight Lbs.	Vol. Cu. Ft.
35	\$250.00	\$270.00	6' 0"	26	7' 1"	3' 0"	5' 2"	8' 4"	3' 9"	18 x 3	30	1170	1615	130
36	280.00	300.00	8' 0"	26	9' 1"	3' 0"	5' 2"	10' 4"	3' 9"	18 x 4 1/2	30	1350	1870	160
37	310.00	330.00	10' 0"	26	11' 1"	3' 0"	5' 2"	12' 4"	3' 9"	18 x 5 1/2	30	1525	2120	190
38	340.00	360.00	12' 0"	26	13' 1"	3' 0"	5' 2"	14' 4"	3' 9"	18 x 6	30	1710	2380	220
39	370.00	390.00	14' 0"	26	15' 1"	3' 0"	5' 2"	16' 4"	3' 9"	18 x 6 1/2	30	1900	2650	250
40	280.00	300.00	6' 0"	30	7' 1"	3' 4"	5' 8"	8' 4"	4' 1"	20 x 4	28	1275	1835	158
41	320.00	340.00	8' 0"	30	9' 1"	3' 4"	5' 8"	10' 4"	4' 1"	20 x 4 1/2	28	1475	2115	195
42	360.00	380.00	10' 0"	30	11' 1"	3' 4"	5' 8"	12' 4"	4' 1"	20 x 5 1/2	28	1650	2370	233
43	400.00	420.00	12' 0"	30	13' 1"	3' 4"	5' 8"	14' 4"	4' 1"	20 x 6	28	1845	2650	271
44	440.00	460.00	14' 0"	30	15' 1"	3' 4"	5' 8"	16' 4"	4' 1"	20 x 6 1/2	28	2035	2915	309
45	380.00	400.00	8' 0"	36	9' 1"	3' 10"	6' 4"	10' 4"	4' 6"	24 x 4	25	1625	2550	251
46	430.00	450.00	10' 0"	36	11' 1"	3' 10"	6' 4"	12' 4"	4' 6"	24 x 5	25	1825	2840	300
47	480.00	500.00	12' 0"	36	13' 1"	3' 10"	6' 4"	14' 4"	4' 6"	24 x 6	25	2025	3130	350
48	530.00	550.00	14' 0"	36	15' 1"	3' 10"	6' 4"	16' 4"	4' 6"	24 x 7	25	2225	3425	400

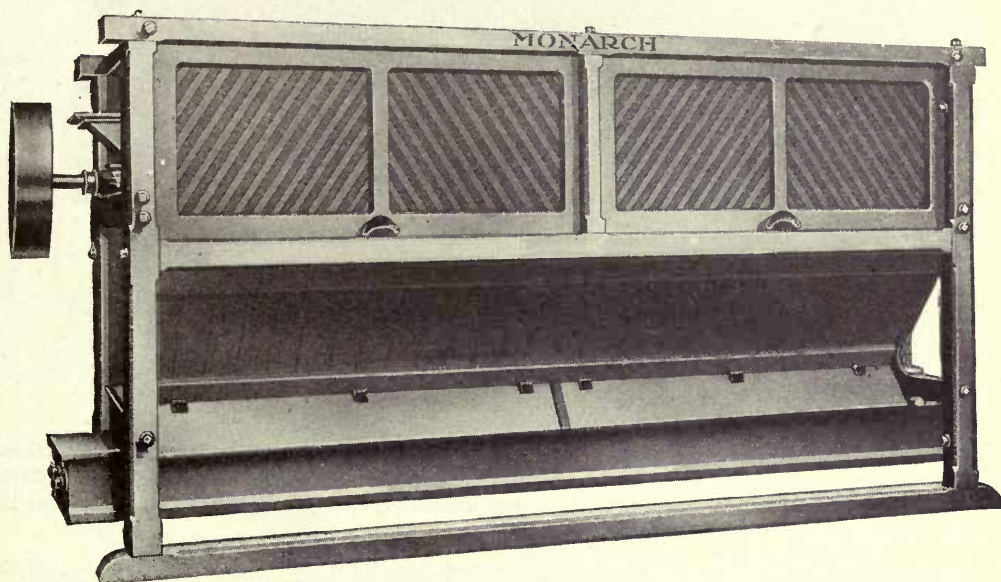
The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard prices. Price additional for Cross Shaft Drive:

For Reels 26 inches in diameter, \$30.00; 30 inches in diameter, \$40.00; 36 inches in diameter, \$50.00.



# The Monarch Inter-Elevator Flour Dresser

## Style "D"



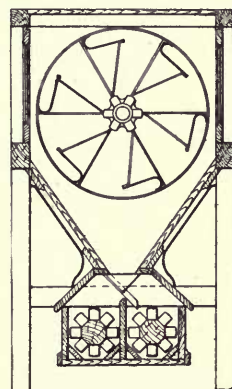
Stationary, steel buckets, extending the entire length of the cylinder and riveted to iron arms of the spiders, elevate and discharge the material on the down-going side of the reel, thus materially increasing the bolting capacity of this machine.

The cylinder is constructed of iron and steel. The cloth-covered, steel ribs are riveted to iron spiders, and a solid steel shaft extends through the center and projects far enough to permit of driving the reel from either end.

The cloth is kept clean by an adjustable, revolving brush.

This type of machine requires little power, has large bolting capacity and subjects the flour to gentle treatment.

In ordering, state whether reel turns to the right or left when standing at head end of machine.



### Prices, Dimensions, Weights, Etc.

Size No.	PRICE		Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
	With One Conveyor	With Two Convs'rs			Length	Width	Height						Weight Lbs.	Vol. Cu.Ft.
49	\$240.00	\$260.00	8' 0"	21	9' 1"	2' 6 1/2"	4' 9 1/4"	10' 4"	3' 6"	16 x 4	33	1000	1400	125
50	260.00	280.00	10' 0"	21	11' 1"	2' 6 1/2"	4' 9 1/4"	12' 4"	3' 6"	16 x 4 1/2	33	1100	1700	150
51	280.00	300.00	12' 0"	21	13' 1"	2' 6 1/2"	4' 9 1/4"	14' 4"	3' 6"	16 x 5	33	1200	1850	175
52	280.00	300.00	8' 0"	26	9' 1"	2' 9 1/2"	4' 10"	10' 4"	3' 6"	18 x 4	30	1250	1800	142
53	310.00	330.00	10' 0"	26	11' 1"	2' 9 1/2"	4' 10"	12' 4"	3' 6"	18 x 5	30	1400	2050	170
54	340.00	360.00	12' 0"	26	13' 1"	2' 9 1/2"	4' 10"	14' 4"	3' 6"	18 x 6	30	1550	2300	200
55	320.00	340.00	8' 0"	30	9' 1"	3' 1 1/2"	5' 4"	10' 4"	3' 10 1/2"	20 x 4	28	1350	1925	175
56	360.00	380.00	10' 0"	30	11' 1"	3' 1 1/2"	5' 4"	12' 4"	3' 10 1/2"	20 x 5	28	1475	2150	208
57	400.00	420.00	12' 0"	30	13' 1"	3' 1 1/2"	5' 4"	14' 4"	3' 10 1/2"	20 x 6	28	1600	2375	241

The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard prices. Price additional for Cross Shaft Drive:

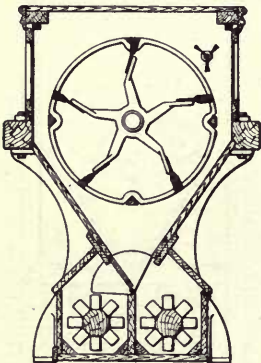
For Reels 21 inches in diameter, \$20.00; 26 inches in diameter, \$30.00; 30 inches in diameter, \$40.00.

# The Monarch "Little Wonder" Flour Dresser Reel Style "L"



A Flour Dresser and Rebolter are recognized important factors of economy in a mill. Their demand has been taken advantage of by manufacturers, and as a consequence a great variety of such machines is offered to mill owners, it becoming a difficult matter for those with limited experience to satisfy themselves about the merits of the various makes of machines.

The Monarch "LITTLE WONDER" carries no load in bottom, like large reels that pulverize and grind the stock by its own weight in traveling from head to tail, wearing by friction caused by the load in bottom of reel cutting out silk and discoloring the material—this amounts to more than most millers would believe. "LITTLE WONDER" carries the stock from head to tail, fast or slow, according to stock to be handled, by our system of elevating the stock up to the center of the reel, and the positive mild action of our inside flexible spiral brushes. We keep the stock in a continual spray all over the silk—it permeates every portion of the cylinder, thus preventing clogging of cloth or forcing the stock against the cloth in a heap. Our new principle enable us to scalp, grade or dress any kind of stock in the quickest, most accurate and satisfactory manner possible without waste. The inside brushes run clear of the silk one-half inch, they act as agitators, are constructed on belting which makes them soft and pliable, allowing us to handle stock on silk that no other reel can do and the silk last. All scalping for short system mills done on grit gauze.



In ordering state whether reel turns to the right or to the left when standing at head end.

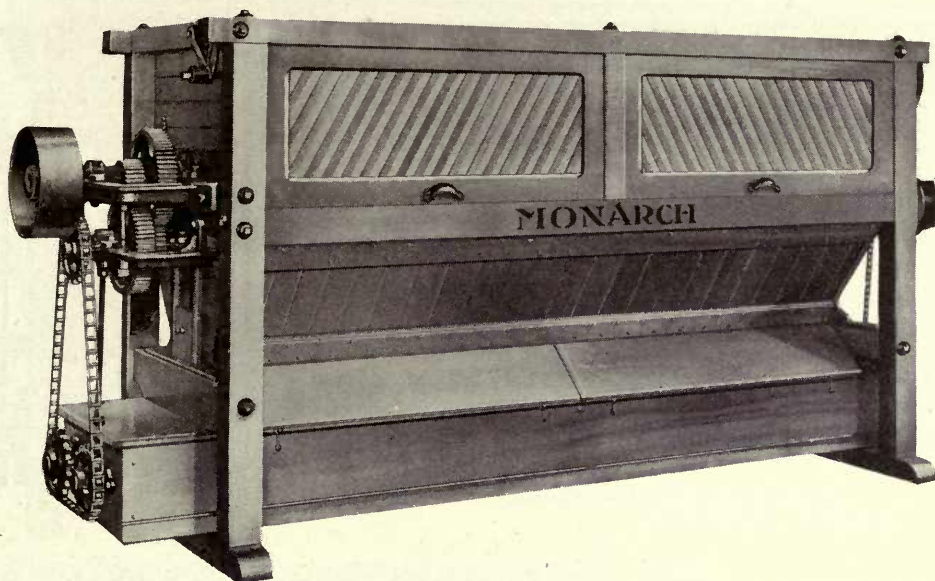
## Prices, Dimensions, Weights, Etc.

Size No.	PRICE		Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
	With One Conveyor	With Two Convs			Length	Width	Height						Weight Lbs.	Vol. Cu.Ft
58	\$250.00	\$290.00	6' 0"	18	7' 9"	2' 5"	3' 2"	9' 0"	2' 2"	12 x 3	175	1000	1350	73
59	270.00	310.00	7' 0"	18	8' 9"	2' 5"	3' 2"	10' 0"	2' 2"	12 x 3 1/2	175	1050	1425	80
60	290.00	330.00	8' 0"	18	9' 9"	2' 5"	3' 2"	11' 0"	2' 2"	12 x 3 1/2	175	1100	1500	88
61	310.00	350.00	9' 0"	18	10' 9"	2' 5"	3' 2"	12' 0"	2' 2"	12 x 4	175	1175	1600	95
62	330.00	370.00	10' 0"	18	11' 9"	2' 5"	3' 2"	13' 0"	2' 2"	12 x 4	175	1250	1700	103
63	330.00	370.00	7' 0"	24	9' 4"	3' 0"	4' 2"	10' 4"	2' 10"	12 x 4	150	1600	2100	130
64	350.00	390.00	8' 0"	24	10' 4"	3' 0"	4' 2"	11' 4"	2' 10"	12 x 4	150	1700	2240	142
65	370.00	420.00	9' 0"	24	11' 4"	3' 0"	4' 2"	12' 4"	2' 10"	12 x 5	150	1800	2380	154
66	400.00	440.00	10' 0"	24	12' 4"	3' 0"	4' 2"	13' 4"	2' 10"	12 x 5	150	1900	2520	166
67	440.00	480.00	12' 0"	24	14' 4"	3' 0"	4' 2"	15' 4"	2' 10"	12 x 5	150	2100	2800	178

The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard prices.  
Price additional for Cross Shaft Drive:  
For Reels 18 inches in diameter, \$20.00; 24 inches in diameter, \$30.00.



## The Monarch Standard Centrifugal Reel Style "E"



Modern requirements are becoming more and more exacting in the matter of dress and texture of flour.

When the soft stock enters the reel it is quite necessary that it be handled so that the good material will be made light, fluffy and handsome in appearance; that it should be so treated that its superior baking qualities will be instantly evident to the discerning eye.

Obviously the more readily and surely you can separate the low-grade material which should go into the feed (but doesn't always do so), the better and more marketable your product will be.

Perfect work in a reel, as in a sieve bolter, largely depends upon keeping the cloths open without interfering with the travel of the stock.

The Monarch Centrifugal Reel has a revolving brush cloth cleaner which works effectively and never pastes the cloth. It keeps every mesh free and open.

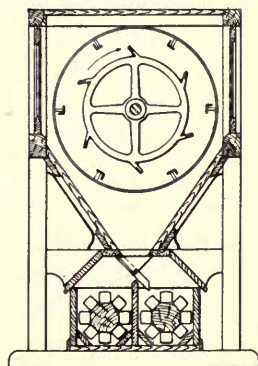
The Monarch Centrifugal Reel is built to withstand the hardest wear and tear. It is sound in build, accurate to the very last detail, and every particle of material entering into its construction is absolutely the best obtainable.

The cylinders are iron and steel. The beaters and deflectors are of steel. The gears used to secure the differential are machine cut and are well housed in a frame at the tail end of the machine. This makes the reel almost noiseless in operation. The gears are readily accessible by means of doors.

The cut-off valves above the double conveyor are simple and very effective in operation, as well as non-leakable and easily adjusted from either side of the reel.

Unless otherwise ordered this reel is furnished with wood flight conveyors.

In ordering state whether reel is to turn to the right or to the left when standing at the head end.



### Prices, Dimensions, Weights, Etc.

Size No.	With One Conveyor	With Two Convs	Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
					Length	Width	Height						Weight Lbs.	Vol. Cu.Ft.
68	\$290.00	\$310.00	7' 0"	20	7' 11"	2' 4"	3' 9"	10' 0"	2' 7 1/2"	12 x 3 1/2	250	1300	1785	116
69	300.00	320.00	8' 0"	20	8' 11"	2' 4"	3' 9"	11' 0"	2' 7 1/2"	12 x 3 1/2	250	1450	1950	128
70	325.00	345.00	7' 0"	26	7' 11"	2' 9 1/4"	4' 8"	10' 2 1/2"	3' 4"	12 x 4	200	1400	1950	146
71	340.00	360.00	8' 0"	26	8' 11"	2' 9 1/4"	4' 8"	11' 2 1/2"	3' 4"	12 x 4	200	1550	2150	160

The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard prices. Price additional for Cross Shaft Drive:

For Reels 20 inches in diameter, \$30.00; 26 inches in diameter, \$45.00.

## The Monarch Centrifugal Reel

### Larger Sizes—Style "F"

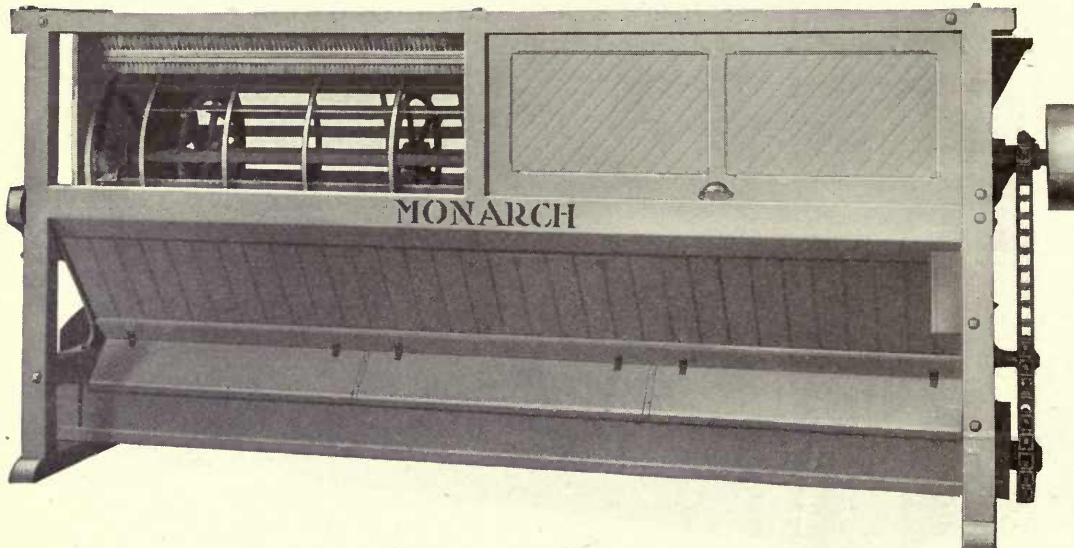
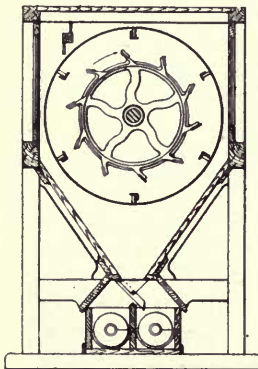


Illustration showing Monarch Centrifugal Reel as built in sizes (diameter of cylinder) from 30 to 36 inches, inclusive. This is a very superior machine in every way and is used for dressing all grades of flour after the rough and foreign material has been scalped out.



The frame of the machine is constructed, as are all Monarch Reels, of hard wood, tenoned and strongly secured with joint bolts, side slat doors. The differential speed between the silk surface and beater cylinder is obtained by the use of sprocket and chain. The tail of the slow cylinder is provided with an extended sleeve on which is a sprocket which is driven from a sprocket on the end of conveyor shaft.

The reel upon which the cloth is stretched is a cylinder of iron and steel construction. The ribs are of steel angles bolted to cast iron heads and so placed as to form sloping deflections which cause the stock to be thrown back upon the beaters. This action greatly increases the capacity of the machine and makes it most efficient in breaking up flaky stock.

Steel hoops are bolted to the ribs at intervals and are wrapped with flannel to prevent wear on the cloth. The beaters are made of steel, bolted to strong cast iron spiders. A revolving brush cloth cleaning device is used with adjustable bearings on outside so that it is an easy matter to regulate the pressure of brush on the cloth. The conveyors are 6 inches in diameter—steel spiral, which will find gives as little grinding action as possible. Cut-offs are metal of the tipper valve type. The machine can be driven from either end with pulley or sprocket.

Cross shaft drives will be furnished for an additional charge.

In ordering state whether reel is to turn to the right or to the left when standing at head end.

### Prices, Dimensions, Weights, Etc.

Size No.	PRICE		Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
	With One Conveyor	With Two Convs			Length	Width	Height						Weight Lbs.	Vol. Cu.Ft.
72	\$360.00	\$380.00	7' 0"	30	8' 2"	3' 7 1/2"	5' 3"	10' 2"	3' 8 1/2"	14 x 4	175	2100	2650	196
73	380.00	400.00	8' 0"	30	9' 2"	3' 7 1/2"	5' 3"	11' 2"	3' 8 1/2"	14 x 4 1/2	175	2175	2800	215
74	420.00	440.00	10' 0"	30	11' 2"	3' 7 1/2"	5' 3"	13' 2"	3' 8 1/2"	14 x 5	175	2350	3100	253
75	360.00	380.00	7' 0"	32	8' 2"	3' 9 1/2"	5' 5 1/2"	10' 2 1/2"	3' 10"	16 x 4	150	2200	2900	216
76	380.00	400.00	8' 0"	32	9' 2"	3' 9 1/2"	5' 5 1/2"	11' 2 1/2"	3' 10"	16 x 4	150	2300	3000	237
77	420.00	440.00	10' 0"	32	11' 2"	3' 9 1/2"	5' 5 1/2"	13' 2 1/2"	3' 10"	16 x 4 1/2	150	2500	3300	280
78	380.00	400.00	8' 0"	34	9' 2"	3' 11 1/2"	5' 8"	11' 2 1/2"	3' 11"	18 x 4	135	2400	3200	255
79	420.00	440.00	10' 0"	34	11' 2"	3' 11 1/2"	5' 8"	13' 2 1/2"	3' 11"	18 x 5	135	2550	3450	301
80	460.00	480.00	12' 0"	34	13' 2"	3' 11 1/2"	5' 8"	15' 2 1/2"	3' 11"	18 x 6	135	2700	3700	393

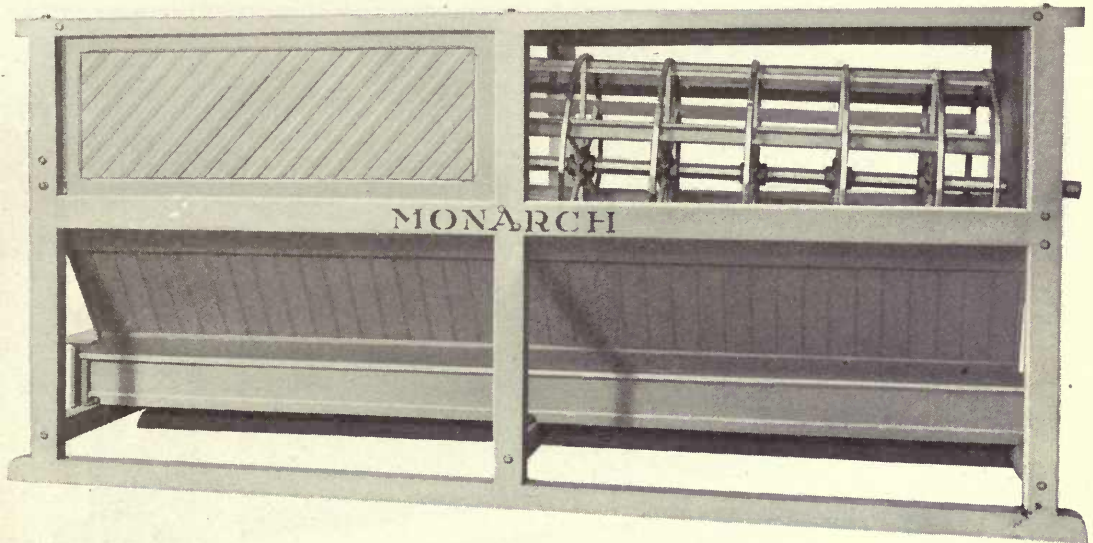
The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard prices. Price additional for Cross Shaft Drive:

For Reels 30, 32 and 34 inches in diameter, \$60.00.



# The Monarch Round Scalping Reel

## Style "G"



This Round Scalper is made in a substantial manner and of the best materials. A solid steel shaft extends through the center, the head is of cast iron, conveyor feed, and open tail discharge. The spiders are made with cast iron hubs and wooden arms. Each spoke passes through the ribs which extend the entire length of the cylinder and give the reel the inter-elevating feature, carrying the stock up and discharging it on the opposite side.

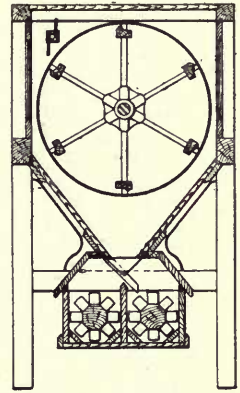
The frame is of rock maple, the end boards and cant-boards are poplar, varnished in the natural color, and the machine presents a neat appearance.

A revolving brush, adjustable for light or heavy dusting, prevents the meshes of the cloth from becoming clogged and assures regular work.

The reel is furnished with either one or two conveyors. When equipped with two conveyors the discharge into either conveyor is regulated by means of our patent cut-offs.

A cross shaft drive will be furnished at an additional charge.

In ordering, state whether reel is to turn to the right or to the left when standing at the head end.



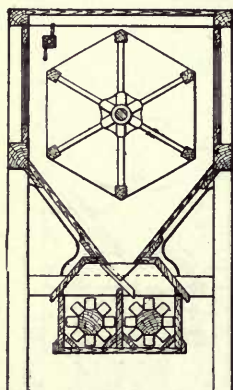
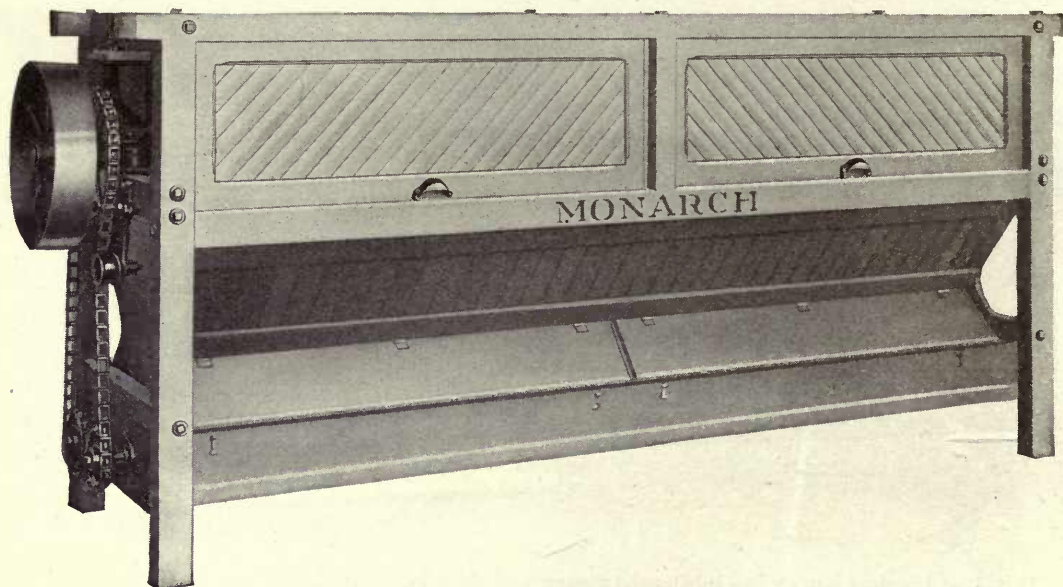
### Prices, Dimensions, Weights, Etc.

Size No.	PRICE		Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
	With One Conveyor	With Two Convs			Length	Width	Height						Weight Lbs.	Vol. Cu.Ft.
81	\$180.00	\$200.00	6' 0"	21	7' 1"	2' 6 1/2"	4' 9 1/2"	8' 4"	3' 6"	16 x 3	33	850	1250	103
82	190.00	210.00	7' 0"	21	8' 1"	2' 6 1/2"	4' 9 1/2"	9' 4"	3' 6"	16 x 4	33	900	1350	116
83	200.00	220.00	8' 0"	21	9' 1"	2' 6 1/2"	4' 9 1/2"	10' 4"	3' 6"	16 x 4	33	950	1450	130
84	210.00	230.00	9' 0"	21	10' 1"	2' 6 1/2"	4' 9 1/2"	11' 4"	3' 6"	16 x 4 1/2	33	1000	1550	144
85	210.00	230.00	6' 0"	26	7' 1"	2' 9 1/2"	4' 10"	8' 4"	3' 6"	18 x 3	30	1050	1500	115
86	225.00	245.00	7' 0"	26	8' 1"	2' 9 1/2"	4' 10"	9' 4"	3' 6"	18 x 4	30	1125	1625	128
87	240.00	260.00	8' 0"	26	9' 1"	2' 9 1/2"	4' 10"	10' 4"	3' 6"	18 x 4 1/2	30	1200	1750	142
88	255.00	275.00	9' 0"	26	10' 1"	2' 9 1/2"	4' 10"	11' 4"	3' 6"	18 x 5	30	1275	1875	155
89	270.00	290.00	10' 0"	26	11' 1"	2' 9 1/2"	4' 10"	12' 4"	3' 6"	18 x 5 1/2	30	1350	2000	169
90	260.00	280.00	7' 0"	30	8' 1"	3' 1 1/2"	5' 4"	9' 4"	3' 10 1/2"	20 x 4	28	1225	1750	158
91	280.00	300.00	8' 0"	30	9' 1"	3' 1 1/2"	5' 4"	10' 4"	3' 10 1/2"	20 x 4 1/2	28	1290	1865	175
92	300.00	320.00	9' 0"	30	10' 1"	3' 1 1/2"	5' 4"	11' 4"	3' 10 1/2"	20 x 5	28	1350	1975	192
93	320.00	340.00	10' 0"	30	11' 1"	3' 1 1/2"	5' 4"	12' 4"	3' 10 1/2"	20 x 5 1/2	28	1420	2095	210
94	280.00	300.00	8' 0"	32	9' 1"	3' 4"	5' 8 1/2"	10' 4"	4' 1"	22 x 4	26	1350	1975	198
95	300.00	320.00	9' 0"	32	10' 1"	3' 4"	5' 8 1/2"	11' 4"	4' 1"	22 x 4 1/2	26	1425	2125	218
96	320.00	340.00	10' 0"	32	11' 1"	3' 4"	5' 8 1/2"	12' 4"	4' 1"	22 x 5	26	1500	2275	238
97	360.00	380.00	12' 0"	32	13' 1"	3' 4"	5' 8 1/2"	14' 4"	4' 1"	22 x 5 1/2	26	1650	2575	258

The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard prices. Price additional for Cross Shaft Drive:

For Reels, 21 inches in diameter, \$20.00; 26 inches in diameter, \$30.00; 30 and 32 inches in diameter, \$40.00

## The Monarch Hexagon Scalping Reel Style "H"



The Hexagon Scalper is used principally for scalping coarse stock, bolting corn meal, buckwheat and rye flour, etc.

In construction it is very similar to the Hexagon Flour Dresser. The head cast iron, spiders are made with cast iron hubs and wooden arms, conveyor feed and open tail discharge. The solid steel shaft, extending through the center permits of driving from either end.

The frame is made of rock maple, the body of poplar, all highly finished in the natural color with shellac and varnish.

A revolving, adjustable brush keeps the cloth clean.

Reel is furnished with one or two conveyors as desired. When supplied with two conveyors the stock may be discharged into either conveyor by raising the lid of the conveyor box and turning the tin discharge spouts as desired.

Cross shaft drive will be furnished at an additional charge.

In ordering, state whether reel is to turn to the right or to the left when standing at the head end.

### Prices, Dimensions, Weights, Etc.

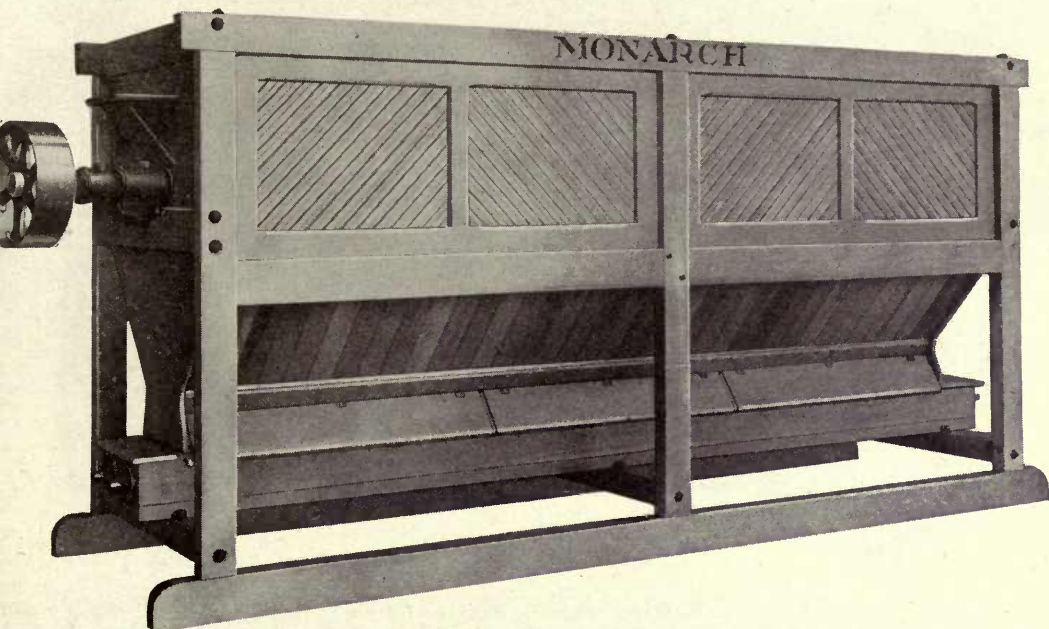
Size No.	PRICE		Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
	With One Conveyor	With Two Convs			Length	Width	Height						Weight Lbs.	Vol. Cu.F.
98	\$180.00	\$200.00	6' 0"	21	7' 1"	2' 6 1/2"	4' 9 1/2"	8' 4"	3' 6"	16 x 3	33	850	1250	103
99	190.00	210.00	7' 0"	21	8' 1"	2' 6 1/2"	4' 9 1/2"	9' 4"	3' 6"	16 x 4	33	900	1350	116
100	200.00	220.00	8' 0"	21	9' 1"	2' 6 1/2"	4' 9 1/2"	10' 4"	3' 6"	16 x 4	33	950	1450	130
101	210.00	230.00	9' 0"	21	10' 1"	2' 6 1/2"	4' 9 1/2"	11' 4"	3' 6"	16 x 4 1/2	33	1000	1550	144
102	210.00	230.00	6' 0"	26	7' 1"	2' 9 1/2"	4' 10"	8' 4"	3' 6"	18 x 3	30	1050	1500	115
103	225.00	245.00	7' 0"	26	8' 1"	2' 9 1/2"	4' 10"	9' 4"	3' 6"	18 x 4	30	1125	1625	128
104	240.00	260.00	8' 0"	26	9' 1"	2' 9 1/2"	4' 10"	10' 4"	3' 6"	18 x 4 1/2	30	1200	1750	142
105	255.00	275.00	9' 0"	26	10' 1"	2' 9 1/2"	4' 10"	11' 4"	3' 6"	18 x 5	30	1275	1875	155
106	270.00	290.00	10' 0"	26	11' 1"	2' 9 1/2"	4' 10"	12' 4"	3' 6"	18 x 5 1/2	30	1350	2000	169
107	260.00	280.00	7' 0"	30	8' 1"	3' 1 1/2"	5' 4"	9' 4"	3' 10 1/2"	20 x 4	28	1225	1750	158
108	280.00	300.00	8' 0"	30	9' 1"	3' 1 1/2"	5' 4"	10' 4"	3' 10 1/2"	20 x 4 1/2	28	1290	1865	175
109	300.00	320.00	9' 0"	30	10' 1"	3' 1 1/2"	5' 4"	11' 4"	3' 10 1/2"	20 x 5	28	1350	1975	192
110	320.00	340.00	10' 0"	30	11' 1"	3' 1 1/2"	5' 4"	12' 4"	3' 10 1/2"	20 x 5 1/2	28	1420	2095	210
111	280.00	300.00	8' 0"	32	9' 1"	3' 4"	5' 8 1/2"	10' 4"	4' 1"	22 x 4	26	1350	1975	198
112	300.00	320.00	9' 0"	32	10' 1"	3' 4"	5' 8 1/2"	11' 4"	4' 1"	22 x 4 1/2	26	1425	2125	218
113	320.00	340.00	10' 0"	32	11' 1"	3' 4"	5' 8 1/2"	12' 4"	4' 1"	22 x 5	26	1500	2275	238
114	360.00	380.00	12' 0"	32	13' 1"	3' 4"	5' 8 1/2"	14' 4"	4' 1"	22 x 5 1/2	26	1650	2575	258

The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard price. Price additional for Cross Shaft Drive:

For Reels 21 inches in diameter, \$20.00; 26 inches in diameter, \$30.00; 30 and 32 inches in diameter, \$40.00.



## The Monarch Extra Heavy Hexagon Reel Style "I"

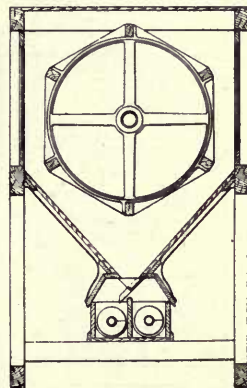


The Monarch Extra Heavy Hexagon Reel is made very heavy and strong and is especially adapted for use in rice mills, oat meal mills, and for scalping all kinds of grain, as corn, barley, rye, etc.

The main shaft is 3½-inch extra heavy hydraulic pipe. The spiders are heavy cast iron. The ribs are wood covered with heavy sheet steel. The head is cast iron. The end boards and cant-boards are covered with sheet steel. The conveyors are steel and conveyor boxes iron lined. Where double conveyor is used the cut-offs are of 16-gauge steel. In every way it is a very heavy, strong, substantial reel fitted for heavy duty.

The frame is made of hard wood and the end boards and cant-boards are poplar. It is varnished on the natural wood and presents a very pleasing appearance. This reel can be furnished with either double or single conveyor. The price covers the machine with straight drive. Cross shaft drive will be furnished for an extra charge.

In ordering state whether reel turns to the right or to the left when standing at head end.



### Prices, Dimensions, Weights, Etc.

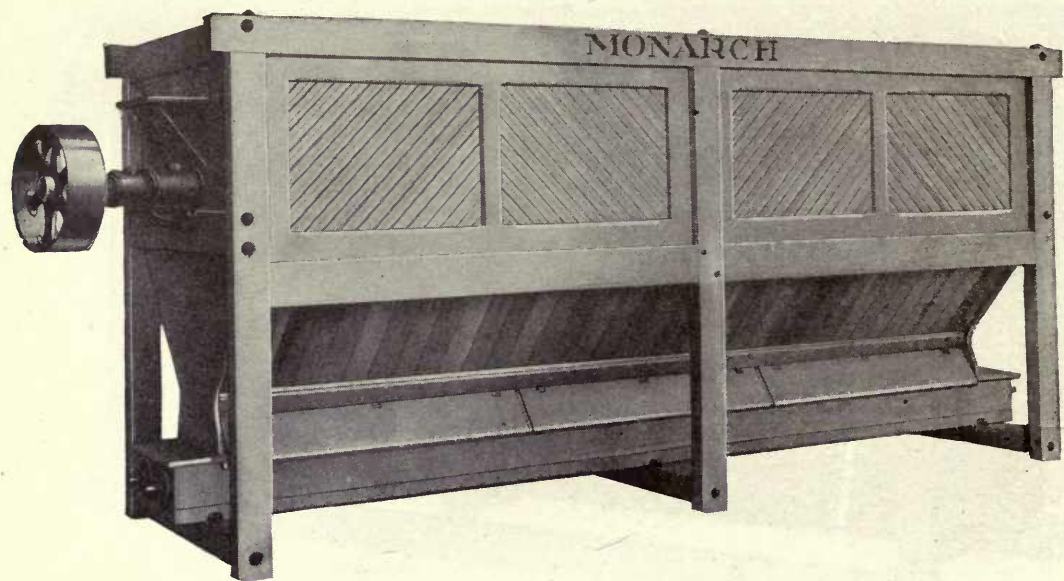
Size No.	PRICE		Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
	With One Conveyor	With Two Conv'rs			Length	Width	Height						Weight Lbs.	Vol. Cu.Ft.
115	\$380.00	\$405.00	10' 0"	32	11' 0"	3' 6"	7' 0"	13' 0"	5' 2"	20 x 5	28	2000	2975	319
116	400.00	425.00	12' 0"	32	13' 0"	3' 6"	7' 0"	15' 0"	5' 2"	20 x 5	28	2150	3250	368
117	420.00	445.00	14' 0"	32	15' 0"	3' 6"	7' 0"	17' 0"	5' 2"	20 x 6	28	2300	3515	417
118	400.00	425.00	10' 0"	36	11' 0"	3' 10"	7' 2½"	13' 0"	5' 4"	20 x 6	24	2700	3700	361
119	440.00	465.00	12' 0"	36	13' 0"	3' 10"	7' 2½"	15' 0"	5' 4"	22 x 6	24	2900	4025	416
120	480.00	505.00	14' 0"	36	15' 0"	3' 10"	7' 2½"	17' 0"	5' 4"	22 x 6	24	3100	4340	472
121	420.00	445.00	10' 0"	40	11' 0"	4' 2"	7' 6"	13' 3½"	5' 6"	22 x 6	20	2800	3910	414
122	460.00	485.00	12' 0"	40	13' 0"	4' 2"	7' 6"	15' 3½"	5' 6"	22 x 6	20	3000	4250	476
123	500.00	525.00	14' 0"	40	15' 0"	4' 2"	7' 6"	17' 3½"	5' 6"	24 x 6	20	3200	4575	540

The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard prices. Price additional for Cross Shaft Drive:

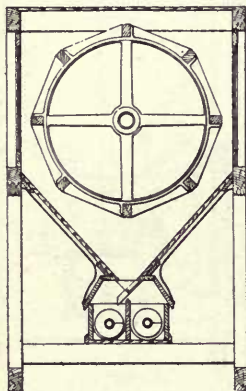
For Reels 32 inches in diameter, \$40.00; 36 and 40 inches in diameter, \$50.00.

# The Monarch Octagon Rice Bran Reel

## Style "J"



The Monarch Octagon Rice Bran Reel was originally designed for use in rice mills, but it is equally well adapted and applicable for use for other special purposes, and we especially recommend it for the dusting or scalping of all kinds of cereals, coffee, or any material that is desirable to handle on a reel.



It is the strongest and heaviest reel on the market. The main shaft is 3½-inch extra heavy hydraulic pipe. The spiders are heavy cast iron. The ribs are wood covered with heavy sheet steel. The head is cast iron. The end boards and cant-boards are covered with sheet steel. The conveyors are steel and conveyor boxes iron lined. Where double conveyor is used the cut-offs are of 16-gauge steel. In every way it is a very heavy, strong, substantial reel fitted for heavy duty.

The frame is made of hard wood, and the end boards and cant-boards are poplar. It is varnished on the natural wood and presents a very pleasing appearance. This reel can be furnished with either double or single conveyor. The price covers the machine with straight drive. Cross shaft drive will be furnished for an extra charge.

In ordering state whether reel turns to the right or to the left when standing at head end.

### Prices, Dimensions, Weights, Etc.

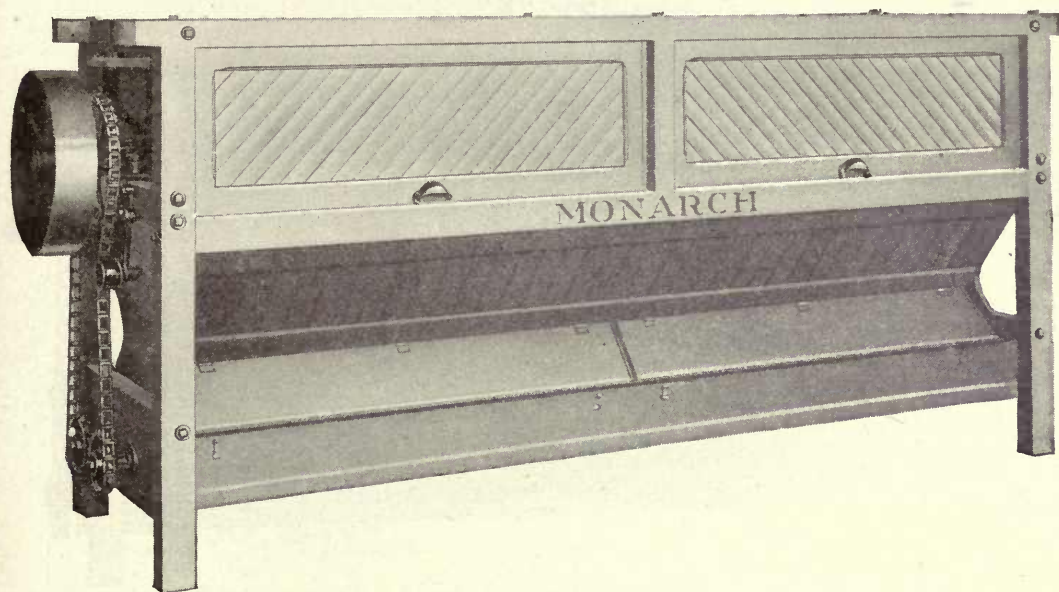
Size No.	PRICE		Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
	With One Conveyor	With Two Convs's			Length	Width	Height						Weight Lbs.	Vol. Cu.Ft.
124	\$310.00	\$335.00	6' 0"	32	7' 0"	3' 6"	6'10"	9'0"	5' 2"	18 x 5	28	1800.	2550	215
125	350.00	375.00	8' 0"	32	9' 0"	3' 6"	6'10"	11'0"	5' 2"	18 x 5	28	1900	2750	263
126	380.00	405.00	10' 0"	32	11' 0"	3' 6"	6'10"	13'0"	5' 2"	20 x 5	28	2000	2975	311
127	380.00	400.00	8' 0"	36	9' 0"	3' 10"	7' 2½"	11'0"	5' 4"	20 x 6	24	2400	3275	306
128	400.00	425.00	10' 0"	36	11' 0"	3' 10"	7' 2½"	13'0"	5' 4"	20 x 6	24	2700	3700	361
129	440.00	465.00	12' 0"	36	13' 0"	3' 10"	7' 2½"	15'0"	5' 4"	22 x 6	24	2900	4025	416
130	420.00	445.00	10' 0"	40	11' 0"	4' 2"	7' 6"	13'3 ½"	5' 6"	22 x 6	20	2800	3910	417
131	460.00	485.00	12' 0"	40	13' 0"	4' 2"	7' 6"	15'3 ½"	5' 6"	22 x 6	20	3000	4250	480
132	500.00	525.00	14' 0"	40	15' 0"	4' 2"	7' 6"	17'3 ½"	5' 6"	24 x 6	20	3200	4575	541

The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard prices.  
Price additional for Cross Shaft Drive:  
For Reels 32 inches in diameter, \$40.00; 36 and 40 inches in diameter, \$50.00.



# The Monarch Scalping and Grading Reel for Corn Mills

## Style "L"



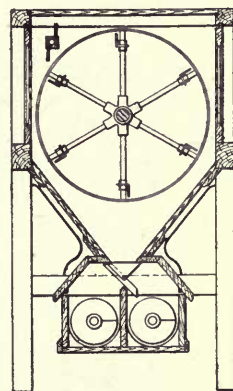
This Round Reel is designed principally for corn mills and is used extensively in the production of hominy grits, meal, etc. We have also furnished many of these reels for bolting and grading special products in feed plants, etc.

The frame of this machine is made of hard wood tenoned and bolted together; side doors are of the cloth-covered lattice panel type. Reel is equipped with revolving brush cloth cleaner, either single or double steel conveyor.

All parts subjected to wear by the stock are lined with sheet steel. The reel or cylinder has iron-lined wood head with central feed and open tail discharge. Spiders are iron with steel angles for carrying up the stock. Hoops are steel. Reel is given sufficient pitch to carry the stock through.

Machine can be furnished with either single or double conveyor of the steel spiral type. Price includes straight drive with either pulley or sprocket. Cross shaft drive will be furnished at an additional charge.

In ordering state whether reel is to turn to the right or to the left when standing at the head end.



### Prices, Dimensions, Weights, Etc.

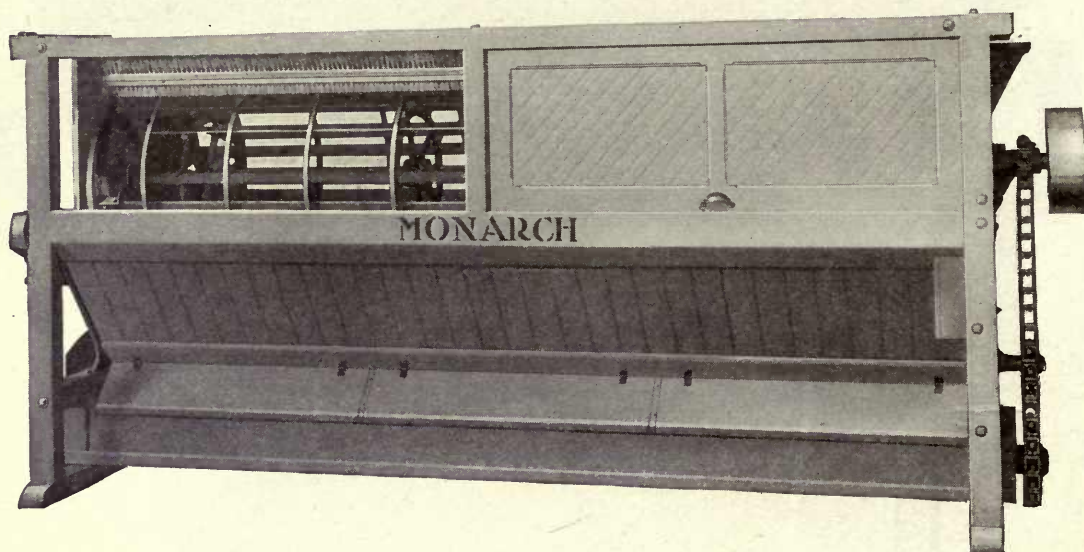
Size No.	PRICE		Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
	With One Conveyor	With Two Convs			Length	Width	Height						Weight Lbs.	Vol. Cu.Ft.
133	\$240.00	\$260.00	6' 0"	21	7' 1"	2' 6 1/2"	4' 9 1/4"	8' 4"	3' 6"	16 x 3	33	970	1350	103
134	250.00	270.00	7' 0"	21	8' 1"	2' 6 1/2"	4' 9 1/4"	9' 4"	3' 6"	16 x 4	33	1050	1500	116
135	260.00	280.00	8' 0"	21	9' 1"	2' 6 1/2"	4' 9 1/4"	10' 4"	3' 6"	16 x 4	33	1130	1625	130
136	270.00	290.00	9' 0"	21	10' 1"	2' 6 1/2"	4' 9 1/4"	11' 4"	3' 6"	16 x 4 1/2	33	1210	1750	144
137	270.00	290.00	6' 0"	26	7' 1"	2' 9 1/2"	4' 10"	8' 4"	3' 6"	18 x 3	30	1170	1625	115
138	285.00	305.00	7' 0"	26	8' 1"	2' 9 1/2"	4' 10"	9' 4"	3' 6"	18 x 4	30	1260	1775	128
139	300.00	320.00	8' 0"	26	9' 1"	2' 9 1/2"	4' 10"	10' 4"	3' 6"	18 x 4 1/2	30	1350	1900	142
140	315.00	335.00	9' 0"	26	10' 1"	2' 9 1/2"	4' 10"	11' 4"	3' 6"	18 x 5	30	1440	2050	155
141	330.00	350.00	10' 0"	26	11' 1"	2' 9 1/2"	4' 10"	12' 4"	3' 6"	18 x 5 1/2	30	1525	2175	169
142	320.00	340.00	7' 0"	30	8' 1"	3' 1 1/2"	5' 4"	9' 4"	3' 10 1/2"	20 x 4	28	1380	1900	158
143	340.00	360.00	8' 0"	30	9' 1"	3' 1 1/2"	5' 4"	10' 4"	3' 10 1/2"	20 x 4 1/2	28	1475	2050	175
144	360.00	380.00	9' 0"	30	10' 1"	3' 1 1/2"	5' 4"	11' 4"	3' 10 1/2"	20 x 5	28	1570	2200	192
145	380.00	400.00	10' 0"	30	11' 1"	3' 1 1/2"	5' 4"	12' 4"	3' 10 1/2"	20 x 5 1/2	28	1650	2325	210

The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard prices. Price additional for Cross Shaft Drive:

For Reels 21 inches in diameter, \$20.00; 26 inches in diameter, \$30.00; 30 inches in diameter, \$40.00.

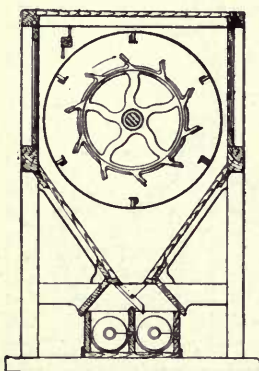
## The Monarch Differential Reel

For Use in Cotton Seed Oil Mills  
Style "K"



This reel is designed for use in cotton seed oil mills. It contains the best features of the modern differential reel and is substantially built of the best material.

The reel upon which the cloth is stretched is a cylinder of iron and steel construction. The ribs are of steel angles bolted to cast iron heads and so placed as to form sloping deflections which cause the stock to be thrown back upon the beaters. This action greatly increases the capacity of the machine and makes it most efficient in breaking up flaky stock.



Steel hoops are bolted to the ribs at intervals and are wrapped with flannel to prevent wear on the cloth. The beaters are made of steel angles bolted to strong cast iron spiders.

An automatic, adjustable brush prevents the meshes of the cloth from clogging and thus assures regular and even work.

The machine is provided with a central screw feed and positive discharge.

All bearings are located outside the case, easy of access for both oiling and repairing, if occasion requires.

In ordering please state the purpose for which the reel is intended, if one or two conveyors are desired, and where the conveyors are to discharge, whether at the head or tail end.

The machine can be driven from either end with pulley or sprocket. Cross shaft drives will be furnished for an additional charge.

In ordering state whether reel turns to the right or to the left when standing at head end.

### Prices, Dimensions, Weights, Etc.

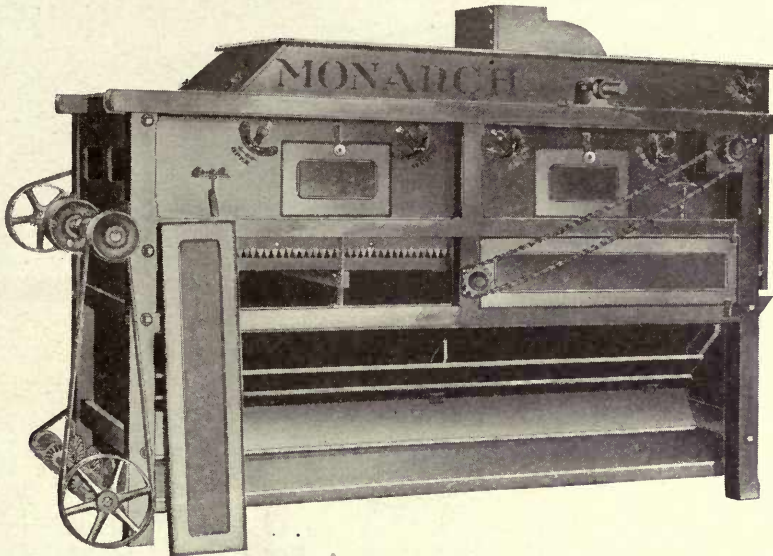
Size No.	PRICE		Length of Cyl.	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over all	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
	With One Conveyor	With Two Convs'rs			Length	Width	Height						Weight Lbs.	Vol. Cu.Ft.
146	\$325.00	\$345.00	7' 0"	26	8' 2"	3' 3 1/2"	4' 10"	10' 1"	3' 6"	12 x 4	200	1850	2300	163
147	340.00	360.00	8' 0"	26	9' 2"	3' 3 1/2"	4' 10"	11' 1"	3' 6"	12 x 4	200	1925	2500	178
148	370.00	390.00	10' 0"	26	11' 2"	3' 3 1/2"	4' 10"	13' 1"	3' 6"	12 x 5	200	2100	2800	208
149	360.00	380.00	7' 0"	30	8' 2"	3' 7 1/2"	5' 3"	10' 2"	3' 8 1/2"	14 x 4	175	2100	2650	196
150	380.00	400.00	8' 0"	30	9' 2"	3' 7 1/2"	5' 3"	11' 2"	3' 8 1/2"	14 x 4 1/2	175	2175	2800	215
151	420.00	440.00	10' 0"	30	11' 2"	3' 7 1/2"	5' 3"	13' 2"	3' 8 1/2"	14 x 5	175	2350	3100	253
152	360.00	380.00	7' 0"	32	8' 2"	3' 9 1/2"	5' 5 1/2"	10' 2 1/2"	3' 10"	16 x 4	150	2200	2900	216
153	380.00	400.00	8' 0"	32	9' 2"	3' 9 1/2"	5' 5 1/2"	11' 2 1/2"	3' 10"	16 x 4	150	2300	3000	237
154	420.00	440.00	10' 0"	32	11' 2"	3' 9 1/2"	5' 5 1/2"	13' 2 1/2"	3' 10"	16 x 4 1/2	150	2500	3300	280
155	380.00	400.00	8' 0"	34	9' 2"	3' 11 1/2"	5' 8"	11' 2 1/2"	3' 11"	18 x 4	135	2400	3200	255
156	420.00	440.00	10' 0"	34	11' 2"	3' 11 1/2"	5' 8"	13' 2 1/2"	3' 11"	18 x 5	135	2550	3450	301
157	460.00	480.00	12' 0"	34	13' 2"	3' 11 1/2"	5' 8"	15' 2 1/2"	3' 11"	18 x 6	135	2700	3700	393

The above prices include cloth not more expensive than 12XX Silk. More expensive cloth to be charged additional at standard prices. Price additional for Cross Shaft Drive:

For Reels 26 inches in diameter, \$45.00; 30, 32 and 34 inches in diameter, \$60.00.



## The Monarch Middlings Purifier Style "P"



"Specky" middlings have been the bane of many a miller's life—until he has installed the Monarch Middlings Purifier.

It is the one link in the chain of perfect milling machinery you need if you have all of the other Monarch machines and are still sticking to some antiquated purifier.

The frame is constructed entirely of the best hard woods. The body is of poplar—natural finish. In outward appearance the machine is a beauty.

We emphasize this because, in these days of factory organization, sanitation, etc., a great deal of attention is being paid to cleanliness, order and "looks." Nothing so detracts from the appearance of the milling plant as a lot of uncleanly and out-of-date machinery.

The brush cloth cleaner travels on adjustable guides and lengthwise of the sieve, moving from side to side. It is noiseless, being driven by a belt. A double threaded shaft gives the reverse movement.

Every square inch of the sieve is utilized and the screening is thorough and uniform. You cannot get this result in machines where the stock is distributed over the sieve in "bunches."

The stock from the tail of the sieve is not carried back to be dumped with the clean stock at the head of the machine, as it is in purifiers which employ a brush carried by a sprocket and chain, traveling from end to end of sieve.

The farther the air intake is located from the sieve, the better the distribution of air before it reaches the middlings in transit over the sieve. Another reason why there is such a superior purification with the Monarch.

There is a very ingenious arrangement of the gather boards, or hopper boards, above the double conveyors, which admits the air at a point much farther away from the sieve than is possible when it is taken through slatted doors.

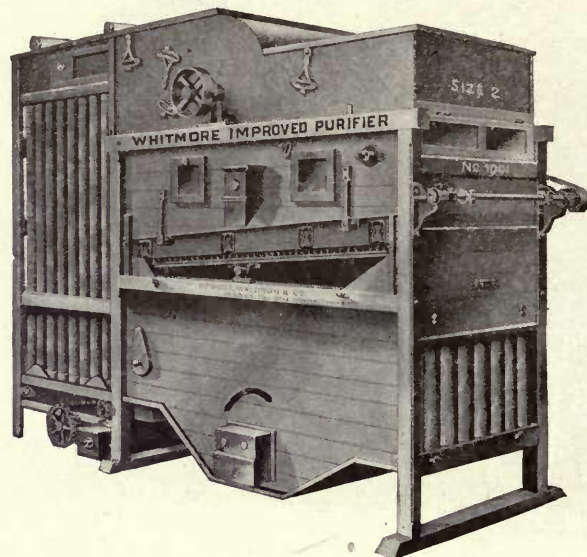
The machine can be driven on either the fan or eccentric shaft, which are both of the same size.

The fan, eccentric and conveyor cross shaft are all provided with self-oiling boxes, which insure cool and easy-running journals. Glass filled doors of ample size are placed at sides and in front to give quick access to the interior of the machine. This enables the miller to quickly examine the flow of the stock and regulate the feed. An aspirator is attached and controlled by a separate valve. It is especially desirable on germ stock, as it enables the operator to remove "Bee Wing" material after the coarsest germ has passed over the tail of the sieve.

### Prices, Dimensions, Weights, Etc.

Size No.	Price	OVER-ALL DIMENSIONS			Floor to Center of Pulley	Size of Pulley Inches	Speed R. P. M.	Size of Fan Opening Inches	Square Feet of Sieve Cloth	Sq. Ft. Monarch Dust Coll'r Required	Sq. Ft. Wilson Dust Coll'r Required	Weight Lbs.	BOXED FOR EXPORT	
		Height	Width	Length									Weight Lbs.	Vol. Cu. Ft.
1	\$225.00	5' 10"	3' 5"	7' 6"	3' 3"	6 x 3	500	7x10¼	9½	142	720	1000	1600	180
2	300.00	6' 1"	3' 11"	8' 8"	3' 5"	6 x 3	500	7x10¼	15¾	190	810	1200	1900	245
3	350.00	6' 1"	4' 6"	8' 8"	3' 5"	8 x 4	500	7x11¼	19	220	900	1300	2000	300
4	375.00	7' 1"	5' 0"	10' 0"	4' 1"	8 x 4	500	10x11	24½	252	990	1500	2500	410
5	400.00	7' 11"	5' 6"	11' 6½"	4' 7½"	8 x 4	500	12x13	31½	302	1800	1800	3000	565

## The Whitmore Improved Dustless Purifier Style "T"



The Whitmore Dustless Purifier does just as good work as the Monarch, described in the preceding page, but does it in a different way. It purifies its own air before the air enters the machine proper. It has its own dust collector, the Wilson Tubular Dust Collector for collecting the dust from its own fan.

Before the air enters the machine it passes through a set of filtering tubes. The cut-off is regulated by a lever—the operating of which, by a notch either way, effects a corresponding change of an inch in the cut-off.

The advantage of the filtering tubes can not be over-estimated. Around any plant the air is always laden with a certain amount of coal dust and dust from the gears and belts and machinery on the floors. The continual suction of air into the machine is bound to draw these impurities in and taint the middlings with them unless the air is purified. The collecting of this smut in the middlings often means serious damage to their quality.

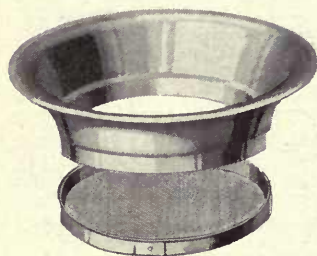
To overcome the disadvantages of having the air become moist and sluggish through contact with the warm middlings we have attached a simple device at the tail of the machine which, working in conjunction with the filtering attachment, allows the heated air to escape and replaces it with a pure fresh supply. As a result the stock is kept bright, dry and clear.

The Wilson Tubular Dust Collector attached to the machine is provided with our perfected cloth cleaning device. The filtering tubes are kept uniformly clean and insure an even and uninterrupted current of air relieved of every particle of dust.

The machine finally filters the air, ventilates itself, collects the dust, keeps the tubes clean, relieves the middlings of all fibrous and fluffy matter before going to the sieve and thus the miller is enabled to make clean-cut, perfect separations, such as can be obtained on no other machine.

### Prices, Dimensions, Weights, Etc.

Size No.	Price	OVER-ALL DIMENSIONS			Floor to Center of Pulley Inches	Size of Pulley Inches	Speed R. P. M.	Weight Lbs.	BOXED FOR EXPORT	
		Height	Width Inches	Length					Weight Lbs.	Volume Cu. Ft.
1	\$340.00	6' 10"	32	9' 5"	48¾	8 x 3	585	1200	1900	147
2	375.00	6' 10"	38	9' 5"	48¾	8 x 3	585	1300	2050	171
3	410.00	6' 10"	42	9' 5"	48¾	8 x 3	585	1400	2200	188

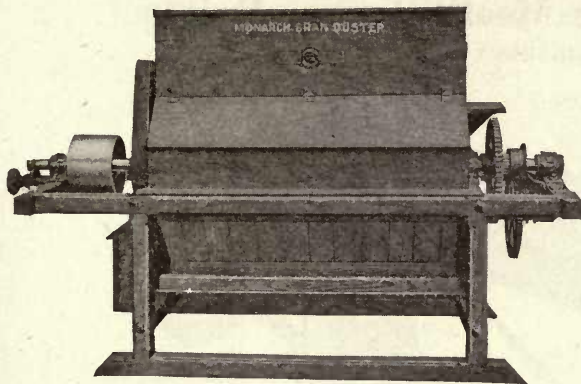


### Metal Testing Sieves

These sieves are nickel plated, six inches diameter, with ring to change the cloths, as shown in the cut. They are handsomely gotten up. Price of frame and ring, \$1.25.

With 20 numbers of Bolting Cloth, price, \$6.00.





# The Monarch Horizontal Bran Duster Style "N"

The revolving brushes are adjustable while the machine is in motion. The outside brush keeps cloth perfectly clean and can be clothed to make two separations if desired.

## Prices, Dimensions, Weights, Etc.

Size No.	Price	OVER-ALL DIMENSIONS			Floor to Center of Pulley Inches	Size of Pulley Inches	Speed R. P. M.	Capacity per 24 Hrs. Bbls.	Horse Power	Weight Lbs.	BOXED FOR EXPORT	
		Height	Width	Length							Weight Lbs.	Vol. Cu.Ft.
0	\$175.00	4' 1"	2' 9"	5' 6"	28	8 x 6	450	60	3/4	515	875	80
1	200.00	4' 1"	2' 9"	6' 2"	28	8 x 6	450	100	3/4	550	950	89
2	230.00	4' 6"	3' 1"	6' 11"	30	8 x 6	450	150	1	620	1100	120
3	270.00	4' 6"	3' 1"	7' 7"	30	10 x 7	425	225	1 1/4	660	1175	131
4	300.00	4' 11"	3' 4"	8' 6"	31	10 x 7	425	300	1 1/4	720	1325	170
5	400.00	4' 11"	3' 4"	9' 4"	31	12 x 8	425	400	1 1/2	780	1425	186
6	450.00	5' 5"	3' 8"	10' 4"	33	12 x 8	400	500	1 1/2	825	1600	245
7	500.00	5' 5"	3' 8"	11' 4"	33	14 x 9	400	600	1 3/4	900	1750	262
8	600.00	5' 11"	4' 0"	12' 4"	36	14 x 9	400	700	2	1100	2100	342

# The Monarch Upright Bran and Ships Duster

## Prices, Dimensions, Weights, Etc.

No.	Price	Floor Space Inches	Extreme Height	Height to Where Bran Enters	Size of Pulley Inches	Floor to Center of Pulley Inches	Capacity for Bran from Bbls. of Flour 24 Hours	Speed R. P. M.	Weight Lbs.	BOXED FOR EXPORT	
										Weight Lbs.	Volume Cu. Ft.
1	\$250.00	29 x 29	5' 5"	4' 5"	8 x 5	10 1/4	100	450	680	890	43
2	300.00	36 x 36	5' 8"	4' 11"	11 x 5	10 1/4	200	380	900	1168	66
3	350.00	36 x 36	6' 7"	5' 8"	11 x 5	10 1/4	300	380	965	1265	76
4	400.00	39 x 39	6' 10"	6' 0"	12 x 6	12	400	350	1375	1710	92
5	450.00	39 x 39	6' 10"	6' 0"	12 x 6	12	500	350	1400	1736	92
6	500.00	48 x 48	7' 7"	6' 9"	14 x 6	12	600	300	1700	2143	142

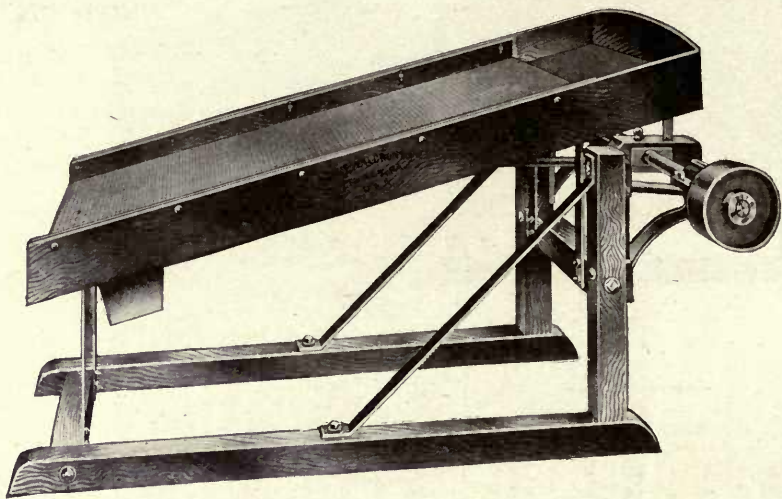
# The Niagara Upright Bran Duster

## Prices, Dimensions, Weights, Etc.

Sizes	31	32	33	34	35	36	37
Extreme { Height	5' 10"	6' 4"	6' 10"	7' 4"	7' 1"	7' 7"	8' 1"
Width	36"	36"	36"	36"	40"	40"	40"
Length	36"	36"	36"	36"	40"	40"	40"
Height to Center of Pulley	10"	10"	10"	10"	10"	10"	10"
Pulley { Diameter	8"	8"	10"	10"	14"	14"	14"
Face	5"	5"	7"	7"	7"	7"	7"
Revolutions per minute	400	400	375	375	300	300	300
Capacity for bbls. flour in 24 hours	100	200	300	400	500	600	700
Price without Idlers	\$250.00	\$300.00	\$350.00	\$400.00	\$450.00	\$500.00	\$600.00
Shipping Weight in Pounds	1475	1525	1600	1675	1775	1875	1975

# The Monarch Corn Meal Sieve or Bolter

## Style "R"



The Monarch Meal Sieve or Bolter is especially designed for meal, and is recommended where one does not care to be to the expense of putting in a reel. It does excellent work, requires but little power, and can be used successfully with Monarch Burr Mills.

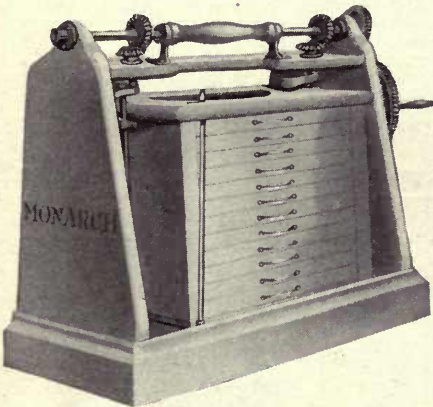
As the cut shows, it is compact, neat in appearance, strong and durable. The sieve, which is interchangeable, can be clothed with any number of wire cloth desired. Extra sieves can be furnished and clothed with a different mesh wire, or with silk for bolting graham and buckwheat flour.

Prices for extra sieves quoted on application.

Unless otherwise specified, all machines will be clothed with No. 18 mesh wire cloth.

### Prices, Dimensions, Weights, Etc.

Size No.	Price	OVER-ALL DIMENSIONS			Capacity Per Hour Corn Meal Bushels	Sieve Inches	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
		Height	Length	Width						Weight Lbs.	Vol. Cu.Ft.
1	\$30.00	2' 0"	4' 3"	1' 2"	10 to 15	12 x 36	6 x 3	600	110	210	9
2	36.00	3' 1"	5' 7"	2' 2"	15 to 25	24 x 51	6 x 3	600	175	425	36



Style "S"  
The Monarch Testing Sifter

# The Monarch Testing Sifter

## Style "S"

This machine consists of a sieve box containing twelve drawers. The bottoms of the drawers are covered with bolting cloth of varying fineness, beginning with No. 20 Grit gauze on the upper drawer and ending with No. 13xx on the next to the lowest drawer. The lower drawer catches the flour that passes through the No. 13 cloth on the drawer above.

If samples are weighed before testing, and the contents of each drawer is weighed after the sifting process, the exact percentage of each grade of stock is readily determined. By weighing a pound or two of the stock as it comes from any of the breaks or smooth rolls and passing it through the sifter and finding the percentage of each grade, then changing the set of rolls and testing a similar amount, the miller obtains infallible evidence to guide him in setting his rolls.

List price, \$40.00.



# DuFour & Co.'s Anchor Brand Bolting Cloth

## Price per Yard, 40 Inches Wide

Number	Standard	Extra Heavy X	Double Extra XX	Treble Extra XXX	Grit Gauze	XXX Grit Gauze
0000-----	\$1.60	-----	\$2.00	-----	No. Equals	No. Equals
000-----	1.65	-----	2.05	-----	16-----0000	14-----16
00-----	1.75	\$1.95	2.10	-----	18-----	16-----18
0-----	1.80	2.00	2.15	-----	20-----000	18-----20
1-----	1.85	2.05	2.25	-----	22-----	20-----22
2-----	1.90	2.10	2.30	-----	24-----	22-----24
3-----	2.05	2.25	2.45	-----	26-----00	24-----26
4-----	2.10	2.35	2.55	-----	28-----	26-----28
5-----	2.15	2.40	2.65	-----	30-----	28-----30
6-----	2.20	2.45	2.70	-----	32-----	30-----34
7-----	2.30	2.55	2.80	\$2.90	34-----0	32-----36
8-----	2.40	2.65	2.90	3.05	36-----	34-----38
9-----	2.60	2.85	3.10	3.25	38-----	36-----40
10-----	2.80	3.10	3.35	3.50	40-----	38-----42
11-----	3.10	3.40	3.70	3.80	42-----	40-----44
12-----	3.40	3.75	4.10	4.20	44-----1	42-----46
13-----	3.75	4.10	4.55	4.65	46-----	44-----48
14-----	3.90	4.25	4.70	4.80	48-----	46-----50
15-----	4.15	4.65	5.00	5.15	50-----2	48-----52
16-----	4.70	5.15	5.60	5.80	52-----	50-----54
17-----	5.25	5.75	-----	6.50	54-----3	52-----56
18-----	6.10	-----	-----	7.40	56-----	54-----58
19-----	7.50	-----	-----	-----	58-----4	56-----60
20-----	8.50	-----	-----	-----	60-----	58-----62
21-----	9.20	-----	-----	-----	62-----5	60-----64
25-----	10.00	-----	-----	-----	64-----	62-----66
					66-----6	64-----68
					68-----	66-----70
					70-----7	68-----72
					72-----	70-----

Grit Gauze, all Nos., \$3.00  
 XXX Grit Gauze, all Nos., \$4.00

## Bolting Cloth Data

Exact Number of Meshes per Lineal Inch in Various Grades of Cloth

No.	Silk Stand.	Silk X	Silk XX	Silk XXX	Grit Gauze Standard	Grit Gauze XXX	No.	Silk Stand.	Silk X	Silk XX	Silk XXX	Grit Gauze Standard	Grit Gauze XXX
0000	18	18	18	----	----	----	24	----	----	----	----	23	23
000	23	23	23	----	----	----	25	200	200	200	----	----	----
00	29	29	29	----	----	----	26	----	----	----	----	25	25
0	38	38	38	----	----	----	28	----	----	----	----	27	27
1	48	48	48	----	----	----	30	----	----	----	----	29	29
2	54	54	54	----	----	----	32	----	----	----	----	31	31
3	58	58	58	----	----	----	34	----	----	----	----	33	33
4	62	62	62	----	----	----	36	----	----	----	----	35	35
5	66	66	66	----	----	----	38	----	----	----	----	37	37
6	74	74	74	----	----	----	40	----	----	----	----	39	39
7	82	82	82	74	----	----	42	----	----	----	----	40½	40½
8	86	86	86	82	----	----	44	----	----	----	----	42½	42½
9	97	97	97	86	----	----	46	----	----	----	----	44½	44½
10	109	109	109	97	----	----	48	----	----	----	----	46½	46½
11	116	116	116	109	----	----	50	----	----	----	----	48½	48½
12	125	125	125	116	----	----	52	----	----	----	----	50½	50½
13	129	129	129	125	----	----	54	----	----	----	----	52½	52½
14	139	139	139	129	13½	13½	56	----	----	----	----	54½	54½
15	150	150	150	139	----	----	58	----	----	----	----	56½	56½
16	157	157	157	150	15½	15½	60	----	----	----	----	58	58
17	163	163	163	157	----	----	62	----	----	----	----	60	60
18	166	166	166	163	17½	17½	64	----	----	----	----	62	62
19	169	169	169	----	----	----	66	----	----	----	----	64	64
20	173	173	173	----	19	19	68	----	----	----	----	66	66
21	178	178	178	----	----	----	70	----	----	----	----	68	68
22	----	----	----	----	21	21	72	----	----	----	----	72	72

## Steel Wire Cloth

The Wire Cloth Manufacturers' Association Adopted the Washburn & Moen Gauge as the Standard for all Steel Wire Cloth

Gauge No. 0000	.3938 of an Inch	Gauge No. 20	.0348 of an Inch
" " 000	.3625 " "	" " 21	.0317 " "
" " 00	.3310 " "	" " 22	.0286 " "
" " 0	.3065 " "	" " 23	.0258 " "
" " 1	.2830 " "	" " 24	.0230 " "
" " 2	.2625 " "	" " 25	.0204 " "
" " 3	.2437 " "	" " 26	.0181 " "
" " 4	.2253 " "	" " 27	.0173 " "
" " 5	.2070 " "	" " 28	.0162 " "
" " 6	.1920 " "	" " 29	.0150 " "
" " 7	.1770 " "	" " 30	.0140 " "
" " 8	.1620 " "	" " 31	.0132 " "
" " 9	.1483 " "	" " 32	.0128 " "
" " 10	.1350 " "	" " 33	.0118 " "
" " 11	.1205 " "	" " 34	.0104 " "
" " 12	.1055 " "	" " 35	.0095 " "
" " 13	.0915 " "	" " 36	.0090 " "
" " 14	.0800 " "	" " 37	.0085 " "
" " 15	.0720 " "	" " 38	.0080 " "
" " 16	.0625 " "	" " 39	.0075 " "
" " 17	.0540 " "	" " 40	.0070 " "
" " 18	.0475 " "	" " 41	.0066 " "
" " 19	.0410 " "	" " 42	.0062 " "

## Brass or Copper Wire Cloth

The Wire Cloth Manufacturers' Association Adopted the Old English Gauge as the Standard for all Brass or Copper Wire Cloth

Gauge No. 0000	.454 of an Inch	Gauge No. 19	.040 of an Inch
" " 000	.425 " "	" " 20	.035 " "
" " 00	.380 " "	" " 21	.0315 " "
" " 0	.340 " "	" " 22	.0295 " "
" " 1	.300 " "	" " 23	.027 " "
" " 2	.284 " "	" " 24	.025 " "
" " 3	.259 " "	" " 25	.023 " "
" " 4	.238 " "	" " 26	.0205 " "
" " 5	.220 " "	" " 27	.01875 " "
" " 6	.203 " "	" " 28	.0165 " "
" " 7	.180 " "	" " 29	.0155 " "
" " 8	.165 " "	" " 30	.01375 " "
" " 9	.148 " "	" " 31	.01225 " "
" " 10	.134 " "	" " 32	.01125 " "
" " 11	.120 " "	" " 33	.01025 " "
" " 12	.109 " "	" " 34	.0095 " "
" " 13	.095 " "	" " 35	.009 " "
" " 14	.083 " "	" " 36	.0075 " "
" " 15	.072 " "	" " 37	.0065 " "
" " 16	.065 " "	" " 38	.00575 " "
" " 17	.058 " "	" " 39	.005 " "
" " 18	.049 " "	" " 40	.0045 " "



## Tinned Milling Grade Wire Cloth

### Price List of Tinned Milling Grade Wire Cloth

No. of Meshes per Inch	No. of Wire	Decimal	Price per Square Foot	No. of Meshes per Inch	No. of Wire	Decimal	Price per Square Foot
2	17	.0540	\$0.15	22	31	.0132	\$0.28
3	19	.0410	.15	24	32	.0128	.28
4	20	.0348	.15	26	33	.0118	.28
5	21	.0317	.15	28	34	.0104	.28
6	22	.0286	.15	30	35	.0095	.28
8	23	.0258	.15	32	36	.0090	.28
9	24	.0230	.15	34	36	.0090	.33
10	25	.0204	.18	36	36	.0090	.40
12	26	.0181	.18	40	36	.0090	.45
14	27	.0173	.18	45	36	.0090	.53
16	28	.0162	.18	50	36	.0090	.62
18	29	.0150	.18	54	36	.0090	.65
20	30	.0140	.25	60	36	.0090	.85

## Light Grade Bolting Steel Wire Cloth

### Price List of Light Grade Bolting Steel Wire Cloth

No. of Meshes per Inch	No. of Wire	Decimal	Price per Square Foot	No. of Meshes per Inch	No. of Wire	Decimal	Price per Square Foot
2	10	.1350	\$0.38	22	27	.0173	\$0.46
2½	11	.1205	.38	24	28	.0162	.46
3	12	.1055	.38	26	29	.0150	.46
3½	13	.0915	.38	28	30	.0140	.46
4	14	.0800	.38	30	30	.0140	.47
5	15	.0720	.38	35	32	.0128	.47
6	16	.0625	.38	40	33	.0118	.48
7	17	.0540	.38	45	34	.0104	.58
8	18	.0475	.38	50	35	.0095	.65
9	19	.0410	.38	55	36	.0090	.65
10	20	.0348	.38	60	37	.0085	.70
12	21	.0317	.38	64	38	.0080	.70
14	22	.0286	.38	70	39	.0075	.80
16	24	.0230	.38	74	40	.0070	.90
18	25	.0204	.38	80	41	.0066	1.10
20	26	.0181	.43	90	42	.0062	1.45

## Bran Duster Wire Cloth

This cloth is of heavy steel tempered wire, coated with black varnish which effectually prevents rust and facilitates the bolting.

### List Prices

No. of Meshes Per Inch	Diam. of Wire Decimal of Inch	List Price Per Square Foot	No. of Meshes Per Inch	Diam. of Wire Decimal of Inch	List Price Per Square Foot
30	.014	\$0.42	60	.0075	\$0.90
35	.013	.45	64	.007	.95
40	.011	.50	70	.00675	1.00
45	.010	.65	74	.0065	1.10
50	.0095	.70	80	.00525	1.30
55	.009	.85			

Widths carried in stock, 18 and 27 inches.

## Steel Wire Cloth

Number Meshes per Inch	No. of Wire	Price per Square Foot	Number Meshes per Inch	No. of Wire	Price per Square Foot	Number Meshes per Inch	No. of Wire	Price per Square Foot	Number Meshes per Inch	No. of Wire	Price per Square Foot	Number Meshes per Inch	No. of Wire	Price per Square Foot	Number Meshes per Inch	No. of Wire	Price per Square Foot
1	3	\$0.88	2½	16	\$0.14	5	22	\$0.10	10	25	\$0.14	18	36	\$0.08	28	35	\$0.19
1	4	.73	2½	17	.12	5	23	.08	10	26	.12	28	36	.17	28	36	.17
1	5	.60	2½	18	.10	5	24	.07	10	27	.10	20	23	.75	30	28	.66
1	6	.48	2½	19	.08				10	28	.08	20	24	.62	30	29	.56
1	7	.38				6	14	.60	10	29	.07	20	25	.52	30	30	.47
1	8	.32	3	10	.60	6	15	.48				20	26	.43	30	31	.37
1	9	.27	3	11	.48	6	16	.38	12	19	.60	20	27	.35	30	32	.31
1	10	.22	3	12	.38	6	17	.32	12	20	.48	20	28	.27	30	33	.27
1	11	.17	3	13	.32	6	18	.27	12	21	.38	20	29	.24	30	34	.23
1	12	.14	3	14	.27	6	19	.22	12	22	.32	20	30	.20	30	35	.20
1	13	.12	3	15	.22	6	20	.17	12	23	.27	20	31	.17	30	36	.19
1	14	.10	3	16	.17	6	21	.14	12	24	.22	20	32	.15	35	29	.80
1	15	.08	3	17	.14	6	22	.12	12	25	.17	20	33	.13	35	30	.67
			3	18	.12	6	23	.10	12	26	.14	20	34	.12	35	31	.57
¾	4	.88	3	19	.10	6	24	.08	12	27	.12	20	35	.10	35	32	.47
¾	5	.73	3	20	.08	6	25	.07	12	28	.10	20	36	.09	35	33	.40
¾	6	.60							12	29	.08				35	34	.36
¾	7	.48	3½	11	.60	7	15	.60	12	30	.07	22	24	.77	35	35	.30
¾	8	.38	3½	12	.48	7	16	.48				22	25	.65	35	36	.27
¾	9	.32	3½	13	.38	7	17	.38	14	20	.60	22	26	.55	40	31	.68
¾	10	.27	3½	14	.32	7	18	.32	14	21	.48	22	27	.46	40	32	.57
¾	11	.22	3½	15	.27	7	19	.27	14	22	.38	22	28	.38	40	33	.48
¾	12	.17	3½	16	.23	7	20	.22	14	23	.32	22	29	.30	40	34	.44
¾	13	.14	3½	17	.17	7	21	.17	14	24	.27	22	30	.26	40	35	.40
¾	14	.12	3½	18	.14	7	22	.14	14	25	.22	22	31	.22	40	36	.36
¾	15	.10	3½	19	.12	7	23	.12	14	26	.17	22	32	.19	40	37	.32
¾	16	.08	3½	20	.10	7	24	.10	14	27	.15	22	33	.17	45	33	.70
			3½	21	.08	7	25	.08	14	28	.13	22	34	.15	45	34	.58
⅝	5	.88				7	26	.07	14	29	.12	22	35	.13	45	35	.50
⅝	6	.73	4	11	.73				14	30	.11	22	36	.12	45	36	.46
⅝	7	.60	4	12	.60	8	16	.60	14	31	.10				45	37	.42
⅝	8	.48	4	13	.48	8	17	.48	14	32	.09	24	25	.77	50	34	.80
⅝	9	.38	4	14	.38	8	18	.38	14	33	.08	24	26	.65	50	35	.65
⅝	10	.32	4	15	.32	8	19	.32	14	34	.07	24	27	.55	50	36	.60
⅝	11	.27	4	16	.27	8	20	.27				24	28	.46	50	37	.56
⅝	12	.22	4	17	.22	8	21	.22	16	21	.73	24	29	.38	55	35	.80
⅝	13	.17	4	18	.17	8	22	.17	16	22	.60	24	30	.30	55	36	.65
⅝	14	.14	4	19	.14	8	23	.14	16	23	.48	24	31	.26	55	37	.60
⅝	15	.12	4	20	.12	8	24	.12	16	24	.38	24	32	.22	60	36	.85
⅝	16	.10	4	21	.10	8	25	.10	16	25	.32	24	33	.19	60	37	.70
⅝	17	.08	4	22	.08	8	26	.08	16	26	.27	24	34	.17	60	38	.65
						8	27	.07	16	27	.22	24	35	.15	70	38	.90
2	6	.88	4½	12	.73				16	28	.17	24	36	.13	70	39	.80
2	7	.73	4½	13	.57				16	29	.15				74	39	1.00
2	8	.60	4½	14	.45	9	17	.60	16	30	.13	26	26	.77	74	40	.90
2	9	.48	4½	15	.35	9	18	.48	16	31	.12	26	27	.65			
2	10	.38	4½	16	.29	9	19	.38	16	32	.11	26	28	.55	60	36	.85
2	11	.32	4½	17	.24	9	20	.32	16	33	.10	26	29	.46	60	37	.70
2	12	.27	4½	18	.19	9	21	.27	16	34	.09	26	30	.38	60	38	.65
2	13	.22	4½	19	.15	9	22	.22	16	35	.08	26	31	.30			
2	14	.17	4½	20	.13	9	23	.17				26	32	.26	64	37	.85
2	15	.14	4½	21	.11	9	24	.14	18	23	.60	26	33	.23	64	38	.70
2	16	.12	4½	22	.09	9	25	.12	18	24	.48	26	34	.19	64	39	.65
2	17	.10	4½	23	.07	9	26	.10	18	25	.38	26	35	.17			
2	18	.08				9	27	.08	18	26	.32	26	36	.15	70	38	.90
			5	13	.60	9	28	.07	18	27	.27				70	39	.80
2½	8	.73	5	14	.48				18	28	.22	28	27	.77			
2½	9	.60	5	15	.38	10	18	.60	18	29	.17	28	28	.65	74	39	1.00
2½	10	.48	5	16	.32	10	19	.48	18	30	.15	28	29	.55	74	40	.90
2½	11	.38	5	17	.27	10	20	.38	18	31	.13	28	30	.46			
2½	12	.32	5	18	.22	10	21	.32	18	32	.12	28	31	.35	80	40	1.20
2½	13	.27	5	19	.17	10	22	.27	18	33	.11	28	32	.30	80	41	1.10
2½	14	.22	5	20	.14	10	23	.22	18	34	.10	28	33	.26			
2½	15	.17	5	21	.12	10	24	.17	18	35	.09	28	34	.23	90	42	1.45



## Multi-Metal Bolting Cloth

### Price List and Equivalents

MULTI-METAL		HAS SAME SIZE MESH AS					
		SILK				GRIT GAUZE	
Price	No.	Standard	X	XX	XXX	Standard	XXX
\$ 1.75	18	0000	-----	-----	-----	18	16
1.90	20	-----	-----	-----	-----	20	18
1.90	22½	-----	-----	-----	-----	22	20
2.10	25	000	-----	-----	-----	24	22
2.15	27½	-----	-----	-----	-----	26	24
2.30	30	-----	-----	-----	-----	-----	-----
2.45	32½	-----	-----	-----	-----	30	28
2.50	35	00	-----	-----	-----	-----	-----
2.70	37½	-----	-----	-----	-----	-----	-----
2.75	40	-----	-----	-----	-----	34	30
2.90	42½	-----	-----	-----	-----	36	32
3.00	45	0	-----	-----	-----	38	34
3.15	47½	-----	-----	-----	-----	42	38
3.60	50	-----	-----	-----	-----	44	40
3.65	52½	-----	-----	-----	-----	46	42
3.90	55	1	-----	-----	-----	48	44
4.10	57½	-----	-----	-----	-----	50	46
4.35	60	-----	-----	-----	-----	52	48
4.90	65	2	-----	-----	-----	54	50
5.25	70	3	-----	-----	-----	60	56
5.55	75	4	-----	4	-----	62	58
5.75	80	5	-----	5	-----	66	62
6.00	85	-----	-----	-----	-----	68	64
6.50	90	6	6	6	-----	70	66
7.25	100	7	7	7	-----	72	68
7.80	110	8	8	-----	-----	-----	70
9.10	120	9	9	8	8	-----	-----
10.05	130	10	10	9	9	-----	-----
11.00	140	-----	-----	10	10	-----	-----
12.30	150	11	11	-----	-----	-----	-----
13.50	160	12	12	11	11	-----	-----
14.70	170	13	13	12	-----	-----	-----
16.70	180	-----	-----	13	12	-----	-----
18.15	190	14	14	-----	13	-----	-----
19.90	200	15	15	14	-----	-----	-----
22.35	210	16	16	15	-----	-----	-----
24.85	220	17	-----	16	14	-----	-----
27.30	230	18	-----	-----	15	-----	-----
29.75	240	19	-----	-----	16	-----	-----
32.20	250	20	-----	-----	17	-----	-----
34.70	260	21	-----	-----	18	-----	-----
-----	280	-----	-----	-----	-----	-----	-----
-----	300	-----	-----	-----	-----	-----	-----

Above prices are per yard, forty inches wide, containing ten square feet.

## Brass Wire Cloth—Regular Grade

### List Prices

No. Meshes Per Inch	Diam. of Wire Decimal of Inch	List Price Per Square Foot	No. Meshes Per Inch	Diam. of Wire Decimal of Inch	List Price Per Square Foot
2	.063	\$0.60	22	.015	\$0.55
3	.054	.70	24	.015	.60
4	.047	.65	30	.0135	.70
5	.041	.65	35	.011	.70
6	.035	.60	40	.010	.65
8	.028	.65	45	.0095	.85
10	.025	.65	50	.009	.80
12	.023	.60	60	.008	.85
14	.020	.65	70	.007	1.00
16	.018	.60	80	.00575	1.25
18	.017	.60	90	.00525	1.50
20	.016	.55	100	.0045	1.75

Prices on Extra Fine Brass Wire Cloth, from 110 to 200 meshes per inch, will be quoted on application.

### Making Up Wire Bolting Cloths

We are prepared to make up wire bolting cloths, with webbing to fit reels or sieves, promptly and in the best possible manner. Prices for this work will be quoted upon receipt of specifications.

Brass and Copper Wire Cloth  
Price List of Brass and Copper Wire Cloth

No. Meshes per Inch	No. of Wire	Price per Square Foot	No. Meshes per Inch	No. of Wire	Price per Square Foot	No. Meshes per Inch	No. of Wire	Price per Square Foot	No. Meshes per Inch	No. of Wire	Price per Square Foot	No. Meshes per Inch	No. of Wire	Price per Square Foot
2	8	\$4.00	5	21	\$0.40	14	20	\$2.50	20	33	\$0.27	30	31	\$0.55
2	9	3.50	5	22	.35	14	21	1.75	20	34	.25	30	32	.47
2	10	3.00	6	14	3.00	14	22	1.20	22	24	2.50	30	33	.42
2	11	2.50	6	15	2.50	14	23	.85	22	25	1.75	30	34	.37
2	12	1.75	6	16	1.75	14	24	.60	22	26	1.20	30	35	.33
2	13	1.20	6	17	1.20	14	25	.50	22	27	.85	30	36	.30
2	14	.85	6	18	.85	14	26	.45	22	28	.60	35	28	1.75
2	15	.60	6	19	.60	14	27	.40	*22	29	.50	35	29	1.25
*2	16	.50	*6	20	.50	14	28	.35	22	30	.45	35	30	.90
2	17	.45	6	21	.45	14	29	.30	22	31	.40	35	31	.75
2	18	.40	6	22	.40	16	21	2.50	22	32	.35	*35	32	.55
3	10	4.00	6	23	.35	16	22	1.75	22	33	.30	35	33	.48
3	11	3.50	8	16	3.00	16	23	1.20	22	34	.27	35	34	.45
3	12	2.50	8	17	2.50	16	24	.85	22	35	.25	35	35	.42
3	13	1.75	8	18	1.75	16	25	.60	24	25	2.50	35	36	.37
3	14	1.20	8	19	1.20	*16	26	.50	24	26	1.75	40	30	1.75
3	15	.85	8	20	.85	16	27	.45	24	27	1.20	40	31	1.25
3	16	.60	8	21	.60	16	28	.40	24	28	.85	40	32	.75
*3	17	.50	*8	22	.50	16	29	.35	*24	29	.60	*40	33	.60
3	18	.45	8	23	.45	16	30	.30	24	30	.50	40	34	.53
3	19	.40	8	24	.40	18	22	2.50	24	31	.45	40	35	.45
3	20	.35	8	25	.35	18	23	1.75	24	32	.40	40	36	.42
4	11	4.00	10	17	3.00	18	24	1.20	24	33	.35	45	31	1.75
4	12	3.00	10	18	2.50	18	25	.85	24	34	.30	45	32	1.25
4	13	2.50	10	19	1.75	18	26	.60	24	35	.27	45	33	.85
4	14	1.75	10	20	1.20	*18	27	.50	24	36	.25	*45	34	.65
4	15	1.20	10	21	.85	18	28	.45	26	26	2.25	45	35	.60
4	16	.85	10	22	.60	18	29	.40	26	27	1.65	45	36	.55
4	17	.60	*10	23	.50	18	30	.35	26	28	1.20	50	34	.85
*4	18	.50	10	24	.45	18	31	.30	26	29	.85	*50	35	.65
4	19	.45	10	25	.40	18	32	.27	*26	30	.60	50	36	.58
4	20	.40	10	26	.35	20	23	2.50	26	31	.50	60	35	.88
4	21	.35	12	19	2.50	20	24	1.75	26	32	.45	*60	36	.70
5	13	3.00	12	20	1.75	20	25	1.20	26	33	.40	60	37	.60
5	14	2.50	12	21	1.20	20	26	.85	26	34	.35	*70	37	.80
5	15	1.75	12	22	.85	20	27	.60	26	35	.30	*80	38	1.00
5	16	1.20	12	23	.60	*20	28	.50	26	36	.27	*90	39	1.25
5	17	.85	*12	24	.50	20	29	.45	30	27	1.75	*100	40	1.45
5	18	.60	12	25	.45	20	30	.40	30	28	1.25	-----	-----	-----
5	19	.50	12	26	.40	20	31	.35	30	29	.90	-----	-----	-----
5	20	.45	12	27	.35	20	32	.30	*30	30	.65	-----	-----	-----

\*Are standard milling grades and furnished unless otherwise ordered.

Making Up Bolting Cloths

Our bolting cloth department is equipped with new and late improved machines, and our facilities are unequalled for producing perfectly made cloths and prompt filling of orders.

Price per Lineal Foot (Length of Reel or Sieve)

For Sieve Bolters.....	per lineal foot, \$0.10 net
For Purifiers.....	“ “ “ .20 net
For Round Reels.....	“ “ “ .25 net
For Hexagon Reels.....	“ “ “ .30 net
For Octagon Reels.....	“ “ “ .35 net

Shellacked Cloth

For Sifter Bottoms, etc., per square yard.....	\$0.50 net
--	------------

Revolving Brushes for Reels

List Prices per Foot

Length and kind of bristles.....	2 ½-in. Tampico	2 ½-in. Hair	2-in. Hair
Brush, with Shaft.....	\$1.20	\$1.40	\$1.30
Brush only, without Shaft.....	.75	.98	.90

Journals one foot long and under, at same price per foot as Brush.  
Bearings for Brush Journals, with idler, per set, \$3.50.

Bran Duster and Purifier Brushes

Price List

KIND OF BRUSH	Tampico Per Foot	Hair Per Foot
Brush with two rows of bristles.....	\$0.50	\$0.90
Brush with three rows of bristles.....	.65	1.10
Brush with four rows of bristles.....	.75	1.30



# Yield Table

The following table is an extremely convenient one, showing accurately the number of pounds of flour per bushel of wheat and the number of barrels of flour per 100 bushels of wheat when using anywhere from 4 bushels and 10 pounds to 5 bushels of wheat per barrel.

Number Bushels Per Barrel Flour	Number Pounds Flour per Bushel	Number Barrels Flour per 100 Bushels Wheat	Number Bushels Per Barrel Flour	Number Pounds Flour per Bushel	Number Barrels Flour per 100 Bushels Wheat
		Bbbs. Lbs.			Bbbs. Lbs.
4.10	47.04	24— 00	4.36	42.60	21—144
4.11	46.85	23—177	4.37	42.45	21—129
4.12	46.66	23—158	4.38	42.30	21—114
4.13	46.48	23—140	4.39	42.15	21— 99
4.14	46.30	23—122	4.40	42.00	21— 84
4.15	46.11	23—103	4.41	41.85	21— 69
4.16	45.93	23— 85	4.42	41.70	21— 54
4.17	45.75	23— 67	4.43	41.55	21— 39
4.18	45.57	23— 49	4.44	41.40	21— 24
4.19	45.40	23— 32	4.45	41.26	21— 10
4.20	45.23	23— 15	4.46	41.11	20—191
4.21	45.05	22—193	4.47	40.97	20—177
4.22	44.88	22—176	4.48	40.83	20—163
4.23	44.71	22—162	4.49	40.69	20—149
4.24	44.54	22—142	4.50	40.55	20—135
4.25	44.37	22—125	4.51	40.41	20—121
4.26	44.21	22—109	4.52	40.27	20—107
4.27	44.04	22— 92	4.53	40.13	20— 93
4.28	43.88	22— 76	4.54	40.00	20— 80
4.29	43.72	22— 60	4.55	39.86	20— 66
4.30	43.57	22— 45	4.56	39.72	20— 52
4.31	43.39	22— 27	4.57	39.59	20— 39
4.32	43.23	22— 11	4.58	39.46	20— 26
4.33	43.07	21—191	4.59	39.30	20— 10
4.34	42.91	21—175	5.00	39.20	20— 00
4.35	42.76	21—160	-----	-----	-----

## Bushels and Pounds of Wheat Used Per Hour from 4 Bushels, 20 Pounds to 5 Bushels Per Barrel

Capacity in Barrels Per 24 Hours	4 Bushels 20 Pounds	4 Bushels 25 Pounds	4 Bushels 30 Pounds	4 Bushels 35 Pounds	4 Bushels 40 Pounds	4 Bushels 45 Pounds	4 Bushels 50 Pounds	4 Bushels 55 Pounds	5 Bushels
25	4-31	4-36	4-41	4-46	4-50	4-55	5- 2	5- 5	5-12
50	9- 2	9-12	9-22	9-32	9-40	9-50	10- 4	10-10	10-25
75	13-33	13-48	14- 3	14-18	14-30	14-45	15- 6	15-15	15-37
100	18- 3	18-24	18-45	19- 6	19-20	19-41	20- 8	20-21	20-50
125	22-34	23- 0	23-26	23-53	24-10	24-36	25-10	25-26	26- 2
150	27- 5	27-36	28- 8	28-39	29- 0	29-32	30-12	30-32	31-15
200	36- 6	36-48	37-30	38-12	38-40	39-22	40-16	40-42	41-40
250	45- 8	46- 0	46-52	47-46	48-20	49-12	50-20	50-52	52- 4
300	54-10	55-12	56-16	57-18	58- 0	59- 4	60-24	61- 4	62-30
350	63-11	64-24	65-38	66-51	67-40	68-54	70-28	71-14	72-55
400	72-12	73-36	75- 0	76-24	77-20	78-44	80-32	81-22	83-20
500	90-16	92- 0	93-44	95-32	96-40	98-24	100-40	101-44	104- 8
600	108-20	110-24	112-32	114-36	116- 0	118- 8	120-48	122- 8	125- 0
700	126-22	128-48	131-16	133-42	135-20	137-48	140-56	142-28	145-50
800	144-24	147-12	150- 0	152-48	154-40	157-28	161- 4	162-44	166-40
1000	180-32	184- 0	187-24	191- 4	193-20	196-48	201-20	203-28	208-16
1200	216-40	220-48	225- 4	229-12	232- 0	236-16	245-36	244-16	250- 0
1500	270-48	276- 0	281- 8	286-36	290- 0	295-12	302- 0	305-12	312-24
1800	324-56	331-12	337-24	343-52	348- 0	354-16	362-24	366-12	374-56
2000	361- 4	368- 0	374-48	382- 8	386-40	393-36	402-40	406-56	416-32
2500	451-20	460- 0	468-32	477-40	483-20	492- 0	503-20	508-40	520-40
3000	541-36	552- 0	562-16	573-12	580- 0	590-24	604- 0	610-24	624-48
4000	722- 8	736- 0	749-36	764-16	773-20	787-12	805-20	813-52	833- 4
5000	902-40	920- 0	937- 4	955-20	966-40	984- 0	1006-40	1017-20	1040-20

## Weights of Various Products

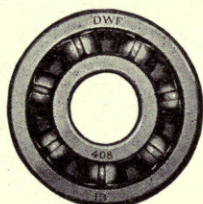
	Per Bushel
Apples, dried (except Michigan, 22; Indiana, Massachusetts, New Jersey, West Virginia, Wisconsin, 25; Florida, 26; Idaho, Minnesota, Oregon, South Carolina, Texas, Virginia, Washington, 28).....	24 Pounds
Barley (except Oregon, 46; Alabama, Georgia, Kentucky, Pennsylvania, 47; California, 50)....	48 Pounds
Beans, white (except Maine, New Hampshire, New York, Vermont, 62).....	60 Pounds
Beans, castor (except Kentucky, 45; Mississippi, New Jersey, Ohio, 56; West Virginia, 60; New Hampshire, 62).....	46 Pounds
Bluegrass Seed.....	14 Pounds
Bran.....	20 Pounds
Broom Corn Seed.....	52 Pounds
Buckwheat (except California, Idaho, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Washington, 42; Alabama, Connecticut, Florida, Maine, Massachusetts, Michigan, New York, Pennsylvania, Vermont, Wisconsin, 48; Indiana, Kansas, Minnesota, New Jersey, North Carolina, Ohio, Tennessee, 50; Kentucky, South Carolina, 56).....	52 Pounds
Corn, shelled (except North Carolina, 55; California, 52).....	56 Pounds
Corn, on the cob (except South Carolina, 72; Ohio, Indiana, 68).....	70 Pounds
Corn Meal (except North Carolina, 46; Alabama, Arkansas, Delaware, Florida, Georgia, Illinois, Mississippi, Pennsylvania, 48).....	50 Pounds
Clover Seed (except Pennsylvania, 62; New Jersey, North Carolina, 64).....	60 Pounds
Flax Seed (except Massachusetts, New Jersey, New York, North Carolina, 55).....	56 Pounds
Hemp Seed.....	44 Pounds
Hungarian Grass Seed (except Iowa, Minnesota, Mississippi, Missouri, Tennessee, Texas, Virginia, Wisconsin, 48).....	50 Pounds
Malt Barley (except Ohio, Wisconsin, Indiana, 35; Montana, 30).....	38 Pounds
Millet Seed (except Iowa, Minnesota, 48; Wisconsin, 55).....	50 Pounds
Oats (except New Jersey, North Carolina, Pennsylvania, 30; Maryland, 26; Idaho, Oregon, 36)	32 Pounds
Onions (except Indiana, 48; Connecticut, Pennsylvania, Rhode Island, 50; Maine, Massachusetts, North Dakota, South Dakota, Vermont, Oklahoma, 52; Michigan, 54; Ohio, 55; Tennessee, 56)	57 Pounds
Peas (except North Carolina, 50).....	60 Pounds
Potatoes.....	60 Pounds
Potatoes, Sweet (except Iowa, North Dakota, South Dakota, 46; Arkansas, Illinois, Kansas, Mississippi, Nebraska, Ohio, Tennessee, 50; Massachusetts, New Jersey, Wisconsin, 54; Maryland, Michigan, Missouri, Virginia, 56; South Carolina, West Virginia, 50).....	55 Pounds
Red Top Seed.....	14 Pounds
Rice, rough.....	32 to 46 Pounds
Rice, clean.....	60 Pounds
Rye (except California, 54).....	56 Pounds
Sorghum Seed.....	40 Pounds
Timothy Seed (except Arkansas, 60; New York, 44; Oklahoma, South Dakota, North Dakota, Washington, 42).....	45 Pounds
Turnips (except Kentucky, North Dakota, Maine, Ohio, Oklahoma, South Dakota, Vermont, 60; Michigan, 58; Arkansas, 57; Minnesota, 52; Connecticut, Montana, Tennessee, 50; Missouri, Wisconsin, 42).....	55 Pounds
Wheat.....	60 Pounds
Rough Rice.....	162 Pounds per bbl.
Clean Rice.....	345 to 360 Pounds per bbl.

160 pounds Rough Rice make 100 pounds Clean Rice.



# MONARCH

## Grain Cleaning Machinery



*Section C, No. 115*

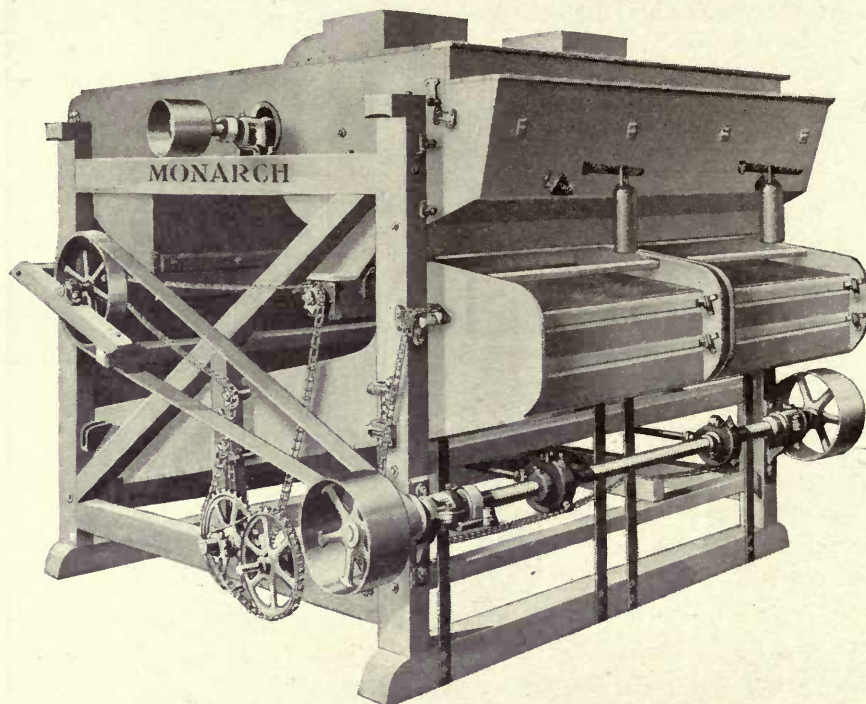
Established 1866

**SPROUT, WALDRON & CO.**

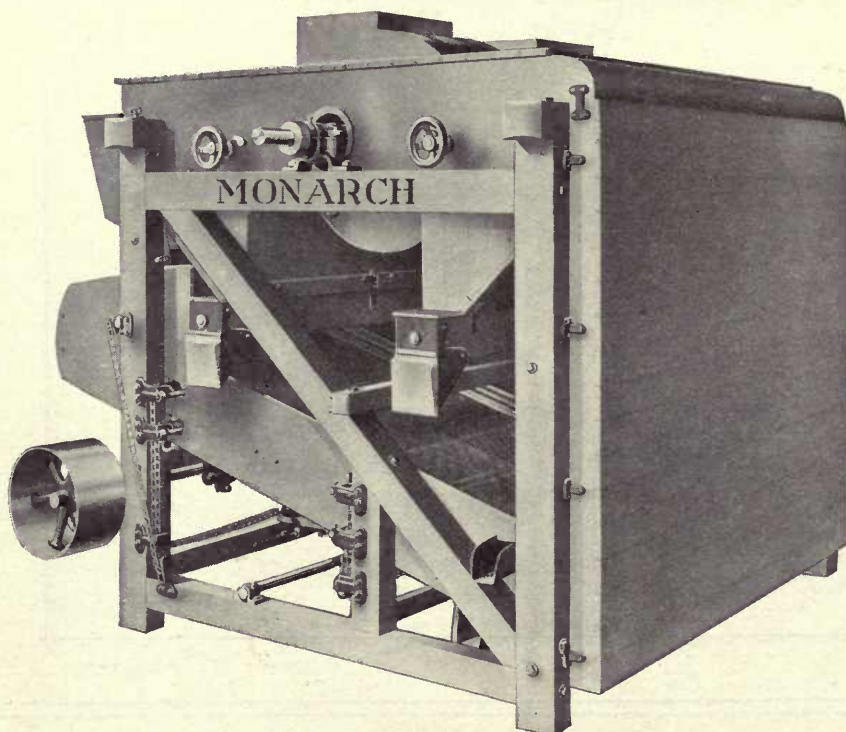
Mill Builders and Mill Furnishers

MUNCY, PA., U. S. A.

## The Monarch Compound Shake Double Receiving Separator



The Monarch Compound Shake Double Receiving Separator—Side and Front View

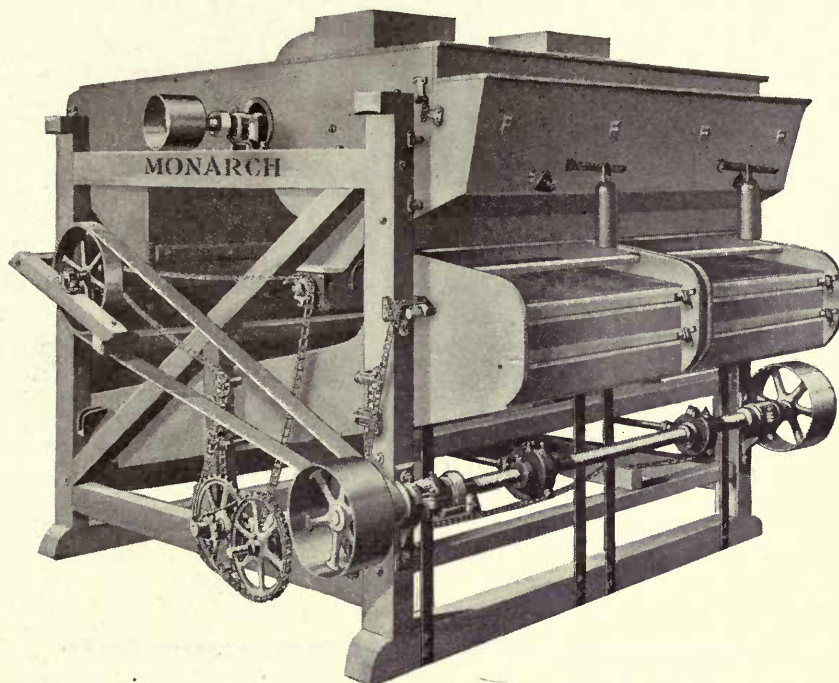


The Monarch Compound Shake Double Receiving Separator—Side and Rear View



# The Monarch Compound Shake Double Receiving Separator

With Two Fans



Style "A"

## The Monarch Compound Shake Double Receiving Separator—Two Fans

Radical departures from commonly accepted methods of machine construction are not always highly satisfactory, but while the separator illustrated above has many features which are of comparatively recent introduction, long periods of hard and successful service have proved every innovation to be a qualified improvement and success.

There is no vibration or shake connected with the operation of the Monarch Receiving Separator. The reciprocating compound drive, whereby one shaking shoe is continually moving in an opposite direction to the other, gives a perfect balance and light and quiet running is insured by the use of ball bearings in the shake eccentrics.

Air separations are accomplished by the action of two powerful fans, are subject to control for a wide range of utility and so arranged as to give the best results during the progress of the various stages of the cleaning process.

Special attention is called to the Automatic Brush Sieve Cleaning Device, which requires no attention from the operator of the machine, greatly facilitates the work and guarantees maximum capacity by keeping the sieves free and open.

The points of superiority which we have enumerated, coupled with extremely careful construction and the use of first-class materials, place the Monarch far in advance of any machine hitherto offered for the purpose.

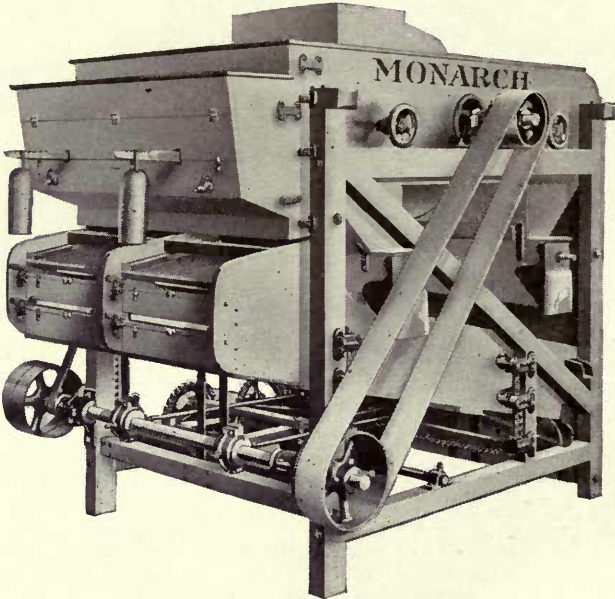
## Price, Dimensions and Speed

Size No.	Ball Bearing Eccentric No Brush	Ball Bearing Eccentric with Brush on all Screens	Ball Bearing on Fan and Drive Shafts and with Brushes	Extreme Height	Extreme Length	Extreme Width	Size on Floor Inches	Height to Center of Driving Pulley Inches	Height to Where Grain Enters	Motion of Shaker Shaft R. P. M.	Motion of Fan Shaft R. P. M.
7	\$645.00	\$774.00	\$834.00	7' 1½"	8' 1"	7' 11"	73½x75	20	6' 1"	550	660
8	730.00	876.00	966.00	7' 5"	8' 4½"	8' 6"	75½x81	20	6' 4"	550	660
9	815.00	978.00	1038.00	7' 5"	8' 4½"	9' 0"	75½x87	20	6' 4"	550	640
10	900.00	1080.00	1140.00	7' 5"	8' 4½"	9' 6"	75½x93	20	6' 4"	550	640

## Dimensions, Weight and Capacity

Size No.	Size of Drive Pulley Inches	Inside Measure of Dust Spouts Fan Opening		CAPACITY IN BUSHELS PER HOUR						Shipping Weight Pounds	BOXED FOR EXPORT	
		Depth Inches	Width Inches	Wheat Fine Screens	Wheat Medium Screens	Wheat Coarse Screens	Corn or Oats	Barley Fine Screens	Barley Coarse Screens		Weight Pounds	Volume Cu.Ft.
7	12x6½	14	14	750	1250	2500	2000	650	1250	2850	3610	456
8	12x6½	14	15½	900	1500	3000	2500	800	1500	3000	3830	529
9	16x7½	14	17	1050	1750	3500	3000	900	1750	3200	4070	560
10	16x7½	14	18½	1200	2000	4000	3500	1100	2000	3300	4210	590

The Monarch Compound Shake Double  
Receiving Separator  
With One Fan



Style "B"

The Monarch Compound Shake Double Receiving Separator—One Fan

The ideas and requirements of grain handlers for cleaning machinery differ to such a degree that we have always found it advisable to include in our line, such modifications as seem to meet with popular approval; always, however, first proving for our own security and satisfaction that every machine which leaves our plant is fully capable of performing the work for which it is intended.

The Receiving Separator shown in the illustration is similar in construction to the one shown on page 99, the only notable difference being, that it is equipped with one fan, instead of two. This fact, however, does not affect its efficiency in any way, for the reason that the sizes built as listed here require but the use of the one fan with satisfactory results in the air separations.

Ball bearings in shake eccentrics, the Monarch Reciprocating Drive and the Automatic Brush Sieve Cleaning Device, have been included in this construction, making an efficient and substantial machine which has brought us many expressions of satisfaction from satisfied customers.

Price, Dimensions and Speed

Size No.	PRICE			Extreme Height	Extreme Length	Extreme Width	Size on Floor Inches	Height to Center of Driving Pulley Inches	Height to Where Grain Enters	Motion of Shaker Shaft R. P. M.	Motion of Fan Shaft R.P.M.
	Ball Bearing Eccentrics No Brush	Ball Bearing Eccentrics with Brush on all Screens	Ball Bearings on Fan and Drive Shafts and with Brushes								
2	\$275.00	\$330.00	\$385.00	6' 7 1/2"	7' 8"	4' 9"	64 1/2 x 39	18	5' 2"	550	660
3	320.00	384.00	445.00	6' 9"	8' 1"	5' 8"	73 1/2 x 48	20	5' 8 1/2"	550	660
4	390.00	468.00	528.00	6' 9"	8' 1"	6' 4"	73 1/2 x 54	20	5' 8 1/2"	550	660
5	475.00	570.00	630.00	6' 9"	8' 1"	6' 9"	73 1/2 x 61 1/2	20	5' 8 1/2"	550	660
6	560.00	672.00	732.00	7' 1 1/2"	8' 1"	7' 3 1/2"	73 1/2 x 67 1/2	20	6' 1"	550	660

Capacity, Weight, Volume, Etc.

Size No.	Size of Driving Pulley Inches	Inside Measure of Dust Spouts Fan Opening		CAPACITY IN BUSHELS PER HOUR						Shipping Weight Pounds	BOXED FOR EXPORT	
				Wheat Fine Screens	Wheat Medium Screens	Wheat Coarse Screens	Corn or Oats	Barley Fine Screens	Barley Coarse Screens		Weight Pounds	Volume Cu.Ft.
		Depth Inches	Width Inches									
2	8x5	14	14	120	200	400	300	100	200	1050	1550	242
3	10x6	14	22 ½	180	300	600	450	150	300	1550	2140	310
4	12x6	14	22 ½	300	500	1000	750	250	500	1750	2375	346
5	12x6	14	26 ½	450	750	1500	1200	350	750	2200	2860	369
6	12x6 ½	14	26 ½	600	1000	2000	1500	500	1000	2500	3210	420



## The Monarch Single Receiving Separator

Every machine requires more or less attention if it is to satisfactorily perform the work expected of it and for which it was designed. The amount and nature of such attention determine to a great extent both the cost and true value; therefore, maintenance cost is as important as original price.

The first cost of the Monarch Single Receiving Separator is practically all of the expense connected with its ownership. Sturdy build, first-class materials and automatic operations eliminate the expense occasioned by the necessity for frequent repairs and constant attention.

The Monarch is admirably suited for use in both mills and elevators. It is provided with a shaking shoe, and being carefully counterbalanced and equipped with ball bearings in shake eccentrics, is light running and free from noise and vibration. The double sieves are kept clean by the action of the automatic brush cloth cleaner, insuring continuous operation at maximum capacity.

We build this machine in one size. Reference to the tabulation will show that a small amount of floor space is required for its installation and that there is a wide selection as regards capacity.

### Price, Dimensions and Speed

Size Number.....	1
Price—Ball Bearing Eccentric, No Brush.....	\$210.00
Ball Bearing Eccentric, With Brushes.....	250.00
Ball Bearings on Fan and Drive Shafts and With Brushes.....	310.00
Extreme Height.....	5' 9"
Extreme Length.....	6' 4½"
Extreme Width.....	3' 7"
Size on Floor.....	54x27 ½"
Height to Center of Driving Pulley.....	17"
Height to Where Grain Enters.....	4' 9"
Motion of Shaker Shaft, R. P. M.....	550
Motion of Fan Shaft, R. P. M.....	690

### Capacity, Weight and Volume

Size Number.....	1
Size of Driving Pulley.....	7x4"
Inside Measure of Dust Spout, Fan Opening—Depth.....	11"
Width.....	11"
Capacity in Bushels Per Hour—	
Wheat, Fine Screens.....	60
Wheat, Medium Screens.....	100
Wheat, Coarse Screens.....	200
Corn or Oats.....	150
Barley, Fine Screens.....	60
Barley, Coarse Screens.....	100
Shipping Weight.....	700 lbs.
Boxed for Export—Weight.....	1050 lbs.
Volume.....	132 cu. ft.

## The Monarch Receiving Separator

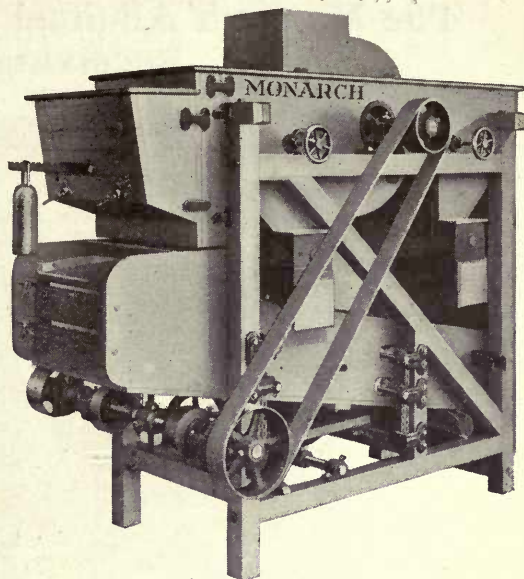
That this machine is a favorite among mill, elevator and warehouse owners, is evidenced by its steadily increasing sale, dating from the time it was first offered to the trade, several years ago. It is correctly designed, constructed with due regard to both strength and durability and has gained an enviable reputation for the production of accurate, economical and satisfactory results.

The compound shoe construction gives it freedom from vibration and insures noiseless operation and the powerful suction fan, controlled by rolling valves, provides ample aspiration for the removal of all straw joints, sand, cockle, etc., from the grain. The eccentric bearings are of iron, brass lined, self oiling and absolutely true and perfect.

The Monarch as listed below, will be furnished either with or without the traveling brush screen cleaning device, as desired.

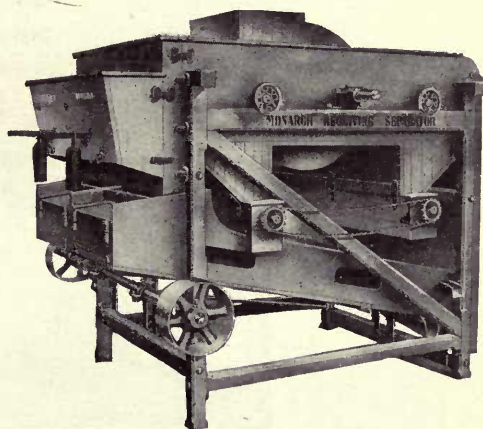
### Price, Dimensions, Speed, Weight, Etc.

Size Number	PRICE		OVER-ALL DIMENSIONS			Pulley Inches	Speed R. P. M.	Floor to Pulley Center Inches	Height to Grain Entrance	Fan Opening Inches	Sq. Feet Wilson Dust Collector Req.	Capacity Bushels Per Hour	Weight Pounds	BOXED FOR EXPORT	
	Without Cleaner	With Automatic Screen Cleaners	Height	Width	Length									Weight Pounds	Volume Cu. Feet
1	\$175	\$210	5' 7"	3' 6"	6' 11"	7x4	550	17	4' 4"	11x11¼	95	75 to 150	600	1150	154
2	200	240	6' 7"	4' 7"	7' 11"	8x5	550	22	4' 10"	14x14	150	200 to 300	945	1625	280
3	250	300	6' 7"	5' 7"	8' 5"	10x6	550	23	5' 2"	14x22½	240	300 to 400	1250	2300	445
4	325	390	6' 7"	6' 1"	8' 5"	12x6	550	23	5' 6"	14x22½	280	400 to 600	1500	2750	570
5	400	480	7' 0"	6' 7"	8' 5"	12x6	550	23	5' 8"	14x26½	300	600 to 800	1600	2950	650



Style "C"

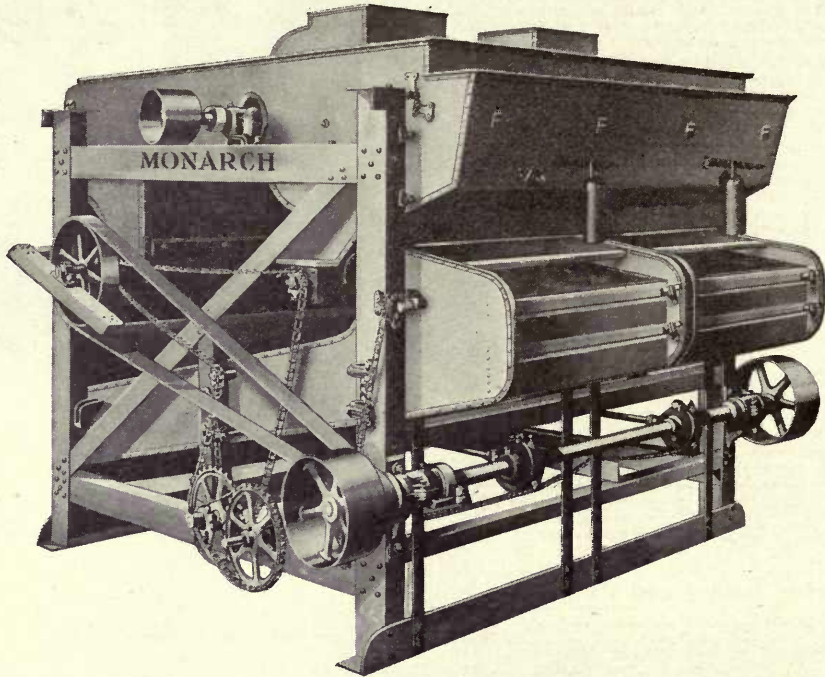
The Monarch Single Receiving Separator



Style "D"

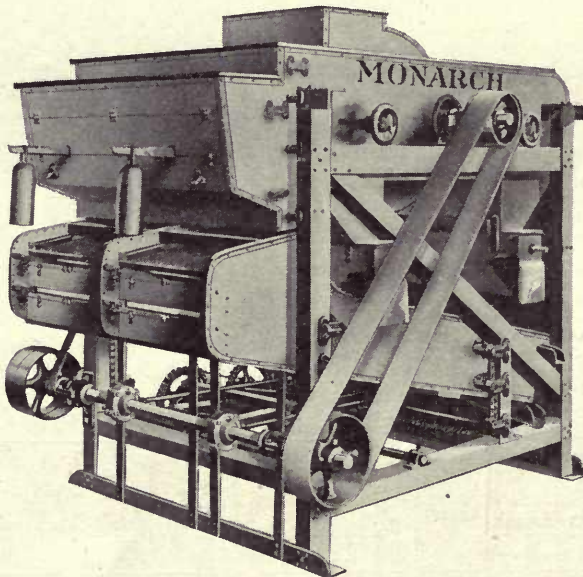
The Monarch Receiving Separator with Compound Shoe and Regular Brass Lined Iron Eccentrics

## The Monarch All-Steel Compound Shake Double Receiving Separators



Style "AA"

The Monarch All-Steel Compound Shake Double Receiving Separator with Two Fans—Side and Front View



Style "E"

The Monarch All-Steel Compound Shake Double Receiving Separator with One Fan—Side and Front View

With the exception of the fireproof feature, these machines are the same as those illustrated and described on pages 98 to 100 inclusive.



# The Monarch All-Steel Compound Shake Double Receiving Separator

With One Fan

## Price, Dimensions and Speed

Size No.	PRICE			Extreme Height	Extreme Length	Extreme Width	Size on Floor Inches	Height to Center Driving Pulley Inches	Height to Where Grain Enters	Motion of Shaker Shaft R. P. M.	Motion of Fan Shaft R. P. M.
	Ball Bearing Eccentrics No Brush	Ball Bearing Eccentrics with Brush on all Screens	Ball Bearings on Fan and Drive Shafts and with Brushes								
2	\$450.00	\$500.00	\$575.00	6' 7 1/2"	7' 8"	4' 9"	64 x 39	18	5' 2"	550	660
3	500.00	575.00	660.00	6' 9"	8' 1"	5' 8"	73 1/2 x 48	20	5' 8 1/2"	550	660
4	640.00	700.00	800.00	6' 9"	8' 1"	6' 4"	73 1/2 x 54	20	5' 8 1/2"	550	660
5	800.00	900.00	1000.00	6' 9"	8' 1"	6' 9"	73 1/2 x 61 1/2	20	5' 8 1/2"	550	660
6	950.00	1050.00	1150.00	7' 1 1/2"	8' 1"	7' 3 1/2"	73 1/2 x 67 1/2	20	6' 1"	550	660

## Capacity, Weight, Volume, Etc.

Size No.	Size of Driving Pulley Inches	Inside Meas. of Dust Spout Fan Opening		CAPACITY IN BUSHELS PER HOUR						Shipping Weight Pounds	BOXED FOR EXPORT	
				Wheat Fine Screens	Wheat Medium Screens	Wheat Coarse Screens	Corn or Oats	Barley Fine Screens	Barley Coarse Screens		Weight Pounds	Volume Cu. Ft.
		Depth Inches	Width Inches									
2	8 x 5	14	14	120	200	400	300	100	200	2000	2500	242
3	10 x 6	14	22½	180	300	600	450	150	300	2500	3090	310
4	12 x 6	14	22½	300	500	1000	750	250	500	2800	3425	346
5	12 x 6	14	26½	450	750	1500	1200	350	750	3500	4160	369
6	12 x 6½	14	26½	600	1000	2000	1500	500	1000	4000	4710	420

# The Monarch All-Steel Compound Shake Double Receiving Separator

With Two Fans

## Price, Dimensions and Speed

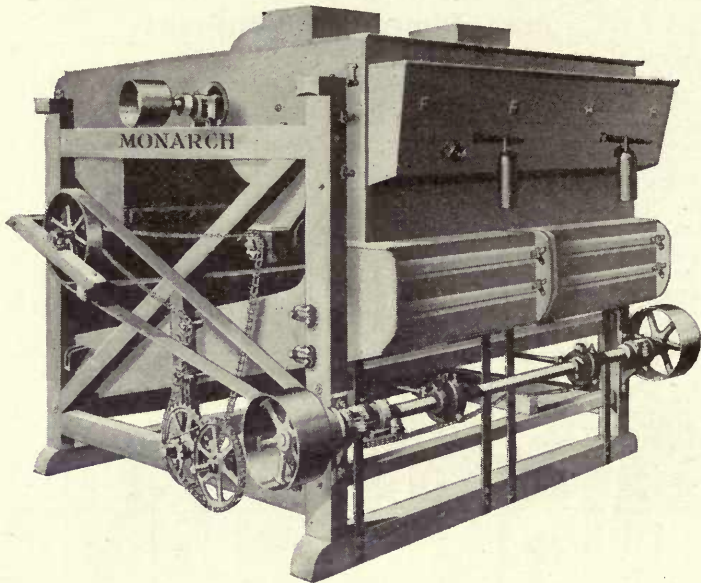
Size No.	PRICE			Extreme Height	Extreme Length	Extreme Width	Size on Floor Inches	Height to Center of Driving Pulley Inches	Height to Where Grain Enters	Motion of Shaker Shaft R. P. M.	Motion of Fan Shaft R. P. M.
	Ball Bearing Eccentrics No Brush	Ball Bearing Eccentrics with Brush on all Screens	Ball Bearings on Fan and Drive Shafts and with Brushes								
7	\$1200.00	\$1340.00	\$1450.00	7' 1 1/2"	8' 1"	7' 11"	73 1/2 x 75	20	6' 1"	550	660
8	1400.00	1550.00	1660.00	7' 5"	8' 4 1/2"	8' 6"	75 1/2 x 81	20	6' 4"	550	660
9	1600.00	1750.00	1875.00	7' 5"	8' 4 1/2"	9' 0"	75 1/2 x 87	20	6' 4"	550	640
10	1800.00	1960.00	2100.00	7' 5"	8' 4 1/2"	9' 6"	75 1/2 x 93	20	6' 4"	550	640

## Dimensions, Weight and Capacity

Size No.	Size of Driving Pulley Inches	Inside Meas. of Dust Spout Fan Opening		CAPACITY IN BUSHELS PER HOUR						Shipping Weight Pounds	BOXED FOR EXPORT	
				Wheat Fine Screens	Wheat Medium Screens	Wheat Coarse Screens	Corn or Oats	Barley Fine Screens	Barley Coarse Screens		Weight Pounds	Volume Cu. Ft.
		Depth Inches	Width Inches									
7	12 x 6½	14	14	750	1250	2500	2000	650	1250	4500	5260	456
8	12 x 6½	14	15½	900	1500	3000	2500	800	1500	5000	5830	529
9	16 x 7½	14	17	1050	1750	3500	3000	900	1750	5500	6370	560
10	16 x 7½	14	18	1200	2000	4000	3500	1100	2000	6000	6910	590

# The Monarch Compound Shake Double Milling Separator

## With Two Fans



Style "F"

The Monarch Compound Shake Double Milling Separator with Two Fans

A Milling Separator should be included in the equipment of the cleaning department of every mill and used, if possible, both for preparing the wheat for the scourers and for making the final separations after these machines have finished their work.

The Monarch Compound Shake Double Milling Separator was designed to perform these preliminary and final operations with the greatest possible economy and efficiency and we are glad to be able to make the statement that it has in no way been a disappointment, either to us or to the large number of our clients who have it in use.

It has every feature necessary or advisable to the perfect cleaning of grain. Two powerful fans provide for ample air separations and the Monarch Compound Shake eliminates vibration and allows the grain to lie flat on the sieves, which are kept clean by the constant automatic action of the brush sieve cleaning device. Ball bearings in shake eccentrics aid in promoting light and noiseless running, points of advantage which are both economical and desirable.

Workmanship and materials are Monarch quality throughout and results obtained are continuously satisfactory.

### Price, Dimensions and Capacity

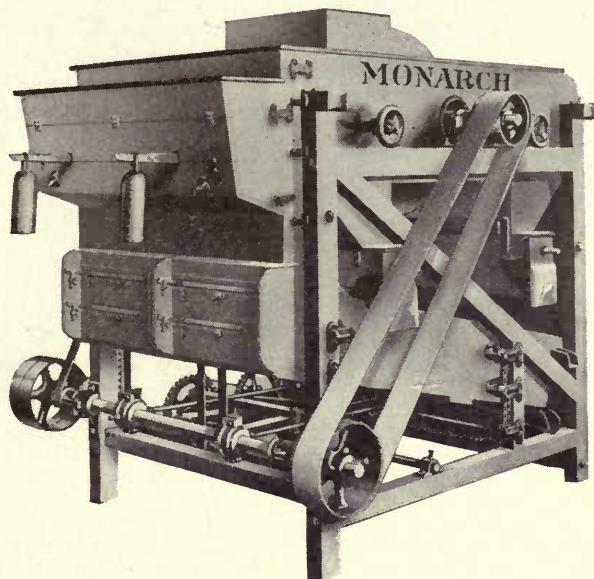
Size Number	PRICE		Extreme Height	Extreme Length	Extreme Width	Size on Floor Inches	Height to Center of Driving Pulley Inches	Height to Where Grain Enters	Capacity Bushels Per Hour
	With Ball Bearing Eccentrics with Brushes	With Ball Bearings on Fan and Drive Shafts with Brushes							
66	\$ 764.00	\$ 824.00	7' 1½"	8' 1"	7' 11"	73½ x 75	20	6' 1"	200
67	866.00	956.00	7' 5"	8' 4½"	8' 6"	75½ x 81	20	6' 4"	235
68	968.00	1028.00	7' 5"	8' 4½"	9' 0"	75½ x 87	20	6' 4"	290
69	1070.00	1130.00	7' 5"	8' 4½"	9' 6"	75½ x 93	20	6' 4"	325

### Dimensions, Speed and Weight

Size Number	Size Driving Pulley Inches	Motion of Shaker Shaft R. P. M.	Motion of Fan Shaft R. P. M.	Inside Measure of Dust Spouts Fan Opening		Shipping Weight Pounds	BOXED FOR EXPORT	
				Depth Inches	Width Inches		Weight Pounds	Volume Cubic Feet
66	12 x 6½	550	660	14	14	2850	3610	456
67	12 x 6½	550	660	14	15½	3000	3830	529
68	16 x 7½	550	640	14	17	3200	4070	560
69	16 x 7½	550	640	14	18½	3300	4210	590



# The Monarch Compound Shake Double Milling Separator With One Fan



Style "G"

## The Monarch Compound Shake Double Milling Separator with One Fan

The purchase of a Milling Separator should be a permanently profitable investment. Therefore, first cost should not be curtailed to any great extent, because the best and most complete equipment will eventually be the most satisfactory and economical.

While the Monarch Double Milling Separator, illustrated above, is not the least expensive machine for the purpose on the market, it is eminently satisfactory and economical in operation and we can give it an unqualified recommendation as being a money-making investment.

With the omission of one fan, this machine follows very closely the lines of the separator illustrated on page 104. It is equipped with the power saving and noise eliminating ball bearings in shake eccentrics and with the reciprocating compound drive which gives perfect balance and prevents vibration.

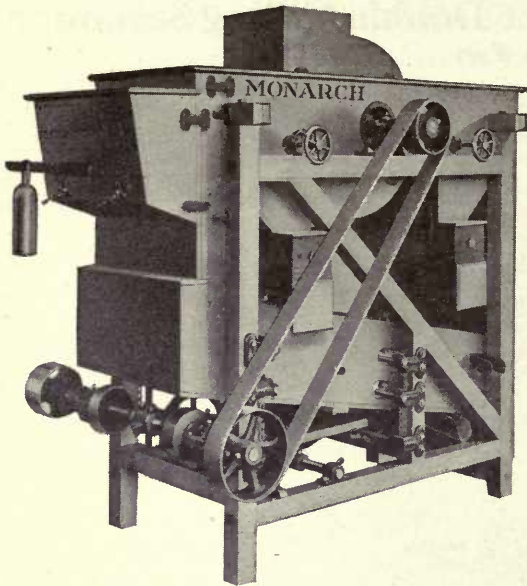
Screens are of proper size for securing full capacity and high grade work and are kept clean by the automatic action of the Monarch Brush Sieve Cleaning Device.

## Price, Dimensions and Capacity

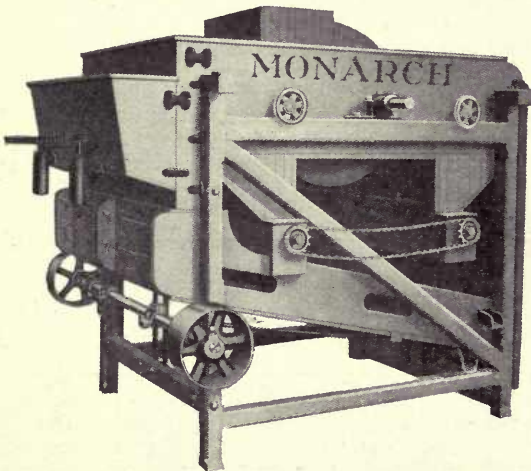
Size Number	PRICE		Extreme Height	Extreme Length	Extreme Width	Size on Floor Inches	Height to Center of Driving Pulley Inches	Height to Where Grain Enters	Capacity Bushels Per Hour
	With Ball Bearing Eccentrics with Brush	With Ball Bearings on Fan and Drive Shafts with Brushes							
61	\$320.00	\$375.00	6' 7½"	7' 8"	4' 9"	64½ x 39	18	5' 2"	60
62	374.00	435.00	6' 9"	8' 1"	5' 8"	73½ x 48	20	5' 8½"	75
63	458.00	518.00	6' 9"	8' 1"	6' 4"	73½ x 54	20	5' 8½"	90
64	560.00	620.00	6' 9"	8' 1"	6' 9"	73½ x 61½	20	5' 8½"	120
65	662.00	722.00	7' 1½"	8' 1"	7' 3½"	73½ x 67½	20	6' 1"	160

## Dimensions, Speed and Weight

Size Number	Size Driving Pulley Inches	Motion of Shaker Shaft R. P. M.	Motion of Fan Shaft R. P. M.	Inside Measure of Dust Spout Fan Opening		Shipping Weight Pounds	BOXED FOR EXPORT	
				Depth Inches	Width Inches		Weight Pounds	Volume Cubic Feet
61	8 x 5	550	660	14	14	1050	1550	242
62	10 x 6	550	660	14	22½	1550	2140	310
63	12 x 6	550	660	14	22½	1750	2375	346
64	12 x 6	550	660	14	26½	2200	2860	369
65	12 x 6½	550	660	14	26½	2500	3210	420



Style "H"  
The Monarch Single Shoe Milling Separator



Style "J"  
The Monarch Double Milling Separator

# The Monarch Single Shoe Milling Separator

The simplicity, strength, durability, running balance and efficiency, which are marked features of the Monarch Single Shoe Milling Separator, have gained for it a reputation which makes a lengthy description of it unnecessary.

We wish, however, to call attention to the most important points in its construction, viz., the counterbalanced eccentric shaft and the ball bearings in the shake eccentrics, two features which insure noiseless light running; the unusually powerful suction controlled by rolling valves and the wide hopper which supplies the entire width of the upper sieve with a thin sheet of grain.

This machine enables the accomplishment of particularly high class work, occupies a comparatively small amount of floor space, consumes a minimum amount of power and has proved to be a money maker wherever installed.

## Prices, Dimensions, Etc.

Size Number.....	60
Price—With Ball Bearing Eccentrics.....	\$150.00
With Ball Bearings on Fan and Drive Shafts.....	200.00
Extreme Height.....	5' 9"
Extreme Length.....	6' 4 1/2"
Extreme Width.....	3' 7"
Size on Floor.....	54x27 1/2"
Height to Center of Driving Pulley.....	17"
Height to Where Grain Enters.....	4' 9"
Capacity, Bushels per Hour.....	25
Size Driving Pulley.....	7x4"
Motion Shaker Shaft, Revolutions per Minute.....	550
Motion Fan Shaft, Revolutions per Minute.....	690
Size Fan Opening.....	11x11"
Shipping Weight.....	700 lbs.
Boxed for Export—Weight.....	1050 lbs.
Volume.....	132 cu. ft.

# The Monarch Double Milling Separator

The separator illustrated herewith is built with the Monarch Compound Shake which insures steadiness of operation and allows the grain to lie flat on the sieves. It has a full complement of air separations, is correct in design and carefully built, and has every feature necessary for the satisfactory cleaning of the grain after it has passed through the receiver. Number 1 machine is built with single shoe; larger sizes with double shoe.

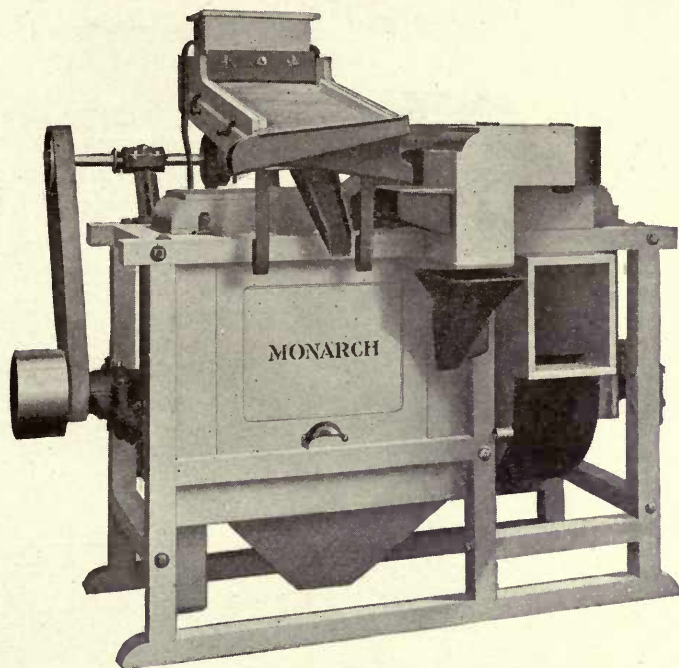
## Prices, Dimensions Weights, Speed, Etc.

Size Number	Price Without Cleaner	Price With Automatic Screen Cleaners	OVER-ALL DIMENSIONS			Size of Pulley Inches	Speed R. P. M.	Floor to Center of Pulley, in.	Height to Grain Entrance	Fan Opening Inches	Sq. Feet Wilson Dust Coll'r Req.	Capacity Bushels Per Hour	Weight Pounds	BOXED FOR EXPORT	
			Hght.	Width	Length									Weight Pounds	Volume Cu. Ft.
1	\$ 165.00	\$200.00	5' 7"	3' 6"	6' 11"	7x4	550	17	4' 4"	11x11 1/4	95	30	600	1150	154
2	190.00	230.00	6' 7"	4' 7"	7' 11"	8x5	550	22	4' 10"	14x14	150	140	945	1625	280
3	240.00	290.00	6' 7"	5' 7"	8' 5"	10x6	550	23	5' 2"	14x22 1/2	240	200	1250	2300	445
4	315.00	380.00	6' 7"	6' 1"	8' 5"	12x6	550	23	5' 6"	14x22 1/2	280	275	1500	2750	570
5	390.00	470.00	7' 0"	6' 7"	8' 5"	12x6	550	23	5' 8"	14x26 1/2	300	400	1600	2950	650



# The Monarch Horizontal Wheat and Buckwheat Scourer

## Single Type, With or Without Shoe



Style "A"

### The Monarch Horizontal Wheat and Buckwheat Scourer—Showing Single Type with Shoe

Durability and efficiency are the pre-eminent features of this machine, but a glance at the cut will show that a symmetrical and compact construction has not been forgotten. The Monarch is a perfect scouring machine, with a scientific method of ventilation, well balanced air separations and an unequalled scouring mechanism.

The Buckwheat Scourer is slightly different in construction but the standard of quality is maintained. No shoe is necessary when used in connection with a Gravel Separator. Machine will be furnished with self-oiling or ball bearings as desired.

### Price, Dimensions and Weight

Size Number	PRICE		Size of Driving Pulley Inches	Size of Fan Opening Inches	Capacity Per Hour Bushels	Speed on Wheat R. P. M.	Speed on Buckwheat R. P. M.	OVER-ALL DIMENSIONS				Floor to Center of Driving Pul. Inches	Size on Floor Inches	BOXED FOR EXPORT		
	With Shoe	Without Shoe						Height With Shoe	Height Without Shoe	Width	Length			Shipping Weight Pounds	Weight Pounds	Volume Cu. Feet
0	\$175.00	\$150.00	8x4	8x10	20	700	500	5' 0"	4' 6"	3' 8"	6' 0"	23	57x21 1/2	640	1031	122
1	200.00	175.00	8x5	10x11	30	650	500	5' 8"	4' 9"	4' 1 1/2"	6' 10 3/4"	26	68x24	700	1177	163
2	225.00	200.00	8x6	10x11	45	650	500	5' 8"	4' 9"	4' 1 1/2"	8' 2"	26	74x24	950	1453	174
3	250.00	220.00	10x6	11x11	60	600	325	5' 10"	5' 0"	4' 9"	8' 11"	25 1/2	87x29 1/2	1100	1637	194
4	300.00	260.00	12x6	11x11	80	600	325	5' 10"	5' 0"	4' 9"	9' 10"	25 1/2	100x29 1/2	1250	1841	221
5	350.00	300.00	12x7	11x11	100	550	325	6' 4"	5' 5"	5' 1"	8' 11"	28	87x33	1500	2450	288
6	400.00	350.00	12x7	12x12	150	550	300	6' 4"	5' 5"	5' 1"	9' 5"	28	95x33	1800	2780	303
7	450.00	400.00	14x6 1/2	12x12	200	550	300	6' 4"	5' 5"	5' 1"	9' 10"	28	100x33	2200	3200	316
8	500.00	425.00	14x7	12x12	250	550	300	6' 10"	5' 11"	5' 6"	8' 11"	30	87x37	2400	3450	336
9	600.00	525.00	14x7 1/2	13x13	325	500	300	6' 10"	5' 11"	5' 6"	9' 7"	30	96x37	2800	3900	360
10	700.00	600.00	14x8	13x13	400	500	300	6' 10"	5' 11"	5' 6"	9' 10 1/2"	30	100x37	3200	4350	370

### Prices of the Monarch Horizontal Scourer with Ball Bearings

Size No. 0—With Shoe.....	\$200.00	Size No. 6—With Shoe.....	\$445.00
Without Shoe.....	175.00	Without Shoe.....	395.00
Size No. 1—With Shoe.....	225.00	Size No. 7—With Shoe.....	500.00
Without Shoe.....	200.00	Without Shoe.....	450.00
Size No. 2—With Shoe.....	250.00	Size No. 8—With Shoe.....	550.00
Without Shoe.....	225.00	Without Shoe.....	475.00
Size No. 3—With Shoe.....	280.00	Size No. 9—With Shoe.....	655.00
Without Shoe.....	250.00	Without Shoe.....	580.00
Size No. 4—With Shoe.....	340.00	Size No. 10—With Shoe.....	760.00
Without Shoe.....	300.00	Without Shoe.....	660.00
Size No. 5—With Shoe.....	390.00		
Without Shoe.....	340.00		

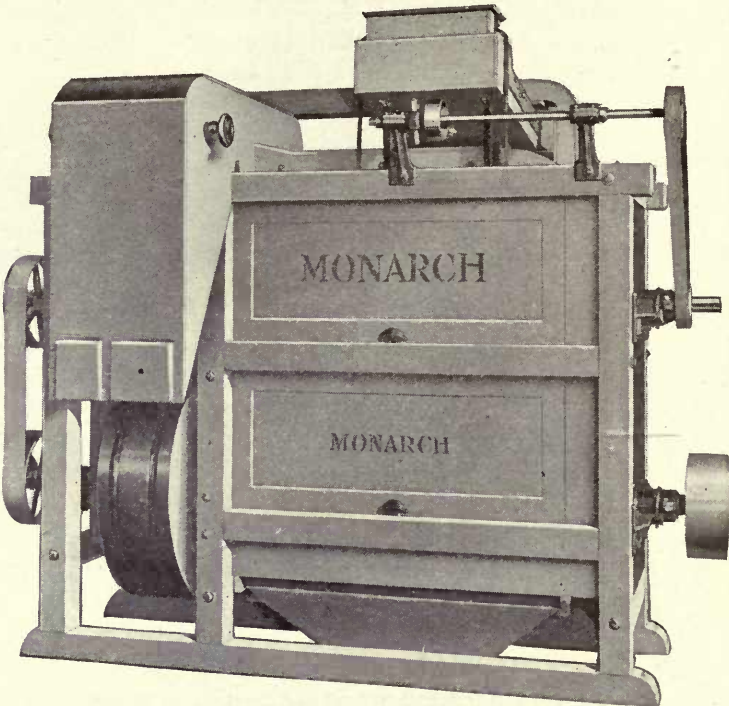
# The Monarch Horizontal Wheat Scourer

## Double Type, With or Without Shoe

The same desirable efficiency found in the Monarch Single Scourer is maintained in this machine and nothing has been overlooked, either in material or workmanship, that could add to its durability.

It is furnished either with two scouring cases, or with one scouring case and one brush case, as desired.

The shoe is counter-balanced to eliminate vibration and has a fine and a coarse screen which eliminate everything of a foreign nature before the wheat goes to the cylinder.



Style "B"

The Monarch Horizontal Wheat Scourer—Showing Double Type with Shoe

### Price, Dimensions, Weight, Volume, Etc.

Size Number	PRICE		Size of Pulley Inches	Size of Fan Opening Inches	Speed R. P. M.	Floor to Center of Bot. Shaft Inches	Floor to Center of Top Shaft Inches	OVER-ALL DIMENSIONS				Weight Pounds	BOXED FOR EXPORT	
	With Shoe	Without Shoe						Height With Shoe	Height Without Shoe	Width	Length		Weight Pounds	Volume Cu. Feet
0	\$290.00	\$265.00	10x6	8x10	700	24½	4' 0"	7' ½"	6' 3"	3' 8"	6' 2"	1000	1375	185
1	335.00	310.00	10x6	10x11	650	24½	4' 0"	7' 6"	6' 8"	4' 1"	7' 2"	1350	2075	215
2	380.00	350.00	10x6	10x11	650	24½	4' 0"	7' 6"	6' 8"	4' 1"	7' 8"	1550	2325	230
3	420.00	390.00	12x6	14x11	600	26½	4' 8½"	8' 3"	7' 5½"	4' 9"	9' 2"	2000	2900	292
4	500.00	450.00	14x6	14x11	600	26½	4' 8½"	8' 4"	7' 6"	4' 9"	9' 11½"	2200	3130	322
5	580.00	530.00	14x6½	15x12	550	28½	5' 2"	9' 0"	8' 3"	5' 1"	9' 5"	3000	4250	430
6	650.00	610.00	14x7	15x12	550	28½	5' 2"	9' 0"	8' 3"	5' 1"	9' 5"	3200	4450	430
7	750.00	675.00	14x7½	15x12	550	28½	5' 2"	9' 0"	8' 3"	5' 1"	9' 5"	3400	4650	430
8	850.00	775.00	16x6	15x12	500	30	5' 10½"	9' 8"	8' 10"	5' 9"	9' 7"	3800	5250	532
9	950.00	885.00	16x7	16x13	500	30	5' 10½"	9' 8"	8' 10"	5' 9"	9' 11"	4000	5500	550

### Prices of the Monarch Double Scourer with Ball Bearings

Size No. 0—With Shoe.....	\$340.00	Size No. 5—With Shoe.....	\$660.00
Without Shoe.....	315.00	Without Shoe.....	610.00
Size No. 1—With Shoe.....	385.00	Size No. 6—With Shoe.....	740.00
Without Shoe.....	360.00	Without Shoe.....	700.00
Size No. 2—With Shoe.....	430.00	Size No. 7—With Shoe.....	850.00
Without Shoe.....	400.00	Without Shoe.....	775.00
Size No. 3—With Shoe.....	480.00	Size No. 8—With Shoe.....	950.00
Without Shoe.....	450.00	Without Shoe.....	875.00
Size No. 4—With Shoe.....	580.00	Size No. 9—With Shoe.....	1060.00
Without Shoe.....	530.00	Without Shoe.....	995.00



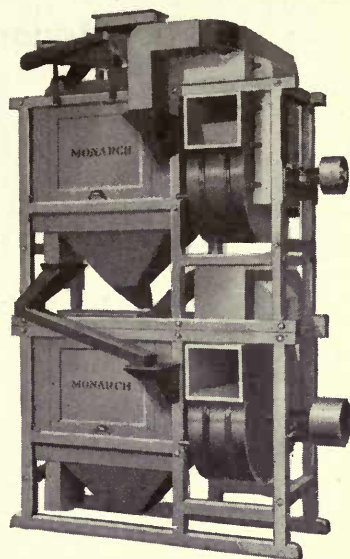
# The Monarch Two High Horizontal Close Scouring and Sepa- rating Machine

## Style "AA"—Built in Ten Sizes

The Monarch Two Pair High, a type of scourer which is rapidly growing in popularity, is a well built machine and special care has been taken to make it durable.

Each of the two scouring cylinders is provided with a fan, ample ventilation and air separations have been provided and nothing has been omitted from either the design or construction which would promote efficiency.

The advantage of having a machine which will give two complete scourings while occupying the small floor space of one machine, can readily be appreciated.



Style "AA"—The Monarch Two High Horizontal Close Scouring and Separating Machine

### Price, Dimensions, Etc.

Size Number	Price With Shoe	Price Without Shoe	OVER-ALL DIMENSIONS			Floor Space Occupied Inches	Floor to Center of Pulley on Lower Machine, Inches
			Extreme Height With Shoe	Extreme Length	Extreme Width		
0	\$ 325.00	\$300.00	11' 0"	6' 0"	3' 8"	57 x 21½	23
1	375.00	350.00	11' 11"	6' 10¾"	4' 1¼"	68 x 24	26
2	425.00	400.00	11' 11"	8' 2"	4' 1¼"	74 x 24	26
3	470.00	440.00	12' 4"	8' 11"	4' 9"	87 x 29½	25⅞
4	560.00	520.00	12' 4"	9' 10"	4' 9"	100 x 29½	25⅞
5	650.00	600.00	13' 3"	8' 11"	5' 1"	87 x 33	28
6	750.00	700.00	13' 3"	9' 5"	5' 1"	95 x 33	28
7	850.00	800.00	13' 3"	9' 10"	5' 1"	100 x 33	28
8	925.00	850.00	14' 3"	8' 11"	5' 6"	87 x 37	30
9	1000.00	925.00	14' 3"	9' 7"	5' 6"	96 x 37	30

### Speed, Capacity, Weight, Etc.

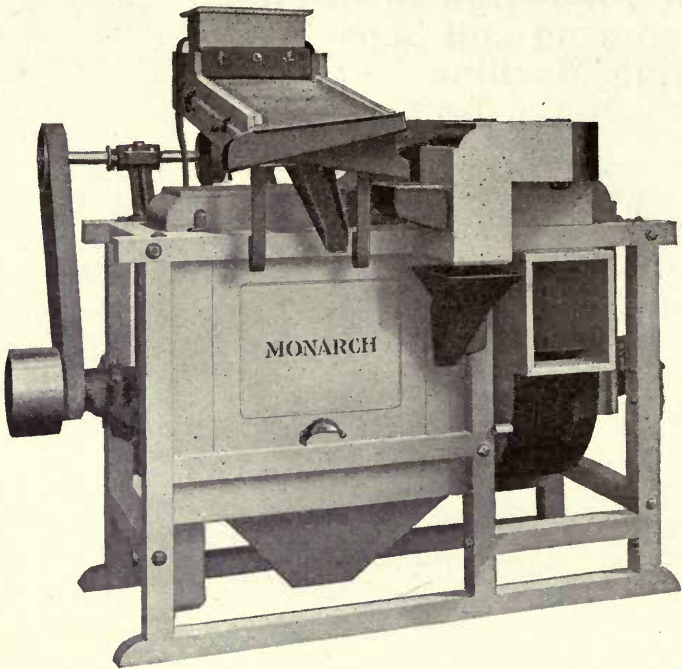
Size Number	Size of Drive Pulley Inches	Speed R. P. M.	INSIDE MEASURE OF DUST SPOUT		Capacity Bushels Per Hour	Net Weight Pounds
			Fan Opening Deep Inches	Fan Opening Wide Inches		
0	8 x 5	700	8	10	20	1280
1	9 x 6	650	10	11	30	1400
2	10 x 6	650	10	11	45	1900
3	10 x 6	600	11	11	60	2200
4	12 x 6	600	11	11	80	2500
5	14 x 7	600	11	11	100	3000
6	14 x 7	550	12	12	150	3600
7	14 x 7	550	12	12	200	4400
8	16 x 7	550	12	12	250	4800
9	16 x 8	500	13	13	325	5600

For Gross Export Weights and Volumes, Double Figures given for same size numbers of One High Scouring and Separating Machines on page 107.

### Prices of the Monarch Two High Scourer with Ball Bearings

Size No. 0—With Shoe.....	\$375.00	Size No. 5—With Shoe.....	\$ 730.00
Without Shoe.....	350.00	Without Shoe.....	680.00
Size No. 1—With Shoe.....	425.00	Size No. 6—With Shoe.....	840.00
Without Shoe.....	400.00	Without Shoe.....	790.00
Size No. 2—With Shoe.....	475.00	Size No. 7—With Shoe.....	950.00
Without Shoe.....	450.00	Without Shoe.....	900.00
Size No. 3—With Shoe.....	530.00	Size No. 8—With Shoe.....	1025.00
Without Shoe.....	500.00	Without Shoe.....	950.00
Size No. 4—With Shoe.....	640.00	Size No. 9—With Shoe.....	1110.00
Without Shoe.....	600.00	Without Shoe.....	1035.00

The Monarch Horizontal Brush Machine



Style "C"  
The Monarch Horizontal Brush Machine

We have absolute confidence in this machine as a complete and efficient finisher for wheat before grinding. It cleans and aspirates the grain in a perfect manner and removes not only the grease dirt, but all smut balls, screenings, dust and other impurities.

The same first-class materials and construction will be found in this machine as in all others of the Monarch Line.

Size, Price, Dimensions and Weight

Size Number	PRICE		Size of Driving Pulley Inches	Size of Fan Opening Inches	Capacity Per Hour Bush.	Speed R.P. M.	OVER-ALL DIMENSIONS				Floor to Center of Driving Pulley, Inches	Size on Floor Inches	Weight Pounds	BOXED FOR EXPORT	
	With Shoe	Without Shoe					Height With Shoe	Height Without Shoe	Width	Length				Weight Pounds	Volume Cu. Feet
0	\$175.00	\$150.00	8x4	8x10	20	700	5' 0"	4' 6"	3' 8"	6' 0"	23	57x21 1/2	640	1031	122
1	200.00	175.00	8x5	10x11	30	650	5' 8"	4' 9"	4' 1 1/4"	6' 10 3/4"	26	68x24	700	1177	163
2	225.00	200.00	8x6	10x11	45	650	5' 8"	4' 9"	4' 1 1/4"	8' 2"	26	74x24	950	1453	174
3	250.00	220.00	10x6	11x11	60	600	5' 10"	5' 0"	4' 9"	8' 11"	25 1/2	87x29 1/2	1100	1637	194
4	300.00	260.00	12x6	11x11	80	600	5' 10"	5' 0"	4' 9"	9' 10"	25 1/2	100x29 1/2	1250	1841	221
5	350.00	300.00	12x7	11x11	100	550	6' 4"	5' 5"	5' 1"	8' 11"	28	87x33	1500	2450	288
6	400.00	350.00	12x7	12x12	150	550	6' 4"	5' 5"	5' 1"	9' 5"	28	95x33	1800	2780	303
7	450.00	400.00	14x6 1/2	12x12	200	550	6' 4"	5' 5"	5' 1"	9' 10"	28	100x33	2200	3200	316
8	500.00	425.00	14x7	12x12	250	550	6' 10"	5' 11"	5' 6"	8' 11"	30	87x37	2400	3450	336

Prices of Brush Machines with Ball Bearings

Size No. 0—With Shoe.....	\$200.00	Size No. 5—With Shoe.....	\$390.00
Without Shoe.....	175.00	Without Shoe.....	340.00
Size No. 1—With Shoe.....	225.00	Size No. 6—With Shoe.....	445.00
Without Shoe.....	200.00	Without Shoe.....	395.00
Size No. 2—With Shoe.....	250.00	Size No. 7—With Shoe.....	500.00
Without Shoe.....	225.00	Without Shoe.....	450.00
Size No. 3—With Shoe.....	280.00	Size No. 8—With Shoe.....	550.00
Without Shoe.....	250.00	Without Shoe.....	475.00
Size No. 4—With Shoe.....	340.00		
Without Shoe.....	300.00		



## Standard Iron Prince Scourers

### Price, Dimensions, Capacity, Weight, Volume, Etc.

Size Number	Price	Capacity Bushels Per Hour	Extreme Height	Height to Grain Entrance	Diameter of Base	Projection of Outlet Beyond Base, In.	Projection of Inlet Beyond Base, In.	Size of Fan Opening Inches	Height to Center of Pulley Inches	Size of Pulley Inches	Speed R. P. M.	Weight Pounds	BOXED FOR EXPORT	
													Weight Pounds	Volume Cubic Feet
0	\$160.00	10 to 15	6' 10"	5' 7"	2' 10"	7½	8½	9x14	15½	11x 5	650 to 700	1400	1724	96
1	190.00	15 to 25	8' 3"	7' 0"	2' 10"	7½	8½	9x14	15½	12x 5	650 to 700	1700	2132	115
2	215.00	30 to 50	8' 3"	7' 0"	3' 1"	9	10	10x14	15½	16x 6	580 to 620	2000	2432	131
2½	285.00	40 to 65	8' 6"	7' 6"	3' 7"	8	10	11x14	16	18x 6	510 to 550	2300	2804	178
3	340.00	80 to 100	9' 0"	7' 3"	3' 11"	8	11	13x14	17	20x 6	480 to 530	2900	3476	208
3½	410.00	100 to 140	9' 1"	7' 9"	4' 1"	8½	11½	13x16	17½	22x 7	420 to 460	3500	4076	225
4	470.00	160 to 200	9' 3"	7' 9"	4' 3"	9	12	14x17	18½	24x 8	400 to 440	3900	4512	247
5	600.00	250 to 280	9' 9"	8' 4"	4' 11"	9½	13	15x17	19½	28x10	350 to 375	5400	6192	333

## Iron Prince Scourers With Independent Fans

### Price, Dimensions, Capacity, Weight, Volume, Etc.

Size Number	Price Including Fan	Capacity Bushels Per Hour	Extreme Height	Height to Grain Entrance	Square Ft. Collector Cloth Required	Height to Center of Pulley Inches	Size of Pulley Inches	Speed R. P. M.	Size of Indep't Fan Inches	Speed of Fan R. P. M.	Weight Pounds	BOXED FOR EXPORT	
												Weight Pounds	Volume Cubic Feet
1	\$210.00	15 to 25	7' 0"	7' 0"	385	15½	12x 5	650 to 700	30	1400 to 1600	1800	2124	99
2	235.00	30 to 50	7' 0"	7' 0"	465	15½	16x 6	580 to 620	30	1500 to 1800	2300	2660	112
2½	305.00	40 to 65	7' 6"	7' 6"	550	16	18x 6	510 to 550	35	1000 to 1200	2800	3268	158
3	360.00	80 to 100	7' 3"	7' 3"	640	17	20x 6	480 to 530	35	1200 to 1400	3000	3468	171
3½	430.00	100 to 140	7' 9"	7' 9"	740	17½	22x 7	420 to 460	35	1400 to 1700	3300	3840	195
4	495.00	160 to 200	7' 9"	7' 9"	865	18½	24x 8	400 to 440	40	1200 to 1400	4000	4540	208
5	625.00	250 to 280	8' 4"	8' 4"	1015	19½	28x10	350 to 375	40	1400 to 1600	5100	5784	286
6	800.00	300 to 350	9' 6"	9' 6"	1190	22	34x10	300 to 320	45	1200 to 1400	6900	7836	459
7	1000.00	400 to 500	10' 0"	10' 0"	1475	30	36x12	270 to 285	50	1200 to 1300	8850	9858	506

## The Double Tightener

The Double Tightener is used when driving the Iron Prince Scourer from a horizontal shaft located either above or below the scourer. It is made with large pulleys and bearings of ample diameter and length.

Tightener No.	Length and Width Over All, Inches	Pulleys Inches	Weight Pounds	Price
0	29 x 21	8 and 10 x 5½	200	\$24.00
1	29 x 21	8 and 10 x 6½	200	26.00
2	32 x 26	10 and 12 x 6½	250	28.00
2½	32 x 26	10 and 12 x 7½	275	30.00
3	34 x 28	12 and 14 x 7½	375	32.00
3½	41 x 28	14 and 16 x 8½	400	34.00
4	43 x 28	16 and 18 x 8½	500	36.00
5	49 x 30	18 and 20 x 11½	550	42.00
6	54 x 35	20 and 23 x 11½	675	48.00
7	56 x 35	22 and 25 x 12½	725	52.00

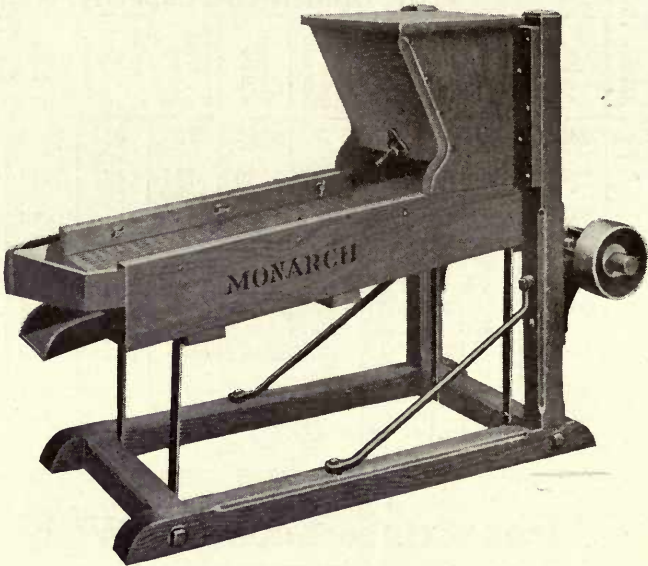
NOTE—The number or size of tightener corresponds with number of scourer.

The Monarch Scalping Shoe with Feeding Device

The Style "A" machine was designed for scalping shelled corn and other grain. It is provided with a sand screen which separates this as well as any other undesirable materials from the grain.

The machine is also supplied with feeding device which causes the grain to be evenly distributed over the surface of the screen.

This machine will be found a very efficient medium for removing foreign substances from grain before grinding.

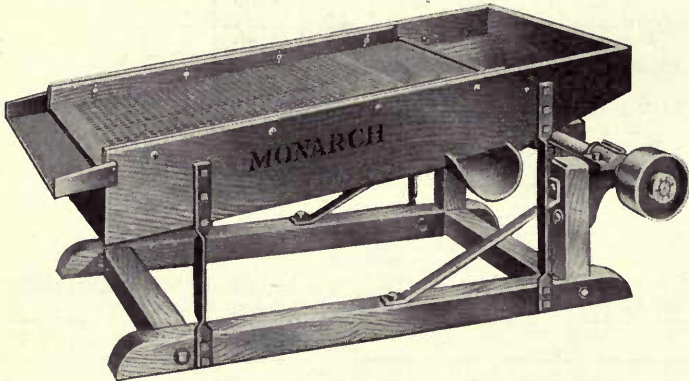


Style "A"  
The Monarch Scalping Shoe with Feeding Device

Price, Dimensions, Weight, Volume, Etc.

Size Number	Price	Height Inches	Length Inches	Width Inches	Sieve Inches	Size of Pulley Inches	Speed R. P. M.	Shipping Weight Pounds	Boxed for Export	
									Weight Pounds	Volume Cu. Ft.
0	\$40.00	36	50	26	32 x12	6 x 2	600	130	330	28
1	45.00	39	59	38	38½x24	6 x 3	550	190	490	50
2	50.00	44	72	48	50½x34	8 x 3	550	240	640	88

The Monarch Scalping Shoe



Style "B"  
The Monarch Scalping Shoe

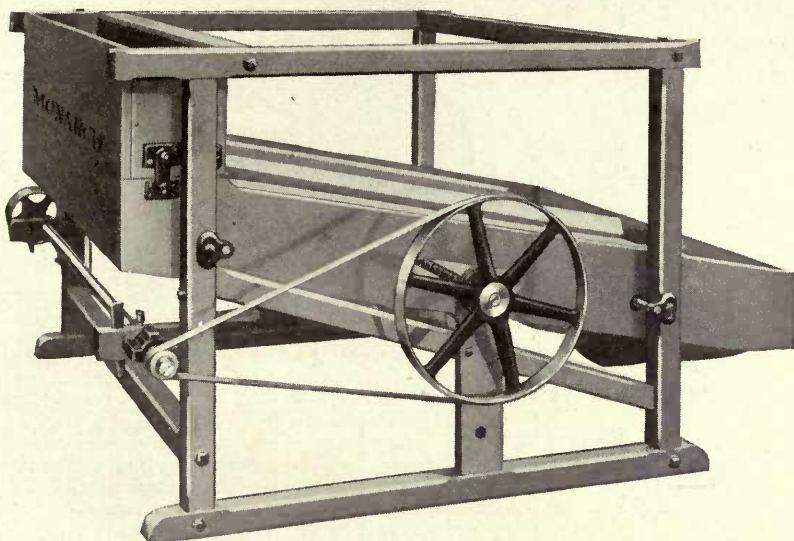
Price, Dimensions, Weight, Volume, Etc.

Size No.	Price	Height Inches	Length Inches	Width Inches	Sieve Inches	Size of Pulley Inches	Speed R. P. M.	Shipping Weight Pounds	Box'd for Export	
									Weight Lbs.	Volume Cu. Ft.
1	\$30.00	25	59	35½	8½ x 24 and 24 x 30	6 x 3	550	80	200	24
2	40.00	30	72	45½	8½ x 34 and 34 x 42	8 x 3	550	135	335	47
3	50.00	32	80	51½	10 x 42 and 42 x 48	8 x 4	550	200	600	75

This is a very valuable agent for removing sand and other undesirable materials from shelled corn, and may also be used for bolting corn meal. The sieves are furnished with any size perforations desired and can be changed without trouble or delay.

The machine is inexpensive, efficient and carefully constructed throughout.





## The Monarch Single Sieve Scalping Shoe

A very well built and useful machine at a moderate cost. Particularly useful in scalping or grading corn goods, but adapted to handling grain, cereals, seeds, etc.

It requires no attention, very little power to operate and is positive and efficient in its action.

We will furnish this shoe with or without fan and with or without sieve cleaning device, as desired.

Style "C"—The Monarch Single Sieve Scalping Shoe

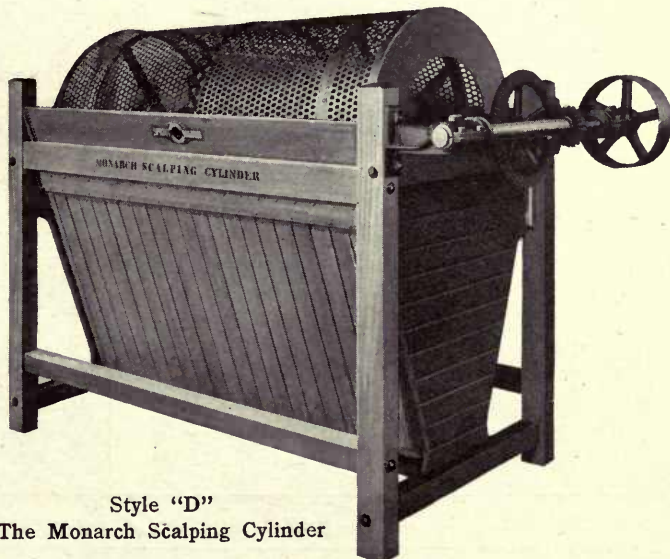
### Price, Dimensions, Weight, Volume, Etc.

Size No.	PRICE		Additional Price with Fan	OVER-ALL DIMENSIONS			Size of Sieve Inches	Speed R. P. M.	Size of Driving Pulley Inches	Shipping Weight Pounds	BOXED FOR EXPORT	
	With Cleaning Device	Without Cleaning Device		Height Inches	Length Inches	Width Inches					Weight Lbs.	Volume Cu. Ft.
1	\$125.00	\$ 90.00	\$45.00	46	80	54	72 x 36	500	7 x 3	450	1000	115
2	175.00	135.00	50.00	46	80	66	72 x 48	500	7 x 3½	500	1100	141
3	220.00	180.00	50.00	46	80	78	72 x 60	500	7 x 4	550	1200	167

## The Monarch Scalping Cylinder

The illustration shows a very convenient machine for use in feed milling plants; a rough cleaner which is preferable in many ways to the ordinary feed screen. It can be installed either on or below the floor and gives very good results in removing chaff, silk, husks and pieces of cob from the corn before it is sent to the grinding machinery.

We recommend this scalper, not only in respect to the quality of the work performed by it, but also as being a well built and serviceable machine with an almost unwearable cylinder of perforated sheet steel and iron spiders and hoops. It requires no attention except occasional lubrication and requires a very insignificant amount of power.



Style "D"

The Monarch Scalping Cylinder

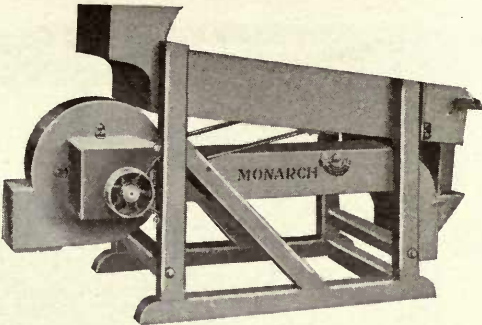
### Price, Dimensions, Weight, Volume, Etc.

Size Number.....	2	Size of Cylinder—Diameter.....	30"
Price—Cylinder with Frame and Counter-shaft Drive.....	\$140.00	Length.....	60"
Cylinder Without Frame and Countershaft Drive.....	100.00	Floor to Center of Shaft.....	45¾"
Extreme Height.....	60"	Size of Pulley.....	12x4"
Extreme Width.....	44"	Speed of Countershaft, R. P. M.....	75
Extreme Length.....	89"	Speed of Cylinder, R. P. M.....	25
Size on Floor.....	37½x71"	Shipping Weight.....	600 lbs.
		Boxed for Export—Weight.....	1175 lbs.
		Volume.....	136 cu. ft.

Price for other sizes furnished on application.

# The Monarch Grader and Separator

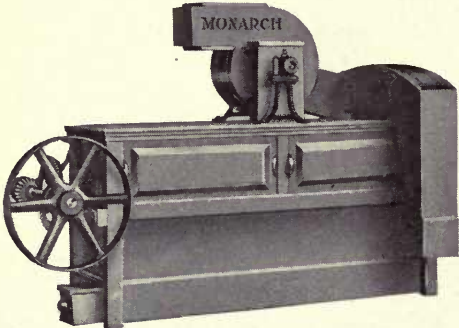
This is a most desirable type of machine for handling poultry food, cracked corn, etc. It is Monarch built throughout and the interchangeable sieves make it adaptable for a variety of purposes.



Style "K"  
The Monarch Grader and Separator

## Price, Dimensions, Weight, Volume, Etc.

Size Number	Price	Extreme Height Inches	Extreme Width Inches	Extreme Length Inches	Size on Floor Inches	Floor to Center of Shaft Inches	Size Pulley Inches	Speed R. P. M.	Shipping Weight Pounds	BOXED FOR EXPORT	
										Weight Pounds	Volume Cubic Feet
1	\$125.00	39	38	59	29 x 41 1/2	12 1/2	6 x 2 1/2	600	325	810	68
2	150.00	39	40	65	30 x 47 1/2	12 1/2	6 x 3	600	400	950	84
3	175.00	39	45	71	35 1/2 x 53 1/2	12 1/2	8 x 3	600	475	1100	100



The Monarch Improved Rolling Screen

# The Monarch Improved Rolling Screen

On its way to the rolls, clean grain will accumulate more or less dust from spouts, conveyors, etc. The Rolling Screen is indispensable in removing this and preventing it from getting into the flour.

The Monarch has a large fan, perfect ventilation and an effective air separation. The case or screen is made of steel in removable sections. A conveyor running the full length of the machine underneath takes care of the dirt removed.

## Size, Price, Speed, Capacity, Etc.

Size Number	Price	Size of Cylinder Inches	Height to Feed Spout	Height Center of Fan Shaft	Speed R. P. M.	Size of Pulley Inches	Capacity Per Hour Bushels
0	\$175.00	22 x 40	3' 7"	5' 1"	500	8 x 3	30
1	200.00	22 x 50	3' 7"	5' 3"	500	8 x 3	45
2	220.00	22 x 56	3' 7"	5' 5"	500	8 x 3	60
3	260.00	26 x 56	3' 9"	5' 11"	500	8 x 4	80
4	300.00	30 x 56	4' 1"	6' 1 1/2"	500	8 x 4	100
5	350.00	34 x 56	4' 5"	6' 6"	500	10 x 4	150
6	450.00	38 x 56	4' 8"	7' 1"	500	10 x 4	250
7	575.00	42 x 56	5' 3"	8' 0"	500	12 x 4	350
8	750.00	46 x 56	5' 4"	8' 4"	500	12 x 4	450

## Dimensions, Weight, Volume, Etc.

Size Number	Length	Height	Size on Floor	Weight Pounds	BOXED FOR EXPORT	
					Weight Pounds	Volume Cubic Feet
0	5' 9"	6' 8"	4' 8" x 2' 5"	600	890	93
1	7' 2"	6' 8"	6' 2" x 2' 5"	750	1100	116
2	7' 1"	6' 5"	6' 2" x 2' 2"	800	1115	99
3	7' 1"	7' 0"	6' 2" x 2' 9"	900	1280	137
4	7' 4"	7' 8"	6' 3" x 3' 3"	1250	1695	183
5	7' 5"	8' 9"	6' 4" x 3' 3"	1400	1900	211
6	7' 5"	9' 5"	6' 4" x 3' 11"	1700	2275	274
7	7' 5"	9' 11"	6' 11" x 4' 3"	1900	2525	313
8	7' 5"	10' 2"	6' 11" x 4' 7"	2100	2770	346



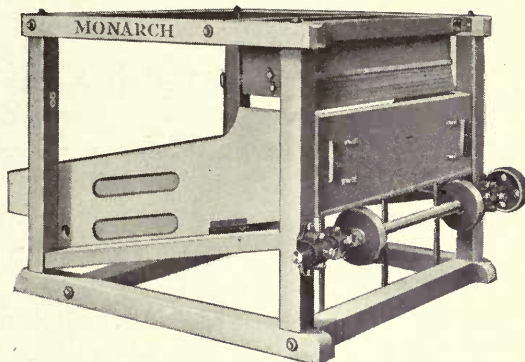
# The Monarch Receiving and Scalping Shoe

The Monarch Receiving and Scalping Shoe, here illustrated, is a strong, heavily built machine, designed for use where large capacity or continuous hard service makes extraordinary durability desirable.

The quantity of feed is controlled by a valve in the feed hopper and uniform delivery of the grain to the upper sieve is obtained by the action of the non-chokable vibratory feeder.

Best grade steel is used in the eccentric shaft which is of large diameter and carefully turned to the requisite size. The counterbalance wheels on this shaft are accurately placed to prevent any vibration by the eccentrics which are brass lined, adjustable and lubricated through compression oil cups.

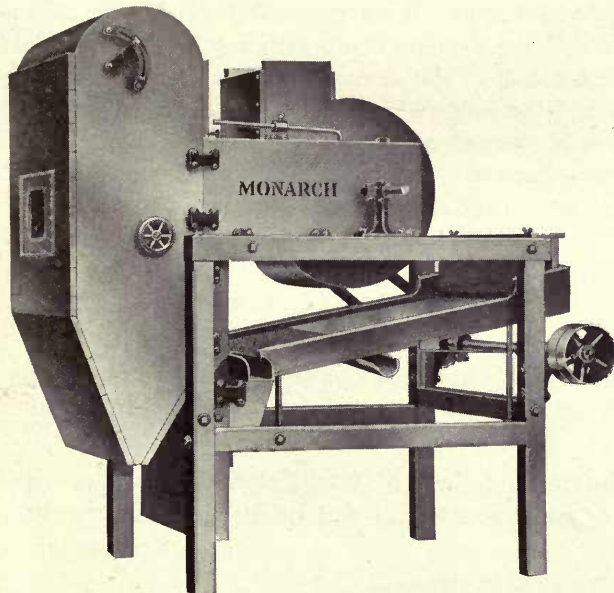
The shoe is constructed so as to permit the equipment of either top or bottom sieve with traveling brush cleaners at any time. All sieves are interchangeable, thus giving the machine a wide range of utility. When so desired and ordered, we will build the Monarch with aspirating leg and fan, quoting prices for this construction on application.



The Monarch Receiving and Scalping Shoe

## Prices, Dimensions, Weights, Speed and Volume

Size No.	PRICES			Extreme Dimensions			Floor Space Inches	Height to Center of Driving Pulley	Height to Where Grain Enters	Speed R. P. M.	Size Driving Pulley Inches	CAPACITY BUSHELS PER HOUR				Weight Pounds	BOXED FOR EXPORT	
	Without Brushes	With Brush Under Cockle Screen	With Brush Under Main and Cockle Sc.	Height	Length	Width						Wheat	Wheat	Corn and Oats	Weight Lbs.		Vol. Cubic Feet	
20	\$110.00	\$132.00	\$154.00	3' 8"	5' 1"	3' 9"	38x57	1' 0"	3' 8"	600	5x3 1/2	60	200	150	400	760	70	
21	150.00	180.00	210.00	4' 1"	5' 10"	4' 9"	50x65	1' 4"	4' 1"	600	6x3 1/2	180	600	450	650	1150	113	
22	190.00	228.00	266.00	4' 7"	6' 7"	5' 7"	61x75	1' 8"	4' 7"	600	6x3 1/2	450	1500	1200	900	1550	169	
23	250.00	300.00	350.00	4' 8"	7' 8"	6' 9"	72x81	2' 0"	4' 8"	600	10x3 1/2	750	2500	2000	1300	2150	242	
24	285.00	340.00	399.00	5' 0"	9' 0"	7' 10"	85x98	2' 2"	5' 0"	600	10x3 1/2	900	3000	2500	1500	2590	353	



The Monarch Buckwheat Gravel Separator

# The Monarch Buckwheat Gravel Separator

By using the Monarch Buckwheat Gravel Separator, every substance can be removed from the buckwheat that would be detrimental to the quality of the flour. When it is used in conjunction with a scourer the use of a shoe on the latter is unnecessary and the two machines in combination make a perfect apparatus for cleaning, scouring and polishing the grain.

The Separator is easy to operate and by making a slight change in the speed and the strength of the air current it may be used as a wheat stoner. It has always given satisfaction both as to construction and durability and the quality of its product.

## Prices, Dimensions, Capacities, Weights, Volumes, Etc.

Size No.	Price	Floor to Center Drive Shaft, In.	Size of Fan Opening Inches	Speed of Fan R.P.M.	Size of Pulley Inches	Capac'y Per Hour Bushels	OVER-ALL DIMENSIONS			Size on Floor Inches	Weight Pounds	BOXED FOR EXPORT	
							Height Inches	Width Inches	Length Inches			Weight Lbs.	Volume Cu.Ft.
1	\$150.00	15	8 x 8 1/2	600	7 x 4	50	52 1/2	37	56	49 x 27	440	670	62
2	200.00	15	8 x 13	600	8 x 4	100	52 1/2	48	56	49 x 38	600	860	71
3	250.00	15	8 x 18 1/2	600	8 x 5	200	52 1/2	60	56	49 x 49	720	1020	103

## The Monarch Cracked Corn Separators

FOR several years there has been an increasing demand for clean, uniform, marketable grades of cracked corn, a commodity which, until a comparatively short time ago, was used just as it came from the burr or rolls, without any attempt being made to remove the uncracked kernels, meal or bran from it.

In undertaking to provide a machine for cleaning, separating and grading, we found that these operations combined, presented many more complications than are entailed in any grain cleaning process and that it would be necessary to design and construct a machine expressly for the purpose. This we did, and the Monarch Cracked Corn Separators described and illustrated on the following pages—machines which are widely and well known and deservedly popular with the trade—are witnesses to the fact that our work was well done.

While there are minor differences in the construction of the various separators listed and while each model is offered in both wood and iron construction, operation is practically the same throughout the entire line and results are identical, each machine producing three distinct grades of clean cracked corn, making a scalping of foreign materials and a tailing of bran and one of meal. This operation is briefly described as follows:

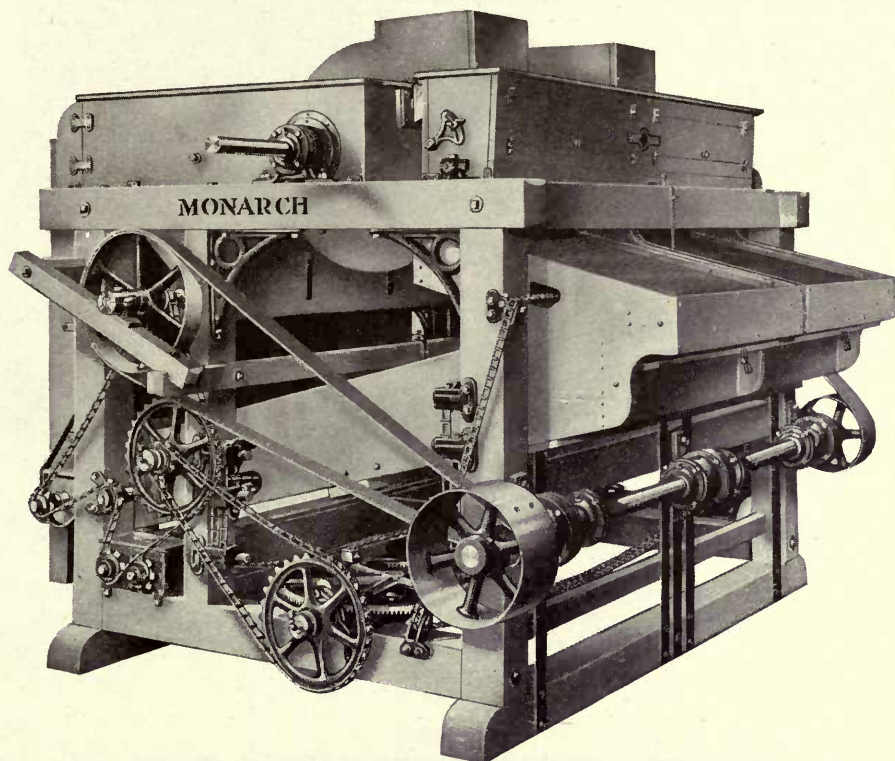
In entering the machine through the regulating feed box, the cracked corn is exposed to a powerful air suction which removes all dust from it and thus makes subsequent operations free from what would otherwise be a decided nuisance. A corrugated roll distributes it in a thin even stream over the full surface of a scalping sieve and here the gross foreign materials and uncracked kernels are removed. The top half of the sieve over which the product next passes, takes out the grits and fine meal and the bottom part removes the second grade of cracked corn. The coarse cracked corn tails through a strong air suction and is carried off and discharged from the machine by means of a conveyor. The first part of the second or lower sieve separates the meal from the grits and the second part takes out the third grade of cracked corn, allowing the second grade to tail over into an air leg. The third and last grade of cracked corn is carried by means of a conveyor, to the side of the machine, where it is discharged. The meal which is separated by these operations is carried off by a conveyor in the same manner.

The details of construction, which, as we have previously stated, differ to some extent, will be found in the following pages, accompanying the illustration and data concerning each individual machine.

We invite a careful perusal of descriptions and study of data, feeling that we have provided for every requirement for the successful, economical and profitable separating and grading of cracked corn.



# The Monarch Cracked Corn Separator and Grader With Two Fans



Style "A"

## The Monarch Cracked Corn Separator and Grader—Two Fans

Every point in the construction of the separator shown in the illustration aids in making it both durable and efficient.

We build this machine in three sizes, equipped with two shoes working side by side, which by their reciprocating motion and even weight form a perfect counterbalance. Shake eccentrics are ball bearing and sieves are automatically cleaned by the Automatic Traveling Brush Screen Cleaning Device. Ample screen surface, coupled with the action of two fans, aids in the production of absolutely clean and uniform grades.

### Prices and Dimensions

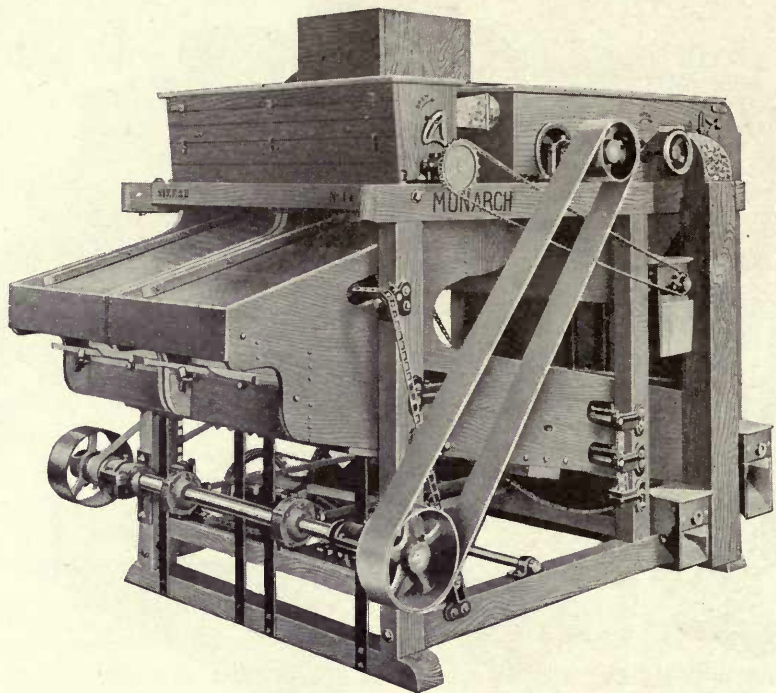
Size Number	PRICE		Extreme Height	Extreme Length	Extreme Width	Size on Floor Inches	Height to Center of Driving Pulley Inches	Height to Where Grain Enters
	With Ball Bearing Eccentric	With Ball Bearings on Fan and Drive Shafts						
11	\$ 900.00	\$ 970.00	6' 11"	7' 11"	9' 1"	106½ x 66	24½	6' 4"
13	1000.00	1080.00	6' 11"	7' 11"	10' 1"	116½ x 66	24½	6' 4"
15	1100.00	1180.00	6' 11"	7' 11"	10' 7"	122½ x 66	24½	6' 4"

### Dimensions, Capacity and Weights

Size Number	Size of Driving Pulley Inches	Inside Measure of Dust Spout Fan Opening		Motion of Shaker Shaft R. P. M.	Motion of Fan Shaft R. P. M.	Capacity Bushels Per Hour	Shipping Weight Pounds	BOXED FOR EXPORT	
		Depth Inches	Width Inches					Weight Pounds	Volume Cu. Feet
11	14 x 7½	14	12	500	825	210	3800	5150	497
13	14 x 7½	14	14	500	825	275	4200	5650	552
15	16 x 7½	14	15	500	825	300	4500	6000	580

# The Monarch Cracked Corn Separator and Grader

## With One Fan



Style "B"  
The Monarch Cracked Corn Separator and Grader—One Fan

We devoted years of study and experiment to the perfection of the machine illustrated herewith and it has justified our efforts by attaining great popularity through its accurate results and long wearing qualities.

It differs slightly from the separator described on the preceding page, inasmuch as it has but the one fan. Screens are made of the best grade of sheet steel, accurately perforated for best results and automatically cleaned by the bevel gear-driven brush attachment. Opposite eccentrics operate the two parallel shoes with a compensating motion which prevents vibration, and ball bearings in shake eccentrics make the Monarch light running and noiseless.

The four sizes present a range of selection which covers every requirement. Machines will be equipped with ball bearings on the driving and fan shafts when so ordered.

### Prices and Dimensions

Size No.	PRICE		Extreme Height	Extreme Length	Extreme Width	Size on Floor Inches	Height to Center of Driving Pulley Inches	Height to Where Grain Enters
	With Ball Bearing Eccentric	With Ball Bearings on Fan and Drive Shafts						
3	\$360.00	\$410.00	6' 1"	7' 6"	5' 5"	54 x 61½	18	5' 6½"
5	450.00	510.00	6' 3¼"	7' 7"	6' ½"	60 x 63½	19½	5' 7½"
7	575.00	630.00	6' 3¼"	7' 7"	7' 1"	73 x 63½	19½	5' 7½"
9	800.00	870.00	6' 10¾"	7' 11"	8' 0"	88½ x 66	20½	6' 2"

### Dimensions, Capacity and Weights

Size No.	Size of Driving Pulley Inches	Inside Measure of Dust Spout Fan Opening		Motion of Shaker Shaft R. P. M.	Motion of Fan Shaft R. P. M.	Capacity Bushels Per Hour	Shipping Weight Pounds	BOXED FOR EXPORT	
		Depth Inches	Width Inches					Weight Pounds	Volume Cubic Feet
3	8 x 5	14	14	550	785	60	1350	2200	248
5	8 x 5	14	14	550	785	90	1485	2405	288
7	8 x 6	14	18	550	785	120	2200	3250	335
9	12 x 6	14	22	550	750	185	2900	4150	438



## The Monarch Cracked Corn Sepa- rator and Grader With One Fan

Illustration shows a separator which is very often preferred on account of its occupying less floor space by reason of one shoe being placed above the other. These shoes are each driven by two eccentrics, the pairs working in opposite directions, the throw of one reciprocating for that of the other and thus avoiding the transmission of vibration to the machine.

Eccentrics are ball bearing, screens are automatically cleaned as noted in previous descriptions and the single fan provides ample and efficient aspiration.

The two sizes have capacities which will meet the requirements of the small mill. If so desired, we will build this style of separator equipped with ball bearings on the fan and driving shafts.

Style "C"

The Monarch Cracked Corn Separator and Grader—One Fan

### Price, Dimensions, Capacity, Etc.

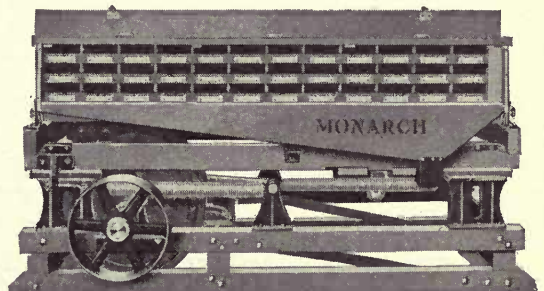
Size Number	PRICE		Ex- treme Height	Ex- treme Length	Ex- treme Width	Size on Floor Inches	Height to Cen. Driving Pulley, In.	Height to Where Grain Enters	Size of Driving Pulley, In.	Inside Measure of Dust Spouts Fan Opening		Motion of Shaker Shaft R. P. M.	Motion of Fan Shaft R. P. M.	Capacity Bushels Per Hour	Shipping Weight Pounds	BOXED FOR EXPORT	
	With Ball Bearing Eccentric	With Ball Bearings on Fan and Drive Shafts								Dpth. In.	Width In.					Weight Pounds	Volume Cu. Ft.
1	\$200.00	\$250.00	5' 7 1/2"	5' 10"	3' 10"	38x51	14 3/4"	4' 10 1/2"	7x4	11	11 1/4"	550	785	40	900	1450	126
2	250.00	300.00	5' 7 1/2"	5' 10"	4' 4"	44x51	14 3/4"	4' 10 1/2"	7x4	11	11 1/4"	550	785	50	990	1590	143

## The Monarch Garlic Separator

This machine is guaranteed to remove 95 to 98 per cent of the garlic contained in the wheat. Any miller who is troubled with garlic in either his home wheat or foreign wheat will find this machine of great value. It decreases the cost of milling and removes the loss of trade resulting from flour tainted with garlic.

This machine will also remove stones from wheat, weevil-eaten wheat from good wheat, adobe from wheat, groats from unhulled oats, unhulled rice from hulled rice and can be used for numerous other purposes.

A variable-speed countershaft drive is furnished with each machine. By means of two chains hanging from the countershaft the speed can be varied or the machine started or stopped. The machine is also equipped with a device for quickly changing the pitch of the table so as to get the exact results desired.

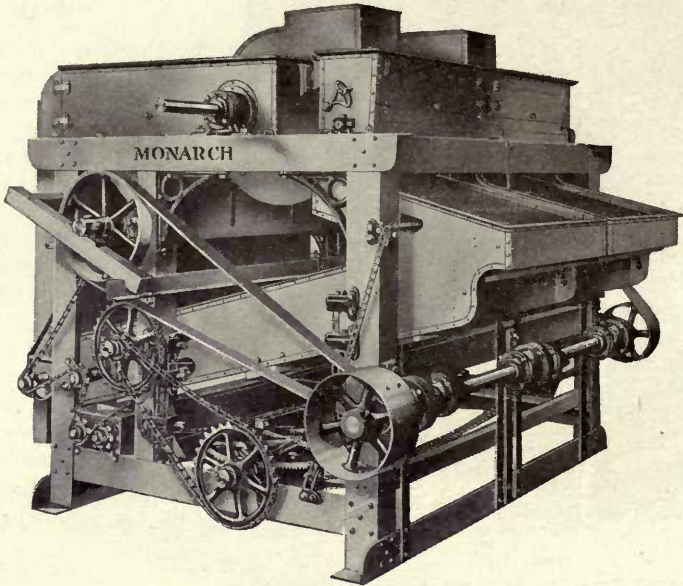


The Monarch Garlic Separator

### Price, Dimensions, Capacity, Etc.

Compartment	Price	Decks	Capacity Bushels Per Hour	OVER-ALL DIMENSIONS			Speed Driving Pulley R. P. M.	Size of Driving Pulley Inches	Size Drive Pulley on Variable Speed Counter- shaft, In.	Speed of Counter- shaft R. P. M.	Weight Pounds
				Height	Length	Width					
12	\$325.00	2	15-18	3' 8 7/8"	7' 9 3/4"	5' 1 1/2"	90-110	18 x 5 1/2	10 x 5 1/2	200	2500
18	350.00	3	18-25	4' 0 5/8"	7' 9 3/4"	5' 1 1/2"	90-110	18 x 5 1/2	10 x 5 1/2	200	3000
24	400.00	2	30-35	4' 3 1/4"	8' 6 1/2"	5' 9"	90-110	18 x 5 1/2	10 x 5 1/2	200	3500
36	500.00	3	40-50	4' 7"	8' 6 1/2"	5' 9"	90-110	18 x 5 1/2	10 x 5 1/2	200	4000
51	600.00	3	60-70	4' 7"	11' 4"	5' 9"	90-110	18 x 5 1/2	10 x 5 1/2	200	4500

The Monarch All-Steel Cracked Corn Separator and Grader  
With Two Fans



Style "D"

The Monarch All-Steel Cracked Corn Separator and Grader—Two Fans

Greater durability under heavy duty and ability to prevent and withstand the effects of fire, are the cardinal points in the construction of the Monarch All-Steel Cracked Corn Separators, and our expectations in regard to these qualities have been greatly exceeded by these machines in every installation.

In details of construction and operation, the two separators here described correspond respectively with the wood machines shown on pages 117 and 118.

There is nothing on the market which can approach these separators in point of durability and efficiency in the satisfactory separation and grading of cracked corn.

Price, Dimensions, Capacity, Weight, Etc.

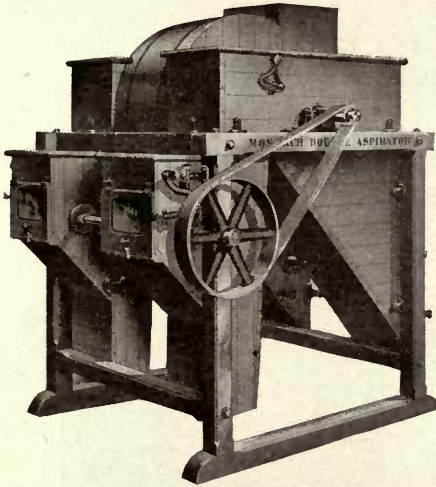
Size Number	PRICE		Extreme Height	Extreme Length	Extreme Width	Size on Floor Inches	Height to Center of Driv'g Pulley Inches	Height to Where Grain Enters	Size of Driving Pulley Inches	Inside Measure of Fan Opening Inches	Motion of Shaker Shaft R. P. M.	Motion of Fan Shaft R. P. M.	Capacity Bushels Per Hour	Shipping Weight Pounds	BOXED FOR EXPORT	
	With Ball Bearing Eccentrics	With Ball Bearings on Fan and Drive Shafts													Weight Pounds	Volume Cubic Feet
11	\$1500.00	\$1600.00	6' 11"	7' 11"	9' 1"	106 1/2x66	24 3/4	6' 4"	14x7 1/2	14x12	500	825	210	5000	6350	497
13	1600.00	1700.00	6' 11"	7' 11"	10' 1"	116 1/2x66	24 3/4	6' 4"	14x7 1/2	14x14	500	825	275	5500	6950	552
15	1700.00	1800.00	6' 11"	7' 11"	10' 7"	122 1/2x66	24 3/4	6' 4"	16x7 1/2	14x15	500	825	300	6000	7500	580

The Monarch All-Steel Cracked Corn Separator and Grader  
With One Fan

Price, Dimensions, Capacity, Weight, Etc.

Size Number	PRICE		Extreme Height	Extreme Length	Extreme Width	Size on Floor Inches	Height to Center of Driv'g Pulley Inches	Height to Where Grain Enters	Size of Driving Pulley Inches	Inside Measure of Fan Opening Inches	Motion of Shaker Shaft R. P. M.	Motion of Fan Shaft R. P. M.	Capacity Bushels Per Hour	Shipping Weight Pounds	BOXED FOR EXPORT	
	With Ball Bearing Eccentrics	With Ball Bearings on Fan and Drive Shafts													Weight Pounds	Volume Cubic Feet
3	\$ 800.00	\$ 875.00	6' 1"	7' 6"	5' 5"	54 x61 1/2	18	5' 6 1/2"	8x5	14x14	550	785	60	2850	3700	248
5	900.00	985.00	6' 3 1/4"	7' 7"	6' 1/2"	60 x63 1/2	19 1/2	5' 7 1/2"	8x5	14x14	550	785	90	3000	3950	288
7	1000.00	1085.00	6' 3 1/4"	7' 7"	7' 1"	73 x63 1/2	19 1/2	5' 7 1/2"	8x6	14x18	550	785	120	4650	5700	335
9	1200.00	1300.00	6' 10 3/4"	7' 11"	8' 0"	88 1/2x66	20 3/4	6' 2"	12x6	14x22	500	750	185	4800	6000	438





Style "B"  
The Monarch Double Aspirator

## The Monarch Double Aspirator

Its use is two-fold: (1) to remove all light, fluffy and other objectionable material, leaving the grits or middlings pure, clean and free from all light, fine stock, and putting it into the best possible condition for grinding; (2) it has a drying effect, as the air current removes much moisture from the stock, making the process of reducing much easier and improving the keeping qualities of the products.

Upon this idea along these lines The Monarch Double and Single Aspirator was constructed and met with immediate success from the first.

### The Feed Delivers the Grits or Middlings in a Thin, Uniform Stream into the Aspirating Legs

This machine is provided with a reliable feed that delivers the grits or middlings in a thin, even stream into the aspirating legs, which are provided with a series of adjustable slats to admit the air. The material to be aspirated falls on a series of oblique slats that cause the stock to turn over and on leaving the slats strikes an opposing surface, arresting the flow and scattering it into a spray in an opening through which the air current passes.

It has a very powerful fan, and is provided with the necessary valves for controlling the strength of the air.

### Price, Dimensions, Weight, Speed and Capacity

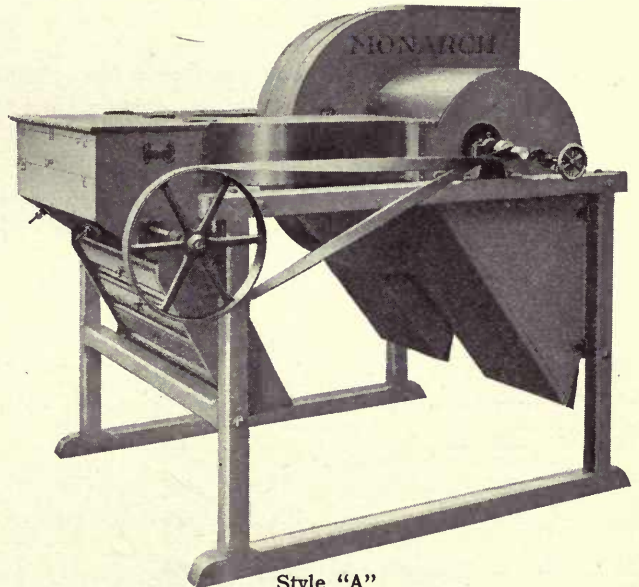
Size No.	PRICE	Extreme Height	Extreme Length	Extreme Width	Height to Where Grain Enters	Height to Center of Driving Pulley	Size of Driving Pulley Inches	Speed R. P. M.	Shipping Weight Pounds	BOXED FOR EXPORT	
										Weight Pounds	Volume Cu. Feet
1	\$175.00	6' 0"	5' 1"	4' 10"	3' 8"	4' 1½"	8 x 3	575	600	1250	148
2	210.00	5' 8"	5' 1"	5' 10"	3' 8"	4' 1½"	8 x 3	575	700	1400	168
3	260.00	5' 8"	5' 1"	6' 10"	3' 8"	4' 1½"	8 x 4	575	800	1550	197

## The Monarch Single Aspirator For Grain

This Aspirator is undoubtedly the best all around machine for aspirating work of any kind. We have sold hundreds of them and every customer has been gratified with the work accomplished.

Feed hopper is provided. This is equipped with gate valve to control quantity of grain fed into machine and also an oscillating feeder which distributes the grain evenly across the entire width of aspirating leg. This leg is of extra length and its interior is built up with a series of deflecting shelves. As the grain drops through the suction leg it is repeatedly interrupted and each time the aspirating current renews its work. This arrangement provides for exceptionally effective aspirations.

All internal parts which the grain comes in contact with are covered with sheet iron to give long service. A well built, compact and very superior Aspirator.

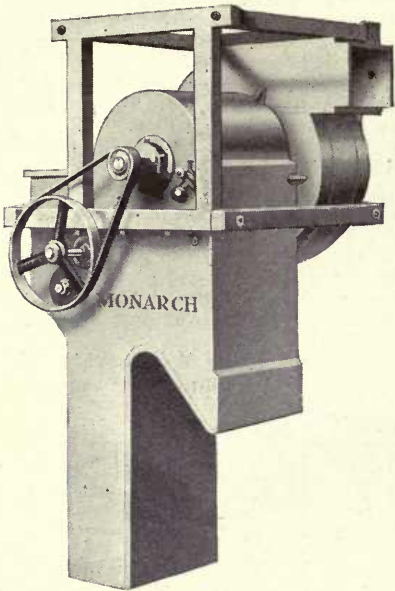


Style "A"  
The Monarch Single Aspirator

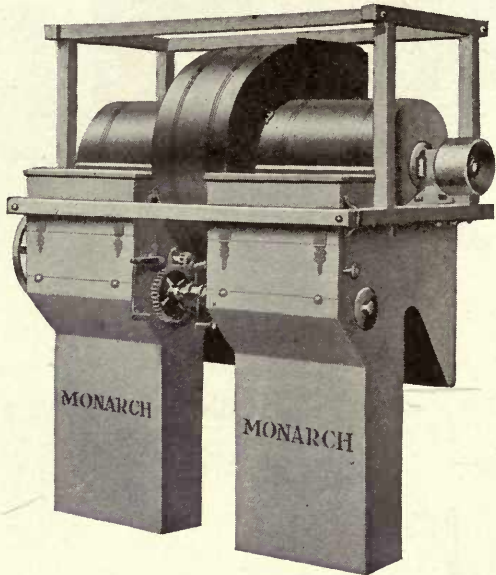
### Price, Dimensions, Weight, Speed and Capacity

Size No.	Price	Extreme Height Inches	Extreme Length Inches	Extreme Width Inches	Height to Where Grain Enters Inches	Height to Center of Drive Pulley Inches	Size of Drive Pulley Inches	Speed R. P. M.	Capacity Bushels Per Hour	Shipping Weight Pounds	BOXED FOR EXPORT	
											Weight Pounds	Volume Cu. Ft.
2	\$100.00	40	28	41	32	28	5 x 3	600	20 to 50	210	400	27
3	105.00	47	35	49	36	32½	6 x 3	600	50 to 100	305	475	47
4	110.00	53	42	60	39	35½	6 x 3	600	100 to 300	400	600	78
5	128.00	61	50	68½	46½	41¾	7 x 3	600	300 to 600	480	725	121
6	137.00	68½	57	76	52	47	8 x 3	600	600 to 1000	530	800	173

# The Monarch Goose Neck Aspirator



Single Goose Neck Aspirator



Double Goose Neck Aspirator

Our Goose Neck Aspirator has automatic roller feed, adjustable from outside of machine, giving operator complete control of amount of stock fed. Double machines have separate feed adjustments for each leg. The fan shaft runs in special self-oiling bearings with oil shields. The fan is built within the frame of machine.

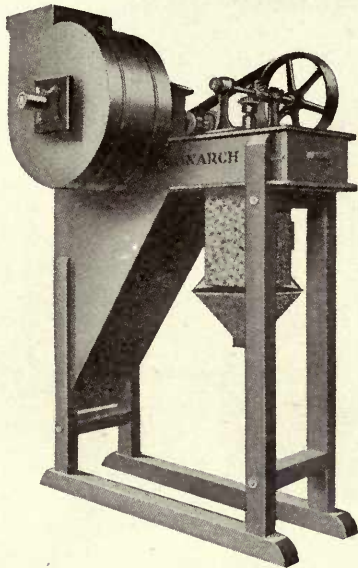
## Size, Dimensions, List Price, Etc.

Size Inches	EXTREME DIMENSIONS			FAN		Size Pulley Inches	List Price
	Length Inches	Width Inches	Height Inches	Diameter Inches	Width Blade Inches		
12 Single.....	36	29	71	24	7	8 x 5	\$ 85.00
16 " .....	36	35	71	24	9	8 x 5	100.00
20 " .....	41	39	79	30	9	8 x 5	115.00
24 " .....	41	45	79	30	11	8 x 5	130.00
12 Double.....	36	46	71	24	10	8 x 5	120.00
16 " .....	36	56	71	24	12	8 x 5	140.00
20 " .....	41	64	79	30	12	8 x 5	160.00
24 " .....	41	74	79	30	14	8 x 5	180.00

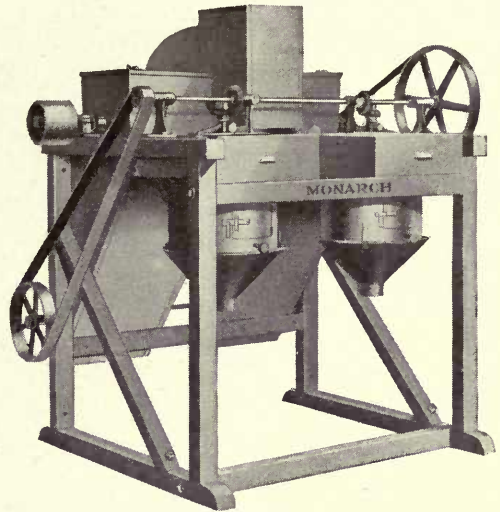
A series of these aspirators may be installed and connected with one fan. Prices and drawings of such combinations will be furnished on application.



# The Monarch Revolving Disc Aspirator



Style "C"  
Single Machine with Fan



Style "D"  
Double Machine with Fan

In milling for the highest qualities of wheat, corn and oat goods, it is necessary, in order that the finished product shall not be off in color or grade, to separate the bran, germ and other light impurities from it.

The excellent results obtained in accomplishing this separation through the use of the Monarch Revolving Disc Aspirator, illustrated above, are due primarily to the manner in which every particle of the stock is subjected to the action of the air current. Passing through the spout and entering the inner cylinder, it falls upon a revolving disc and is thrown slightly upward and momentarily suspended in the air chamber in a thin wide stream. Here it is aspirated so effectually that all materials lighter than itself are drawn up through the air space and discharged, while the stock falls into the aspirator tip and can be disposed of as desired.

This machine has proved to be a good investment wherever installed and is steadily growing in popularity among corn millers and manufacturers of wheat, corn and oat goods.

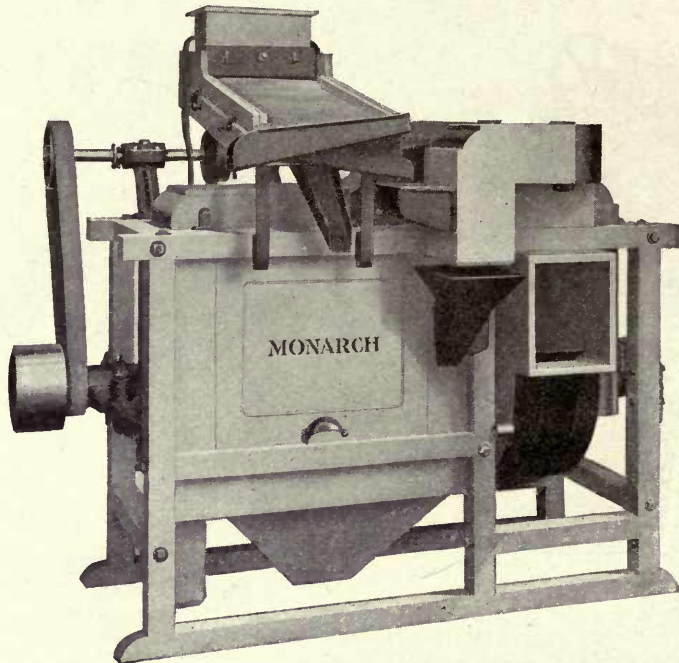
## Monarch Single Disc Aspirator With or Without Fan Price, Dimensions, Weight, Etc.

Size	Price	Extreme Height Inches	Extreme Length Inches	Extreme Width Inches	Height to Feed Inlet Inches	Size of Driving Pulley Inches	Size of Disc Inches	Speed R. P. M.	Fan Outlet Inches	CAPACITY PER HOUR		Shipping Weight Pounds	BOXED FOR EXPORT	
										Oats or Corn Bushels	Wheat Bushels		Weight Pounds	Vol. Cubic Feet
1 Sgl., without fan	\$ 90.00	62	50	20	50	10 x 2½	12	---	---	20	30	240	400	36
1 Sgl., with fan	125.00	79	50	30	50	6 x 6	12	600	8¾x11	20	30	390	620	69
2 Sgl., without fan	100.00	66	56	27	54	10 x 2½	14	---	---	30	45	260	460	58
2 Sgl., with fan	135.00	81	56	37	54	8 x 6	14	600	10½x14	30	45	420	700	98
3 Sgl., without fan	110.00	69	60	27	57	10 x 2½	16	---	---	40	60	270	490	65
3 Sgl., with fan	145.00	83	60	38	57	8 x 6	16	600	10½x14	40	60	430	740	110
4 Sgl., without fan	112.00	72	64	27	60	12 x 2½	18	---	---	50	75	280	520	72
4 Sgl., with fan	145.00	84	64	38	60	8 x 6	18	600	11 x15	50	75	440	770	119
5 Sgl., without fan	125.00	80	71	37	66	12 x 2½	24	---	---	90	135	300	630	122
5 Sgl., with fan	160.00	86	71	48	66	8 x 6	24	600	11 x17	90	135	460	840	170

## Monarch Double Disc Aspirator With Fan Price, Dimensions, Weight, Etc.

Size Number	Price	Extreme Height Inches	Extreme Length Inches	Extreme Width Inches	Height to Feed Inlet Inches	Size of Driving Pulley Inches	Size of Disc Inches	Speed R. P. M.	Fan Outlet Inches	CAPACITY PER HOUR		Shipping Weight Pounds	BOXED FOR EXPORT	
										Oats or Corn Bu.	Wheat Bu.		Weight Lbs.	Volume Cu.Ft.
1	\$215.00	81	50	49	50	6 x 6	12	700	8¾x11	40	60	510	830	115
2	235.00	83	56	56	54	8 x 6	14	700	10½x14	60	90	620	980	151
3	245.00	86	60	58	57	8 x 6	16	700	10½x14	80	120	720	1120	174
4	260.00	86	64	60	60	8 x 6	18	700	11 x15	100	150	830	1250	192
5	285.00	88	71	76	66	8 x 6	24	700	11 x17	180	270	970	1510	275

The Monarch Horizontal Corn Scourer  
Single Type With and Without Shoe



Style "N"  
The Monarch Horizontal Corn Scourer Showing Single Type with Shoe

The objection common to the majority of corn scourers, lies in the fact that beaters are employed in the performance of the scouring operation, thus causing an unnecessarily great amount of breakage and consequent loss of stock.

In designing the Monarch Corn Scourer, shown in the illustration, our aim was to construct the cylinder in such a way as to prevent this breakage and the loss entailed thereby. Our efforts in this respect were entirely successful and we are ready to guarantee this machine for the production of the most economical and satisfactory results.

Materials and construction are first class throughout; the scouring case is almost unwearable and air separations and ventilation are accomplished in the most scientific and approved manner.

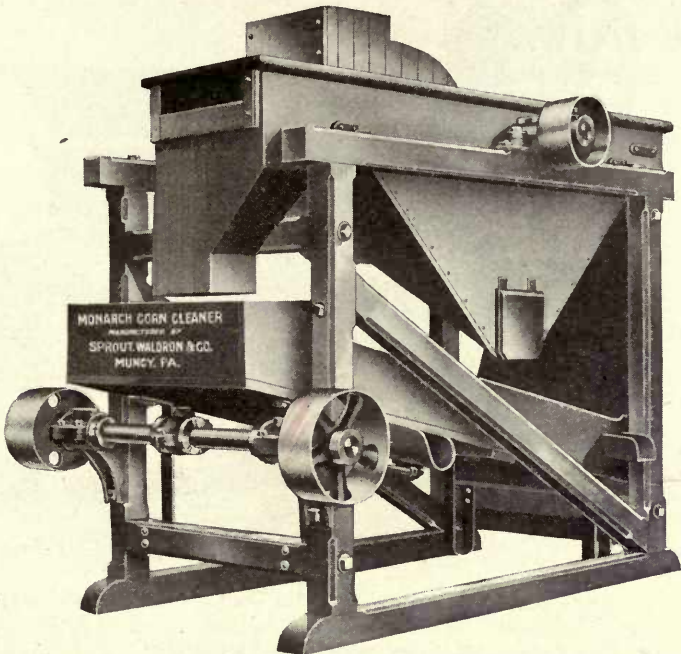
Size, Price, Dimensions and Weight

Size Number	PRICE		Size of Driving Pulley Inches	Size of Pan Opening Inches	Capacity Per Hour Bushels	Speed R. P. M.	OVER-ALL DIMENSIONS				Floor to Cen. Driv. Pulley, In.	Size on Floor Inches	Shipping Weight Pounds	BOXED FOR EXPORT	
	With Shoe	Without Shoe					Height with Shoe	Height without Shoe	Width	Length				W'g't Lbs.	Vol. Cu. Feet
0	\$175.00	\$150.00	8x4	8x10	20	500	5' 0"	4' 6"	3' 8"	6' 0"	23	57x21 1/2	640	1031	122
1	200.00	175.00	8x5	10x11	30	500	5' 8"	4' 9"	4' 1 1/4"	6' 10 3/4"	26	68x24	700	1177	163
2	225.00	200.00	8x6	10x11	45	500	5' 8"	4' 9"	4' 1 1/4"	8' 2"	26	74x24	950	1453	174
3	250.00	220.00	10x6	11x11	60	325	5' 10"	5' 0"	4' 9"	8' 11"	25 1/2	87x29 1/2	1100	1637	194
4	300.00	260.00	12x6	11x11	80	325	5' 10"	5' 0"	4' 9"	9' 10"	25 1/2	100x29 1/2	1250	1841	221
5	350.00	300.00	12x7	11x11	100	325	6' 4"	5' 5"	5' 1"	8' 11"	28	87x33	1500	2450	288
6	400.00	350.00	12x7	12x12	150	300	6' 4"	5' 5"	5' 1"	9' 5"	28	95x33	1800	2780	303
7	450.00	400.00	14x6 1/2	12x12	200	300	6' 4"	5' 5"	5' 1"	9' 5"	28	100x33	2200	3200	316
8	500.00	425.00	14x7	12x12	250	300	6' 10"	5' 11"	5' 6"	8' 11"	30	87x37	2400	3450	336
9	600.00	525.00	14x7 1/2	13x13	325	300	6' 10"	5' 11"	5' 6"	9' 7"	30	96x37	2800	3900	360
10	700.00	600.00	14x8	13x13	400	300	6' 10"	5' 11"	5' 6"	9' 10 1/2"	30	100x37	3200	4350	370

Prices of Horizontal Corn Scourers with Ball Bearings

Size No. 0—With Shoe.....	\$200.00	Size No. 6—With Shoe.....	\$445.00
Without Shoe.....	175.00	Without Shoe.....	395.00
Size No. 1—With Shoe.....	225.00	Size No. 7—With Shoe.....	500.00
Without Shoe.....	200.00	Without Shoe.....	450.00
Size No. 2—With Shoe.....	250.00	Size No. 8—With Shoe.....	550.00
Without Shoe.....	225.00	Without Shoe.....	475.00
Size No. 3—With Shoe.....	280.00	Size No. 9—With Shoe.....	655.00
Without Shoe.....	250.00	Without Shoe.....	580.00
Size No. 4—With Shoe.....	340.00	Size No. 10—With Shoe.....	760.00
Without Shoe.....	300.00	Without Shoe.....	660.00
Size No. 5—With Shoe.....	390.00		
Without Shoe.....	340.00		





## The Monarch Corn Cleaner

This machine prepares shelled corn for grinding by removing all foreign substances and, if desired, the light grain from it. It is dustless, substantially built and Monarch standard in every respect.

The Monarch Corn Cleaner

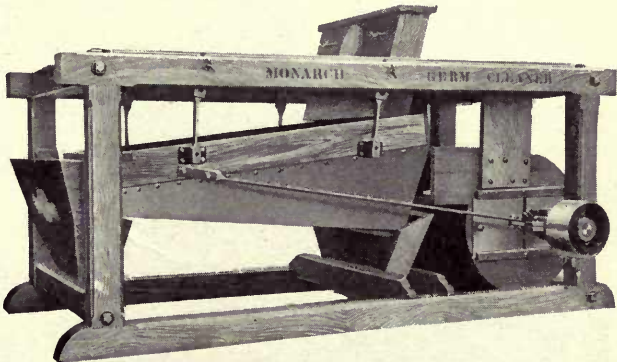
### Size, Price, Dimensions, Weight and Volume

Size Number	Price	From Floor to Center of Drive Shaft Inches	Floor Space Occupied Inches	Size of Fan Opening Inches	Size of Pulley Inches	Speed R.P.M.	OVER-ALL DIMENSIONS			Weight Lbs.	BOXED FOR EXPORT	
							Height Inches	Width Inches	Length Inches		Weight Lbs.	Volume Cu.Ft.
1	\$150.00	15	40 x 27	8 x 8½	7 x 4	600	52½	37	56	440	670	62
2	200.00	15	49 x 38	8 x 13	8 x 4	600	52½	48	56	600	860	71
3	250.00	15	49 x 49	8 x 18½	8 x 5	600	52½	60	56	720	1020	103

## The Monarch Corn Germ Cleaner

A machine intended primarily to separate all foreign substances from corn germs. The Monarch Corn Germ Cleaner can also be used in handling meal, grits, middlings, etc.

It is simply and well made, has a controllable air current and occupies very little space.



The Monarch Corn Germ Cleaner

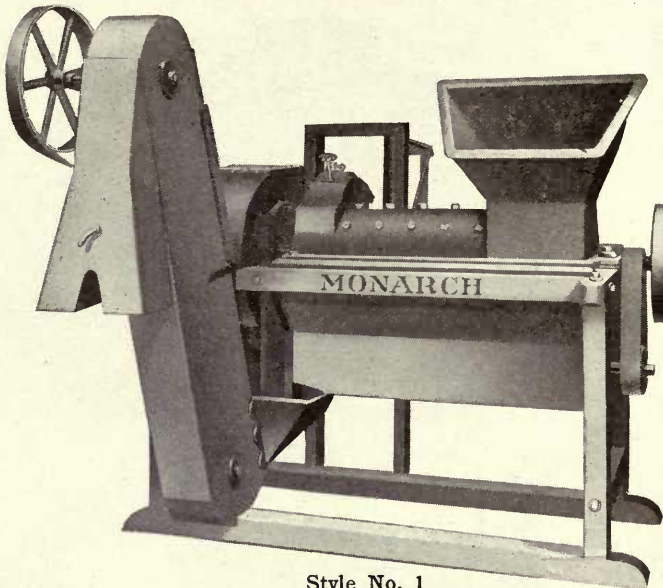
### Price, Dimensions, Capacity, Weight and Volume

Size Number.....	1	Width.....	3' 4"
Price.....	\$120.00	Size of Pulley.....	6"x3½"
Capacity, Bushels Corn Meal Per Hour.....	15 to 20	Speed, Revolutions per Minute.....	300
Size of Sieve.....	36"x24"	Weight.....	650 lbs.
Height.....	2' 10"	Boxed for Export—Weight.....	900 lbs.
Length.....	5' 6"	Volume.....	52 cu. ft.

The Monarch Power  
Cylinder Corn Sheller  
Built With Elevator

The frame of this machine is made of thoroughly seasoned hardwood, mortised and tenoned and put together with strong draw bolts. The bottom of the cylinder has graduated perforations which allow the corn to drop freely into an iron conveyor underneath, which conveys it into an air leg at the tail end, through which a strong current of air is forced and which removes all dust, silk and light pieces of cob.

As the cobs leave the cylinder, they drop onto a shaking shoe, which has a perforated bottom and separates any corn that may pass out with the cobs, shooting it into the air leg through an iron spout.



Style No. 1  
The Monarch Power Cylinder Corn Sheller with Elevator

Price, Dimensions, Capacity, Weight, Volume, Etc.

Size Number.....	1	Width—With Elevator.....	6' 0"
Price—With Elevator.....	\$120.00	Without Elevator.....	4' 0"
Without Elevator.....	100.00	Height—With Elevator.....	5' 6"
Size of Pulley.....	14"x6"	Without Elevator.....	4' 6"
Speed, Revolutions per Minute.....	600	Length Over All.....	5' 10"
Capacity, Bushels per Hour.....	75	Weight.....	800 lbs.
Required Horse Power.....	8 to 10	Boxed for Export—Weight.....	1100 lbs.
		Volume.....	105 cu. ft.

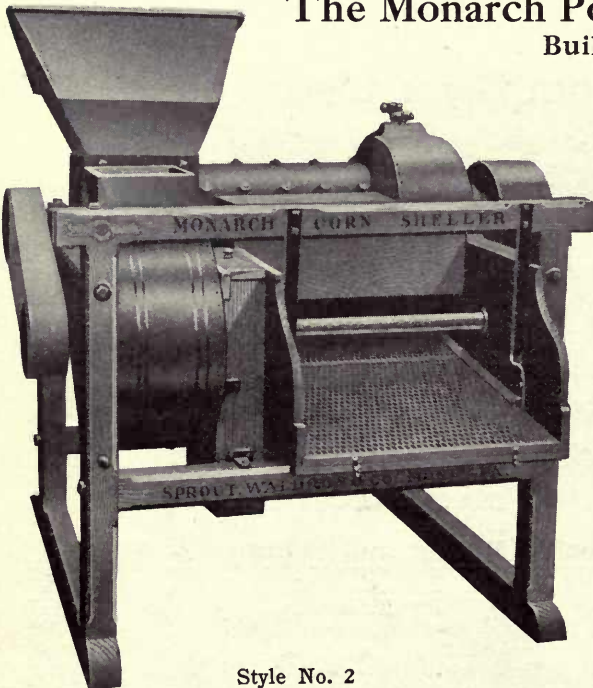
The Monarch Power Cylinder Corn Sheller  
Built Without Elevator

Our No. 2 Sheller is constructed on the same principle as the No. 1, but in addition it has a large shoe with a screen 22 x 42 inches for separating the cobs and husk from the corn.

The grain passing through the screen enters an air leg through which a strong current of air is drawn by the suction fan, thus removing all dust and light impurities and putting the corn in good condition for market or milling. Practically a sheller and cleaner combined.

Price, Dimensions, Capacity,  
Weight, Volume, Etc.

Size Number.....	2
Price—With Elevator.....	\$150.00
Without Elevator.....	130.00
Size of Pulley.....	14"x6"
Speed, Revolutions per Minute.....	600
Capacity, Bushels per Hour.....	75
Required Horse Power.....	8 to 10
Width—With Elevator.....	6' 8"
Without Elevator.....	4' 8"
Height—With Elevator.....	5' 6"
Without Elevator.....	4' 6"
Length Over All.....	6' 0"
Weight.....	850 lbs.
Boxed for Export—Weight.....	1200 lbs.
Volume.....	126 cu. ft.



Style No. 2

The Monarch Power Cylinder Corn Sheller without Elevator



## Power Corn Shellers

### Triumph Improved Corn Shellers

Are built in two styles: Style A, with iron legs to stand on the floor; and Style B, to be fastened under the floor.

#### Price, Dimensions, Capacity, Weight, Etc.

Size No.	Price	OVER-ALL DIMENSIONS			Size of Pulley Inches	Speed R. P. M.	Horse Power Required	Capacity Bushels Per Hour	Shipping Weight Pounds
		Height	Length	Width					
A	\$110.00	2' 8"	5' 7"	1' 10"	10 x 6	500 to 800	4 to 6	75 to 100	600
B	220.00	5' 3"	6' 6"	2' 0"	16 x 8	500 to 800	8 to 10	150 to 200	1000

## Little Victor Combined Corn Sheller and Cleaner

### Price, Dimensions, Capacity, Weight, Volume, Etc.

Size No.	Price with One Sieve	OVER-ALL DIMENSIONS			Size of Pulley Inches	Floor to Center of Pulley	Speed R.P.M.	Capacity Bushels Per Hour	Weight Pounds	BOXED FOR EXPORT	
		Height	Length	Width						Weight Pounds	Volume Cu. Ft.
1	\$110.00	4' 4"	4' 5"	4' 9"	10 x 5	3' 3 1/2"	800	60 to 80	650	920	91
2	160.00	4' 7"	7' 0"	5' 3"	12 x 6	3' 8"	800	125 to 150	900	1320	134

## Victor Corn Sheller

### Price, Dimensions, Capacity, Weight, Volume, Etc.

Size No.	Price	Capacity Bushels Per Hour	OVER-ALL DIMENSIONS			Size of Pulley Inches	Speed R. P. M.	Weight Pounds	BOXED FOR EXPORT	
			Height	Length	Width				Weight Pounds	Volume Cu. Ft.
000	\$ 60.00	60 to 75	1' 10"	4' 1"	2' 1"	10 x 5	800	275	365	16
00	80.00	125 to 150	2' 1"	4' 4"	2' 3"	12 x 6	800	395	515	21
0	100.00	175 to 225	2' 1"	4' 6"	3' 1"	12 x 8	500	650	795	29
1	120.00	250 to 350	2' 4"	4' 8"	3' 4"	16 x 8	500	750	910	37
2	150.00	400 to 600	2' 7"	5' 0"	3' 9"	20 x 10	500	1150	1340	49
3	175.00	800 to 1000	3' 2"	6' 8"	4' 3"	24 x 12	450	1550	1830	90
4	225.00	1200 to 1500	3' 4"	7' 6"	4' 8"	26 x 12	450	2000	2340	117

## Pitless Corn Sheller

### Price, Dimensions, Capacity, Weight, Volume, Etc.

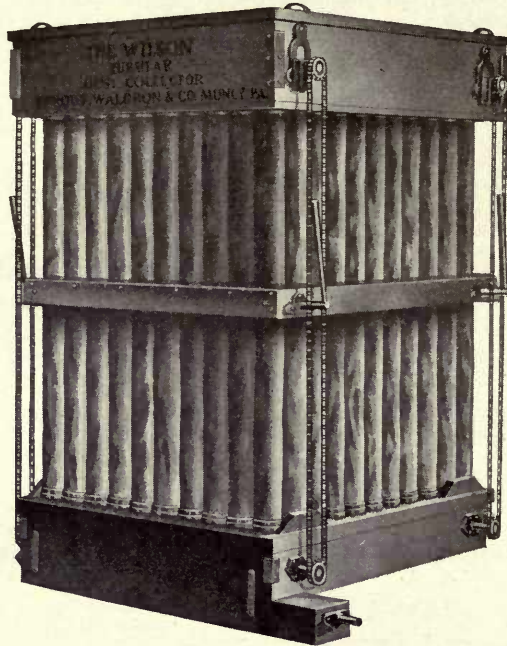
Size No.	Price	Capacity Bushels Per Hour	OVER-ALL DIMENSIONS			Size of Pulley Inches	Speed R. P. M.	Weight Pounds	BOXED FOR EXPORT	
			Height	Length	Width				Weight Pounds	Volume Cu. Ft.
25	\$140.00	250 to 350	1' 11"	5' 6"	2' 5"	14 x 8	600	900	980	26
24	170.00	400 to 600	2' 1"	5' 8"	2' 9"	16 x 8	550	1000	1160	33
23	200.00	800 to 1000	2' 4"	6' 4"	3' 2"	20 x 10	500	1550	1740	47
22	240.00	1200 to 1500	2' 4"	6' 9"	3' 2"	20 x 12	500	1650	1860	50

## Western Corn Sheller

### Price, Dimensions, Capacity, Weight, Volume, Etc.

Size No.	Price	Capacity Bushels Per Hour	OVER-ALL DIMENSIONS			Size of Pulley Inches	Speed R. P. M.	Weight Pounds	BOXED FOR EXPORT	
			Height	Length	Width				Weight Pounds	Volume Cu. Ft.
17	\$ 80.00	125 to 150	1' 9"	3' 7"	2' 7"	10 x 6	800	350	450	17
16	100.00	175 to 225	1' 7"	4' 2"	2' 3"	12 x 6	600	500	600	15
15	120.00	250 to 350	1' 8"	4' 2"	2' 3"	12 x 8	600	600	700	16
14	150.00	400 to 600	1' 8"	4' 4"	2' 5"	16 x 8	550	700	820	18
13	175.00	800 to 1000	2' 0"	6' 8"	3' 2"	20 x 10	500	1350	1540	43
12	225.00	1200 to 1500	2' 3"	7' 1"	3' 9"	24 x 12	420	1850	2080	60
11	275.00	1600 to 2000	2' 3"	8' 0"	3' 9"	26 x 12	420	2000	2250	68

## The Wilson Tubular Dust Collector

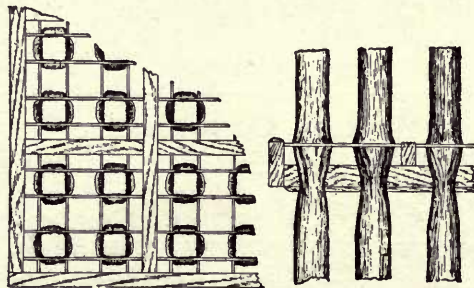


**The Wilson Tubular Dust Collector**

The efficiency of a Textile Dust Collector is measured by the amount and filtering capacity of the cloth contained and the simplicity of the cleaning device. That these qualities in the Wilson, which has been improved by us from time to time, have been fully recognized and appreciated is evidenced in its growing use and popularity.

The general construction is simple and plainly shown in the above illustration. The machine is generally attached to the ceiling but may be supported in any other suitable manner. Dust-laden air enters the tubes in a downward course and precipitates to the lower case where a drag discharges it into a cross conveyor.

The Cloth Cleaning Device is shown below. The wood frame surrounding the tubes carries a series of parallel, crossed wires which come in contact with the entire circumference of each tube. This frame moves up and down continually while the machine is in operation.



**Automatic Cloth Cleaner**

In determining upon the proper size of dust collector for ordinary mill work, a square yard of cloth should be allowed for each square inch of fan opening, based on the speed of fans usually running from 500 to 600 revolutions. For fans running at greater velocity and for special work a larger amount of cloth should be allowed.



# The Wilson Dust Collector—Continued

With 3½-Inch Tubes

Size, Price, Cloth Capacity, Etc.

Size Number	Price	No. of Rows of Tubes	Length of Tubes Feet	No. of Sq. Ft. of Cloth	Size of Pulley Inches	Speed of Shaft R. P. M.
1-A	\$80.00	8 x 9	7	504	8 x 3	36 to 45
B	75.00	8 x 9	8	576	8 x 3	36 to 45
C	80.00	8 x 9	9	648	8 x 3	36 to 45
D	85.00	8 x 9	10	720	8 x 3	36 to 45
2-A	80.00	10 x 11	6	657	8 x 3	36 to 45
B	85.00	10 x 11	7	765	8 x 3	36 to 45
C	90.00	10 x 11	8	882	8 x 3	36 to 45
D	95.00	10 x 11	9	990	8 x 3	36 to 45
E	100.00	10 x 11	10	1098	8 x 3	36 to 45
3-A	90.00	12 x 15	4	720	8 x 3	36 to 45
B	95.00	12 x 15	5	900	8 x 3	36 to 45
C	100.00	12 x 15	6	1080	8 x 3	36 to 45
D	105.00	12 x 15	7	1260	8 x 3	36 to 45
E	110.00	12 x 15	8	1440	8 x 3	36 to 45
F	115.00	12 x 15	9	1620	8 x 3	36 to 45
G	120.00	12 x 15	10	1800	8 x 3	36 to 45
4-A	130.00	14 x 20	7	1980	8 x 3	36 to 45
B	145.00	14 x 20	8	2250	8 x 3	36 to 45
C	160.00	14 x 20	9	2520	8 x 3	36 to 45
D	175.00	14 x 20	10	2790	8 x 3	36 to 45
5-A	175.00	14 x 25	8	2790	8 x 3	36 to 45
B	195.00	14 x 25	9	3150	8 x 3	36 to 45
C	215.00	14 x 25	10	3510	8 x 3	36 to 45
6-A	205.00	14 x 30	8	3330	8 x 3	36 to 45
B	230.00	14 x 30	9	3780	8 x 3	36 to 45
C	255.00	14 x 30	10	4230	8 x 3	36 to 45

## Dimensions, Weight, Volume, Etc.

Size Number	Width	Length	Height Feet	Weight Pounds	BOXED FOR EXPORT	
					Weight, Pounds	Volume, Cubic Feet
1-A	3' 3"	3' 7"	9	300	525	40
B	3' 3"	3' 7"	10	300	525	40
C	3' 3"	3' 7"	11	300	525	40
D	3' 3"	3' 7"	12	300	525	40
2-A	4' 0"	4' 4"	8	375	665	61
B	4' 0"	4' 4"	9	375	665	61
C	4' 0"	4' 4"	10	375	665	61
D	4' 0"	4' 4"	11	375	665	61
E	4' 0"	4' 4"	12	375	665	61
3-A	4' 8"	5' 9"	6	450	835	108
B	4' 8"	5' 9"	7	450	835	108
C	4' 8"	5' 9"	8	450	835	108
D	4' 8"	5' 9"	9	450	835	108
E	4' 8"	5' 9"	10	450	835	108
F	4' 8"	5' 9"	11	450	835	108
G	4' 8"	5' 9"	12	450	835	108
4-A	5' 4"	7' 6"	9	550	1050	133
B	5' 4"	7' 6"	10	550	1050	133
C	5' 4"	7' 6"	11	550	1050	133
D	5' 4"	7' 6"	12	550	1050	133
5-A	5' 4"	9' 1"	10	625	1200	160
B	5' 4"	9' 1"	11	625	1200	160
C	5' 4"	9' 1"	12	625	1200	160
6-A	5' 4"	10' 11"	10	725	1400	202
B	5' 4"	10' 11"	11	725	1400	202
C	5' 4"	10' 11"	12	725	1400	202

NOTE—We will make special sizes to fit special conditions.

# The Wilson Dust Collector—Continued

With 4½-Inch Tubes

Size, Price, Cloth Capacity, Etc.

Size Number	Price	No. of Rows of Tubes	Length of Tubes Feet	No. of Sq. Ft. of Cloth	Size of Pulley Inches	Speed of Shaft R. P. M.
7-A	\$ 95.00	8 x 9	8	684	8 x 3	36 to 45
B	100.00	8 x 9	9	774	8 x 3	36 to 45
C	105.00	8 x 9	10	864	8 x 3	36 to 45
8-A	110.00	9 x 12	8	1035	8 x 3	36 to 45
B	115.00	9 x 12	9	1170	8 x 3	36 to 45
C	120.00	9 x 12	10	1296	8 x 3	36 to 45
9-A	115.00	10 x 14	8	1323	8 x 3	36 to 45
B	120.00	10 x 14	9	1512	8 x 3	36 to 45
C	130.00	10 x 14	10	1674	8 x 3	36 to 45
10-A	150.00	10 x 20	8	1917	8 x 3	36 to 45
B	160.00	10 x 20	9	2160	8 x 3	36 to 45
C	170.00	10 x 20	10	2394	8 x 3	36 to 45
11-A	175.00	10 x 24	8	2304	8 x 3	36 to 45
B	185.00	10 x 24	9	2592	8 x 3	36 to 45
C	195.00	10 x 24	10	2880	8 x 3	36 to 45
12-A	200.00	11 x 26	8	2745	8 x 3	36 to 45
B	225.00	11 x 26	9	3087	8 x 3	36 to 45
C	240.00	11 x 26	10	3420	8 x 3	36 to 45
D	260.00	11 x 26	11	3753	8 x 3	36 to 45
13-D	280.00	12 x 26	11	4113	8 x 3	36 to 45

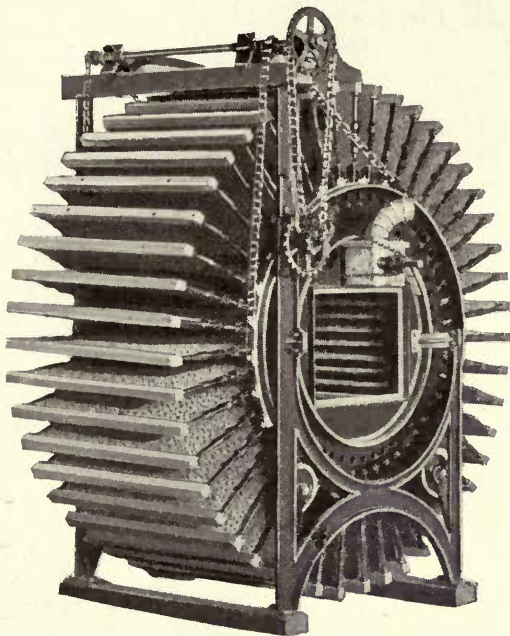
## Dimensions, Weight, Volume, Etc.

Size Number	Width	Length	Height Feet	Weight Pounds	BOXED FOR EXPORT	
					Weight, Pounds	Volume, Cubic Feet
7-A	4' 2"	4' 5"	10	375	675	64
B	4' 2"	4' 5"	11	375	675	64
C	4' 2"	4' 5"	12	375	675	64
8-A	4' 8"	5' 9"	10	450	825	91
B	4' 8"	5' 9"	11	450	825	91
C	4' 8"	5' 9"	12	450	825	91
9-A	5' 1"	6' 7"	10	550	1000	112
B	5' 1"	6' 7"	11	550	1000	112
C	5' 1"	6' 7"	12	550	1000	112
10-A	5' 1"	9' 3"	10	625	1200	156
B	5' 1"	9' 3"	11	625	1200	156
C	5' 1"	9' 3"	12	625	1200	156
11-A	5' 1"	11' 0"	10	725	1400	195
B	5' 1"	11' 0"	11	725	1400	195
C	5' 1"	11' 0"	12	725	1400	195
12-A	5' 7"	11' 10"	10	850	1600	228
B	5' 7"	11' 10"	11	850	1600	228
C	5' 7"	11' 10"	12	850	1600	228
D	5' 7"	11' 10"	13	850	1600	228
13-D	6' 1"	-----	13	-----	-----	-----

In addition to the widths given above, the chains and attachments at corners of the machine, for operating the cleaner, project 3 inches on each side. The cross conveyor and driving shaft project on the discharge side about 11 inches. The driving shaft is 1 inch in diameter, and sufficient projection is left so that it can be driven from either end.



# The Monarch Dust Collector



The Monarch Dust Collector

Requiring an equally insignificant amount of power and floor space, this machine has a large area of cloth surface and a correspondingly great filtering capacity. It is well built of iron and hard maple. Is guaranteed to collect all the dust when properly placed and operated and is self cleaning. The independent cloth sections can be easily removed and the cloth renewed at small expense.

A simple and effective driving arrangement gives the collector and its conveyor positive action and at the same time operates the cloth cleaning device. The standard pulley is 14 x 3 inches, running forty revolutions per minute, but where conditions require the substitution, a larger or smaller pulley will be furnished.

In order to determine the size of collector which will give you the best results, the following instructions should be carefully observed:

For Scourers, allow from two and one-half to three square feet of cloth for each square inch of opening in discharge spout from fan.

For Purifiers, allow eight square feet of cloth for each square foot of sieve surface

For Roll Exhaust, allow thirty-six square feet of cloth for each double stand of rolls up to 9 x 18 inches; forty-four square feet for 9 x 24 inches and fifty square feet for 9 x 30 inch rolls.

These estimates are based on an average speed of fans of from five to six hundred revolutions per minute. Where fans are operated at greater speed a correspondingly larger amount of cloth should be used.

## Size, Price, Etc.

Size Number	Price	Sizes of Sections Inches	Total Square Feet of Cloth	Size of Pulley Inches	Size of Fan Spout Opening Inches
2	\$ 80.00	18 x 15	142	14 x 3	9 1/2 x 14 1/4
4	110.00	14 x 30	221	14 x 3	9 1/2 x 14 1/4
5	120.00	16 x 30	252	14 x 3	9 1/2 x 14 1/4
6	125.00	18 x 30	285	14 x 3	9 1/2 x 14 1/4
12	130.00	16 x 30	302	14 x 3	14 1/4 x 18 1/4
13	140.00	18 x 30	352	14 x 3	14 1/4 x 18 1/4
14	155.00	14 x 45	411	14 x 3	14 1/4 x 18 1/4
15	175.00	18 x 45	528	14 x 3	14 1/4 x 18 1/4
16	190.00	16 x 60	604	14 x 3	14 1/4 x 18 1/4
17	200.00	18 x 60	704	14 x 3	14 1/4 x 18 1/4
18	210.00	20 x 60	786	14 x 3	14 1/4 x 18 1/4
24	225.00	14 x 93	822	14 x 3	14 1/4 x 18 1/4
25	250.00	16 x 93	906	14 x 3	14 1/4 x 18 1/4
26	275.00	18 x 93	1056	14 x 3	14 1/4 x 18 1/4
27	300.00	20 x 93	1180	14 x 3	14 1/4 x 18 1/4

## Dimensions, Weight, Volume, Etc.

Size Number	Height	Length	Diameter	Weight Pounds	BOXED FOR EXPORT	
					Weight Pounds	Volume Cubic Feet
2	6' 7"	3' 6"	5' 6"	900	1425	149
4	6' 3"	4' 9"	5' 0"	1050	1725	178
5	6' 5"	4' 9"	5' 6"	1200	1875	200
6	6' 7"	4' 9"	5' 10"	1200	2000	217
12	6' 8"	4' 9"	6' 0"	1200	1875	225
13	6' 10"	4' 9"	6' 4"	1260	1950	243
14	6' 6"	6' 0"	5' 8"	1320	2025	260
15	6' 10"	6' 0"	6' 4"	1380	2150	297
16	6' 8"	7' 3"	6' 0"	1440	2250	330
17	6' 10"	7' 3"	6' 4"	1500	2325	355
18	7' 0"	7' 3"	6' 8"	1500	2425	380
24	6' 1"	10' 1"	5' 8"	1600	2575	400
25	6' 8"	10' 1"	6' 0"	2000	2875	460
26	6' 10"	10' 1"	6' 4"	2400	3225	497
27	7' 2"	10' 1"	6' 8"	2400	3575	548

The Monarch Deflecting Dust Collector  
Reliable, Automatic and Fireproof

This machine is unquestionably the best one on the market for collecting the dust from cleaners, separators and scourers. Made entirely of galvanized steel with angle iron joints strongly riveted and soldered, it is both durable and dust proof.

The Monarch has no movable parts, hence no power is required to operate. Spouting to it from the machine is all that is necessary. We build these collectors without hood and with dust inlet on left-hand side as shown in cut, unless order specifies otherwise.



The Monarch Deflecting Dust Collector

Size, Price, Etc.

Number	Price	Size of Inlet Inches	Area of Inlet Square Inches	Diameter of Air Outlet Inches	Area of Air Outlet Square Inches	Diameter of Dust Outlet Inches
2	\$ 60.00	3½ x 13½	47½	12½	122	3
3	75.00	4½ x 16	72	15¼	182	4
4	85.00	5 x 18	90	17	226	4
5	100.00	5½ x 21	115	19¼	290	4
6	120.00	6½ x 24	156	22½	397	4
7	140.00	7 x 27	189	24½	471	5
8	160.00	8 x 30	240	27¾	600	5
9	190.00	9 x 30	270	29¼	670	6
10	210.00	10 x 30	300	31	754	7
11	230.00	11 x 31	341	33	855	8
12	250.00	12 x 32	384	35	962	9
13	295.00	12 x 34	408	35½	994	10

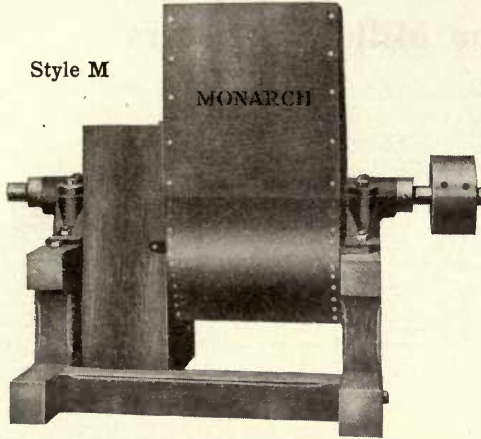
Dimensions, Weight, Volume

Number	Height Over All	Outside Diameter	Weight Pounds	BOXED FOR EXPORT	
				Weight, Pounds	Volume, Cubic Feet
2	4' 2"	3' 6½"	140	403	60
3	4' 10½"	4' 0½"	175	520	86
4	5' 7"	4' 6½"	245	677	119
5	6' 2"	5' 0½"	315	838	159
6	6' 11"	5' 6½"	395	1028	207
7	7' 8"	6' 0½"	490	1244	264
8	8' 4½"	6' 9"	575	1489	355
9	9' 0½"	7' 3"	715	1767	436
10	9' 6"	7' 7½"	875	2035	512
11	9' 10½"	8' 0"	930	2191	579
12	10' 6½"	8' 4"	1000	2387	650
13	10' 8½"	8' 4"	1095	2614	650

NOTE—Prices on larger sizes quoted on application.



Style M



## The Monarch Suction and Exhaust Fan

With Fireproof Bearings and Fan Case Shields

This fan is substantially made, has suction trunk and can be used for various purposes. Is furnished with self-oiling or ball bearings as desired.

The Monarch Suction and Exhaust Fan

### Price, Dimensions, Speed, Etc.

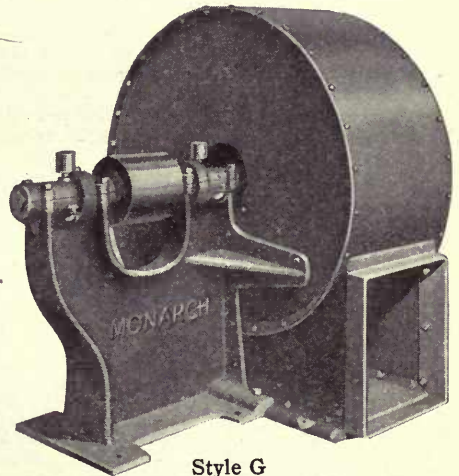
Size Number	Price	Price with Ball Bearings	Size of Fan Inches	Size of Shaft Inches	Size of Fan Opening Inches	Size of Pulley Inches	Speed R. P. M.	OVER-ALL DIMENSIONS			Floor Space Occupied Inches	Weight Pounds	BOXED FOR EXPORT	
								Length Inches	Width Inches	Height Inches			Weight Pounds	Volume Cu. Ft.
1A	\$28.00	\$58.00	19x 7	1 1/2	7 1/2 x 8 1/2	6x3	500 to 800	32	30 1/2	30 1/2	21 1/2 x 30 3/4	140	190	18
1B	30.00	60.00	19x10	1 1/2	7 1/2 x 10 1/2	6x3	500 to 800	36	30 1/2	30 1/2	25 x 30 3/4	150	210	20
1C	32.00	62.00	25x10	1 1/2	9 x 10 1/2	8x3	400 to 600	38 1/2	32	32 1/2	27 x 30 3/4	170	240	24
1D	40.00	70.00	30x10	1 1/2	10 x 10 1/2	10x4	400 to 600	38 1/2	33	37	30 x 30 3/4	190	265	28
1E	48.00	80.00	36x10	1 3/4	10 x 12	10x4	400 to 600	38 1/2	35	40	32 x 32	210	290	32
1F	54.00	85.00	40x15	2	12 x 12	12x4	400 to 600	40	35	42	32 x 32	240	330	35

### Price per Lineal Foot of Wood Trunking Boxes for Fans

Size of Fan	Price Per Foot
1A	\$.48
1B	.52
1C	.54
1D	.58
1E	.60
1F	.64

## The Monarch Steel Plate Exhaust Fan

This fan is used for exhaust from rolls and elevators, rice mills, and for handling all sharp substances that wear or clog the fan wheel and casing. Note that all bolts holding shell are exterior, rendering it an easy matter to remove the shell plate and replace with new. The fan wheel can also be readily removed at this point. It is built in all sizes and in all styles of discharge. It has ring-oiling reservoir journal bearings. Also made with ball bearings.



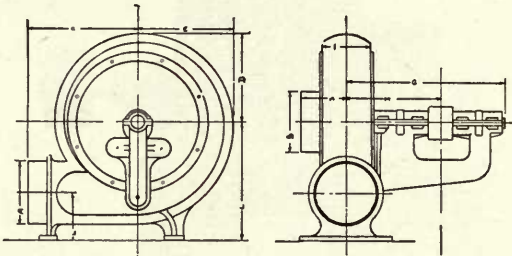
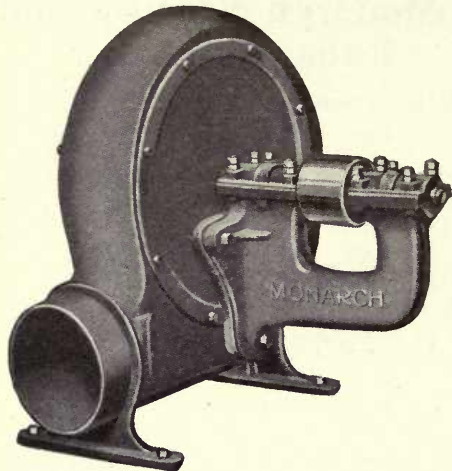
Style G

The Monarch Steel Plate Exhaust Fan

### Price, Dimensions, Speed, Etc.

Size Inches	Price	Price with Ball Bearing	Area of Inlet Square Inches	Diam. of Inlet Inches	Width and Height of Outlet Inches	Required Horse Power	Size of Pulley Inches	SPEED		Weight Lbs.	BOXED FOR EXPORT	
								2 Ounce Pres.	4 Ounce Pres.		Weight Pounds	Volume Cu.Ft.
25	\$ 40.00	\$ 70.00	78	10	10 x 10	2 to 6	6 x 4	1550	2225	300	408	23
30	44.00	75.00	113	12	11 x 10	2 1/2 to 7	6 x 4	1475	2100	350	494	34
35	55.00	85.00	153	14	12 x 13	3 to 8	7 x 5	1275	1825	400	616	48
40	70.00	100.00	176	15	13 x 14	3 1/2 to 10	8 x 6	1125	1600	600	816	68
45	90.00	120.00	227	17	14 x 16	4 to 12	8 x 7	1000	1425	740	1028	87
50	115.00	155.00	283	19	16 x 18	5 1/2 to 16	10 x 7	875	1250	1000	1360	120
55	150.00	200.00	346	21	17 x 20	7 to 20	12 x 8	800	1150	1200	1632	150
60	175.00	225.00	415	23	18 x 23	9 to 24	14 x 8	750	1050	1550	2054	186
70	250.00	300.00	531	26	21 x 28	11 to 31	14 x 10	650	925	2600	3284	287
80	325.00	380.00	707	30	24 x 36	14 to 41	16 x 12	575	800	2850	3714	420
90	400.00	475.00	1018	36	30 x 36	18 to 53	18 x 12	500	725	3100	4288	652

The Monarch "B" Volume Mill Exhausters



The application of the fan shown in the illustration, to roll and elevator exhaust systems, to dryers, to purifiers and aspirators without fans, and to pneumatic conveying systems has been most extensive and satisfactory.

This exhauster has many points of merit among which are great strength, easily accessible interior, perfect balance and extra long journal bearings of the ring oiling type, particularly suited to the classes of service mentioned above.

The blast wheel is of heavy rolled steel plate mounted on an iron spider and hub and the vanes are securely riveted not only to the arms of the spider but also to the heavy steel flanges.

Suggestions to Follow in Ordering

In ordering a fan, in addition to giving the size, always state the hand and discharge desired. The standard arrangement is right hand, bottom horizontal discharge and if we are not advised otherwise, a fan of this arrangement will be shipped. While the hand and discharge can be changed on Standard Steel Plate Mill Exhausters, the same is not the case with motor or turbine-driven units nor with the "B" Volume Exhausters.

The "hand" of the fan is determined by the location of the drive side when one stands facing the outlet of the fan. If the pulley, motor or turbine is on the left, it is called "left hand;" if on the right, "right hand." The discharge is designated as "Bottom Horizontal," "Vertical Down," "Up-Blast," or "Top Horizontal," as the case may be.

We request that information relative to the service in which the fan is to be employed be stated in ordering, thus avoiding dissatisfaction due to the purchase of equipment not designed for the work imposed on it.

Speed, Capacity and Horse Power of "B" Volume Exhausters

No. of Blower	½-OUNCE			1-OUNCE			2-OUNCE			3-OUNCE			4-OUNCE			6-OUNCE		
	R.P.M.	Cap.	H. P.	R.P.M.	Cap.	H. P.	R.P.M.	Cap.	H. P.	R.P.M.	Cap.	H. P.	R.P.M.	Cap.	H. P.	R.P.M.	Cap.	H. P.
1	1693	104	.023	2396	148	.074	3393	210	.233	4169	258	.382	3977	753	1.37			
2	1397	264	.059	1976	374	.187	2800	534	.593	3437	651	.964	3477	1261	2.29	3436	1551	3.86
3	980	438	.098	1387	621	.310	1965	888	.987	2414	1090	1.615	2794	2261	4.36	2721	2948	7.37
4	859	585	.130	1216	828	.414	1724	1174	1.300	2119	1441	2.135	2452	1667	3.03	3015	2051	5.13
5	776	837	.186	1098	1185	.593	1556	1688	1.870	1912	2071	3.08	2212	2397	4.36	2721	2948	7.37
6	635	1185	.263	898	1677	.839	1274	2382	2.650	1563	2923	4.33	1809	3382	6.15	2225	4160	10.40
7	582	1372	.305	823	1941	.971	1168	2752	3.060	1434	3377	5.00	1660	3908	7.10	2041	4806	12.00
8	499	1986	.440	706	2810	1.405	1001	3983	4.430	1229	4888	7.24	1422	5656	10.20	1748	6957	17.40
9	411	3299	.733	581	4668	2.334	824	6641	7.300	1012	8150	12.10	1171	9431	17.10	1440	11599	28.90
10	349	4488	.997	494	6350	3.175	702	9003	9.900	861	11050	15.00	966	12786	21.90	1225	15726	37.00

Specifications and Dimensions

No.	Price	Inlet Diam. Outside Inches	Outlet Diam. Outside Inches	Weight Pounds	PULLEY		C Inches	D Inches	F Inches	G Inches	H Inches	I Inches	K Inches	L Inches
					Diam. Inches	Face Inches								
000	\$15.00	5 1/8	5 3/8	45	2 3/4	2 1/4	9	5 3/4	8 5/8	11 1/4	7 1/2	3 1/4	3	3 1/4
1	20.00	5 3/8	4 1/4	60	3	2 1/2	9	6 1/8	9 7/8	10 7/8	6 3/4	4	3 3/4	3 3/8
2	25.00	6 1/8	6 1/4	100	3 1/4	2 5/8	11 1/4	8 3/4	11 1/4	14 1/4	9 1/4	4 7/8	5	4 1/8
3	33.00	7 1/8	7 3/8	170	4	3	14	10 1/8	13 5/8	18 1/8	11 3/8	5 7/8	5 3/8	5 5/8
4	44.00	9	9	200	5	3 1/8	15 1/2	12 1/8	14 1/8	19 1/8	12	6 3/8	5 1/4	6
5	55.00	10 3/8	10 5/8	275	5 1/4	4 1/8	18	13 3/8	17 1/4	23 1/4	14 1/4	7 3/4	7	6 1/8
6	70.00	12 1/8	11 1/4	380	6 1/2	5 1/4	20 3/4	16 1/4	19 7/8	25 3/8	15 3/8	8 7/8	7 3/8	7 3/8
7	90.00	14	14	575	7 1/2	6 1/4	23 1/8	18 3/4	22	28	16 1/2	10 3/8	8 7/8	8 1/8
8	150.00	16	16 3/8	725	8 1/2	7 1/4	25 3/8	21 1/4	24 3/4	30 3/8	18 1/4	11 7/8	9 5/8	9 1/8
9	200.00	17 1/4	17 1/8	1100	9 1/2	8 1/4	30 3/8	25	28 3/4	33 3/8	20 3/8	14 1/8	11 1/4	11
10	250.00	21	21	1600	12	9 3/4	38 1/4	30 3/8	31 3/8	37 3/8	23 3/8	18 1/4	13 1/8	14 1/4
11	350.00	24 1/2	24 1/4	3200	14	12	42 3/4	35 3/8	46 1/8	-----	-----	22	16 1/4	17 3/8

Special discharge, 10 per cent additional. In ordering please specify "B" Volume Blower or Exhauster, in full.



## Prinz Cockle Machines

The Nos. 1 and 1½ Cockle Machines are built in two styles, single and double geared. The single machine is driven by passing the belt directly around the cylinder, which is 16 inches in diameter, and should run from 17 to 20 revolutions per minute. No supporting frame is furnished for the single machines. The No. 1 should be set on an incline of 6½ inches from end to end of shaft and the No. 1½, an incline of 7 inches.

### Dimensions, Price, Etc. of Single Machines

No.	Capacity Bushels Per Hour	Length Over All	Speed R. P. M.	Weight Pounds	Price	BOXED FOR EXPORT	
						Weight Pounds	Volume Cubic Feet
1	16-18	7' 2"	17-20	260	\$65.00	350	13
1½	18-25	8' 2"	17-20	275	85.00	375	15

The geared machines have a cast-iron stand at each end and are driven by countershaft and spur gears.

### Dimensions, Price, Etc., of Geared Machines

No.	Capacity Bushels Per Hour	Length Over All	Size of Pulley Inches	Speed R. P. M.	Weight Pounds	Price	BOXED FOR EXPORT	
							Weight Pounds	Volume Cubic Feet
1	16-18	7' 6"	12 x 2½	60	285	\$73.00	395	17
1½	18-25	8' 6"	12 x 2½	60	300	93.00	425	20

All machines larger than No. 1½ are supported in a substantial wood frame. The Nos. 2 and 2½ machines have one cockle cylinder with a short grading reel above.

### Dimensions, Price, Etc.

No.	Capacity Bushels Per Hour	Length Over All	Width Over All Inches	Height Over All	Drive Pulley Inches	Speed R. P. M.	Weight Pounds	Price	BOXED FOR EXPORT	
									Weight Pounds	Volume Cubic Feet
2	25-35	7' 6"	27	4' 6"	12 x 3	60	850	\$130.00	1130	76
2½	35-45	8' 6"	27	4' 8"	12 x 3	60	950	155.00	1265	90

Nos. 3 and 3½ machines contain two cockle cylinders with one grading reel above extending full length of machine.

### Dimensions, Price, Etc.

No.	Capacity Bushels Per Hour	Length Over All	Width Over All Inches	Height Over All	Drive Pulley Inches	Speed R. P. M.	Weight Pounds	Price	BOXED FOR EXPORT	
									Weight Pounds	Volume Cubic Feet
3	45-70	8' 0"	38	5' 0"	12 x 4	60	1400	\$215.00	1760	127
3½	60-80	9' 0"	38	5' 2"	12 x 4	60	1500	230.00	1900	148

The Nos. 4 and 4½ machines have two grading reels extending full length of machine and two cockle cylinders beneath.

### Dimensions, Price, Etc.

No.	Capacity Bushels Per Hour	Length Over All	Width Over All Inches	Height Over All	Drive Pulley Inches	Speed R. P. M.	Weight Pounds	Price	BOXED FOR EXPORT	
									Weight Pounds	Volume Cubic Feet
4	70-110	8' 0"	38	7' 0"	18 x 4	60	2400	\$275.00	2860	178
4½	100-130	9' 0"	38	7' 2"	18 x 4	60	2500	320.00	3000	205

NOTE—The Nos. 2 to 4½ machines inclusive can be driven from either end. When machine is to set at right angles to the driving shaft it may be furnished with cross shaft drive at an extra charge of \$5.00 net. This cross shaft when used should run at 100 revolutions per minute, and is not furnished unless specially ordered.

The Nos. 5 and 5½ machines have four grading reels and three cockle cylinders. They are built with cross shaft drive.

### Dimensions, Price, Etc.

No.	Capacity Bushels Per Hour	Length Over All	Width Over All Inches	Height Over All	Drive Pulley Inches	Speed R. P. M.	Weight Pounds	Price	BOXED FOR EXPORT	
									Weight Pounds	Volume Cubic Feet
5	160-190	8' 0"	60	7' 8"	18 x 4	100	3350	\$400.00	3950	296
5½	190-230	9' 0"	60	7' 10"	18 x 4	100	3550	480.00	4225	353

## Eureka Two, Four and Six-Cylinder Cockle and Seed Separating Machine

### Size, Price, Dimensions, Etc.

Size Number	Price	Capacity Bushels Per Hour	Number of Cylinders	Length	Width	Height
2-275	\$275.00	40-45	2	8' 4"	6' 3"	5' 0"
2-276	340.00	60-70	2	9' 4"	7' 0"	5' 1"
2-276A	445.00	80-90	2	10' 0"	8' 0"	5' 11"
2-276B	550.00	100-110	2	12' 3"	8' 2"	6' 2"
4-275	605.00	80-90	4	8' 11"	11' 0"	5' 4"
4-276	740.00	120-140	4	9' 7"	11' 8"	5' 11"
4-276A	960.00	160-180	4	10' 3"	13' 9"	6' 6"
4-276B	1180.00	200-220	4	12' 7"	15' 10"	6' 6"
6-275	920.00	120-135	6	8' 11"	9' 3"	8' 3"
6-276	1125.00	180-210	6	9' 7"	9' 8"	8' 9"
6-276A	1450.00	240-270	6	10' 3"	10' 9"	9' 11"
6-276B	1775.00	300-330	6	12' 7"	10' 10"	10' 2"

### Eureka Cockle Cylinder Size, Price, Dimensions, Etc.

Size Number	Price	Capacity Bushels Per Hour	Diameter of Cylinder Inches	Extreme Length	SPROCKET WHEEL		Speed R. P. M.	Weight Pounds	BOXED FOR EXPORT	
					Teeth	Chain No.			Weight Pounds	Volume Cubic Feet
274	\$ 85.00	8-10	16	6' 0"	40	45	18-20	300	450	14
275	120.00	20-22	20	7' 9"	42	45	12-15	400	645	31
276	150.00	30-35	22	8' 7"	46	45	12-15	450	710	34
276A	200.00	40-45	28	9' 1"	54	45	8-10	900	1215	56
276B	250.00	50-55	28	11' 1"	54	45	8-10	1050	1430	69

### Monitor Cockle Cylinder Size, Price, Dimensions, Etc.

Size Number	Price	Capacity Bushels Per Hour	Diameter of Cylinder Inches	Extreme Length	SPROCKET WHEEL		Speed R. P. M.	Weight Pounds	BOXED FOR EXPORT	
					Teeth	Chain No.			Weight Pounds	Volume Cubic Feet
1	\$120.00	20	20	8' 1"	42	45	15-20	500	760	30
2	130.00	25	20	9' 1"	42	45	15-20	550	865	50
3	140.00	30	22	8' 1"	46	45	15-20	600	860	34
4	150.00	35	22	9' 1"	46	45	15-20	650	965	56

### Invincible Cockle Cylinder Size, Price, Dimensions, Etc.

Size Number	Price	Capacity Bushels Per Hour	Diameter of Cylinder Inches	Extreme Length	SPROCKET WHEEL		Speed R. P. M.	Weight Pounds	BOXED FOR EXPORT	
					Teeth	Chain No.			Weight Pounds	Volume Cubic Feet
1	\$120.00	20	20	8' 0"	42	45	15-20	400	660	30
2	130.00	25	20	9' 0"	42	45	15-20	450	765	50
3	140.00	30	22	8' 0"	45	45	15-20	500	760	34
4	150.00	35	22	9' 0"	45	45	15-20	550	865	56

Cockle cylinder should be set to have incline of one inch for every foot in length.



## Horizontal Oat Clippers

### Eureka Horizontal Oat Clipper

Price, Dimensions, Capacity, Weight, Volume, Etc.

Size No.	PRICE		Carry By Spout Extra	Capacity Per Hour Bushels	OVER-ALL DIMENSIONS			Height Where Grain Falls on Shoe	Size of Fan Outlet Inches		Height to Center of Drive Pulley	Size of Pulley Inches	Speed R. P. M.	Weight Pounds	BOXED FOR EXPORT	
	With Shoe	No Shoe			Height	Length	Width		Diam.	Width					Wg't Lbs.	Vol. Cu. Feet
27	\$200.00	\$175.00	\$25.00	60	5' 6"	5' 11"	3' 10"	5' 3"	11 ½x	9 ¾	2' 5"	8x 5	700	1000	1340	125
28	225.00	200.00	28.00	90	5' 9"	6' 6"	4' 4"	5' 7"	12 ½x	11	2' 5"	10x 6	700	1200	1600	162
29	250.00	220.00	30.00	120	6' 3"	7' 1"	4' 9"	6' 0"	12 ½x	11 ¾	2' 8"	12x 6	700	1400	1875	214
30	300.00	260.00	34.00	160	6' 10"	7' 6"	5' 4"	6' 5"	13 ½x	12 ¼	2' 11"	14x 7	650	1600	2140	274
31	350.00	300.00	40.00	200	7' 2"	7' 10"	5' 7"	7' 10"	14 ½x	12	2' 11"	16x 7	650	1900	2500	314
32	400.00	350.00	50.00	400	8' 7"	8' 3"	6' 2"	8' 5"	15 ½x	13 ¾	3' 1"	18x 8	600	2300	3040	437
33	500.00	425.00	56.00	600	8' 11"	8' 10"	6' 4"	8' 11"	15 ½x	14	3' 4"	20x 8	550	2500	3320	499
35	600.00	525.00	60.00	800	10' 2"	10' 2"	7' 1"	10' 5"	18 ¾x	16 ¾	3' 6"	24x12	500	3300	4350	733
36	700.00	600.00	70.00	1200	10' 4"	10' 8"	9' 3"	10' 10"	20 ¼x	18	3' 9"	24x12	450	3800	5100	1020
37	850.00	725.00	80.00	1500	11' 2"	11' 6"	9' 6"	11' 0"	20 ¼x	18 ¾	3' 9"	30x12	450	4500	5975	1220

## Monitor Horizontal Oat Clipper

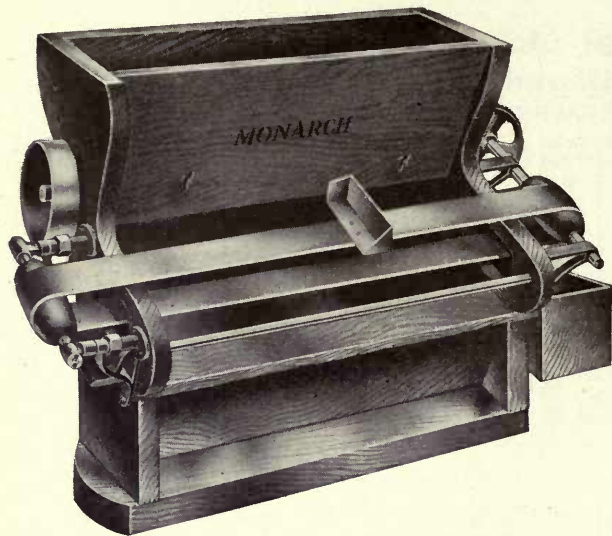
Price, Dimensions, Capacity, Weight, Volume, Etc.

Size No.	PRICE		Capacity Per Hour Bushels	OVER-ALL DIMENSIONS			Height Where Grain Falls on Shoe	Size of Fan Outlet Inches		Height to Center of Drive Pulley	Size of Pulley Inches	Speed R. P. M.	Weight Pounds	BOXED FOR EXPORT	
	With Shoe	No Shoe		Height	Length	Width		Diam.	Width					Weight Pounds	Volume Cu. Ft.
2	\$200.00	\$175.00	60	6' 6"	6' 4"	3' 7"	6' 6"	12 ½x	10 ½	2' 4"	10x 5	700	1200	1570	148
3	225.00	200.00	90	6' 9"	7' 8"	4' 2"	6' 9"	13 ½x	11 ½	2' 4"	12x 6	700	1400	1880	216
4	250.00	220.00	120	7' 1"	8' 2"	4' 6"	7' 1"	14 ½x	12 ½	2' 6"	14x 6	675	1600	2150	290
5	300.00	260.00	160	7' 10"	8' 7"	4' 10"	7' 10"	15 ½x	13 ½	2' 8"	16x 7	650	1900	2525	325
6	350.00	300.00	200	8' 3"	9' 6"	5' 1"	8' 3"	16 ½x	14 ½	2' 10"	18x 7	600	2300	3020	399
7	400.00	350.00	400	8' 6"	9' 10"	5' 8"	8' 6"	17 ½x	15 ½	3' 0"	20x 8	550	2500	3290	474
8	500.00	425.00	600	9' 0"	10' 6"	6' 1"	9' 0"	19 x	17	3' 3"	22x 9	525	3300	4200	575
9	600.00	525.00	800	9' 3"	11' 0"	6' 6"	9' 3"	19 x	17	3' 6"	24x10	500	3800	4800	662
10	700.00	600.00	1200	9' 6"	11' 10"	6' 9"	9' 6"	20 ¼x	18 ¾	3' 6"	24x12	475	4500	5610	759
11	850.00	725.00	1500	10' 0"	12' 7"	7' 2"	10' 0"	22 ¼x	20 ¾	3' 8"	24x12	450	5000	7300	902

## Invincible Horizontal Oat Clipper

Price, Dimensions, Capacity, Weight, Volume, Etc.

Size No.	PRICE		Capacity Per Hour Bushels	OVER-ALL DIMENSIONS			Height Where Grain Falls on Shoe	Size of Fan Outlet Inches		Height to Center of Drive Pulley	Size of Pulley Inches	Speed R. P. M.	Weight Pounds	BOXED FOR EXPORT	
	With Shoe	No Shoe		Height	Length	Width		Diam.	Width					Weight Pounds	Volume Cu. Ft.
1	\$200.00	\$175.00	60	5' 11"	6' 4"	3' 10"	6' 0"	11 ½x	9 ¾	2' 3"	8x 5	700	800	1160	144
2	225.00	200.00	90	6' 3"	6' 9"	4' 0"	6' 4"	11 ½x	9 ¾	2' 6"	10x 6	700	1000	1410	169
3	250.00	220.00	120	6' 10"	7' 2"	4' 6"	6' 6"	12 ½x	11	2' 6"	12x 6	700	1200	1700	221
4	300.00	260.00	160	7' 2"	7' 9"	4' 11"	7' 3"	12 ½x	12 ¾	2' 9"	14x 7	675	1500	2050	274
5	350.00	300.00	200	7' 4"	7' 9"	5' 7"	7' 5"	13 ½x	12 ¾	2' 10"	16x 7	675	1700	2300	318
6	400.00	350.00	400	8' 5"	8' 8"	6' 7"	8' 6"	14 ¾x	13	3' 2"	20x 8	550	2300	3090	481
7	500.00	425.00	600	8' 11"	9' 4"	6' 11"	9' 1"	15 ½x	14 ¾	3' 4"	22x10	525	2500	3390	645
8	600.00	525.00	800	9' 6"	9' 11"	7' 1"	9' 6"	17 ¼x	15 ¾	3' 5"	22x12	525	3000	4000	668
9	700.00	600.00	1200	9' 11"	10' 8"	7' 7"	9' 10"	18 ½x	16 ¾	3' 7"	24x12	475	3450	4570	795
10	850.00	725.00	1500	10' 4"	11' 2"	8' 4"	10' 5"	20 x	18	3' 8"	24x12	450	4500	5800	962



# The Monarch Automatic Magnetic Separator

This illustration shows a very simple and effective device for removing pieces of iron or steel from a stream of grain, thus acting for the prevention of damage to grinding machinery.

As the name suggests, it is automatic in action, not requiring the use of electric current. It is reliable in its work, permanently practical in construction, durable and self-cleaning. An occasional oiling is all the attention that it requires to keep it in efficient service.

The Monarch Automatic Magnetic Separator  
Size, Price, Dimensions, Capacity, Weight and Volume

Size No.	Price	Capacity Per Hour Bushels	OVER-ALL DIMENSIONS			Length of Hopper Inside Inches	Size of Pulley Inches	Speed R.P.M.	Weight Pounds	BOXED FOR EXPORT	
			Length Inches	Width Inches	Height Inches					Weight Pounds	Volume Cu. Feet
1	\$ 65.00	35	28	19	26	10	6 x 2	15	150	210	9
2	75.00	50	32	19	26	14	6 x 2	15	170	235	10
3	85.00	80	38	19	26	20	6 x 2	20	200	270	11
4	100.00	110	44	19	26	26	7 x 3	20	250	325	13
5	125.00	140	50	19	26	32	7 x 3	20	275	355	15
6	140.00	180	56	19	26	38	7 x 3	20	300	390	16
7	160.00	225	62	19	26	44	7 x 3	25	350	450	18
8	200.00	280	68	19	26	50	7 x 3	25	400	510	20
9	240.00	340	74	19	26	56	7 x 3	25	450	565	22
10	300.00	400	80	19	26	62	7 x 3	25	525	645	23
11	350.00	475	90	19	26	68	7 x 3	25	600	740	26
12	400.00	525	110	19	26	74	7 x 4	25	650	815	32
13	450.00	600	110	19	26	80	7 x 5	25	700	815	32

## The Monarch Magnetic Field

We strongly recommend the use of this apparatus in flour and feed mills, where, by removing scraps of iron of every description from the grain before same reaches the grinding machinery, it will soon save its cost in the amount of damage prevented thereto.

Each magnet in the battery has a lifting power of at least twenty pounds and fields will be built in any length and width above four inches to suit the space where installation is contemplated.

Prices will be quoted on receipt of information as to length and width of machine desired. The depth is standard in all cases, being eleven and one-half inches.

PRICE

Single width, \$2.10 per in. Double width, \$3.75 per in.



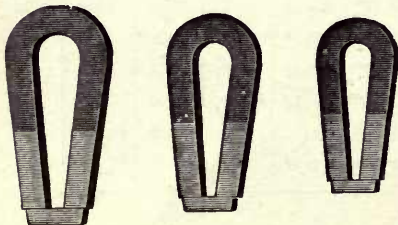
The Monarch Magnetic Field

## Horse Shoe Magnets

For arranging in spouts to remove wire, nails, bolts and other particles of iron or steel. These magnets should be arranged in gangs in the spouts and be placed about one inch apart, and two or three gangs should be used.

Sizes and List Prices

Size.....	6-Inch	8-Inch	9-Inch	10-Inch	12-Inch
Price, Each -	\$1.15	\$1.40	\$1.50	\$1.80	\$2.00





Perforated Sheet Metal

To Avoid Mistakes and Delay

Please comply with the following instructions in ordering sieves or perforated sheet metals:

**First.** Make a small diagram like the sample diagram shown, of each different size sheet of perforated metal you want. Where a sieve is composed of more than one sheet, make a diagram of each piece.

**Second.** Mark on each diagram the length and width in inches; the widths of the margins, and the exact size of the holes.

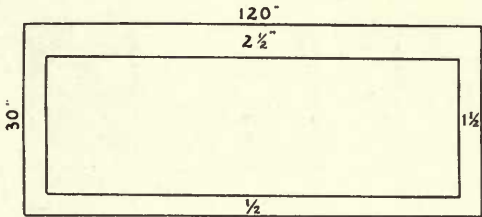
**Third.** If the hole is a slot, oval or oblong, show which way of the sheet you wish the perforations to run.

**Fourth.** Give the number of pieces you wish of each size.

**Fifth.** Mark on each diagram, with an arrow, which way the grain passes over the sieve.

**Sixth.** State the kind of metal wanted.

In furnishing perforated sheet metal for use on the shakers of grain-cleaning machines, such as Scourers, Separators, Corn Cleaners, etc., we always use No. 14 zinc or No. 24 sheet steel, unless otherwise specified. The list price per square foot is as follows. On account of waste of metal and time consumed in changing dies, no order will be filled for less than \$1.50 net.



Price Sheet Zinc

Gauge of Sheet Zinc.....	9	10	12	14
Price per Square Foot, Perforations $\frac{1}{8}$ and Larger.....	\$0.35	\$0.40	\$0.50	\$0.60
Price per Square Foot, Perforations $\frac{3}{16}$ and Smaller.....	.40	.45	.55	.65

Price Sheet Steel

Gauge of Sheet Steel.....	26	24	22	20	18	16	14
Price per Sq. Ft., Perforations $\frac{1}{8}$ and Larger.....	\$0.35	\$0.40	\$0.45	\$0.50	\$0.55	\$0.60	\$0.65
Price per Sq. Ft., Perforations $\frac{3}{16}$ and Smaller.....	.40	.45					

Cockle Holes



$\frac{63}{1000}$  in.



$\frac{66}{1000}$  in.



$\frac{72}{1000}$  in.



$\frac{75}{1000}$  in.



$\frac{79}{1000}$  in.



$\frac{85}{1000}$  in.



$\frac{88}{1000}$  in.



$\frac{95}{1000}$  in.



$\frac{103}{1000}$  in.



$\frac{106}{1000}$  in.



$\frac{110}{1000}$  in.



$\frac{115}{1000}$  in.



$\frac{118}{1000}$  in.



$\frac{120}{1000}$  in.



$\frac{122}{1000}$  in.



$\frac{8}{64}$  in.



$8\frac{1}{2}/64$  in.



$\frac{9}{64}$  in.



$9\frac{1}{2}/64$  in.



$\frac{10}{64}$  in.



$10\frac{1}{2}/64$  in.

**Wheat Holes**



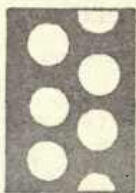
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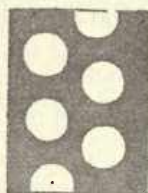
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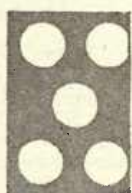
$\frac{13}{64}$  in.



$\frac{14}{64}$  in.



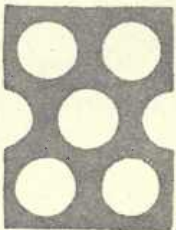
$\frac{15}{64}$  in.



$\frac{16}{64}$  in.



$\frac{17}{64}$  in.



$\frac{18}{64}$  in.



$\frac{19}{64}$  in.



$\frac{20}{64}$  in.



$\frac{21}{64}$  in.



$\frac{22}{64}$  in.



$\frac{24}{64}$  in.



$\frac{26}{64}$  in.



$\frac{27}{64}$  in.



$\frac{28}{64}$  in.



$\frac{29}{64}$  in.



$\frac{32}{64}$  in.

**Special**



$\frac{36}{64}$  in.



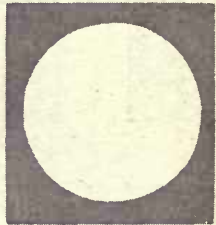
$\frac{40}{64}$  in.



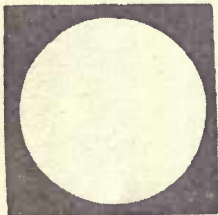
$\frac{48}{64}$  in.



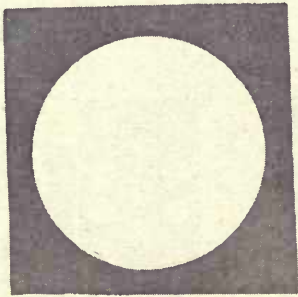
$\frac{56}{64}$  in.



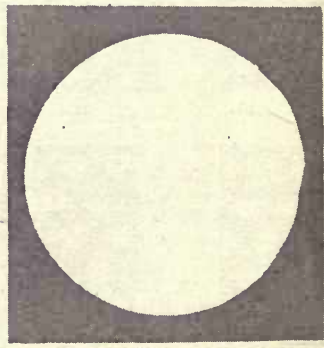
$\frac{60}{64}$  in.



$\frac{64}{64}$  in.



$\frac{80}{64}$  in.



$\frac{88}{64}$  in.



## Buckwheat Sieves



$\frac{7}{64}$  in.



$\frac{8}{64}$  in.

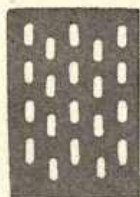


$\frac{9}{64}$  in.



$9\frac{1}{2}/64$  in.

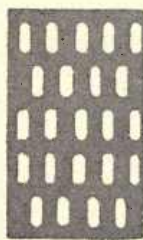
## Special



$\frac{3}{64} \times \frac{7}{64}$  in.



$\frac{3}{64} \times \frac{3}{8}$  in.



$\frac{4}{64} \times \frac{5}{32}$  in.



$\frac{4}{64} \times \frac{1}{2}$  in.



$4\frac{1}{2}/64 \times \frac{1}{2}$  in.



$\frac{6}{64} \times \frac{3}{16}$  in.



$\frac{6}{64} \times \frac{3}{16}$  in.



$\frac{5}{64} \times \frac{1}{32}$  in.



$\frac{5}{64} \times \frac{3}{4}$  in.



$\frac{6}{64} \times \frac{3}{4}$  in.



$6\frac{1}{2}/64 \times \frac{1}{2}$  in.



$6\frac{1}{2}/64 \times \frac{3}{4}$  in.



$\frac{7}{64} \times \frac{3}{4}$  in.



$7\frac{1}{2}/64 \times \frac{3}{4}$  in.



$\frac{7}{64} \times \frac{9}{32}$  in.

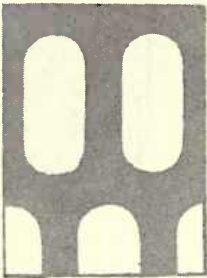


$\frac{8}{64} \times \frac{3}{8}$  in.

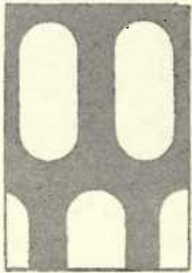


$\frac{8}{64} \times \frac{7}{16}$  in.

Special



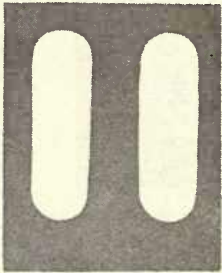
$\frac{18}{64} \times \frac{3}{4}$  in.



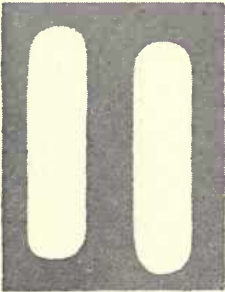
$\frac{19}{64} \times \frac{3}{4}$  in.



$\frac{20}{64} \times \frac{3}{4}$  in.



$\frac{20}{64} \times 1$  in.



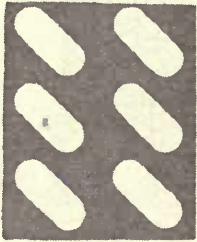
$\frac{20}{64} \times 1\frac{1}{4}$  in.



$\frac{21}{64} \times \frac{3}{4}$  in.



$\frac{28}{64} \times 1\frac{1}{4}$  in.



$\frac{12}{64} \times \frac{7}{16}$  in.



$\frac{2}{64} \times \frac{3}{4}$  in.



$\frac{3}{64} \times \frac{3}{4}$  in.



$\frac{3}{64} \times 1$  in.



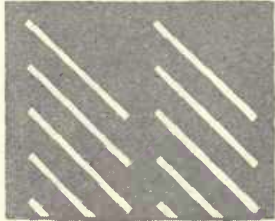
$\frac{4}{64} \times \frac{3}{8}$  in.



$\frac{4}{64} \times 1$  in.



$\frac{6}{64} \times 1$  in.



$\frac{1}{20} \times \frac{3}{4}$  in.



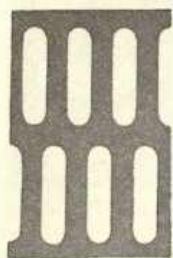
$\frac{4}{64} \times \frac{1}{2}$  in.



$\frac{4}{64} \times \frac{5}{8}$  in.



## Special



$\frac{8}{64} \times \frac{1}{2}$  in.



$\frac{8}{64} \times \frac{5}{8}$  in.



$\frac{8}{64} \times \frac{3}{4}$  in.



$\frac{9}{64} \times \frac{5}{8}$  in.



$\frac{9}{64} \times \frac{3}{4}$  in.



$\frac{1}{8} \times \frac{5}{8}$  in.



$\frac{1}{8} \times \frac{3}{4}$  in.



$\frac{1}{4} \times \frac{3}{4}$  in.



$\frac{1}{4} \times \frac{3}{4}$  in.



$\frac{1}{4} \times 1 \frac{1}{4}$  in.



$\frac{1}{4} \times \frac{5}{8}$  in.



$\frac{1}{4} \times \frac{1}{2}$  in.



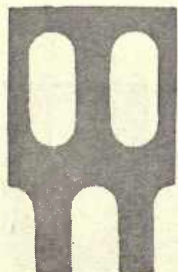
$\frac{1}{4} \times \frac{1}{2}$  in.



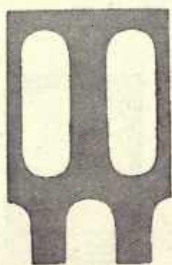
$\frac{1}{4} \times \frac{3}{4}$  in.



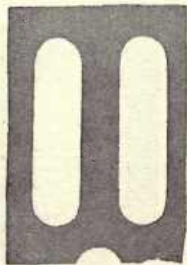
$\frac{1}{4} \times \frac{3}{8}$  in.



$\frac{1}{8} \times \frac{5}{8}$  in.



$\frac{1}{8} \times \frac{3}{4}$  in.



$\frac{1}{8} \times 1$  in.

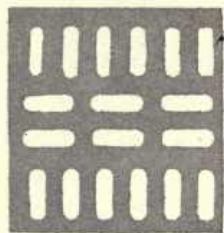


$\frac{1}{8} \times 1 \frac{1}{4}$  in.

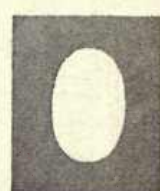


$\frac{1}{4} \times \frac{3}{4}$  in.

## Special

 $\frac{6}{4} \times \frac{9}{32}$  in. $\frac{8}{4} \times \frac{3}{4}$  in. $\frac{8}{4} \times \frac{7}{16}$  in. $\frac{1}{2} \times \frac{1}{2}$  in.

## Oval Holes for Corn

 $\frac{2}{4} \times \frac{5}{8}$  in. $\frac{2}{4} \times \frac{1}{2}$  in. $\frac{2}{4} \times \frac{9}{16}$  in. $\frac{2}{4} \times \frac{5}{8}$  in. $\frac{2}{4} \times \frac{3}{4}$  in. $\frac{2}{4} \times \frac{5}{8}$  in. $\frac{2}{4} \times \frac{13}{16}$  in. $\frac{2}{4} \times \frac{7}{8}$  in. $\frac{2}{4} \times \frac{15}{16}$  in. $\frac{2}{4} \times 1 \frac{1}{4}$  in. $\frac{3}{4} \times \frac{27}{32}$  in. $\frac{3}{4} \times \frac{5}{8}$  in. $\frac{3}{4} \times \frac{3}{4}$  in. $\frac{3}{4} \times \frac{15}{16}$  in. $\frac{3}{4} \times 1$  in. $\frac{3}{4} \times \frac{7}{8}$  in. $\frac{4}{4} \times \frac{3}{4}$  in.

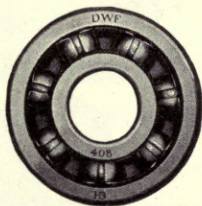


# MONARCH

BALL BEARING

# ATTRITION

# MILLS



*Section D, No. 115*

Established 1866

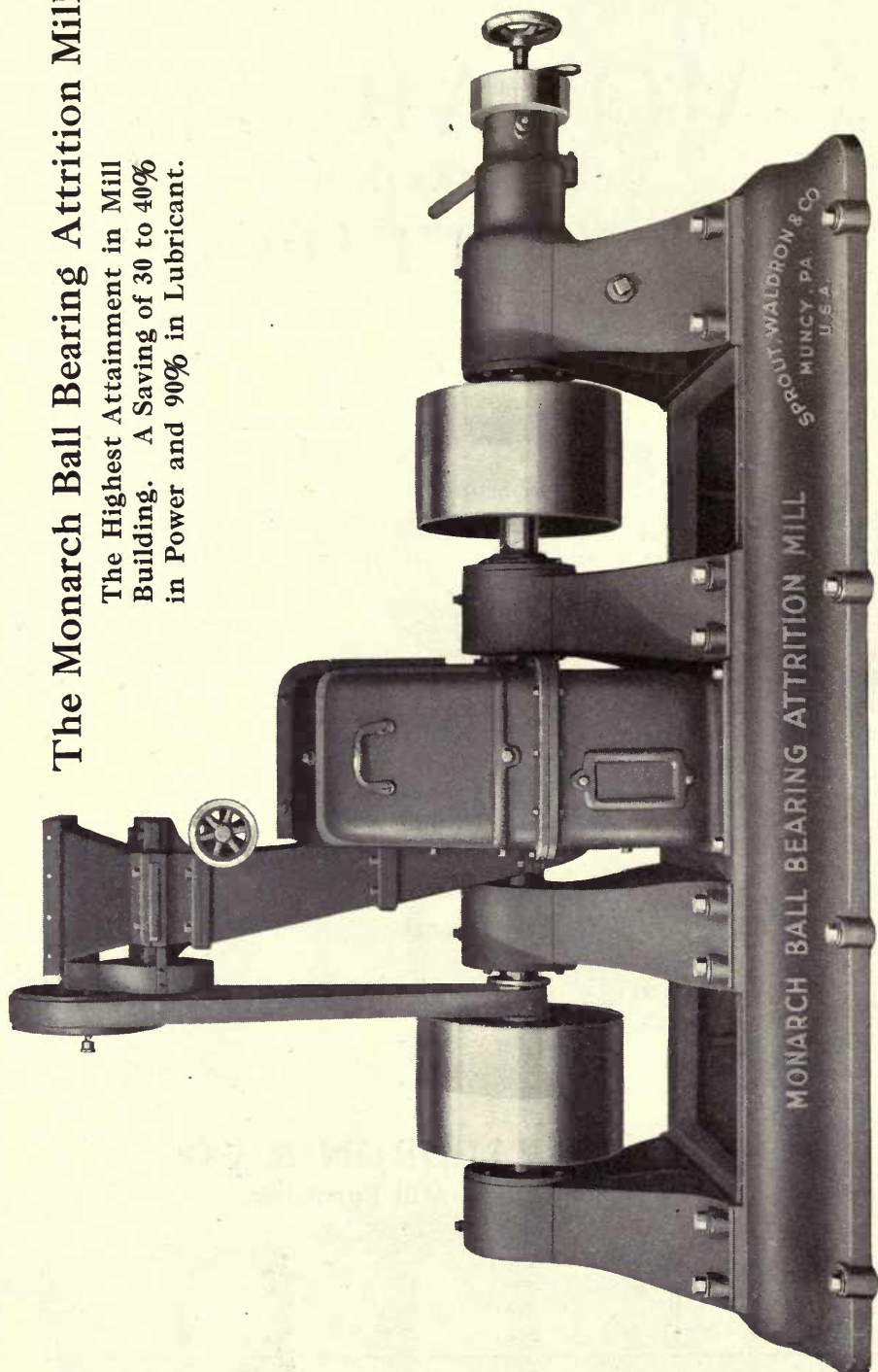
**SPROUT, WALDRON & CO.**

Mill Builders and Mill Furnishers

MUNCY, PA., U. S. A.

## The Monarch Ball Bearing Attrition Mill

The Highest Attainment in Mill Building. A Saving of 30 to 40% in Power and 90% in Lubricant.



The Monarch Ball Bearing Attrition Mill, with Roll Force Feeder



## The Monarch Ball Bearing Attrition Mills

Herein illustrated and described have six pre-eminent features, which, backed by our guarantee, make further recommendations unnecessary.

These features are:

**First.** They will save from 30 to 40% of the power required to operate the plain bearing mills, or, if the same amount of power is used they will give an equal amount of increase in capacity.

**Second.** The positive construction of the ball bearing feature will not allow these mills to get out of tram or alignment.

**Third.** The bearings are absolutely dust proof, require very little lubrication and no other form of attention, and are guaranteed for one year.

**Fourth.** All parts are interchangeable so that repairs can be made quickly and without involving much expense.

**Fifth.** All that is necessary in gaining access to the grinding plates for examination or renewal, is the removal of six cap screws and the operation of a rack and pinion attachment, located in the tail end pedestal. This can be accomplished in less than five minutes with the aid of an ordinary wrench.

**Sixth.** These mills are made, as is the balance of the Monarch line, of the best materials obtainable, by skilled mechanics and under the supervision of competent mechanical and milling engineers.

### Ball Bearings

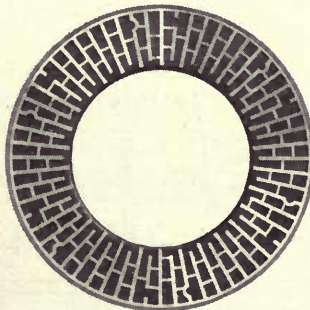
There are four of these in each Monarch Ball Bearing Attrition Mill. Tests have shown that the friction on babbitted bearings will consume at least one-third of the power delivered to the driving pulley. To make matters worse, this power is being misapplied to the destruction of the bearings. There is practically no wear on the ball bearings in the Monarch Mill, because the friction which causes wear is absent.

Our guarantee, covering material and workmanship in these bearings, does not mean that one year is approximately the period of their utility. It is simply a safeguard against physical or mechanical defects, which, if any exist, will become apparent in a year's time or less.

### The Monarch Runner Head and Seal Rings

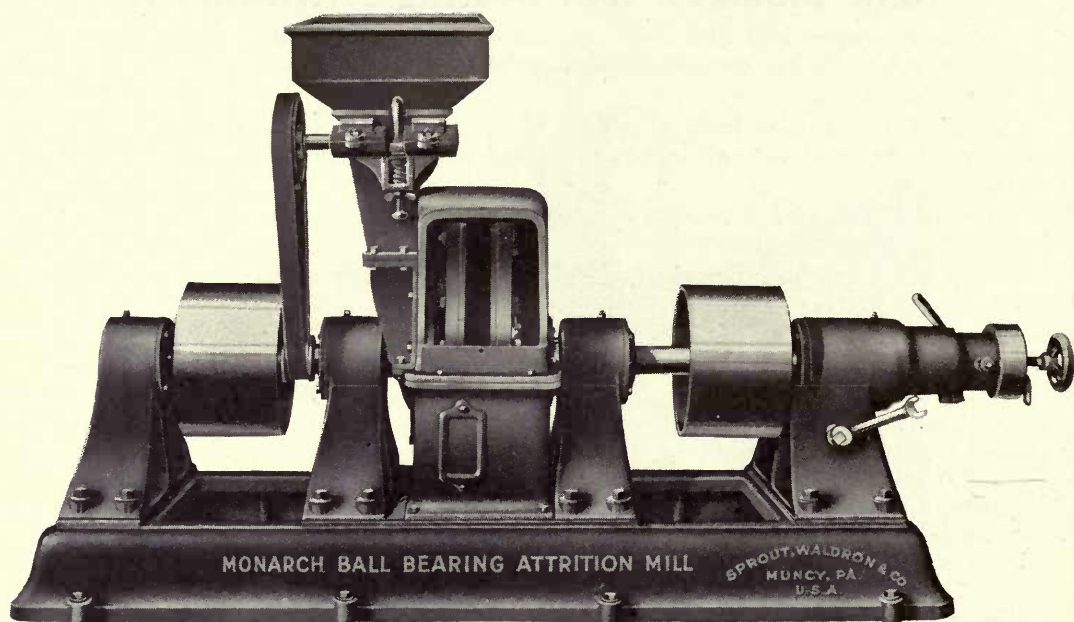
Practically all of the wear on the Monarch Runner Head falls on the arm plates and seal rings. These parts can be quickly removed and easily replaced at a small cost.

### Monarch Grinding Plates



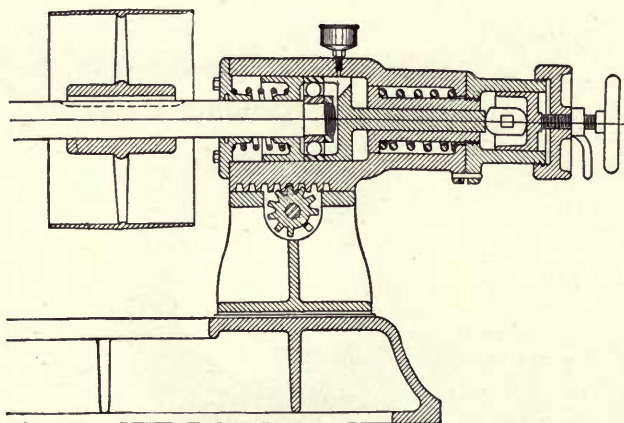
Evolved by years of experience and experimentation in the building of successful grinding machinery, are made of special metals, by a special process known to us alone. The chemical properties are carefully analyzed by an experienced chemist and physical tests are being constantly made in order to maintain a standard product. The Monarch Plates are at once hard and tough, are accurately ground on machines specially designed for the purpose and operated by experts, and have by test, proven to be the best on the market. We make various styles to meet all sorts of requirements in grinding, and every set is carefully fitted to templet and accurately balanced before leaving our hands.

# The Monarch Ball Bearing Attrition Mill



**The Monarch Ball Bearing Attrition Mill with Door of Shell Removed, Showing Accessibility of the Grinding Plates**

All that is necessary in gaining access to the grinding plates for examination or renewal, is the removal of six cap screws and the operation of a rack and pinion attachment, located in the tail end pedestal. This can be accomplished in less than five minutes with the aid of an ordinary wrench



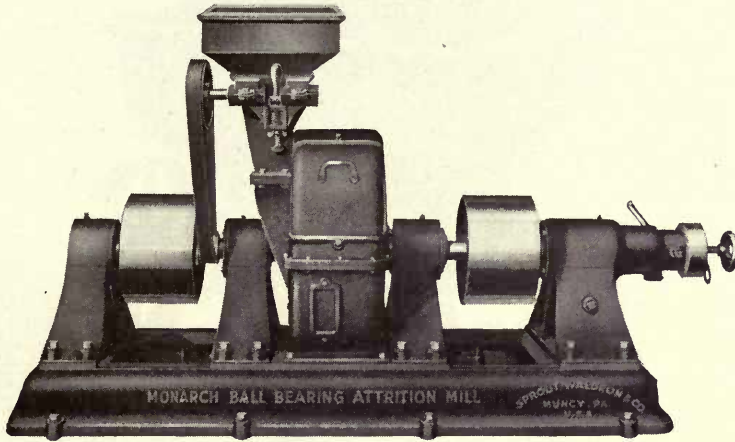
**Section of Adjusting End Showing the Ball Bearing Feature, the Position of the End Thrust and Safety Springs and the Operation of the Quick Release Mechanism**

The end thrust spring, lying nearest to the end of the bearing, is in constant compression of a sufficient degree to keep the runner heads together for grinding, but is capable of further compression, allowing the heads to part should any hard substance reach the surface of the plates.

The safety spring, when operated on by the movement of the release lever at the end of the mill, causes the heads to separate and the mill may run empty in this manner without damage to the grinding plates.



# The Monarch Ball Bearing Attrition Mill



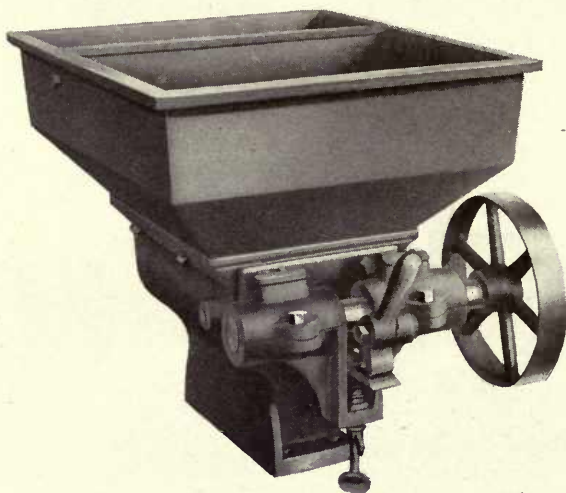
## Prices, Capacities, Speeds, Etc. Of The Monarch Ball Bearing Attrition Mill

Size Inches	List Price	Speed R. P. M.	Required H. P. Loaded	Required H. P. Empty	Size Pulley		Capacity in Pounds per Hour
					Diam.	Face	
16	\$ 500.00	2250	10 to 30	3	8	6	1000 to 2000
18	550.00	2150	15 to 30	4	10	8	1500 to 3000
20	580.00	2050	20 to 40	4	10	8	1800 to 3500
22	600.00	1850	20 to 40	5	12	8	2000 to 4000
24	700.00	1700	25 to 50	5	12	8	2500 to 5000
26	850.00	1600	35 to 60	7	14	10	3000 to 5000
30	1000.00	1400	50 to 100	9	16	10	5000 to 10000
32	1080.00	1400	60 to 100	10	16	10	6000 to 10000
36	1200.00	1300	70 to 115	14	18	12	7500 to 12500

## Dimensions, Weights, Volumes, Etc.

Size Inches	Length Over All Inches	Height Over All Inches	Width Over All Inches	Floor Space of Base Inches	Floor to Center of Shaft Inches	Center to Center of Pulleys Inches	Weight Lbs.	Boxed for Export	
								Weight Lbs.	Volume Cu. Ft.
16	74	42	23	65½x22¾	12½	35	1000	1400	56
18	74	38	27	66¾x26½	14¾	35	1300	1700	56
20	74	38	27	66¾x26½	14¾	35	1300	1700	56
22	85	42	30	75 x26½	16¾	42	2000	2400	82
24	85	42	30	75 x26½	16¾	42	2000	2400	82
26	101	45	32	86½x32¾	18¾	47	3100	3700	107
30	101	52	40	88¾x39¾	22	47	4000	4700	179
32	101	52	40	88¾x39¾	22	47	4100	4800	179
36	123	58	48	108 x48	25	60	6600	7300	261

## The Monarch Vertical Motion Shoe Feeder

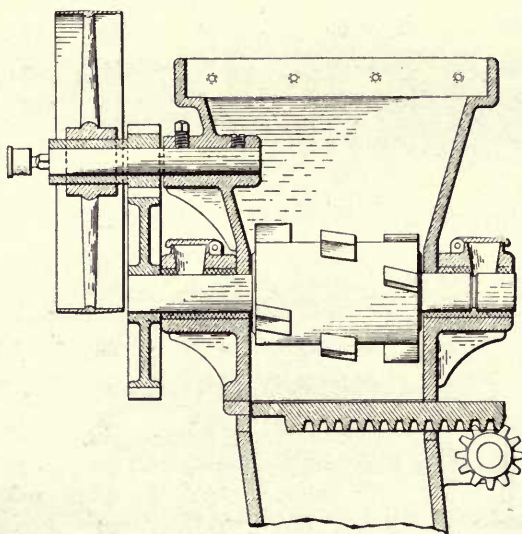


This feeder derives its name from the motion imparted to it by a belt, running from a pulley on the mill spindle to another on the feed. In this manner the shoe is made to rise and fall by the operation of a cam eccentric and a uniform feeding is accomplished.

Movement of the small lever shown in the cut throws the cam in or out of contact with the shoe, instantly starting or stopping the operation of the feed while the mill is in motion.

Adjustment of the feed is simple and effective and no other attention is necessary as the construction is simple and the motion practically noiseless.

## The Monarch Force Feeder



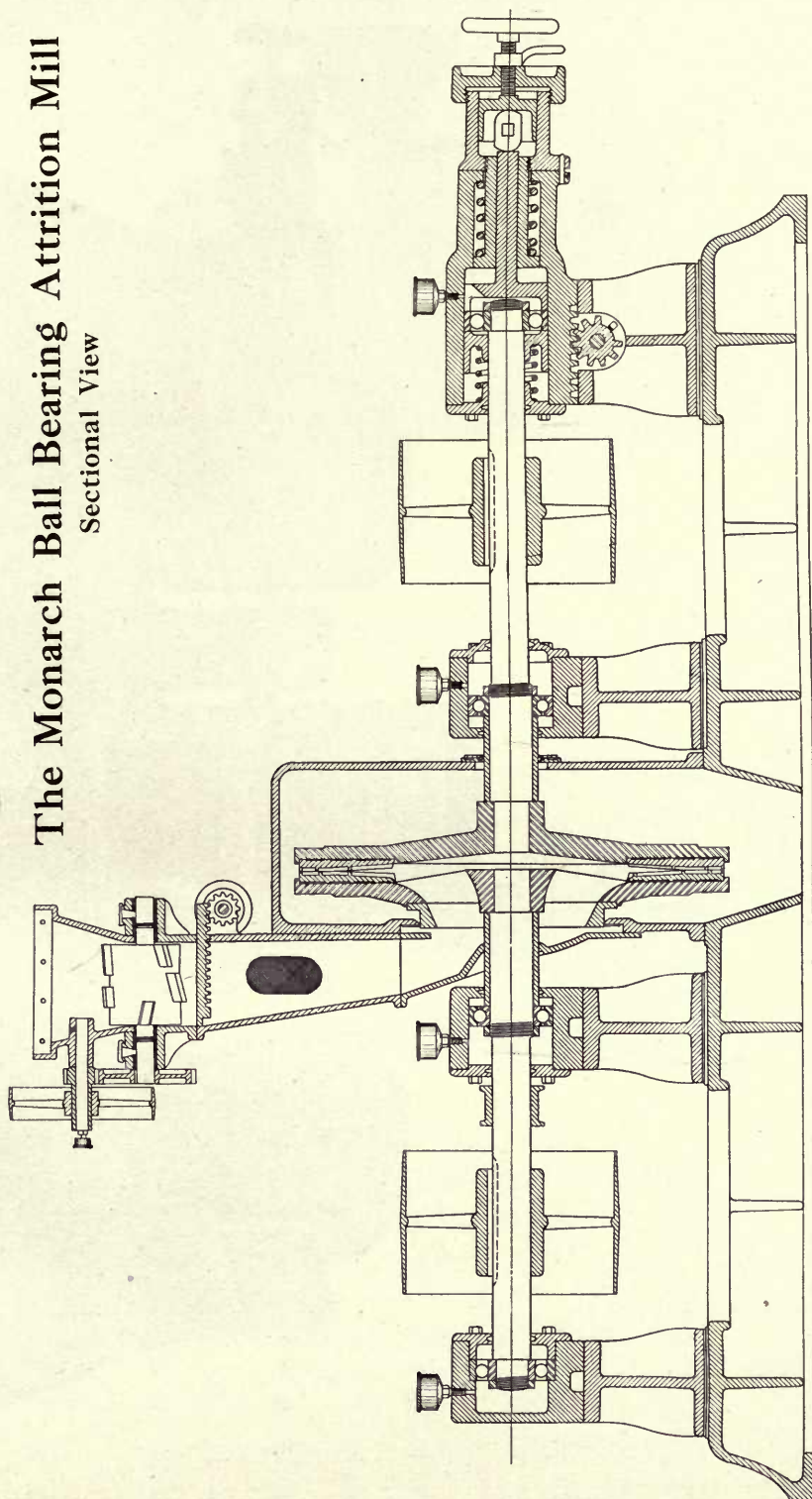
Provided with a gear-driven roll, having projections arranged in a manner proven by experience to be most efficient. This feeder is especially adapted to handling material the nature and size of which prevent successful feeding by gravity alone.

The construction and method of regulation are clearly shown in sectional view above.



# The Monarch Ball Bearing Attrition Mill

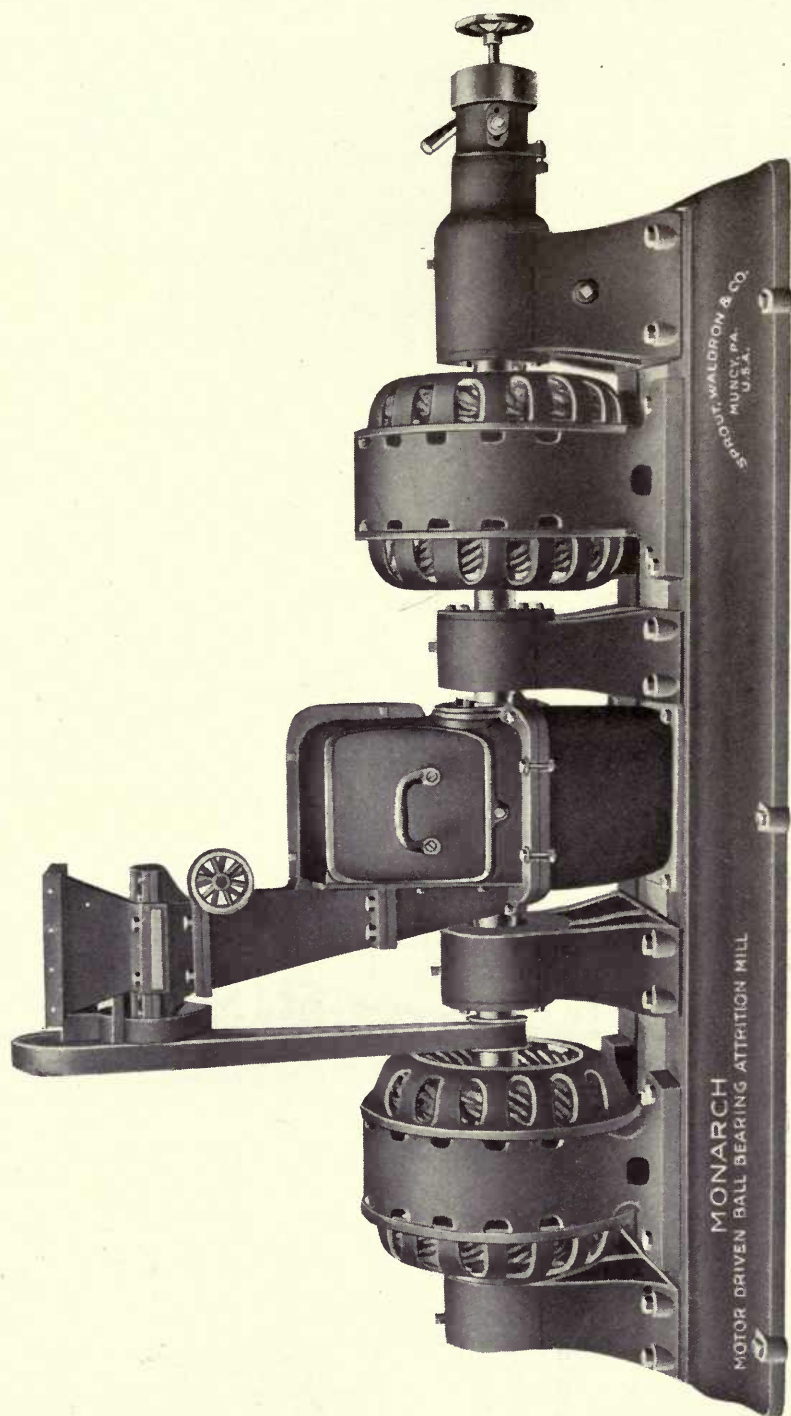
Sectional View



Section Showing Construction of the Monarch Ball Bearing Attrition Mill (Belt-Driven)

# The Monarch Ball Bearing Attrition Mill

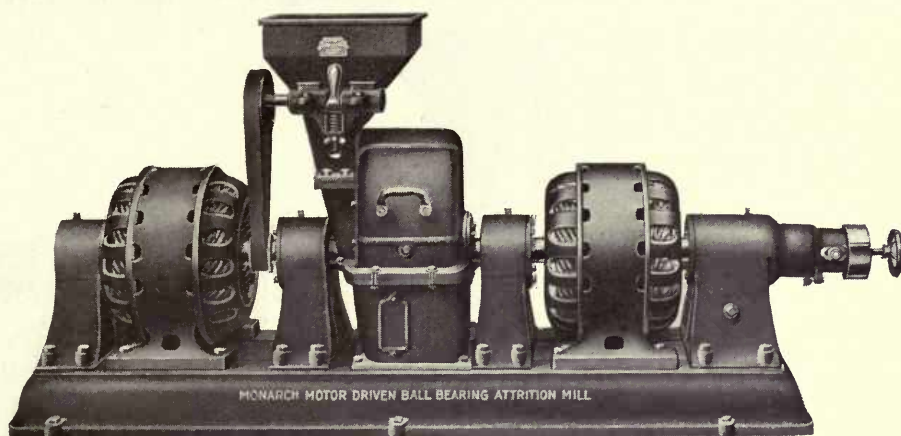
A Matchless Combination for  
Cleanliness and Efficiency



The Monarch Motor-Driven Ball Bearing Attrition Mill, with Roll Force Feeder



# The Monarch Ball Bearing Attrition Mill



## Motor-Driven, with 60-Cycle Motors

The advantages to be gained in driving machines by means of individual motors are so well known and established that they have ceased to create comment and we do not enlarge upon them here.

The Monarch Ball Bearing Motor-Driven Attrition Mill embodies all of the points of excellence and superiority found in the ball bearing belt-driven mill and in addition is equipped to make it a perfect modification for the user of electric motive power.

The motors are the best obtainable, are specially constructed for this service and give the mill the maximum efficiency of which it is capable.

Electrical equipment consists of two Direct Connected 60-Cycle Westinghouse Special Type C. C. L. Induction Motors, one Oil Immersed Type "E" Auto-Starters, of sufficient size to start both motors simultaneously, one Overload Release and one No Voltage Release.

NOTE. These combinations are standard and must be strictly adhered to. Conditions requiring special equipment should be referred to us for estimate.

## Prices and Electrical Data

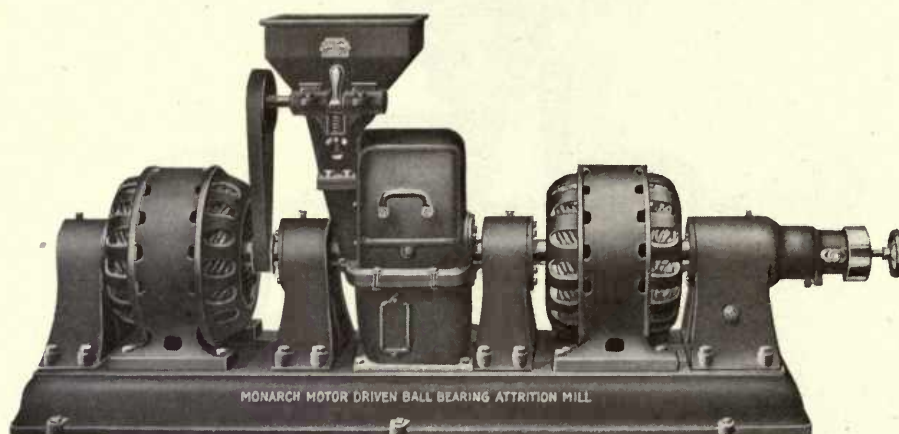
Size of Mill Inches	List Price	Horse Power of Motors	Speed R. P. M.	Phase	Cycle	Number of Starters	Current	Voltage
20	\$1280.00 1460.00	10 15	1710	2 or 3	60	1	Alternating	220-440-550
24	1550.00 1700.00	15 20	1710	2 or 3	60	1		220-440-550
26	2150.00	30	1710	2 or 3	60	1		220-440-550
30	2370.00	30	1710	2 or 3	60	1		220-440-550
	2450.00	30	1140					
	2500.00	35	1710					
	2600.00	35	1140					
32	2450.00	30	1710	2 or 3	60	1		220-440-550
	2530.00	30	1140					
	2600.00	35	1710					
	2680.00	35	1140					
36	3000.00	40	1140	2 or 3	60	1		220-440-550
	3200.00	50						

## Dimensions, Weights, Volumes, Etc.

Size of Mill Inches	Overall Dimensions			From Floor to Center of Shaft Inches	Floor Space of Base Inches	Weight Lbs.	Boxed for Export	
	Length Inches	Height Inches	Width Inches				Weight Lbs.	Volume Cu. Ft.
20	80	38	27	14 $\frac{3}{8}$	72 $\frac{3}{8}$ x26 $\frac{1}{2}$	2300	2760	70
24	91	42	30	16 $\frac{3}{4}$	81 x26 $\frac{1}{2}$	3200 to 3500	3680 to 3980	99
26	114	45	32	18 $\frac{3}{4}$	99 $\frac{1}{2}$ x32 $\frac{3}{8}$	5000	5670	113
30	108	52	40	22	95 $\frac{3}{8}$ x39 $\frac{3}{4}$	6000 to 6600	6700 to 7300	179
32	108	52	40	22	95 $\frac{3}{8}$ x39 $\frac{3}{4}$	6000 to 6600	6700 to 7300	179
36	131	58	48	25	116 x48	9500 to 10000	10250 to 10750	222

If separate Auto-Starters for each motor and separate No Voltage and Overload Release for each Starter is required, charge for the extra equipment as per price list on page 154.

# The Monarch Ball Bearing Attrition Mill



Motor-Driven, with 25-Cycle Motors

Each equipped with two Direct Connected 25-Cycle Westinghouse Special Type C. C. L. Induction Motors, one Oil Immersed Type "E" Auto-Starter, of sufficient size to start both motors simultaneously, one Overload Release and one No Voltage Release.

NOTE. These combinations are standard and must be strictly adhered to. Conditions requiring special equipment should be referred to us for estimate.

## Dimensions, Prices, Etc.

Size of Mill Inches	List Price	Horse Power of Motors	Speed R. P. M.	Floor Space of Base Inches	Overall Dimensions			From Floor to Center of Shaft Ins.	Weight Lbs.	Boxed for Export	
					Length Inches	Height Inches	Width Inches			Weight Lbs.	Volume Cu. Ft.
24	\$1900.00	15	1440	81 x 26½	97	42	30	16¾	3200	3680	86
24	2070.00	20	1440	81 x 26½	97	42	30	16¾	3500	3980	86
26	2660.00	30	1440	99½ x 32¾	114	45	32	18¾	5000	5670	113
30	2810.00	30	1440	95½ x 39¾	115	52	40	22	6000	6700	210
32	2890.00	30	1440	95½ x 39¾	115	52	40	22	6000	6700	210
36	3310.00	40	1440	116 x 48	139	58	48	25	9500	10250	302
36	3660.00	50	1440	116 x 48	139	58	48	25	10000	10750	302

If separate Auto-Starter for each motor and separate No Voltage and Overload Release for each Starter is required, the extra equipment will be charged for as per list below.

## Two-Point Oil Immersed Self-Contained Starters for Squirrel Cage Motors

Type "E" Auto-Starter can be used on voltages 10% higher or lower than rated voltage.

Weight and price include complete auto-starter with self-contained auto-transformers and oil, which is shipped separately.

Any Type "E" Auto-Starter can be equipped with a self-contained automatic no voltage release and with a separate overload release.

Prices are regular, weights are gross (shipping) and may vary 5% from figures given.

## Ratings, Weights and Regular Prices

220 Volts—60 Cycle			220 Volts—25 Cycle			440 and 550 Volts—60 Cycle			440 and 550 Volts—25 Cycle		
H. P.	Weight	Regular Price	H. P.	Weight	Regular Price	H. P.	Weight	Regular Price	H. P.	Weight	Regular Price
7½	250	\$120.00	7½	250	\$130.00	7½	250	\$120.00	7½	250	\$130.00
15	250	120.00	15	290	150.00	15	250	120.00	15	290	150.00
30	290	140.00	30	535	180.00	30	290	150.00	30	535	190.00
50	535	180.00	50	615	230.00	50	535	190.00	50	615	240.00
100	875	380.00	100	875	400.00	100	615	280.00	100	875	350.00
---	---	---	---	---	---	200	875	440.00	---	---	---

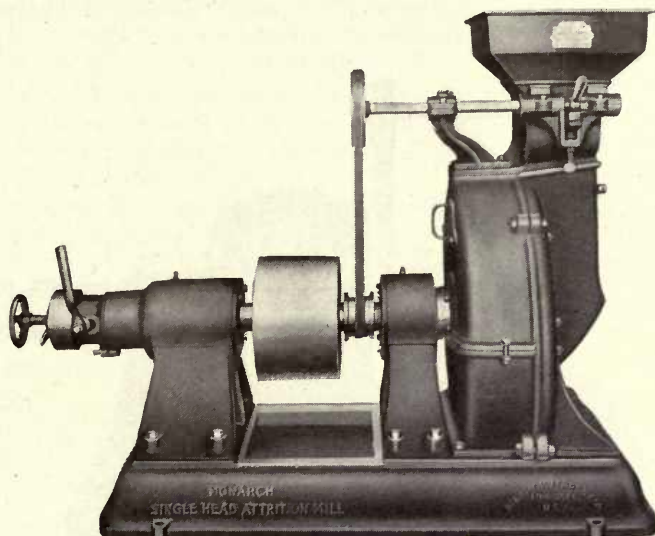
## No Voltage and Overload Release Devices for Type "E" Auto-Starters

### Ratings and Regular Prices

Maximum Horse Power			Regular Price		Maximum Horse Power			Regular Price	
220 Volt	440 Volt	550 Volt	No Voltage	Overload	220 Volt	440 Volt	550 Volt	No Voltage	Overload
35	75	100	\$20.00	\$30.00	100	200	200	\$20.00	\$36.00



# The Monarch Ball Bearing Single Disc Corn Cracker



**Belt-Driven, Single Disc, Ball Bearing Corn Cracker with Shake Feed**

This mill was designed primarily for the purpose of cracking corn and is entirely satisfactory for this work, as, with one head only in motion, a minimum amount of fine meal is produced in the operation.

Monarch Single Disc Corn Crackers are equipped with ball bearings which give them the same advantages found in our Standard Mills. They have the safety and quick release features, are well and carefully built and modern in every respect.

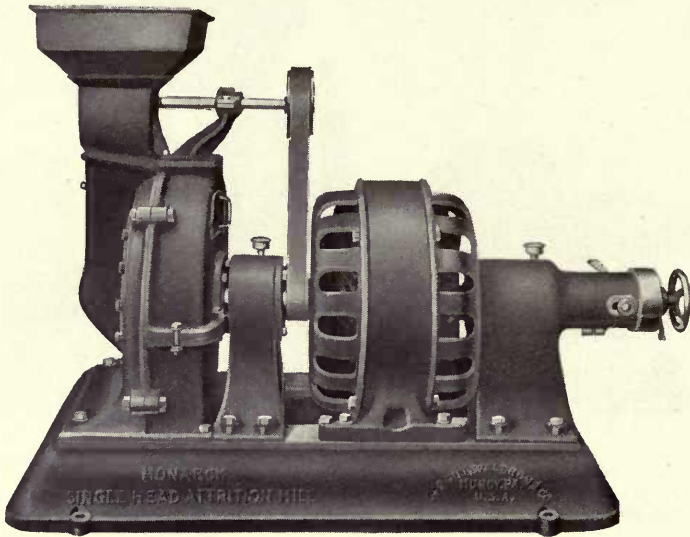
## Prices, Capacities, Speeds, Etc.

Size of Mill Inches	List Price	Speed R. P. M.	Size of Pulley		Capacity per Hour Bushels	Horse Power Required
			Diam.	Face		
16	\$360.00	1400	8	6	50 to 75	5 to 8
20	400.00	1140	10	8	75 to 125	8 to 10
24	600.00	1140	12	8	100 to 200	10 to 15
30	800.00	800	16	10	175 to 275	15 to 25
32	850.00	800	16	10	200 to 300	18 to 30
36	1100.00	800	18	12	300 to 400	20 to 35

## Dimensions, Weights, Volumes, Etc.

Size of Mill Inches	Length Over All Inches	Height Over All Inches	Width Over All Inches	Floor to Center of Shaft Inches	Floor Space of Base Inches	Weight Lbs.	Boxed for Export	
							Weight Lbs.	Volume Cu. Ft.
16	55	38	23	12½	23x44	875	925	35
20	55	41	27	14¾	27x46	960	1060	46
24	60	46	29	16¾	27x51	1400	1550	57
30	76	60	40	22	40x64	3000	3200	124
32	76	60	40	22	40x64	3025	3275	124
36	102	65	48	25	48x87	5360	5660	210

# The Monarch Ball Bearing Single Disc Corn Cracker



The Monarch Ball Bearing Single Disc  
Corn Cracker (Motor-Driven)

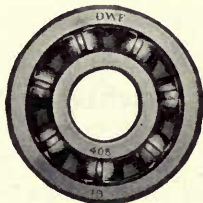
The words motor-driven in the above title accurately describe the only important feature in which this mill differs from the Ball Bearing Single Disc Mill previously described.

Having but one movable head, it is equipped with but one motor which is specially designed for this installation and gives the mill ample power to perform the work for which it is intended.

Except the over-all length this machine has the same dimensions as the belt-driven Corn Cracker.

## Prices, Speeds, Weights, Etc.

Size of Mill Inches	List Price	Horse Power of Motor	Speed R.P.M.	Phase	Cycle	No. of Starters	Current	Voltage	Length Over All Inches	Weight Lbs.	Boxed for Export	
											Weight Lbs.	Volume Cu. Ft.
20	\$ 770.00	7 1/2	1140	2 or 3	60	1	Alternating	220-440-550	59	1500	1650	46
20	820.00	10	1140	2 or 3	60	1		220-440-550	59	1500	1650	46
24	1020.00	10	1140	2 or 3	60	1		220-440-550	64	2300	2450	57
24	1090.00	15	1140	2 or 3	60	1		220-440-550	64	2465	2615	57
30	1400.00	20	1140	2 or 3	60	1		220-440-550	84	3600	3800	124
30	1540.00	25	850	2 or 3	60	1		220-440-550	84	3600	3800	124
32	1510.00	20	850	2 or 3	60	1		220-440-550	84	3650	3850	124
32	1600.00	25	850	2 or 3	60	1		220-440-550	84	3650	3850	124
36	1920.00	30	850	2 or 3	60	1		220-440-550	102	5250	5550	210
36	2000.00	35	850	2 or 3	60	1		220-440-550	102	6100	6500	210



## Ball Bearings for Monarch Ball Bearing Attrition Mills Size Numbers and Prices

For 16-In. Mill	For 18-In. Mill	For 20-In. Mill	For 22-In. Mill	For 24-In. Mill	For 26-In. Mill	For 30-In. Mill	For 32-In. Mill	For 36-In. Mill
No. 313 \$24.00	No. 313 \$24.00	No. 313 \$24.00	No. 315 \$31.00	No. 315 \$31.00	No. 316 \$35.00	No. 316 \$35.00	No. 316 \$35.00	No. 318 \$51.50
No. 410 \$22.50	No. 410 \$22.50	No. 410 \$22.50	No. 412 \$31.00	No. 412 \$31.00	No. 413 \$36.50	No. 413 \$36.50	No. 413 \$36.50	No. 414 \$45.50



# The Monarch Ball Bearing Single Disc Feed Grinder

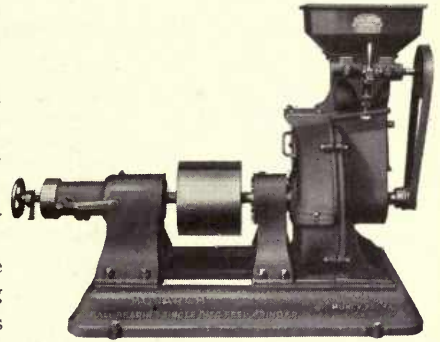
In milling plants where economy of space is a consideration and large capacity not a requisite, we recommend the installation of the Monarch Ball Bearing Single Disc Feed Grinder.

Under the above circumstances, this machine is a very satisfactory medium for the reduction of all kinds of grain, both unmixed and in combinations, crushed corn and cob, etc., into a fine and uniformly ground product.

Its operation is briefly described as follows: The underground stock, continually agitated by the motion of the feeder, falls into a feed box from which it is conveyed through the eye of the stationary head by means of a worm conveyor. Coming into contact with the center of the plates, it is subjected at this point to a rough grinding; then scattered uniformly over the entire surface where it is finely ground before being discharged.

Grinding plates, while of the same quality as those used on our Standard Ball Bearing Attrition Mills are especially designed to handle the different kinds of work for which the single disc machine is recommended. The revolving disc to which the plates are fastened, is made of amply sufficient strength to withstand the speed and service required of it.

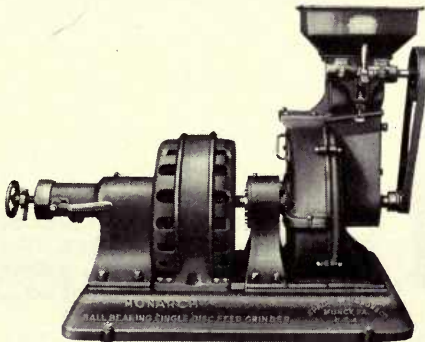
Ball Bearings, safety and quick release devices and solid durable construction, give this mill the same economical advantages as are obtained thorough them in our Standard Ball Bearing Double Runner Head Attrition Mill.



The Monarch Ball Bearing Single Disc Feed Grinder (Belt-Driven)

## Prices, Dimensions, Weights, Etc.

Size of Mill Inches	Price	Length Over All Inches	Height Over All Inches	Width Over All Inches	Floor to Center of Shaft Inches	Floor Space of Base Inches	Speed R. P. M.	Size of Pulley Inches	Weight Lbs.	Boxed for Export	
										Weight Lbs.	Volume Cu. Ft.
16	\$360.00	55	38	23	12½	23x45	3000	8x6	875	925	35
20	400.00	55	41	27	14	27x46	2500	10x8	960	1060	46



The Monarch Ball Bearing Single Disc Feed Grinder (Motor-Driven)

Exclusive of the fact that it is equipped with direct connected motor and therefore suited to the requirements of users of electricity, this mill is identical with the Single Disc Feed Grinder described above.

## Prices, Dimensions, Weights, Etc.

Size of Mill Inches	Price	H. P. of Motor	Speed R. P. M.	Length Over All Inches	Height Over All Inches	Width Over All Inches	Floor to Center of Shaft Inches	Floor Space of Base Inches	Weight Lbs.	Boxed for Export	
										Weight Lbs.	Volume Cu. Ft.
16	\$780.00	10	3400	55	38	23	12½	23x45	1400	1500	35
16	840.00	15	3400	59	41	27	14	27x49	1500	1600	35

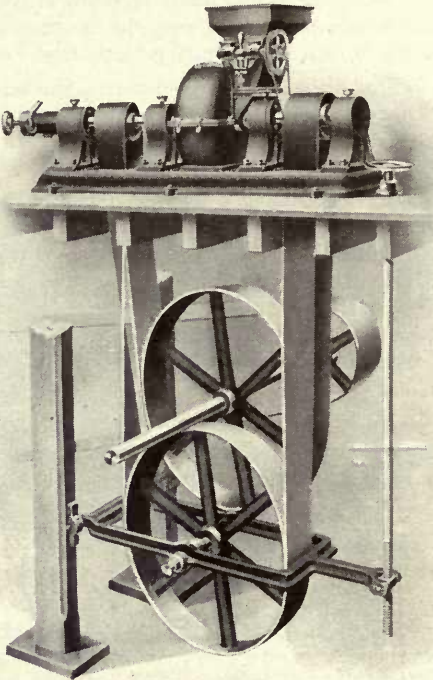
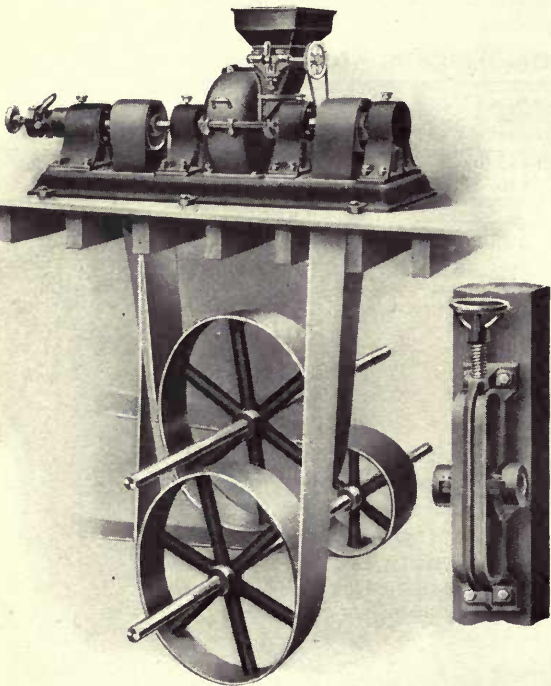
# The Monarch Drives, Numbers 15 and 17

## The No. 15 Drive (Opposite)

Permits of the use of an endless belt and consists of one pulley in a tightener frame and one on a short drive shaft. When it becomes necessary to reverse the mill, all that is required is the dropping of the tightener far enough to allow its pulley to pass the pulley on the drive shaft. By throwing the tightener, the pulley it contains and the pulley on the short drive shaft to a position opposite to that previously occupied, changing the tightener rod to the opposite side of the mill and replacing the belt, the mill is made ready for the reverse motion.

The drive may be used equally as well above as below the mill, but to secure the best results we advise its being used below when it can be so arranged.

We furnish with the No. 15 Drive, everything shown in the cut with the exception of the belting and the driven pulley; and in addition two post boxes for driven shaft. If given the speed of drive shaft and size of pulley we will be glad to advise as to size of driven pulley. Our special Muncy AA Leather Belt is recommended for Monarch Drives.



## The No. 17 Drive (Opposite)

Consists of two short countershafts, on one of which is the main drive pulley. A special adjustment bearing is fitted to either one of the shafts as a tightener. In the cut, the upper pulley carries the reverse motion. When the mill is to be reversed, all that is necessary is the changing of the drive pulley to the other shaft. Our special adjustable bearing, which is furnished with this drive, permits of the use of endless belts, as the slack or stretch may be taken up at any time by its adjustment.

The drive may be used equally as well above as below the floor. We furnish with the No. 17 Drive, two pulleys, two shafts, safety collars, two special take-up boxes and two post boxes.

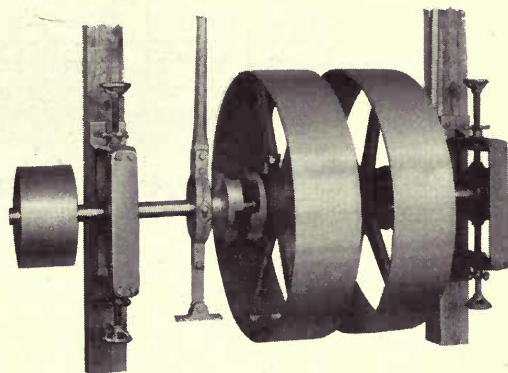
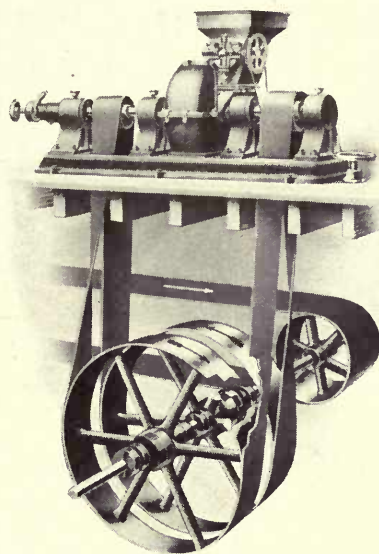
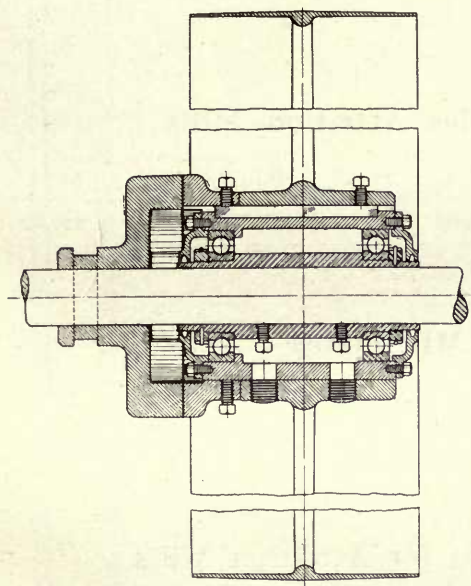
## Price List

Size of Mill Inches	Price 15 Drive		Price 17 Drive		Size of Mill Inches	Price 15 Drive		Price 17 Drive	
	With Chain Oiling Hangers	With Ball Bearing Hangers and Yoke	With Chain Oiling Hangers	With Ball Bearing Hangers		With Chain Oiling Hangers	With Ball Bearing Hangers and Yoke	With Chain Oiling Hangers	With Ball Bearing Hangers
16	\$ 95.00	\$225.00	\$ 95.00	\$225.00	24	\$125.00	\$245.00	\$125.00	\$245.00
18	100.00	225.00	100.00	225.00	26	135.00	335.00	135.00	335.00
20	105.00	225.00	105.00	225.00	30	180.00	395.00	180.00	390.00
22	115.00	245.00	115.00	245.00	32	180.00	395.00	180.00	390.00
---	---	---	---	---	36	210.00	400.00	210.00	400.00



## Monarch Ball Bearing Reverse Drive Countershaft

This illustration shows the New Monarch Ball Bearing Reverse Drive Countershaft for Monarch Ball Bearing Attrition Mills. The twin pulleys on this drive, as will be noted by reference to the sketch, are equipped with annular ball bearings, are mounted on separate inner hubs and fitted with clutch couplings. When in operation, one clutch is disengaged, allowing its pulley to revolve on the balls in reverse motion to the shaft. The other pulley, engaged to the shaft, drives one end of the mill and the return belt passing over the loose pulley, which runs in the opposite direction, drives the other end in reverse motion.



The general reverse motion is accomplished by engaging one clutch and disengaging the other. We guarantee this drive to save power and prolong the life of grinding plates by allowing the mill to be reversed when plates get dull on one edge.

The hanger bearings are of the ball bearing type. We furnish with this type of drive, two ball bearing pulleys with clutch for each, one shaft, two adjustable ball bearing hangers and two collars.

### Price List

Size of Mill Inches	Price of Drive	Size of Mill Inches	Price of Drive
16	\$240.00	26	\$330.00
18	240.00	30	330.00
20	240.00	32	330.00
22	270.00	36	530.00
24	270.00	---	---

## Price List of Repair Parts

### Monarch Ball Bearing Attrition Mills

#### Dust Collars and Seal Rings

DUST COLLARS			SEAL RINGS		
Size Inches	Mill	Price Each	Size Inches	Mill	Price Each
16	Ball Bearing Attrition.....	\$1.00	16	Ball Bearing Attrition.....	\$5.50
18	“ “ “ .....	1.50	18	“ “ “ .....	6.00
20	“ “ “ .....	1.50	20	“ “ “ .....	6.00
22	“ “ “ .....	2.00	22	“ “ “ .....	7.00
24	“ “ “ .....	2.00	24	“ “ “ .....	7.00
26	“ “ “ .....	2.50	26	“ “ “ .....	7.50
30	“ “ “ .....	2.50	30	“ “ “ .....	8.00
32	“ “ “ .....	2.50	32	“ “ “ .....	8.00
36	“ “ “ .....	3.00	36	“ “ “ .....	10.00

### Grinding Plates for All Styles Attrition Mills

Size.....	16 In.	18 In.	20 In.	22 In.	24 In.	26 In.	30 In.	32 In.	36 In.
Price, Per Set..	\$16.00	\$18.00	\$20.00	\$22.00	\$24.00	\$27.00	\$30.00	\$33.00	\$36.00

### Regrinding Attrition Mill Plates

Size.....	16 In.	18 In.	20 In.	22 In.	24 In.	26 In.	30 In.	32 In.	36 In.
Price, Per Set..	\$5.30	\$6.00	\$6.75	\$7.30	\$8.00	\$8.75	\$10.00	\$11.00	\$12.00

### Runner Arm Plates and Screws for Attrition Mills

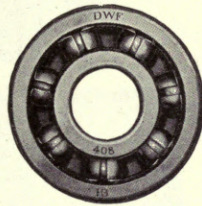
Size Mill.....	16 In.	18 In.	20 In.	22 In.	24 In.	26 In.	30 In.	32 In.	36 In.
Price, Per Set..	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.70	\$1.80	\$1.90	\$2.00

### Bolts for Attrition Mill Plates

Size Mill.....	16 In.	18 In.	20 In.	22 In.	24 In.	26 In.	30 In.	32 In.	36 In.
Price, Per Set..	\$3.60	\$3.60	\$3.60	\$3.60	\$3.60	\$3.60	\$6.00	\$6.00	\$6.00



# MONARCH BURR MILLS



*Section E, No. 115*

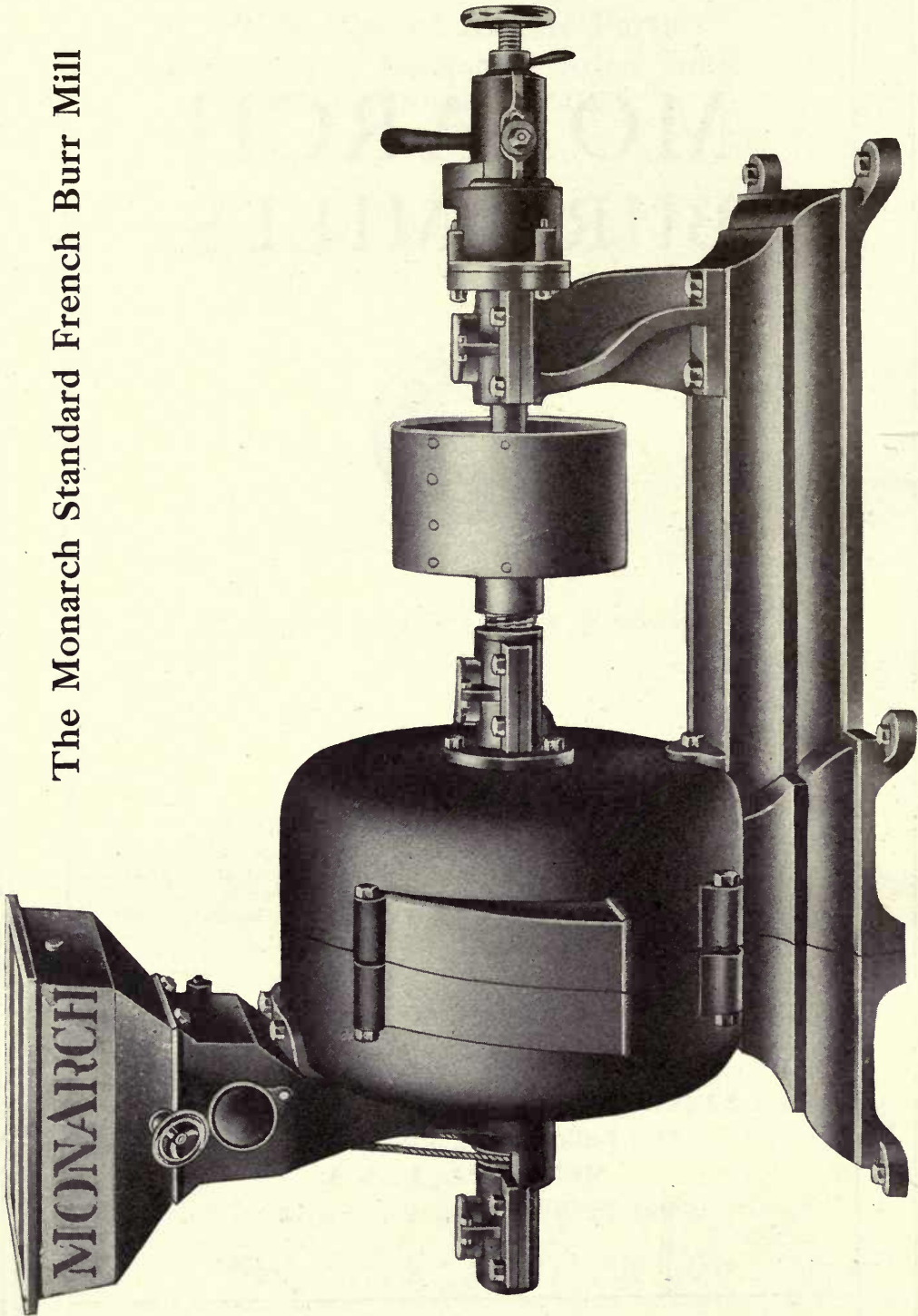
Established 1866

**SPROUT, WALDRON & CO.**

**Mill Builders and Mill Furnishers**

**MUNCY, PA., U. S. A.**

The Monarch Standard French Burr Mill





## The Monarch Standard French Burr Mill

**W**E do not need to explain to you the uses and advantages of owning a burr mill, nor do we need to tell you what money savers they are, as well as money makers, but our object is to prove to your satisfaction that the Monarch Burr Mills are superior in construction; so much so that they are in a class by themselves. On pages that are intervening we will definitely and thoroughly endeavor to explain and illustrate the superior merits of the Monarch Mills, and we would advise you, if you are interested in mills of this character, and wish to spend your money to the utmost advantage when the time comes to purchase, that you read what we have to say on the matter carefully, for ours is a straight business proposition and means dollars in your pocket.

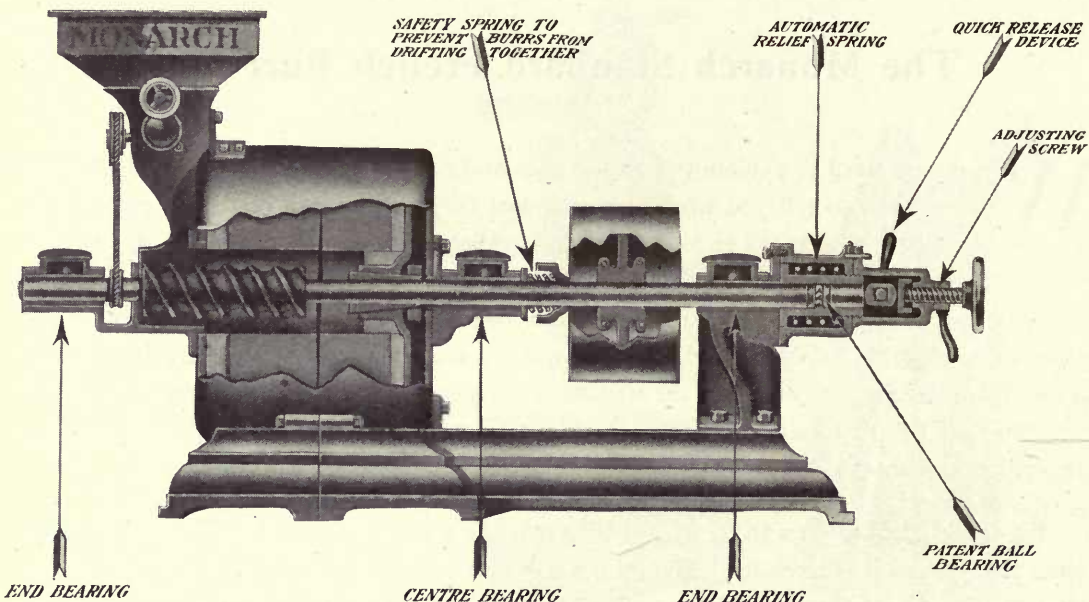
We would also ask you to remember that it is not the first cost of a mill, but its earning power that determines its value. We do not ask you to take our word in the matter alone, although that should be sufficient, for we have been building these mills for more than a quarter of a century. We prove all we say, both by the testimony of other practical mill men, who have used our mills, and also by allowing you to test any of our mills adapted to your power, in which you may be interested.

The illustrations on the following pages show our latest and most improved types of Monarch French Burr Mills. They are built in a plain and simple fashion, strongly constructed and embody the very best materials it is possible for us to secure. They will stand the most severe strain that may be put upon them and we absolutely guarantee them to have the maximum capacity, considering the amount of power used. We would especially call your attention to their neat and sightly appearance, the compactness of their general outline and their graceful solidity.

If any of the details which follow are not exactly clear to you, it would be our special pleasure to give you a more full and personal explanation by mail. Never hesitate to write us. We build this mill in various sizes with slight variations for different purposes which you will note by reading or referring to the pages following.

We again repeat, and would endeavor to press on your mind, that the life of a mill depends on the material that enters into its construction and should be taken into consideration when placing your order.

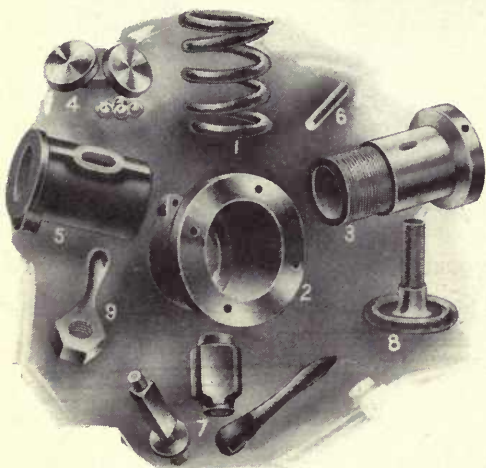
## The Monarch Standard French Burr Mill



Sectional View of The Monarch Standard French Burr Mill

Refer to the sectional view of the Monarch French Burr Mill and note the manner of its interior construction, especially how all superfluous mechanism has been eliminated in it. We would ask you to refer to the table of description and weight of our mills (see page 168) and compare these with the price list and you will see that they are comparatively inexpensive for the class of work they are designed to do. A very large amount of machine work enters into their construction, but no expense has been spared on either major or minor details, to make them absolutely perfect in every way possible. The Monarch is a mill that should, and will, appeal to every conscientious purchaser.

## Quick Release, Ball Bearing and Relief Spring



The adjustable end of the mill is composed of the parts shown in opposite cut.

Fig. 1 is the Relief Spring which allows the burrs to separate when any hard substance comes between them. It consists of heavy coiled steel and is placed in the case (Fig. 2) which is bored and turned and bolted to the flange on the end bearing. On the inside of this spring we place the steel step box (Fig. 3) in which the patent ball bearing (Fig. 4) is located. This works between the end of the spindle and the eccentric of the cam flattened on two sides, the ends being on a true circle.

Fig. 5 is the casting containing the quick release which screws on the step box (Fig. 3) and fits snugly against the small end of the case (Fig. 2). It is held in position by the small pin (Fig. 6) which passes through the flanges on the case and the casing containing the quick release (Figs. 2 and 5). Fig. 7 represents our quick release located in the casing (Fig. 5) as you will see by referring to the illustration.

Fig. 8 is the adjusting screw which regulates the coarseness or fineness of the grinding. Fig. 9 is the jamb nut which locks the adjusting screw after the mill has been regulated.



# The Monarch Standard French Burr Mill

## The Main Shells

Figs. 1 and 2 show the two halves of the mill. Sufficient space is left around the running burr for a free delivery of material and an easy circulation of air. We face the edges of the shells where they join and rabbet them on a lathe till they fit perfectly.

Note the four small bosses located on the side of the shells. They face parallel to the rabbetted edge, with holes bored exactly in the center of their rabbetted circles to fit the centering bosses on the opposite shell to which they are bolted with long heavy bolts of great strength.

The delivery spout is of a very convenient shape, is less apt to clog than any other and is constructed along scientific lines. Figs. 1 and 2 clearly illustrate the points mentioned.

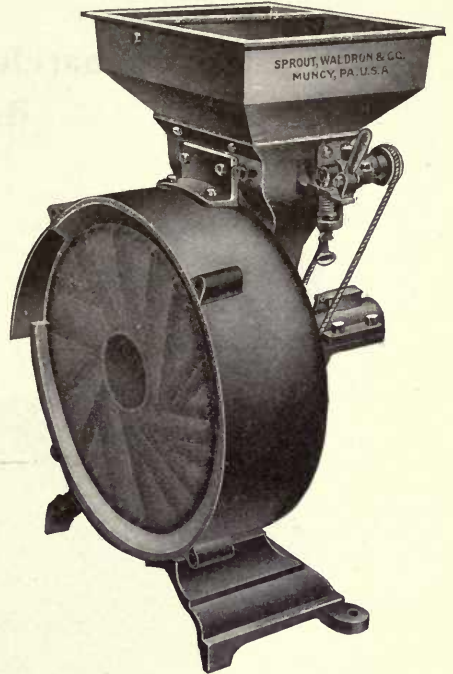


Fig. 2. Bed End of Mill

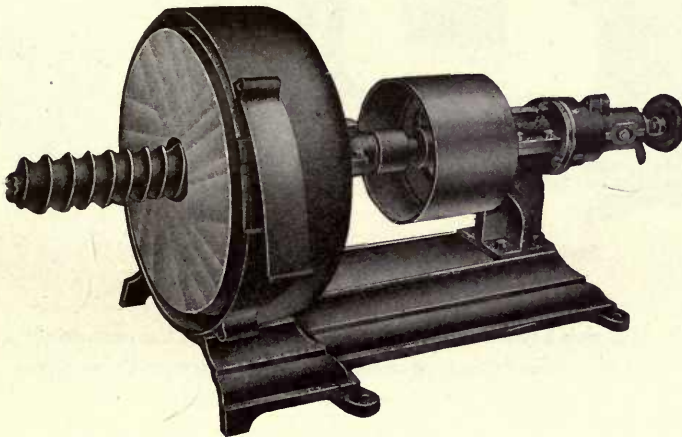
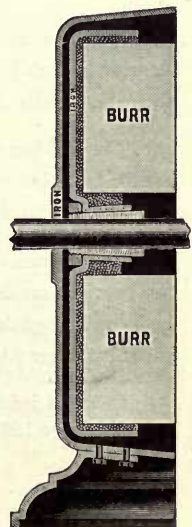


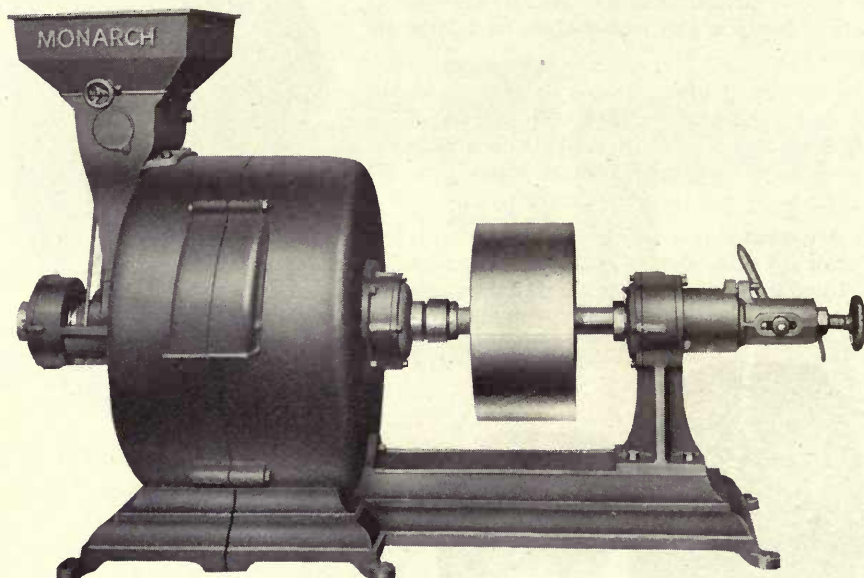
Fig. 1. Runner or Adjusting End of Mill

## The Monarch Method of Fastening the Runner on the Spindle

We fasten the runner to the spindle by a patented device of our own, which consists of a split tapered sleeve as shown in cut. By this device it is possible to easily and accurately move the runner on the spindle and still keep it in perfect face with the bed-stone. This device closes completely around the spindle and extends the full length of the hub, bringing the face of the runner burr always at a right angle with the spindle. You will see by this method it can be kept in perfect face with the bed-stone and at the same time can be easily moved.



## The Monarch French Burr Mill with Ball Bearings



Style "A"

The application of ball bearings to the Monarch French Burr Mill illustrated above, is the outcome of a demand which has been created by the proof of the value of this type of bearing as an agency for the conservation of power and lubricant and the elimination of the wear and expense caused by friction.

The mechanical efficiency of ball bearings as a means for the transmission or distribution of power, depends absolutely on the accuracy and precision with which co-working parts are machined and fitted; therefore, we have taken great care that there are no discrepancies in the design and construction of the Monarch Ball Bearing French Burr Mill. Machine work is accurate to the highest degree and every part is carefully assembled to make a permanently satisfactory machine.

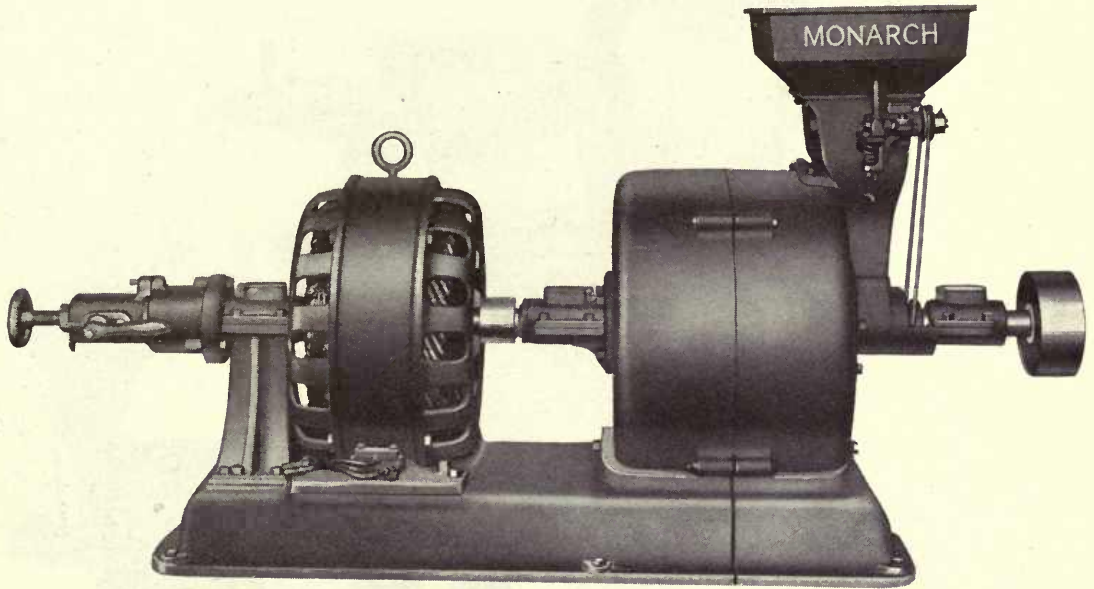
The ball bearings are guaranteed for a period of one year, a provision which does not intimate that they are likely to become unserviceable after the expiration of that time, but which protects the purchaser against physical defects, which if existent at the time of sale, will become apparent before the expiration of the guarantee.

Due provision has been made to facilitate the taking up of any wear on the faces of the burrs, by mounting the bearings on sleeves. These sleeves are arranged to slide on the feather of the shaft so that the stones can be brought together without disturbing the position of the bearings. In other details this mill is similar to our standard Burr Mill with babbitt bearings.

Detailed information as to power requirements will be furnished on application.  
See Page 168 for prices, capacities, etc.



## The Monarch Motor-Driven French Burr Mill



Style "B"

The increase and development of hydro and steam generated electric plants throughout the country is rapidly making electricity available as a motive power for all branches of industry, and mill owners are rapidly taking advantage of a service which has proved to be very satisfactory and economical. With this in mind and following our usual policy of supplying milling utilities to meet every condition and class of work we offer the Monarch Motor-Driven French Burr Mill to the trade for use where electricity can be advantageously purchased or generated.

While closely following the lines of construction and including all the exclusive points of superiority found in the Monarch Belt-Driven Burr Mill, the machine shown in the illustration is equipped with a specially constructed motor, which gives it the speed and capacity required in the work for which it is recommended.

In general the advantages of a motor-driven mill are as follows:

It requires no jack or countershaft or gearing and does away with the necessity for intermediate lines of shafting with bearing, belts, pulleys, etc.

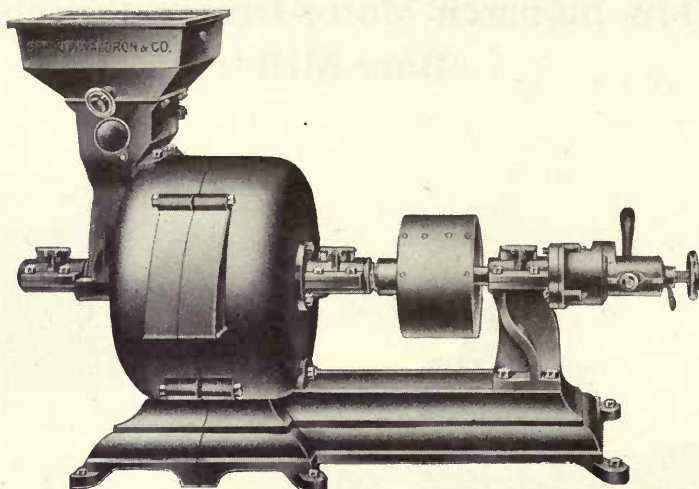
It is started instantly by the throwing of a switch and is conveniently stopped in the same manner, thereby stopping at once any expense connected with it.

It is a detached piece of machinery and can be installed in any out of the way place in the mill.

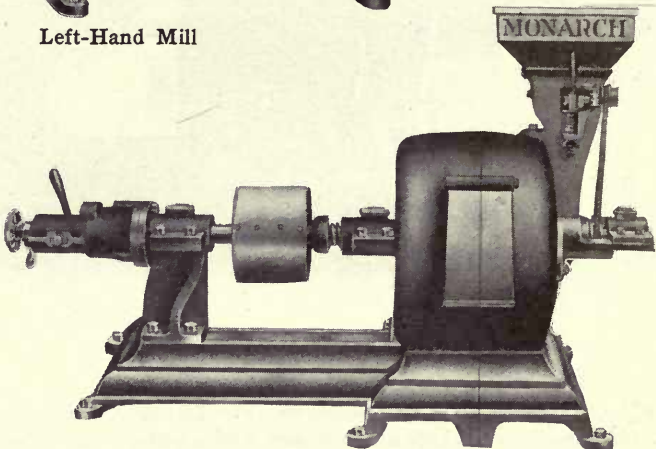
No special foundation is required for it as there is no vibration from its operation.

We recommend purchasers, when ordering, to specify ball bearings in the equipment of this mill, but will furnish it with babbitt bearings if desired. Prices, capacities, speed, etc., and detailed electrical data will be furnished on application.

The Monarch Standard Burr Mills



Left-Hand Mill



Right-Hand Mill

These illustrations represent our right and left-hand mills. Unless otherwise specified, all mills will be furnished left hand. Any of our mills, either standard or interchangeable, can be furnished right hand when it is necessary to suit the place or drive.

Prices and Dimensions

Size Inches	PRICE		Length Over All	Width Over All	Height Over All	Distance From Floor to Center of Shaft	Floor Space Base Occupies Inches
	With Self-Oiling Bearings	With Ball Bearings					
12	\$137.50	\$250.00	4' 4"	2' 0"	2' 8"	1' 1"	20 x 39
16	180.00	330.00	5' 0"	2' 1"	3' 2"	1' 3"	22 x 45
20	250.00	430.00	6' 0"	2' 5"	3' 5"	1' 4"	24 x 54
24	320.00	550.00	6' 4"	2' 9"	3' 8"	1' 5"	27 x 57
30	420.00	650.00	6' 6"	3' 4"	4' 7"	1' 8"	30 x 53

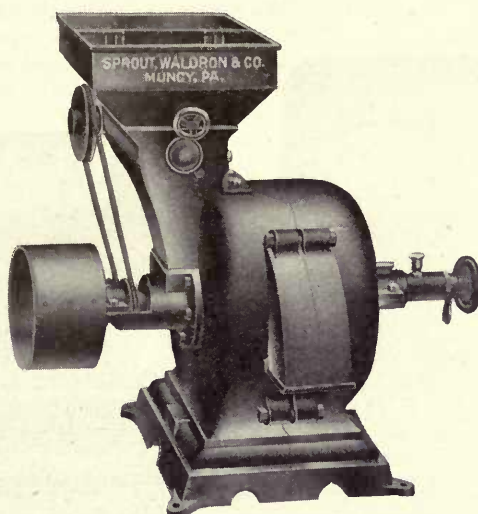
Speeds, Weights, Capacities, Etc.

Size Inches	SIZE OF PULLEY		Speed R. P. M.	Horse Power Required	Capacity Per Hour Feed Meal Bushels	Capacity Per Hour Table Meal Bushels	Weight Lbs.	BOXED FOR EXPORT	
	Diameter Inches	Face Inches						Weight Lbs.	Volume Cubic Ft.
12	8	5	1000 to 1200		12 to 15	5 to 7	500	660	33
16	10	6	1000	6 to 10	20 to 25	10 to 12	800	1000	45
20	12	8	900	10 to 15	40 to 50	15 to 20	1350	1615	65
24	16	8	800	15 to 25	60 to 70	20 to 25	1800	2150	82
30	20	8	750	20 to 30	70 to 100	25 to 30	2500	2900	123



# The Monarch 10 and 12-Inch Light Power Burr Mill

A Small Mill Carefully Designed for Use Upon the Farm Where Only a Small Amount of Power is Available



The Monarch Light Power Burr Mill

Every progressive farmer should be the possessor of one of these mills, for he will find it to be not only a convenience, but a dollar-maker to him. It relieves him of the necessity of making expensive and annoying trips to a mill on busy days in order to keep the necessary amount of grist on hand. If you are such a farmer and have ever had experience of this kind, you are just the man we want to talk to about Monarch Mills, for we can show you very quickly that their real cost is very small in comparison with the tremendous savings they effect. They will enable you to grind all your feed freshly as you need it and you know how much more nutritious fresh feed is than feed which has been ground for some time.

The mill which we sell for this purpose will easily pay for itself in a very short time. With it you can grind your own shelled corn or crushed corn cob, oats and rye, screenings, buckwheat or barley, or grind the finest quality of cornmeal for your table, or cracked corn for your chickens.

The burrs in this mill are genuine solid French Burrs. In every respect, except that of size, they are identical with those used in our larger mills. We have carefully selected and prepared them for the work they have to do.

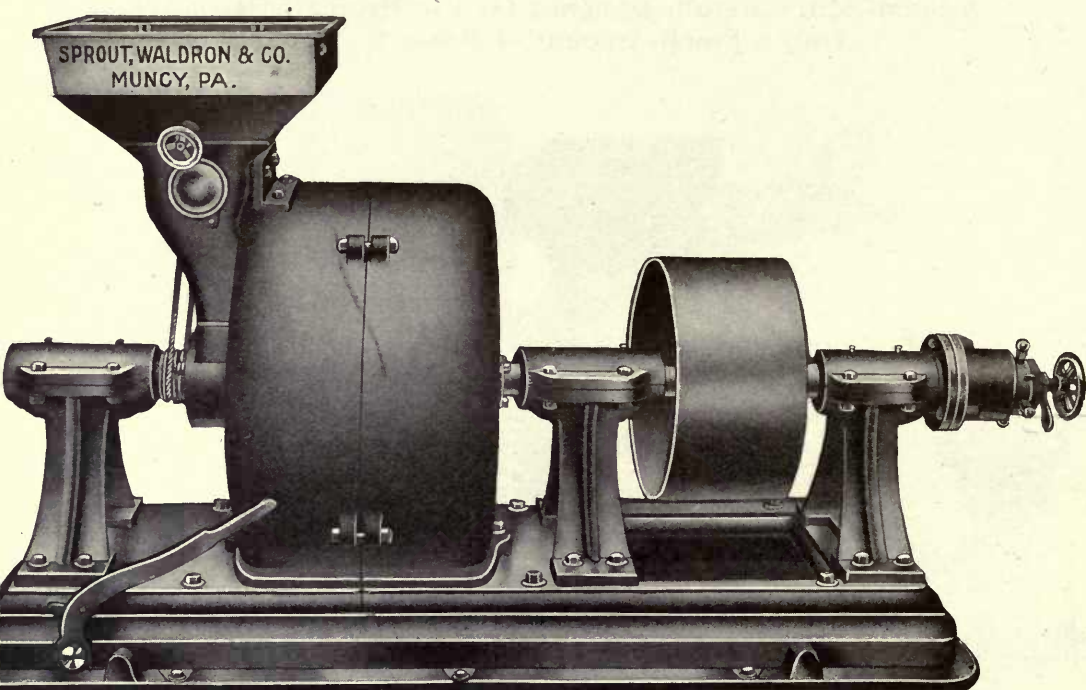
Do not think that it will be difficult for you to keep a Monarch Mill in good running order. It is the simplest thing in the world for any practical man. They have no loose parts; no mechanical didos; nothing to get out of order.

## Prices, Dimensions, Weights, Capacities, Etc.

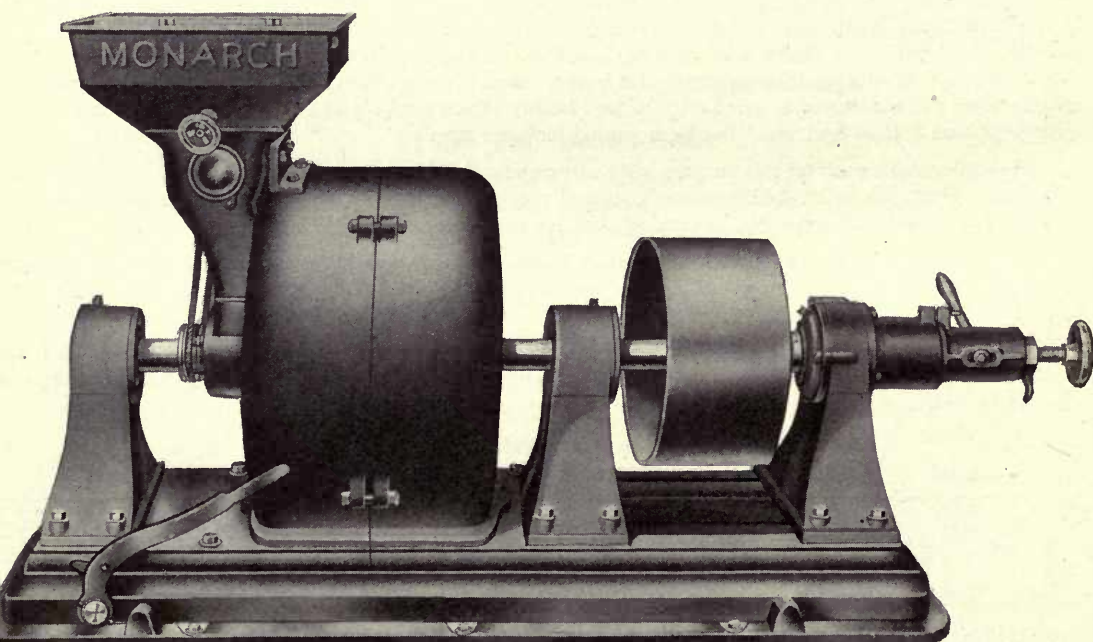
Size Inches	Price	Length Inches	Height Inches	Width Inches	Floor Space Inches	Size of Pulley Inches	Height from Floor to Center of Spout, In.	Height from Floor to Center of Shaft, In.	Speed R. P. M.	CAPACITY BUSHELS PER HOUR		Weight Lbs.	BOXED FOR EXPORT	
										Table Meal	Feed Meal		Weight Lbs.	Volume Cu. Ft.
10	\$110.00	32	27	17	16 x 17	7 x 4	8½	10	1000 to 1200	2 to 4	4 to 8	325	420	14
12	125.00	36	32	19	17 x 17	8 x 5	10¼	13	800 to 1200	4 to 6	6 to 12	400	510	19

## The Monarch Heavy Duty Burr Mills

### Three Pedestal Type



Style "E"—With Self-Oiling Bearings



Style "EE"—With Ball Bearings



## The Monarch Heavy Duty Burr Mill

### Three Pedestal Type

This mill we have designed for the especial purpose of grinding coke, crushed limestone, paint rock, foundry facing, graphite, carbon and like hard materials. It is the heaviest and most substantial mill made. We have so constructed it that it runs without the least vibration, which speaks much for its solidity of construction and insures rapid grinding of the finest quality.

It is mounted on a double base and the feed or bed end of the mill can be run back by the use of the hand lever on the side of the mill after removing four machine bolts and four "T" bolts. Being on a double base this operation is made all the more easy, and free access to the burrs easily and quickly accomplished. Each bearing has a large reservoir holding about a pint of oil, and is supplied with two cable chain oilers, which distribute it evenly to all parts of the bearings. These bearings are absolutely dustproof and superior in every way.

We have applied our patent ball bearing device to the end of the spindle. The peculiar value of having it on this mill is that it reduces what would otherwise be a large amount of friction to a minimum and thereby greatly adds to the capacity of the mill. The spindle is  $3\frac{1}{4}$  inches in diameter and is made of the best cold rolled steel. We fit a positive end motion shoe feed to this mill, as that type of feed is best suited to its purposes. It is very simple and very effective as well, and is so sensitive that it can be regulated to feed any desired quantity with the greatest ease.

If you desire we will furnish your mill with a sub-base which will be so arranged that the belt can be tightened or slackened without removing it from the pulleys. This, you will understand, allows of the use of an endless belt.

The delivery spout is located, unless otherwise ordered, in the most convenient position underneath the mill. The mill being absolutely dustproof, the operator is enabled to keep his grinding floor perfectly clean. However, when it is not convenient to have the discharge underneath, the delivery spout can be placed on the left-hand side when you stand at the adjusting end facing the mill.

Emery rock mill stones have many advantages in this kind of work. They reduce the cost of grinding nearly one-half because they require only about one-fourth the dressing of other burrs and on hard materials will wear from two to four times as long as French burrs or other stones.

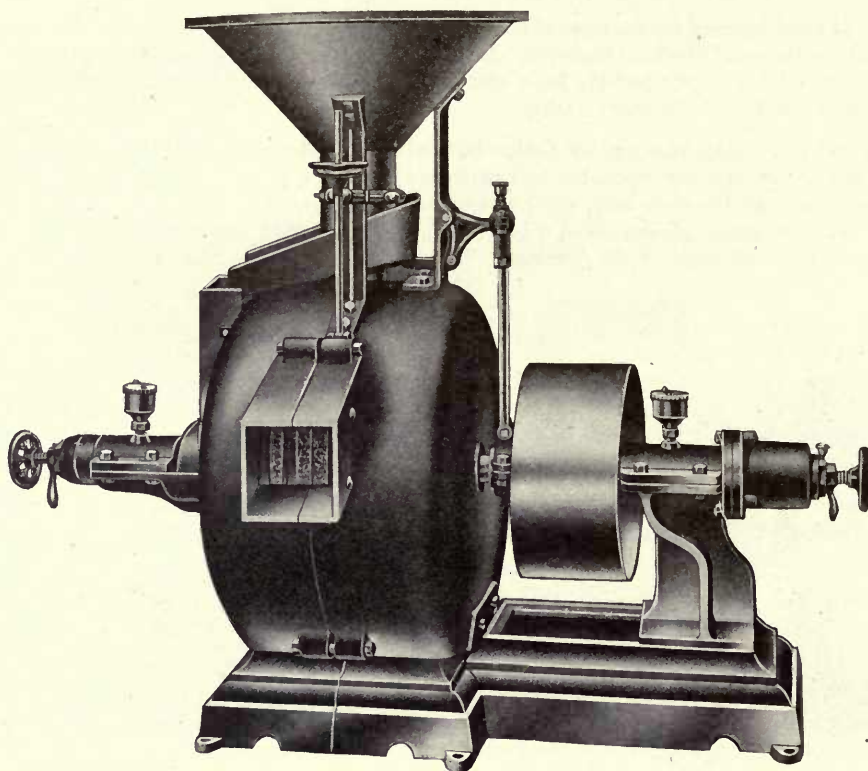
### Prices and Dimensions

Size Inches	PRICE						OVER-ALL DIMENSIONS			Floor Space Inches
	SELF-OILING BEARINGS			BALL BEARINGS			Height	Length	Width	
	With French Burrs	With Pebble Grit or Esopus Burrs	With Emery Rock Burrs	With French Burrs	With Pebble Grit or Esopus Burrs	With Emory Rock Burrs				
30	\$ 800.00	\$750.00	\$ 960.00	\$1050.00	\$1000.00	\$1200.00	4' 11"	8' 4"	3' 1"	89 x 34
36	1040.00	950.00	1200.00	1280.00	1200.00	1440.00	5' 5"	8' 4"	3' 7"	89 x 40

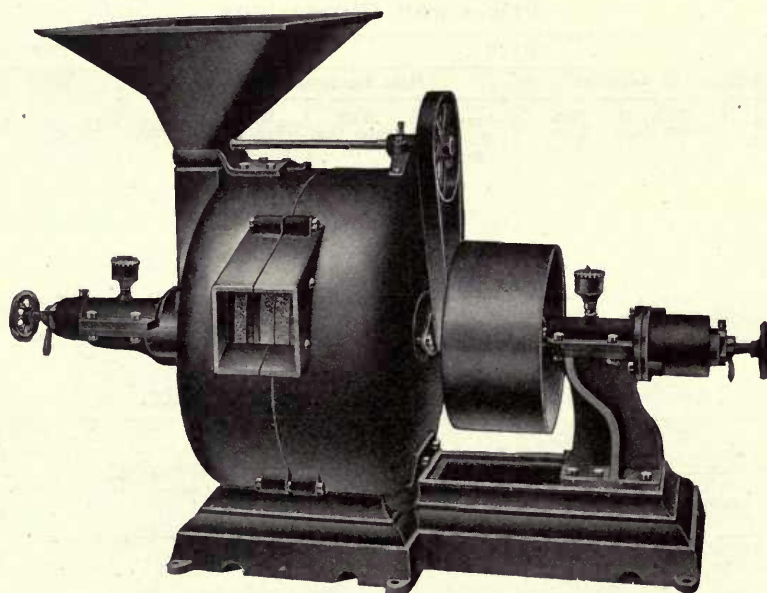
### Dimensions, Speeds, Weights, Etc.

Size Inches	Floor to Center of Shaft Inches	Size of Pulley Inches	Speed R. P. M.	Horse Power Required	Weight Lbs.	BOXED FOR EXPORT	
						Weight Lbs.	Volume Cubic Feet
30	23	24 x 12	650 to 700	35 to 40	5000	5488	155
36	26	30 x 12	550 to 600	40 to 50	6500	7050	162

## Monarch French Burr Mills with Interchangeable Burrs



The Monarch French Burr Mill with Interchangeable Burrs—Round Hopper and Shoe Feed



The Monarch French Burr Mill with Interchangeable Burrs—Force Feed



## The Monarch French Burr Mill with Interchangeable Burrs

**T**HE most advantageous feature in this mill is that of the interchangeable burrs. By the use of this feature, the user can readily substitute the runner for the bed-stone or the bed-stone for the runner, or procure new burrs from the factory, or make any other change of the burrs required without returning the mill to us for repairs. If you are a busy miller and have to keep your mill running all day long you can save yourself much unnecessary delay by this feature, for the changing of the burrs requires only a few minutes time, if you have an extra pair on hand which may be dressed while the mill is running.

These mills have, over and over again, for many years, demonstrated their superior practical value. They are especially adapted for use on oil cake, foundry facings, plaster of Paris, table corn meal, corn and cob feed, mineral paint, drugs, spices, mustard seeds, tobacco stems. Emery rock, Esopus, or any other kind of burrs, can be used in place of French burrs, if so desired. We supply a good many Emery Rock burrs for paint grinding, foundry facing, limestone, graphite and like hard materials.

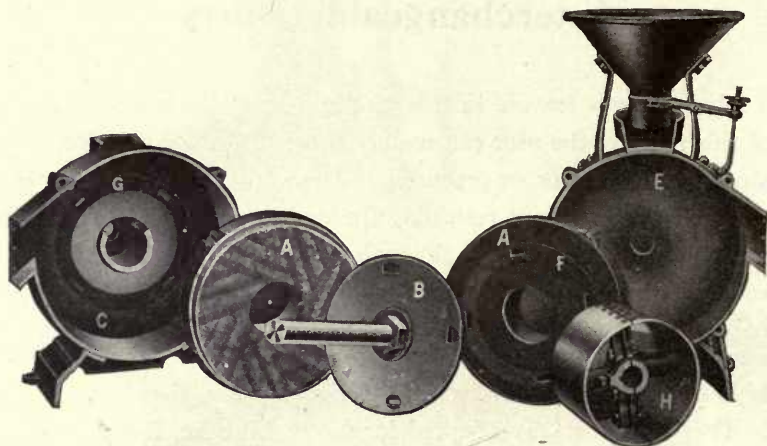
If you want to grind fine meal, the burrs should be especially dressed for the purpose. The same applies to corn and cob, or any other work where the best possible results are desired.

We sometimes furnish this mill with a pair of solid French Burr stones for feed purposes and a pair of Monarch Pebble grit for meal. This places you in a position to please your trade by always giving them just what they desire and a pleased customer is your best advertisement.

Monarch Mills of this type are not only time savers and money savers, but they are great money makers as well.

Before purchasing a Burr Mill you should by all means investigate our line of Monarchs. The many advantages and practical features involved in their construction, their superior capacity, their economy in other respects, the small cost of keeping them in repair, the strength and durability of their construction, all combine to make them the ideal mill for the practical miller and taking the purchase price into consideration, you will find it impossible to secure a mill of equal value for anything like the same amount of money.

## The Monarch French Burr Mill with Interchangeable Burrs



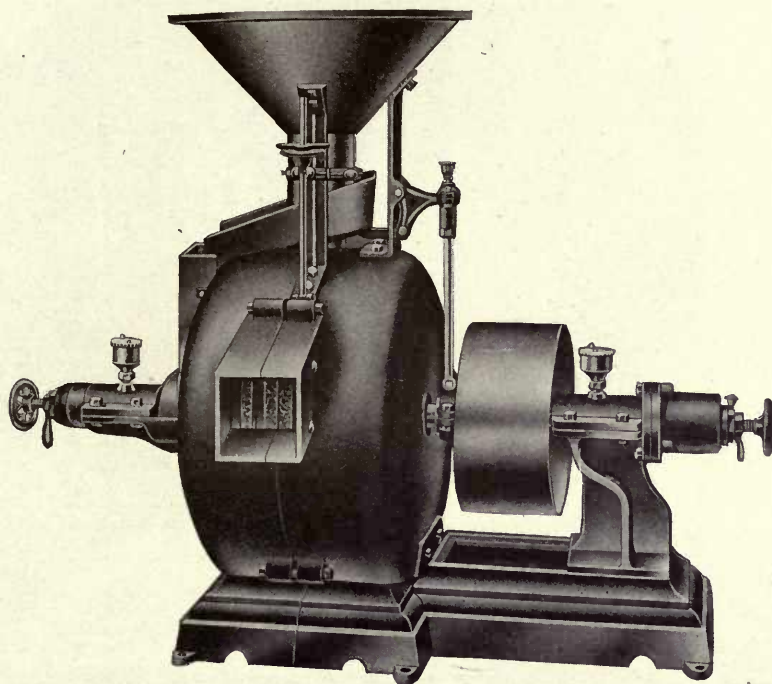
In the above illustration the two parts marked "A" are the runner and the bed-stone. These are built exactly alike and as they appear in the engraving, one shows the face of the burr and the other the back; either one can be used as runner or bed-stone, or, in other words, they possess the advantage of being interchangeable.

"B" is the runner plate or hub attached to the shaft. This attachment is made by means of our patent divided tapered steel sleeve. (Refer to description of same feature on Monarch Standard Mill on page 165.) By the use of four bolts, either burr can be fastened to the runner plate or to the inside of the bed-shell. "C" is the outer bed-shell and "E" the outer runner-shell. Each burr is encased in an inner shell having on its back a boss, "F." The outer bed-shell also has a boss, "G." These bosses are turned and fitted so that when the burrs are put into place, they come into perfect face. "H" shows our split leather-covered pulley. You never injure the shaft by taking a pulley off of a Monarch Mill.

The hopper is made of cast iron and its design is that of a frustum of a cone, with its sides at a slant of 50 degrees, having a neck on the small or lower base, through which the material flows to a light shoe. This shoe has an end motion, obtained by the means of a rocking arm and an eccentric on the mill spindle. The flow of the material is regulated by a sleeve around the neck of the hopper, which is raised and lowered by a fork lever attached to each side and fulcrumed at the center on either arm of the hopper and is held in place or adjusted by a hand wheel at the opposite end of the lever. The important feature about this feed is the large, slow stream which it delivers which especially adapts it to the handling of all kinds of grain, both clean and dirty, as well as foundry facings, etc. See cut on page 172 showing Force Feed, which is used for special purposes and which can be put on any size.



## The Monarch French Burr Mill with Interchangeable Burrs



The Monarch French Burr Mill with Interchangeable Burrs

The interchangeable feature is especially desirable. By having an extra pair of burrs always on hand and kept in proper condition, a change may be effected in a very few minutes, causing practically no delay whatever and in this way the work progresses with little or no interruption. The other burrs can easily be redressed when out of the mill and set to place again when needed.

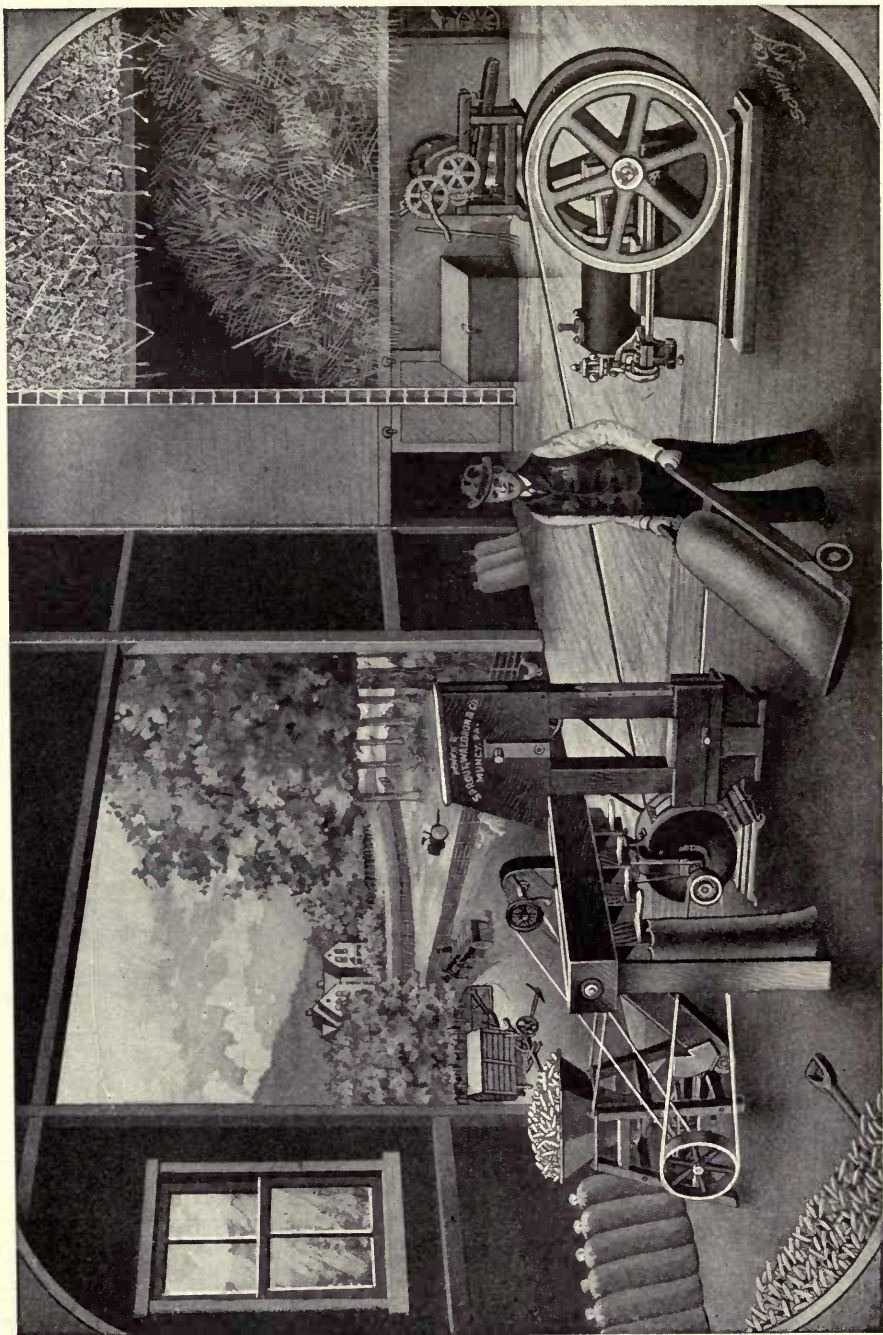
### Prices and Dimensions

Size Inches	PRICE						OVER-ALL DIMENSIONS			Floor Space Inches
	Self-Oiling Bearings			Ball Bearings			Height Inches	Length Inches	Width Inches	
	With French Burrs	With Esopus or Pebble Grit Burrs	With Emery Rock Burrs	With French Burrs	With Esopus or Pebble Grit Burrs	With Emery Rock Burrs				
16	\$250.00	\$225.00	\$375.00	\$325.00	\$300.00	\$450.00	43	60	27	41 x 20
20	320.00	288.00	480.00	410.00	378.00	570.00	46	70	30	49 x 26
24	430.00	387.00	645.00	580.00	527.00	785.00	51	75	32	53 x 30
30	560.00	506.00	840.00	700.00	644.00	980.00	61	75	36	52 x 34
36	800.00	720.00	1200.00	950.00	870.00	1350.00	70	102	48	77 x 66

### Dimensions, Capacities, Weights, Etc.

Size Inches	Floor to Center of Shaft Inches	Size of Pulley		Cap. Bushels Per Hour		Speed R.P.M.	Horse Power Required	Weight Lbs.	BOXED FOR EXPORT	
		Diam. Inches	Face Inches	Feed Meal	Fine Table Meal				Weight Lbs.	Volume Cubic Feet
16	14	10	6	20 to 25	10 to 12	1000	6 to 10	1000	1250	54
20	18	12	8	40 to 50	15 to 20	900	12 to 15	1600	1900	73
24	20	16	10	60 to 70	20 to 25	800	20 to 25	2200	2550	90
30	23	20	10	Rate of Capacity furnished on application		700	30 to 40	3500	3900	119
36	26	30	12			600	40 to 50	5500	6150	233

Note. Tell us what you have to grind and we will give the capacity.

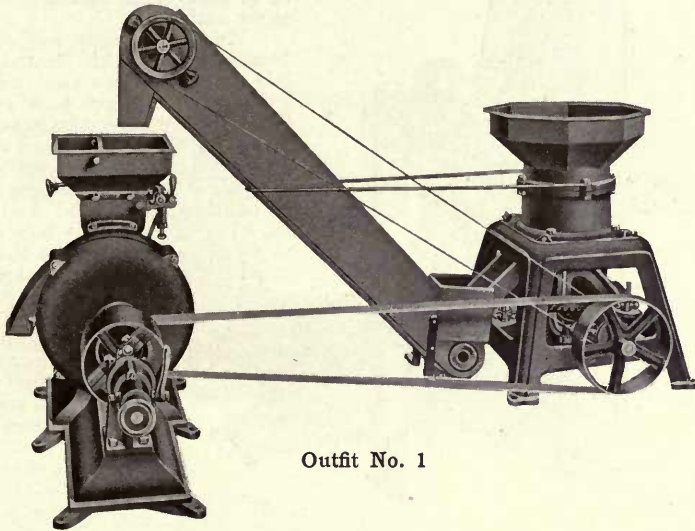


Barn Scene—Combination Outfit No. 2 in Operation



## The Monarch Milling Outfits

### Outfit No. 1



Outfit No. 1

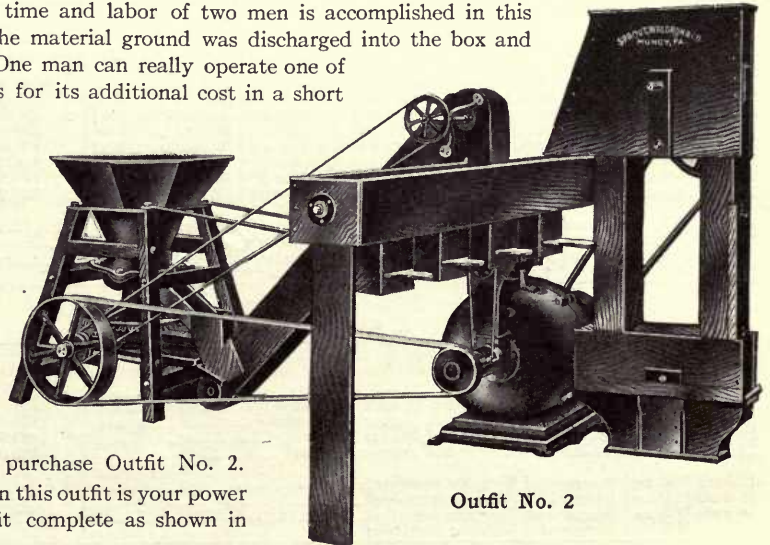
We illustrate above our combined mill and crusher constituting Outfit No. 1. This outfit is especially adapted for the use of Farmers or Threshermen who cannot run their crusher independent of the mill, or those who require an outfit of this character that may be easily transferred from place to place without extra expense and trouble.

### Combination Outfit No. 2 Consisting of Monarch French Burr Mill Crusher, Elevator and Bagger

In our Monarch Crushing and Grinding Outfit No. 2 we use the same mills and crushers as in the No. 1 Outfit combined in the same way. But we add to this our elevating and bagging device. The advantage of this is that the feed is discharged into the boot of the elevator and conveyed up to the bagging conveyor whence it is immediately and automatically bagged. An economy amounting to the time and labor of two men is accomplished in this way, over the old way, where the material ground was discharged into the box and had to be shoveled into bags. One man can really operate one of our outfits alone. It easily pays for its additional cost in a short time by the saving it entails.

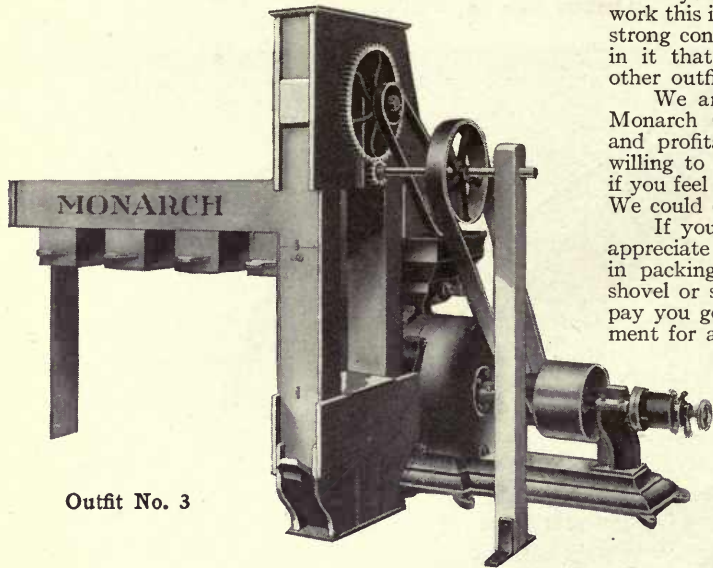
On opposite page we show a barn scene which is a very good representation of one of these outfits at work. Note the ease with which the work is done—no hard or unnecessary labor. Labor is an item of expense and means profit—which is large when you consider the interest on your investment. You are making no mistake when you purchase Outfit No. 2.

All you have to furnish to run this outfit is your power and drive belt. We ship outfit complete as shown in illustration.



Outfit No. 2

The Monarch Milling Outfits



Outfit No. 3

If you do not require a crusher for corn cob work this is the outfit you need. The same good strong construction and materials are embodied in it that enter into the construction of the other outfits.

We are not only willing to guarantee our Monarch Outfits to be the most satisfactory and profitable ones you can buy, but we are willing to take them back at our own expense if you feel we have misrepresented them to you. We could do no more than this to protect you.

If you have ever operated a mill, you will appreciate the inconvenience and time consumed in packing the ground feed by the use of a shovel or scoop. This time and expense would pay you good interest on the additional investment for a Monarch elevator and bagger.

The device means the saving of one man's time. Figure what this will cost you, and you will see how soon it will pay for itself. By running the ground feed onto the floor or into a box, you have more or less dust to contend with, which is practically overcome by the use of a Monarch elevator and bagger.

List Prices on Monarch Outfits

Outfit No. 1

NAME	Size of Mill Inches	List Price	Floor Space Inches
No. 1 Crusher combined	12	\$214.00	
No. 2 Crusher combined	12	238.00	
No. 2 Crusher combined	16	280.00	
No. 3 Crusher combined	16	300.00	
No. 2 Crusher combined	20	350.00	
No. 3 Crusher combined	20	370.00	
No. 3 Crusher combined	24	450.00	
No. 4 Crusher combined	24	500.00	
No. 1 and 2 Crusher	12		86 x 46
No. 2 and 3 Crusher	16		90 x 54
No. 2 and 3 Crusher	20		104 x 67
No. 3 and 4 Crusher	24		104 x 67

Outfit No. 2

NAME	List Price	Distance Over All Inches	Height Over All Inches
12-inch Monarch French Burr Mill, No. 1 Monarch Crusher and Elevator, and Monarch Elevator and Bagger combined	\$264.00		
12-inch Mill and No. 2 Crusher and Elevator, and Elevator and Bagger combined	288.00		
16-inch Mill and No. 2 Crusher and Elevator, and Elevator and Bagger combined	330.00		
16-inch Mill and No. 3 Crusher and Elevator, and Elevator and Bagger combined	350.00		
20-inch Mill and No. 2 Crusher and Elevator, and Elevator and Bagger combined	400.00		
20-inch Mill and No. 3 Crusher and Elevator, and Elevator and Bagger combined	434.00		
24-inch Mill and No. 3 Crusher and Elevator, and Elevator and Bagger combined	510.00		
24-inch Mill and No. 4 Crusher and Elevator, and Elevator and Bagger combined	560.00		
12-inch Mill, Nos. 1 and 2 Crusher, and Bagger and Elevator combined		116 x 116	75
16-inch Mill, Nos. 2 and 3 Crusher, and Bagger and Elevator combined		120 x 122	75
20-inch Mill, Nos. 2 and 3 Crusher, and Bagger and Elevator combined		156 x 126	75
24-inch Mill, Nos. 3 and 4 Crusher, and Bagger and Elevator combined		162 x 126	75

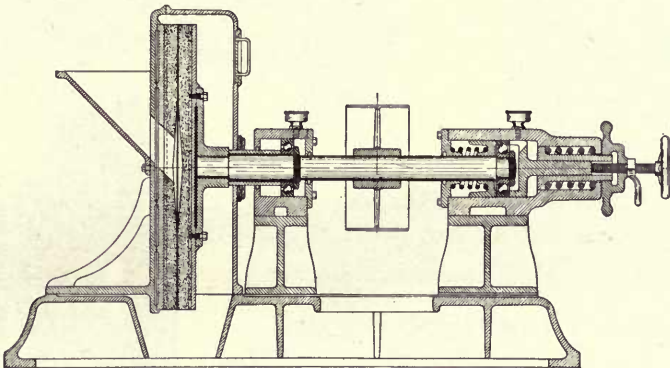
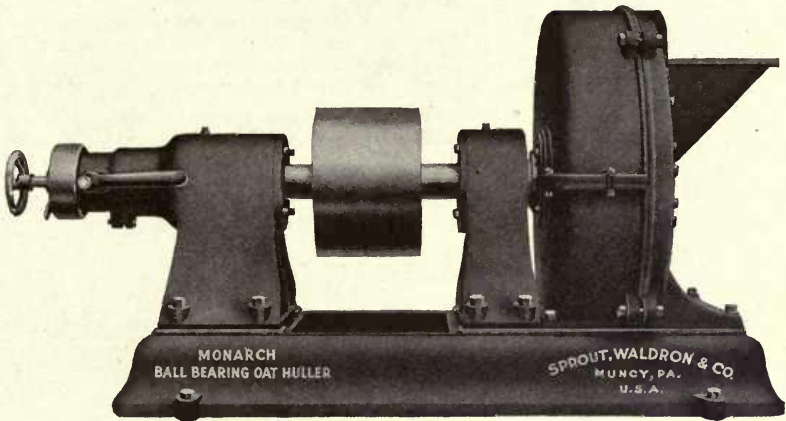
Outfit No. 3

Name	List Price	Distance Over All Inches	Height Over All Inches
12-inch Monarch French Burr Mill with Monarch Elevator and Bagger attached	\$186.00		
16-inch Mill with Monarch Elevator and Bagger attached	230.00		
20-inch Mill with Monarch Elevator and Bagger attached	300.00		
24-inch Mill with Monarch Elevator and Bagger attached	380.00		
12-inch Mill and Bagger and Elevator combined		50 x 120	75
16-inch Mill and Bagger and Elevator combined		54 x 120	75
20-inch Mill and Bagger and Elevator combined		58 x 126	75
24-inch Mill and Bagger and Elevator combined		60 x 126	75



# The Monarch Vertical Oat Huller

## Ball Bearing



Section Showing Construction

The hulling of oats by means of the Vertical Emery Disc Huller is by no means an innovation in this branch of the milling industry. In England, and in fact, throughout Europe, where oats products are in great demand, the Horizontal Hulling Stone, with its comparatively slow and laborious operation, has given place entirely to the vertical type of machine. It is evidently only a matter of the time necessary to bring full appreciation, before the same complete change will have taken place in this country. Our basis for this prediction lies in the fact that the numbers of satisfied users of the Monarch, which has been on the market and in use for several years, is steadily increasing.

The method of fitting the Ball Bearings makes it impossible for the huller to get out of tram.

### Price, Dimensions, Speed, Etc.

Diameter of Disc Inches	Price	OVER-ALL DIMENSIONS			Floor Space Inches	Floor to Center of Drive Shaft Inches	Height to Feed Inlet	Size of Pulley Inches	Speed R. P. M.	Weight Lbs.	BOXED FOR EXPORT	
		Length Inches	Width Inches	Height Inches							Weight Lbs.	Volum- e Cubic Feet
36	\$1100.00	84	48	45 $\frac{3}{8}$	73 x 48	25	3' 1 $\frac{1}{4}$ "	16 x 8	300 to 350	3500	4000	112

# The Monarch Milling Outfits

## Combination Outfit No. 4

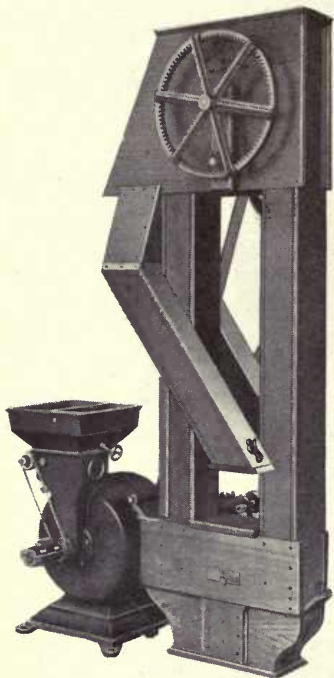
Quite frequently we have found customers who did not have the space to use our four Bagger Elevator, and to accommodate those who are so situated we offer our No. 4 Outfit, as shown opposite, arranged for two bags.

It is of the same general construction as our No. 3 Outfit, with the exception of the Bagger, which, as seen by the cut, drops the ground material into one of the spouts, to which a bag has been attached. When the bag is full, by simply throwing a switch, the stream is cut into the other spout which is filled while the first bag is removed and another attached.

The extra energy and time saved by this device will more than pay for itself in a very short time.

### Prices, Dimensions, Etc.

Size of Mill	List Price	OVER-ALL DIMENSIONS			Floor Space Inches
		Length	Width	Height Feet	
12	\$180.00	4' 4"	5' 2"	8	55 x 62
16	223.00	5' 0"	5' 2"	8	60 x 62
20	300.00	6' 0"	5' 7"	8	72 x 67
24	370.00	6' 4"	6' 5"	8	77 x 77



Outfit No. 4

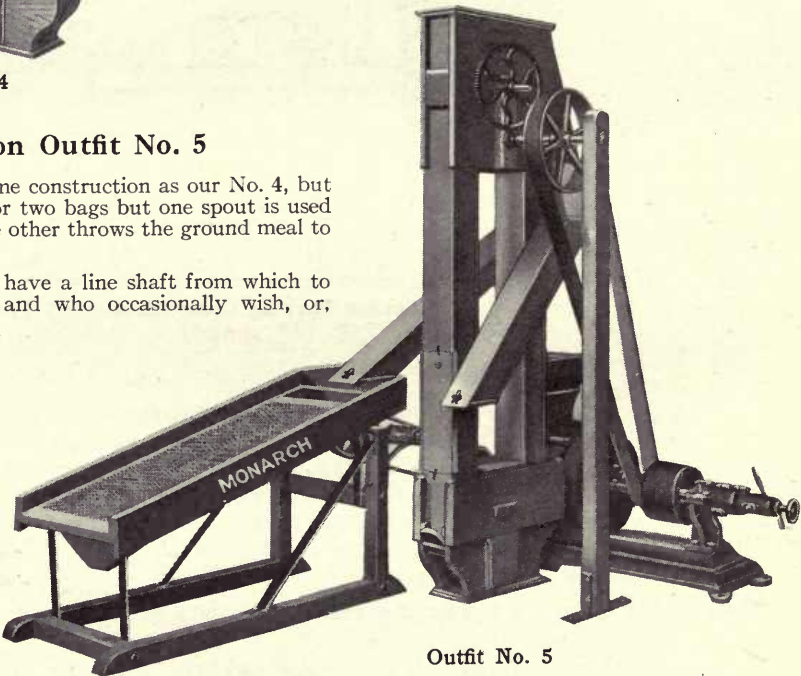
## Combination Outfit No. 5

This Outfit is of the same construction as our No. 4, but instead of being arranged for two bags but one spout is used for bagging the feed and the other throws the ground meal to a Monarch Meal Sieve.

Customers who do not have a line shaft from which to drive a separate machine, and who occasionally wish, or, have calls for, bolted meal, this Outfit is especially recommended. As will be seen by the cut, both elevator and sieve are driven from the mill.

When grinding feed, the sieve can either be removed or the belt thrown off.

What we have said of our other Outfits as to labor, time, etc., will apply to Outfit No. 5.



Outfit No. 5

### Prices, Dimensions, Etc.

Size of Mill	Size of Sieve	List Price	OVER-ALL DIMENSIONS			Floor Space Inches
			Length	Width	Height Feet	
12	No. 1	\$210.00	6' 4"	9' 0"	8	76 x 108
16	No. 1	253.00	7' 0"	9' 2"	8	84 x 110
20	No. 2	335.00	8' 0"	9' 6"	8	96 x 114
24	No. 2	405.00	8' 4"	9' 10"	8	100 x 118



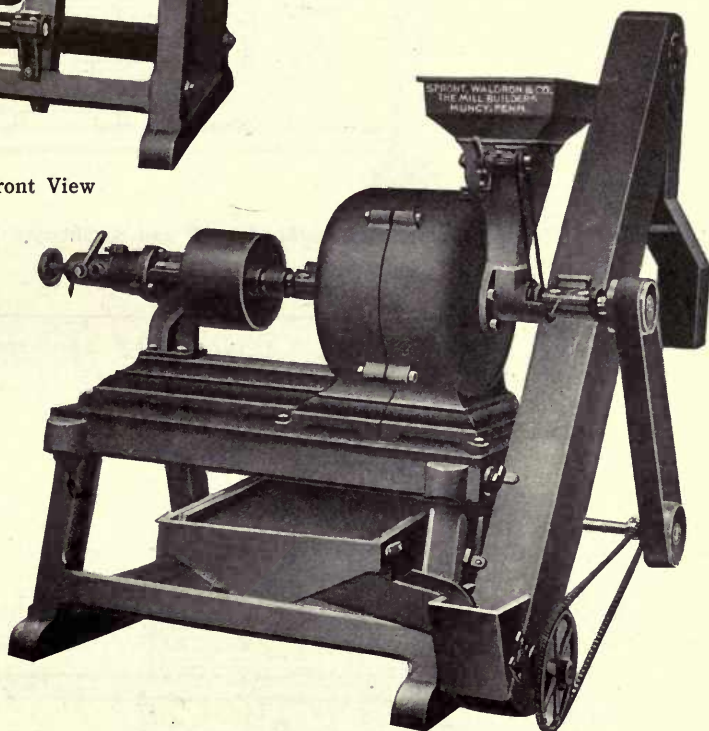
## The Monarch Milling Outfits

### Combination Outfit No. 6

Specially designed for grinding and bolting corn meal, buckwheat, rye and graham flour. The meal is delivered from mill to bolter, thence to elevator boot, and is carried and delivered to sacks. Extra sieves for different products can be furnished. When grinding feed it is not necessary to run stock over sieve. Furnished complete except driving belt.



Outfit No. 6—Front View



Outfit No. 6—Back View

### Prices, Dimensions, Etc.

Size of Mill	List Price	OVER-ALL DIMENSIONS			Floor Space Inches		Weight Lbs.
		Length	Width	Height Feet	Length	Width	
12	\$260.00	5' 0"	6' 2"	6	46 x 42		950
16	325.00	5' 9"	6' 4"	6	48 x 45		1250
20	400.00	6' 10"	6' 6"	6	54 x 50		1700

## The Monarch Milling Outfits

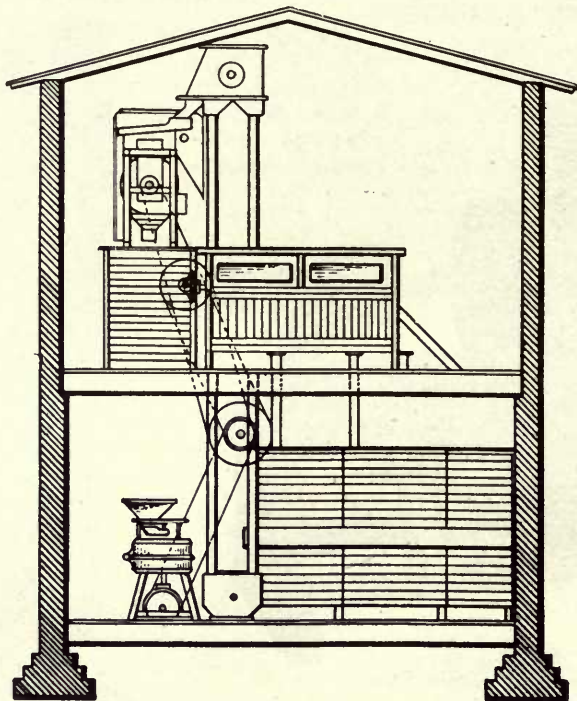


Illustration of Outfits Nos. 7 and 8, Showing End Elevation

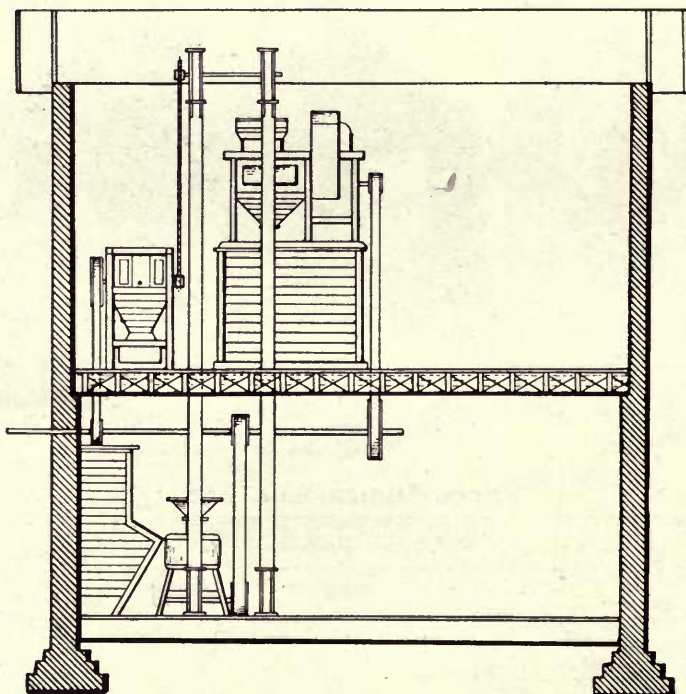


Illustration of Outfits Nos. 7 and 8, Showing Side Elevation



## The Monarch Milling Outfit No. 7

One 18-inch Monarch Under-Runner Burr Mill	Four Post Boxes, $2\frac{3}{8}$ inches
One No. 0 Monarch Scourer	Two Post Boxes, $1\frac{1}{2}$ inches
One Monarch Round Reel, 8 feet x 26 inches	One Pulley, 28 x 8—Burr
Two No. 1403½ Elevators complete, 21 feet C. to C.	One Pulley, 28 x 4—Scourer
Six Mill Picks	One Pulley, 10 x 4—Reel
Reel to have Cross Shaft and Gear	One No. 45 Sprocket with 28 teeth
One Shaft 16 feet x $2\frac{3}{16}$ inches	One No. 45 Sprocket with 14 teeth
One Shaft, 5 feet x $1\frac{1}{2}$ inches	22 feet of No. 45 Chain
Two Collars, $2\frac{3}{16}$ inches	21 feet of 8-inch Leather Belting
Two Collars, $1\frac{1}{2}$ inches	44 feet of 4-inch Leather Belting

Total weight, pounds.....	6400
Total Weight Boxed for Export, pounds.....	8000
Volume, Cubic Feet.....	450
List Price.....	\$630.00

## The Monarch Milling Outfit No. 8

One 22-inch Monarch Under-Runner Burr Mill	Two Collars, $2\frac{3}{8}$ inches
One No. 1 Monarch Scourer	Two Collars, $1\frac{1}{2}$ inches
One Monarch Round Reel, 8 feet x 26 inches	One Pulley, 38 x 8—Burr
Two No. 1403½ Elevators, 21 feet complete C. to C.	One Pulley, 28 x 4—Scourer
Six Mill Picks	One Pulley, 10 x 4—Reel
Reel to have Cross Shaft and Gear	One No. 45 Sprocket with 28 Teeth
One Shaft, 61 feet x $2\frac{3}{16}$ inches	One No. 45 Sprocket with 14 Teeth
One Shaft, 5 feet x $1\frac{1}{2}$ inches	22 feet of No. 45 Chain
Four Post Boxes, $2\frac{3}{8}$ inches	24 feet of 8-inch Leather Belting
Two Post Boxes, $1\frac{1}{2}$ inches	45 feet of 4-inch Leather Belting

Total Weight, pounds.....	7200
Total Weight Boxed for Export, pounds.....	8400
Volume, cubic feet.....	500
List Price.....	\$700.00

# The Monarch Milling Outfits

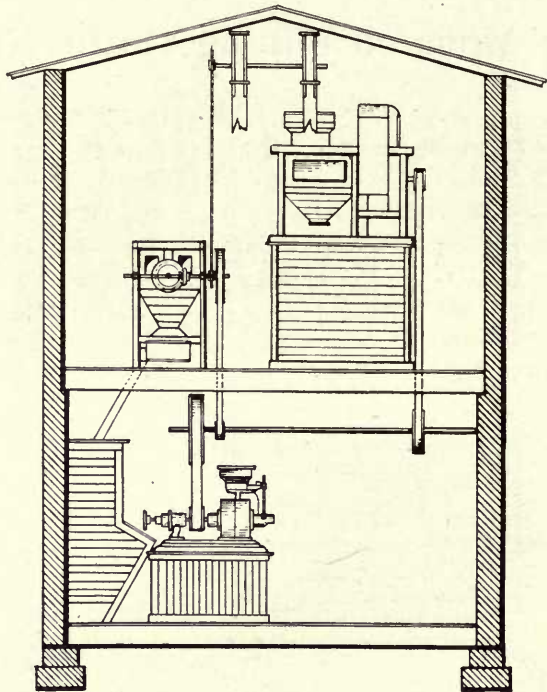


Illustration of Outfits Nos. 9 and 10, Showing End Elevation

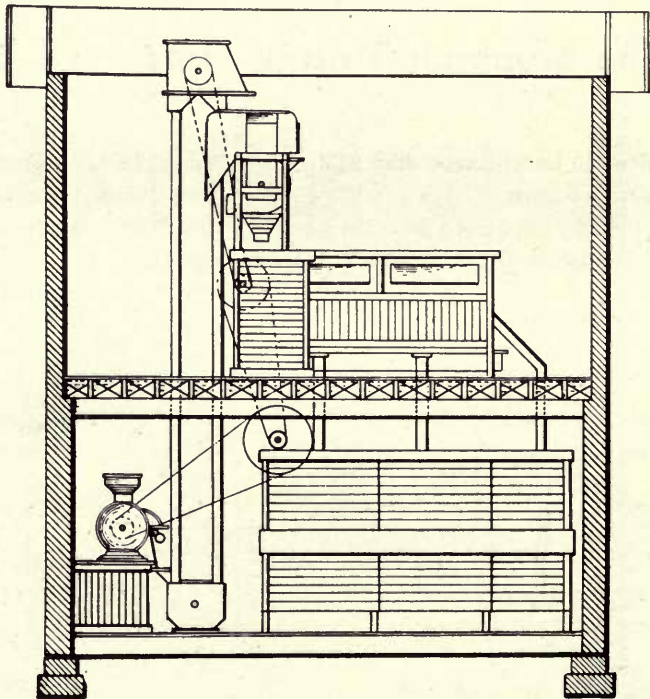


Illustration of Outfits Nos. 9 and 10, Showing Side Elevation



## The Monarch Milling Outfit No. 9

One 16-inch Monarch Standard French Burr Mill	Three Post Boxes, $1\frac{15}{16}$ inches
One No. 0 Monarch Scourer	Two Post Boxes, $1\frac{1}{2}$ inches
One Monarch Round Reel, 8 feet x 26 inches	One Pulley, 50 x 6—Burr
Two No. 1403½ Elevators, 21 feet Center to Center	One Pulley, 28 x 4—Scourer
Six Mill Picks	One Pulley, 10 x 4—Reel
Reel to have Cross Shaft and Gear	One No. 45 Sprocket with 28 Teeth
One Shaft, 12 feet x $1\frac{15}{16}$ inches	One No. 45 Sprocket with 14 Teeth
One Shaft, 5 feet x $1\frac{1}{2}$ inches	22 feet of No. 45 Chain
Two Collars, $1\frac{15}{16}$ inches	24 feet of 6-inch Leather Belting
Two Collars, $1\frac{1}{2}$ inches	42 feet of 4-inch Leather Belting

Total Weight, pounds.....	6000
Total Weight Boxed for Export, pounds.....	7400
Volume, cubic feet.....	400
List Price.....	\$565.00

## The Monarch Milling Outfit No. 10

One 20-inch Monarch Standard French Burr Mill	Three Post Boxes, $2\frac{3}{16}$ inches
One No. 1 Monarch Scourer	Two Post Boxes, $1\frac{1}{2}$ inches
One Monarch Round Reel, 8 feet x 26 inches	One Pulley, 54 x 8—Burr
Two No. 1403½ Elevators complete, 21 feet C. to C.	One Pulley, 28 x 4—Scourer
Six Mill Picks	One Pulley, 10 x 4—Reel
Reel to have Cross Shaft and Gear	One No. 45 Sprocket with 28 Teeth
One Shaft, 12 feet x $2\frac{3}{16}$ inches	One No. 45 Sprocket with 14 Teeth
One Shaft, 6 feet x $1\frac{1}{2}$ inches	22 feet of No. 45 Chain
Two Collars, $2\frac{3}{16}$ inches	25 feet of 8-inch Leather Belting
Two Collars, $1\frac{1}{2}$ inches	44 feet of 4-inch Leather Belting

Total Weight, pounds.....	6400
Total Weight Boxed for Export, pounds.....	8000
Volume, cubic feet.....	450
List Price.....	\$650.00

## The Monarch Milling Outfits

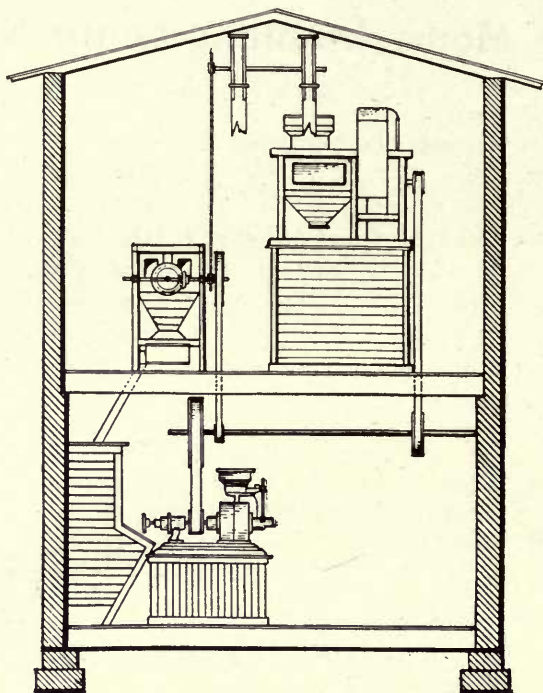


Illustration of Outfits Nos. 11 and 12, Showing End Elevation

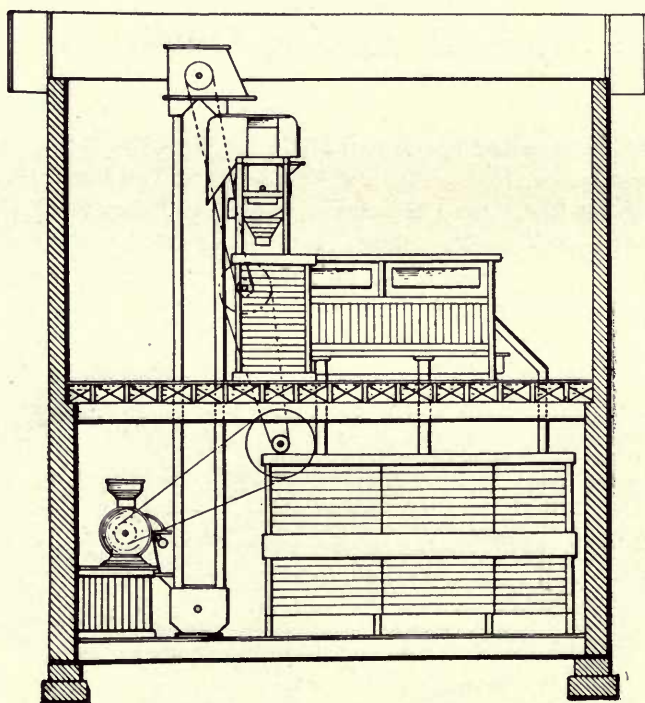


Illustration of Outfits Nos. 11 and 12, Showing Side Elevation



## The Monarch Milling Outfit No. 11

One 24-inch Monarch Standard French Burr Mill  
 One No. 1 Monarch Scourer  
 One Monarch Round Reel, 8 feet x 26 inches  
 Two No. 1603½ Elevators complete, 21 feet C. to C.  
 Six Mill Picks  
 Reel to have Cross Shaft and Gear  
 One Shaft, 12 feet x 2  $\frac{7}{16}$  inches  
 One Shaft, 6 feet x 1½ inches  
 Two Collars, 2  $\frac{7}{16}$  inches  
 Two Collars, 1½ inches  
 Three Post Boxes, 2  $\frac{7}{16}$  inches

Two Post Boxes, 1½ inches  
 One Pulley, 54 x 8—Burr  
 One Pulley, 28 x 4—Scourer  
 One Pulley, 12 x 5—Reel  
 One No. 45 Sprocket with 28 Teeth  
 One No. 45 Sprocket with 14 Teeth  
 24 feet of No. 45 Chain  
 26 feet of 8-inch Leather Belting  
 18 feet of 5-inch Leather Belting  
 26 feet of 4-inch Leather Belting

Total Weight, pounds.....	6800
Total Weight Boxed for Export, pounds.....	8400
Volume, cubic feet.....	500
List Price.....	\$700.00

## The Monarch Milling Outfit No. 12

One 30-inch Monarch Standard French Burr Mill  
 One No. 1 Monarch Scourer  
 One Monarch Round Reel, 8 feet x 26 inches  
 Two No. 1604 Elevators complete, 21 feet C. to C.  
 Ten Mill Picks  
 Reel to have Cross Shaft and Gear  
 One Shaft, 12 feet x 2  $\frac{15}{16}$  inches  
 One Shaft, 6 feet x 1  $\frac{15}{16}$  inches  
 Two Collars, 2  $\frac{15}{16}$  inches  
 Two Collars, 1  $\frac{15}{16}$  inches  
 Three Post Boxes, 2  $\frac{15}{16}$  inches

Two Post Boxes, 1  $\frac{15}{16}$  inches  
 One Pulley, 54 x 8—Burr  
 One Pulley, 28 x 4—Scourer  
 One Pulley, 12 x 5—Reel  
 One No. 45 Sprocket with 28 Teeth  
 One No. 45 Sprocket with 14 Teeth  
 24 feet of No. 45 Chain  
 26 feet of 8-inch Leather Belting  
 18 feet of 5-inch Leather Belting  
 26 feet of 4-inch Leather Belting

Total Weight, pounds.....	7000
Total Weight Boxed for Export, pounds.....	9000
Volume, cubic feet.....	550
List Price.....	\$800.00

# The Monarch Iron Frame Upper Runner Burr Mill



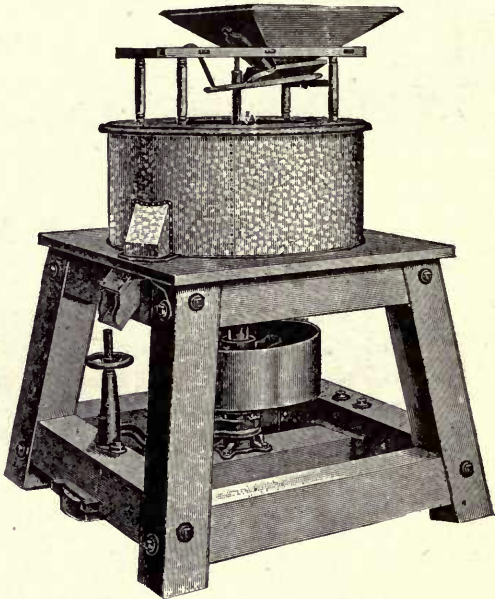
This illustration was made from a photograph of our 54-inch Monarch Upper Runner Pulley Mill, but will serve to illustrate the 30-inch, 36-inch and 42-inch sizes also, as the only difference is in the size of the parts, the general appearance being the same.

## Prices, Dimensions, Etc.

Size Diam. of Burrs Inches	Capacity On Wheat Bushels Per Hour	Size of Drive Pulley Inches	Speed R. P. M.			Weight Lbs.		List Price	
			Pulley On Spindle	Pulley on Countershaft of G. red Mill		Pulley Mill	Geared Mill	Pulley Mill	Geared Mill
30	6 to 8	20x10	360	220		2350	2600	\$420.00	\$570.00
36	7 to 10	24x10	300	241		3250	3700	570.00	740.00
42	8 to 12	30x10	240	193		4500	5200	720.00	940.00
54	12 to 20	42x12	175	104		8250	9000	1370.00	1620.00

# The Monarch Upper Runner Burr Mill with Wood Hurst or Frame

This mill has a hard wood frame, mortised, tenoned and joint bolted; neatly painted. Galvanized iron hoop with turned wood top. If preferred, wood stove hoop can be furnished. Adjustable bridgetree; self-adjusting driving irons; self-oiling bush, adjustable from below bed-stone. Furnished with Esopus burrs and with either pulley or mortise gear drive.



## Prices, Dimensions, Etc.

Size Inches	Capacity Bushels Per Hour		Horse Power	Size of Pulley Inches	Speed R. P. M.		Pulley Mills		Geared Mills	
	Wheat	Corn			Pulley on Spindle	Pulley on C'tershaft Geared Mill	Weight Lbs.	List Price	Weight Lbs.	List Price
30	6 to 8	6 to 16	10	20 x 10	360	283	2240	\$400.00	2600	\$530.00
36	7 to 10	7 to 20	12	24 x 10	300	236	2650	500.00	3100	650.00
42	8 to 12	8 to 24	14	30 x 10	240	235	3950	600.00	4175	750.00
48	10 to 18	10 to 30	16	36 x 12	180	177	5100	700.00	5800	850.00



## Assembly of The Monarch Top Runner Burr Outfit

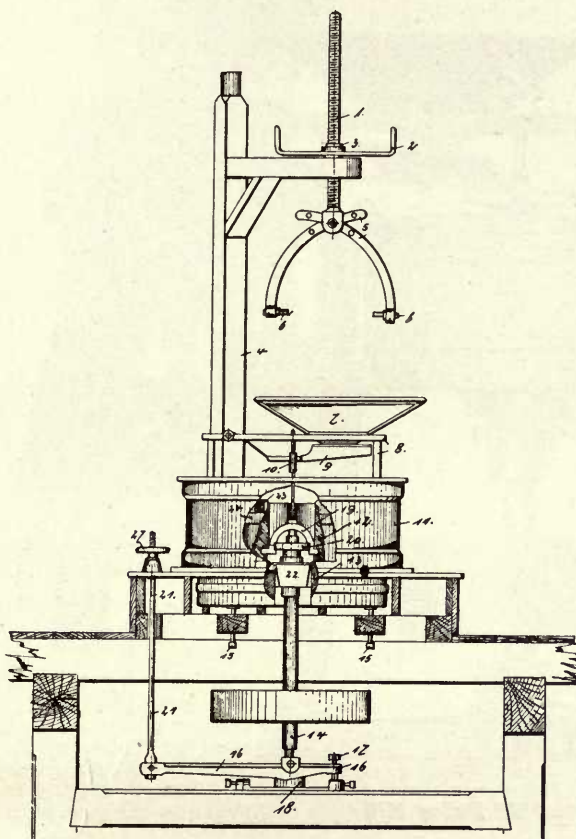


Illustration Showing Arrangement of Burrs and Driving Mechanism when Built in Mill

Top Runner Burrs with driving mechanism or fixtures. Either Esopus or pebble grit burrs will be furnished. The prices below are for burrs including the fixtures as indicated by number in the following list. This price does not include Mill Hurst and Wood Crane with hoisting screws.

No. 7, Hopper; No. 8, Stand; No. 9, Shoe; No. 10, Damsel; No. 11, Hoop; Nos. 12 and 13, Burrs; No. 14, Spindle; No. 15, Leveling Screws with Plates; No. 16, Lighter Lever; No. 17, Adjusting Screw; No. 18, Step Box; No. 19, Rhine or Bail; No. 20, Driver; No. 21, Lighter Rod; No. 22, Bushing; No. 23, Balance Weight; No. 24, Band; No. 27, Hand Wheel.

Driving pulley or gears will be furnished at an extra charge.

### Prices, Weights and Speeds

Size Burrs Inches	PRICE PER PAIR		Weight Pulley Mills Lbs.	Weight Mortise Gear Mills Lbs.	Speed R. P. M.
	Pulley Mill	Mortise Gear Mill			
30	\$400.00	\$530.00	2240	2600	360
36	500.00	650.00	2650	3100	300
42	600.00	750.00	3950	4175	240
48	700.00	850.00	5100	5800	180
54	800.00	950.00	6300	7000	120
60	900.00	1050.00	7000	8000	90

## Mill Stone Supporting Frame

Consisting of timber work or frame surrounding and supporting the bed-stone of upper runner mills. It is the part that forms the top of the hurst frame, and is furnished with leveling plates and screws.

### Prices for Mill Stone Supporting Frame

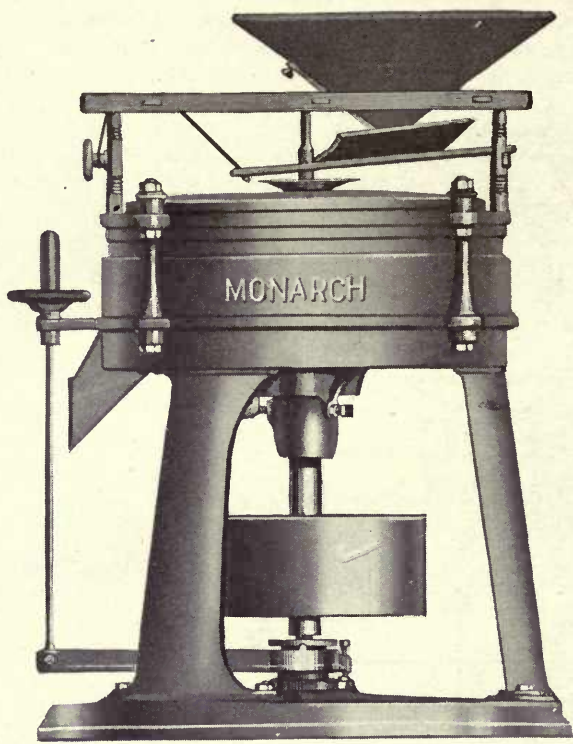
Size Burrs, In. ....	30	36	42	48	54
Price .....	\$45.00	\$52.50	\$60.00	\$67.50	\$75.00

### Prices for Hurst Frames for Top Runner Burr Mills

Size Burrs, In. ....	30	36	42	48	54	60
Price .....	\$80.00	\$100.00	\$110.00	\$130.00	\$150.00	\$175.00

The Monarch Hurst Frame is made of 10 x 10-inch hard wood and equipped with self-oiling bearings for the cross shaft, and includes no other iron work.

# The Monarch Under Runner Burr Mill



Monarch Style "M" Pulley Mill

There are many materials which require some special form or degree of reduction before they are fitted for commercial use and for grinding such commodities as wet mustard and starch, various kinds of herbs and grains, spices, drugs, silica, clay, bones, shells, glass, plaster of Paris, crushed limestone, foundry facings, etc., etc., we recommend the Monarch Style "M" Under Runner Mill as being an entirely efficient, satisfactory and durable machine.

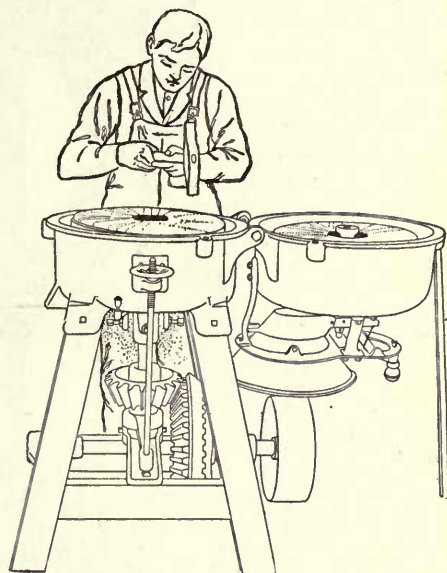
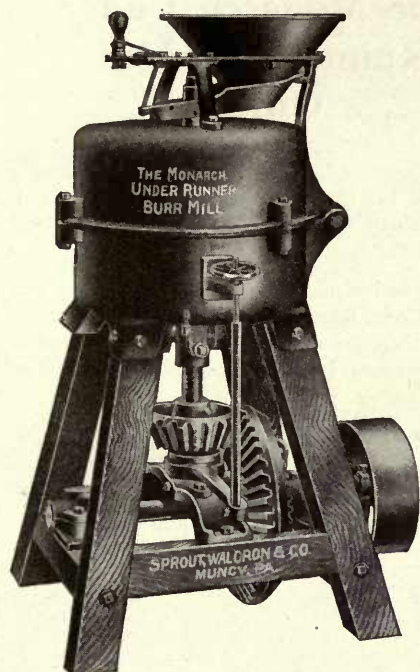
It is substantially built, compact, easily accessible and gives the maximum capacity for the amount of power used. The carefully selected burrs are banded with welded wrought iron and dressed by experts to meet the requirements of the class of grinding for which they will be used.

## Prices, Weights, Capacities, Etc.

Size Inches	Capacity Bushels Per Hour Corn	Size of Pulley Inches	Revolutions Per Minute		Pulley Mills		Mortise Geared Mills	
			Pulley Mill	Pulley on Geared Mill	Weight Lbs.	Prices	Weight Lbs.	Prices
30	20 to 40	20 x 10	400	245	2200	\$420.00	2500	\$570.00
36	25 to 50	24 x 10	330	265	3050	570.00	3350	740.00
42	30 to 60	30 x 10	240	193	4080	720.00	4700	940.00



## The Monarch Under Runner French Burr Mill



The Monarch is above all things a strong durable machine. The casting which forms the shell for the runner is a part of the very frame work of the machine which gives it remarkable solidity. The wooden frame-work however, is light, yet so rigid that it will not carry destructive vibration. Neither will it become loose jointed. The driving shaft, which goes with the geared arrangement as shown in the illustration, extends entirely across the frame, being journaled with bearings on either side of the drive wheel, the shaft extending under the step spindle in an arch step where the best fittings are used with an adjustable tram pot and lever.

The top or stationary burr is hinged on our 18-inch mill and bolted to the case of the runner so that it can be readily thrown back for the purpose of dressing the burrs as shown in the second illustration. The joints are all turned up to a templet and present a perfectly even face. They cannot get out of alignment and consequently your grinding is always even and the work uniformly perfect.

We use our patent tapered steel sleeve on the spindle for holding the runner in position. This renders it absolutely impossible for the drive gears to raise the spindle out of the step; and the runner, being secured, cannot get loose. This means the best sort of grinding surface, makes a higher speed possible and gives the mill a greater capacity.

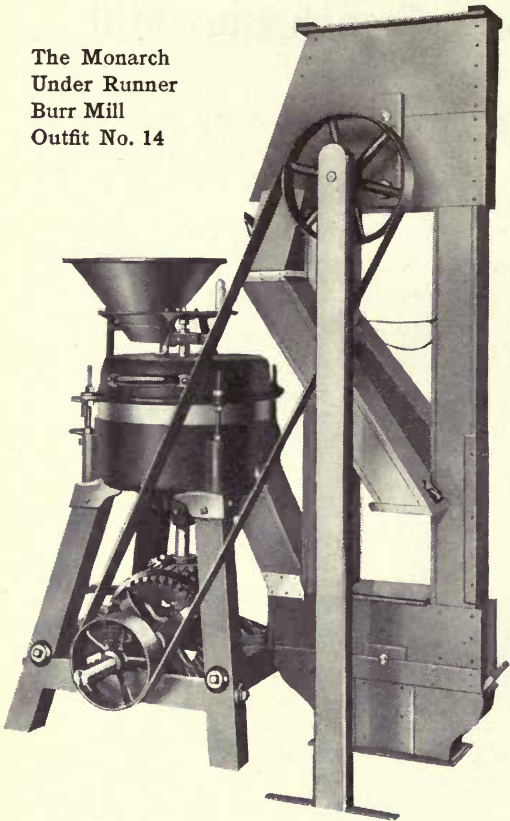
The lighter lever is cushioned on a coil spring under the short end. This gives all needed pressure and allows the burrs to give way without injury to their surfaces, should a piece of iron or other dangerous matter happen to get in with the grain, allowing any obstruction to pass out between the burrs which will then return to their proper grinding adjustment.

The face of the runner is adjusted to that of the stationary burr by a hand wheel on the side of the frame. This is the simplest and most exact method of any used on machines of this type. There are no complicated parts to the machine. Each part is located exactly where it is needed and where most convenient. The 22-inch mill does not have the hinge feature, but the top can be readily removed when the burrs require dressing.

### Prices, Dimensions, Etc.

Diam. of Stone Inches	PRICES			CAPACITY Bushels per Hour			Rev. of Run- ner Stone per Min.		Horse Power	Size of Pulley Inches	WEIGHTS		BOXED FOR EXPORT		
	Pulley Mills	Iron Geared Mills	Mortise Geared Mills	Corn Meal	Feed	Wheat	Grinding				Pull'y Mills Lbs.	G' red Mills Lbs.	Weights		Vol. Cubic Feet
							Wh't	Corn					Pull'y Mills Lbs.	G' red Mills Lbs.	
18	\$180.00	\$240.00	\$270.00	6 to 12	10 to 25	3 to 6	400	600	4 to 6	14 x 8	950	1150	1320	1420	76
22	220.00	290.00	320.00	10 to 16	15 to 30	5 to 8	350	500	5 to 9	16 x 8	1200	1400	2110	2210	87

The Monarch  
Under Runner  
Burr Mill  
Outfit No. 14



# The Monarch Under Runner Burr Mill Outfit

We illustrate here our Grinding and Bagging Outfit No. 14, consisting of the Monarch Under Runner French Burr Mill and Two-Spout Sacking Elevator.

We have had numerous calls from persons who prefer an Under Runner Mill for a Feed Meal Outfit. We have therefore designed an Outfit arranged in the manner shown in the accompanying illustration

## Prices for Outfit No. 14

Diameter of Stone Inches	PRICES		
	Pulley Mills	Iron Geared Mills	Mortise Geared Mills
18	\$230.00	\$290.00	\$320.00
22	275.00	345.00	375.00

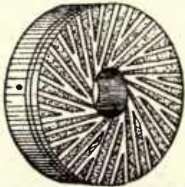
## Burr Stones for Vertical Mills

French burrs have been used for many years by the most successful millers the world over. Of course they are more expensive than native stones, but experience has shown them to be much superior for a great many purposes. We import our burrs direct from the best quarries of France where they are specially selected for our own use.

They are especially adapted to the grinding of cereals by reason of their fierce, tough texture. They are so much harder than native or Esopus stones that they do not require to be dressed nearly so often.

Monarch pebble grit burrs are principally used in a few of the Southern districts for the grinding of soft fine meal and we especially recommend them for corn or meal grinding. French burrs are harder in quality and consequently harder to dress. Besides they are more costly to prepare. Their cost however is defrayed by their hard wearing qualities and the small amount of dressing they infrequently require, which peculiarly adapts them for feed grinding. It is a very simple and easy task to keep them in shape by the use of mill picks after they have been put in service.

We always dress the burrs we send you with a furrow that is especially adapted to the work you want your mill to do. They slightly differ in their quality and stones of one texture are more suitable to work of a certain kind than others. Always state the nature of your grinding and we will furnish a pair of burrs most suitable. We are the largest importers of burrs in America.



## Prices and Diameters

Diameter Inches	Genuine French Burr Stones Per Pair	Esopus Stones Per Pair	Pebble Grit Stones Per Pair	Price Iron Casing for Burr Each
10	\$ 50.00	\$ 35.00	\$ 35.00	\$10.00
12	50.00	35.00	35.00	10.00
16	70.00	40.00	40.00	12.00
18	90.00	55.00	55.00	13.00
20	100.00	65.00	65.00	13.00
22	110.00	75.00	75.00	14.00
24	130.00	85.00	85.00	14.00
30	200.00	95.00	95.00	16.00
36	300.00	140.00	140.00	20.00



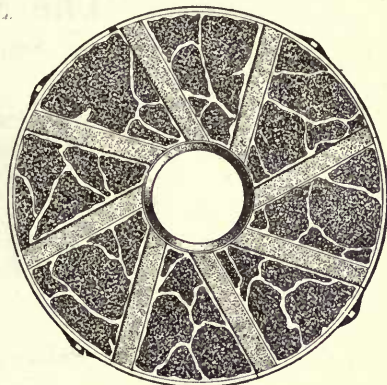
## The Monarch Turkey Emery Rock Burrs

This illustration shows one of the Monarch Turkey Emery Rock Burrs, which shows the face of the emery blocks set in metal. These blocks are very carefully selected, so as to have the grain of the emery always running at right angles to the face of the stone, thus giving the maximum of cutting power.

They are made for the especial purpose of grinding coke, crushed limestone, paint rock, foundry facing, graphite, carbon and like hard materials.

### Prices and Diameters

Diameter Inches	PRICE LIST PER PAIR	
	Ground in Face	Set in Iron Case
16	\$190.00	\$200.00
20	280.00	300.00
24	320.00	340.00
30	400.00	420.00
36	580.00	600.00



## Burr Stones for Under and Top Runner Mills

Prices on mill stones backed, banded, faced and furrowed, and without irons. All irons are charged extra. On page 189 this book we list burrs with irons complete.

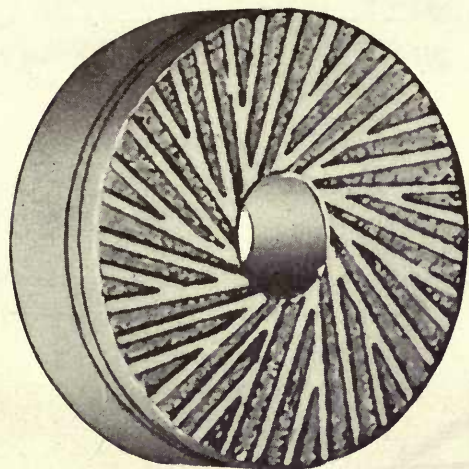
Fitting mill irons to burrs will be charged for extra. Thirty inches and up, \$20.00 per pair.

### Prices and Diameters

Diameter, Inches	30	36	42
Genuine French Burr Stones	\$200.00	\$300.00	\$400.00
Esopus Stones	120.00	200.00	250.00
Pebble Grit Stones	120.00	200.00	250.00

Diameter, Inches	48	50	54
Genuine French Burr Stones	\$500.00	\$550.00	\$600.00
Esopus Stones	300.00	350.00	400.00
Pebble Grit Stones	300.00	350.00	400.00



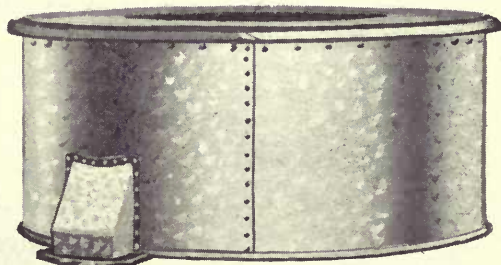
## The Monarch Iron Mill Hoops for Upper Runner Mills

This hoop is made of heavy galvanized iron, with turned white pine top. Unless otherwise ordered, this hoop is neatly painted on the outside.

### List Prices, Size of Mill, Diameter of Burrs

30-Inch Mill	36-Inch Mill	42-Inch Mill	48-Inch Mill	54-Inch Mill	60-Inch Mill
\$30.00	\$32.00	\$36.00	\$40.00	\$46.00	\$75.00

The 60-inch hoop is made of heavy black sheet steel with turned wood top.



## The Monarch Wood Mill Hoops for Upper Runner Mills

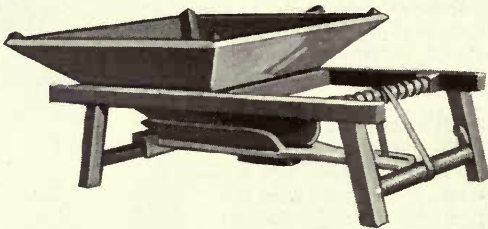
This hoop is made of pine staves, iron-banded under walnut finish.

### List Prices, Size of Mill, Diameter of Burrs

30-Inch Mill	36-Inch Mill	42-Inch Mill	48-Inch Mill	50-Inch Mill	54-Inch Mill
\$40.00	\$44.00	\$48.00	\$52.00	\$54.00	\$60.00

The Monarch Mill Feeders

Hopper, Stand and Shoe, with Damsel Feed



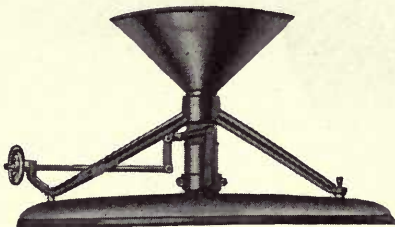
List Prices, Size of Mill, Diameter of Burrs

	36-Inch Mill and all Smaller Sizes	42-Inch Mill	48-Inch Mill	54-Inch Mill
Hopper and Stand only-----	\$10.00	\$11.00	\$12.00	\$14.00

Note. If shoe is wanted, add \$4.00 to above prices.

The Monarch Tripod Feeder

Silent Feed

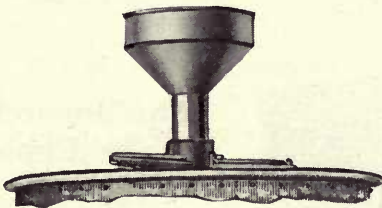


This feeder consists of cast-iron tripod, hopper and adjustable feed tube. Made with throat either  $2\frac{7}{16}$  inches or  $3\frac{7}{16}$  inches diameter.

Tripod feeder with planished iron hopper-----	\$25.00
Tripod feeder with glass globe-----	30.00
Tripod feeder with copper or brass hopper-----	30.00

The Monarch Bracket Feed Rig

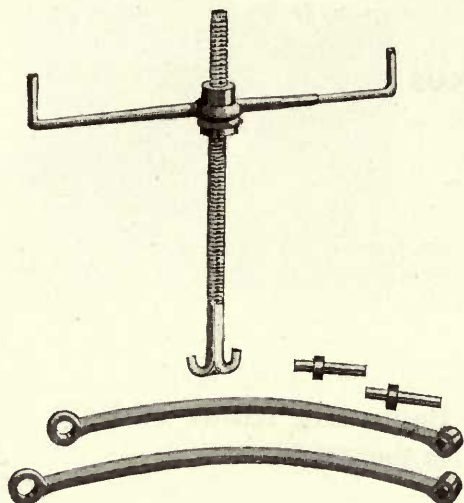
Silent Feed



Made with throat either  $2\frac{7}{16}$  inches or  $3\frac{7}{16}$  inches diameter.

Bracket feeder without hopper-----	\$10.50
Bracket feeder with iron or tin hopper-----	13.50
Bracket feeder with brass or copper hopper and with nickel plated feed wheel-----	18.00
Silent feeder with wood hopper and stand-----	18.00





## Hoisting Screws

Monarch Hoisting Screws are made of best grade of steel with a large square thread so that lifting is rapid. The fixtures are made of wrought steel, strong and reliable.

On page 189 of this catalog we illustrate an installation of Monarch Top Runner Burrs with Hoisting Crane with Screws.

### Prices for Hoisting Screws with Nut, Wrench, Bails and Pins

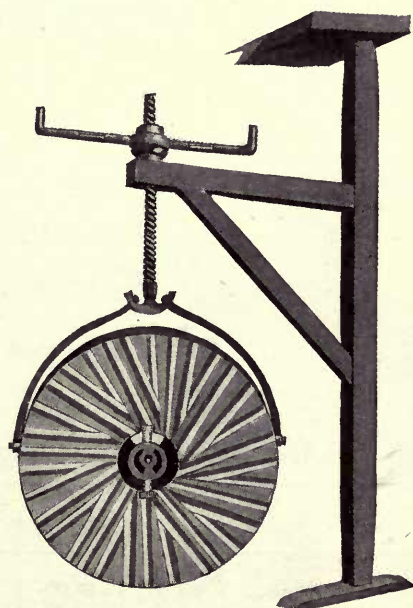
Size of Burrs, Inches.....	30 and Smaller	36	42	48	50	54	60
Price.....	\$18.00	\$20.00	\$22.50	\$27.00	\$28.00	\$30.00	\$33.00

## Wood Crane

The Monarch Hoisting Crane is made of hardwood lumber, strongly designed and securely put together ready to install. It is filled and varnished to show natural wood finish. On page 189 of this book we illustrate a crane installed with a burr outfit.

Price (10 to 12-foot post) without hoisting irons----\$30.00

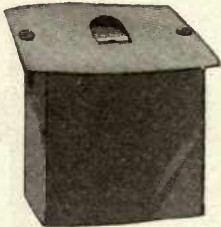
Prices on special length cranes quoted on application.





Balance Boxes

Price, per set of three.....\$13.50  
Each.....4.50



This balance box consists of a cast-iron box with removable cap, shown in cut to the right, inside of which is fitted a cast-iron weight pocket, shown in cut to the left. The weight pocket also has removable cover, and holds weights as required. It is adjusted up or down within the box by means of the screw which projects above the cap.



The Monarch Balancing Rhine or Bail

In Four Sizes

For stones with 7 -inch eye.....\$4.00  
For stones with 8½-inch eye.....4.50  
For stones with 10 -inch eye.....5.50  
For stones with 12 -inch eye.....6.00

The Monarch Adjustable Driving Iron

In Four Sizes

For stones with 7 -inch eye.....\$4.00  
For stones with 8½-inch eye.....4.00  
For stones with 10 -inch eye.....5.00  
For stones with 12 -inch eye.....5.00

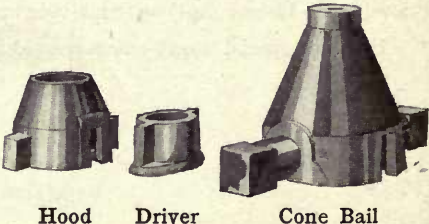


The Monarch Instant Lift

Screw stub with hand wheel, stand and cap, plain.....\$ 7.50  
Screw stub with hand wheel, stand and cap, turned.....9.00  
Screw stub with hand wheel, stand and cap, nickel plated.....12.00  
Screw stub with hand wheel, stand and cap, brass polished.....19.50

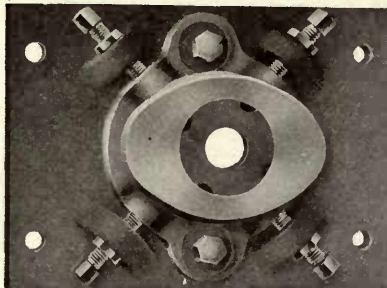
Self-Adjusting Driving Irons

	Cone Bail	Cast Driver	Steel Driver	Adjusting Ring (Hood)
For 10-inch eye...	\$8.00	\$4.00	\$8.00	\$3.00
For 12-inch eye...	9.00	4.00	8.00	4.00



Hood      Driver      Cone Bail





## The Monarch Adjustable Mill Step

For 30 and 36-inch stones and under.....	\$22.00
For 42 to 54-inch stones.....	24.50
Above with brass bushing, extra.	

## The Monarch Arch Mill Step and Lighter Lever

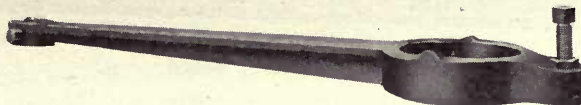


For 30 and 36-inch stones and under.....	\$27.50
For 42 to 54-inch stones.....	33.00

The above prices do not include lighter lever.

## The Monarch Lighter Levers

Including Screw Wrench, Nut Bolts and Pins



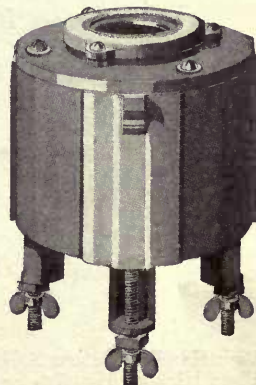
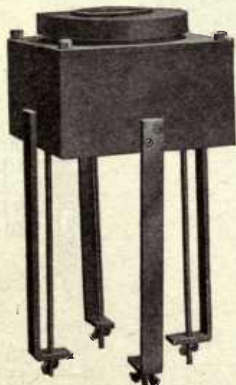
For 30-inch burrs and smaller.....	\$18.00
For 36-inch burrs.....	20.00
For 42-inch burrs.....	22.50
For 48-inch burrs.....	27.00
For 54-inch burrs.....	30.00

## The Monarch Mill Bushes

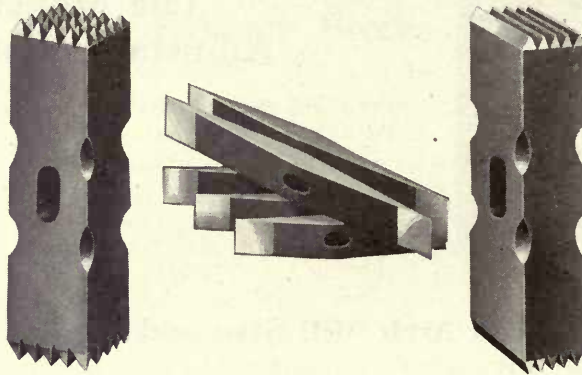
Made in four sizes. Has wood followers with iron backs. Self-oiling and adjustable from below bed-stone. Babbitt bearing. Removable cap. Leather washer surrounding spindle.

Extra charge when brass bearing is furnished.

For 7 -inch eye.....	\$14.00
For 8½-inch eye.....	15.00
For 10 -inch eye.....	16.00
For 12 -inch eye.....	17.00



### The Monarch Mill Picks



Facing Hammer

Mill Picks

Furrow Hammer

Our Mill Picks are made from special steel, and are the same that are used in our factory in facing and furrowing the burrs that go in our burr mills. Don't wait until your burrs need dressing before ordering picks, but purchase them with the mill.

Standard Mill Picks, weighing 2 pounds or less, each.....	\$2.00
Picks weighing over 2 pounds, price per pound.....	1.00
For tempering and drawing Picks (each point).....	.20
For drawing from center and tempering (per Pick).....	.60
Furrowing or Facing Hammers, 3 pounds or less.....	6.00
Furrowing or Facing Hammers, 3 ½ or 4 pounds.....	7.00

### The Monarch Proof Staffs and Spirit Level



Warranted True. Boxed

3 ½ feet long.....	\$18.00
4 feet long.....	21.00
4 ½ feet long.....	24.00

### The Monarch Red Staffs



Made of Pieces and Boxed

For 30-inch burr and under.....	\$ 6.00
For 3-foot burr.....	7.50
For 3 ½-foot burr.....	9.00
For 4-foot burr.....	10.50
For 4 ½-foot burr.....	11.50

### Pick Handles

Pick Handles, Patent Socket, each.....	\$1.50
Plain Hickory Handles for Eye Picks.....	.15



# The Monarch Mill Spindles

Made from Steel with Inserted Hardened  
Steel Toe and Cockhead

## Spindles for Under Runner Mills

### Price List

18-Inch Burrs	20-Inch Burrs	22-Inch Burrs	24-Inch Burrs	26-Inch Burrs	30-Inch Burrs	36-Inch Burrs	42-Inch Burrs
\$15.00	\$15.00	\$18.00	\$18.00	\$21.00	\$21.00	\$24.00	\$27.00

## Spindles for Upper Runner Mills

### Price List

Diameter of Spindle Inches	Length from Shoulder to Toe Feet	Price Spindle Complete	Price Additional Length Per Foot	Price Steel Toe	Price Cockhead
2 $\frac{7}{16}$	3	\$22.50	\$1.00	\$4.00	\$3.00
2 $\frac{11}{16}$	4	25.00	1.25	4.50	3.00
2 $\frac{15}{16}$	5	30.00	1.50	5.00	3.00
3 $\frac{1}{8}$	6	37.50	1.80	5.00	3.00
3 $\frac{7}{16}$	7	45.00	2.10	5.00	3.00
3 $\frac{11}{16}$	8	60.00	2.85	5.00	3.00
4 $\frac{1}{8}$	10	70.00	3.00	5.00	3.00
4 $\frac{7}{16}$	10	80.00	4.00	5.00	3.00

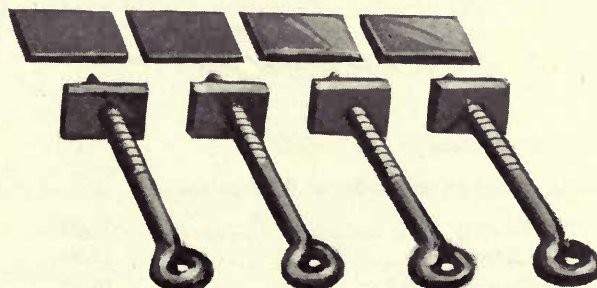
Cockeyes, each.....\$ 3.00

Taper Sleeves, for pinions, fitted to spindle, each..... 10.00

Chain Jack, with shaft, hand wheel, ratchet pawl, two chains and hooks for lifting  
pinions out of gear, each..... 20.00

## Leveling Plates and Screws

For Leveling Bed-Stones in Upper Runner Mills



Monarch  
Mill  
Spindle

Price, per set of three.....\$ 7.50

Price, per set of four..... 10.00

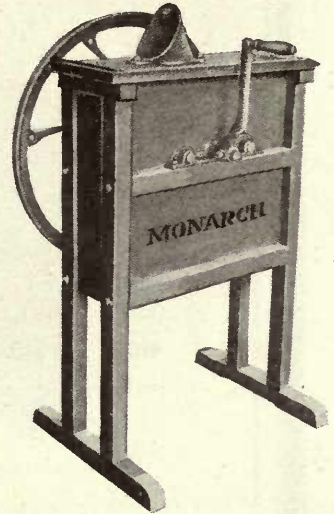
## The Monarch Corn Sheller No. 2

Here's a sheller that doesn't cost a great deal of money, but which is a wonder for work. It is built right, works right and is right. Shafting cold rolled steel; flywheel large and heavy, making it a light runner. It is a one-hopper, right-hand sheller without cob separator.

Capacity: 125 bushels per day.

Weight: 125 pounds, crated in one package; 8 cubic feet.

Price: No. 2, Plain Bearing.....	\$14.00
No. 2½, Roller Bearing.....	15.00
Feed Table.....	2.00
Basket Board.....	2.00



The Monarch Corn Sheller No. 2

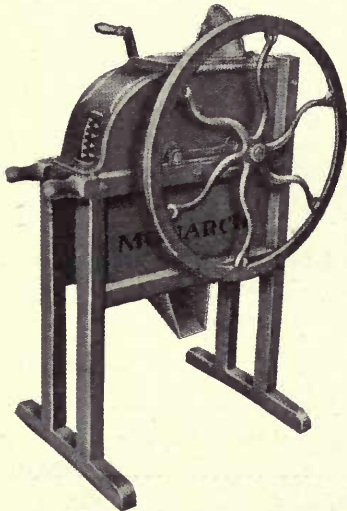
## The Monarch Corn Sheller No. 3

We don't believe there is a better corn sheller made than our No. 3. Note hopper is adjustable, conforming to different sized ears. The separator not only separates the corn from the cob, but thoroughly cleans the grain from all chaff. The crank is on the right side of the machine.

Capacity: 125 bushels per day.

Weight: 125 pounds crated in one package; 8 cubic feet.

Price: No. 3, Plain Bearing.....	\$16.00
No. 3½, Roller Bearing.....	17.00
No. 03, Plain Bearing with Fan.....	17.00
No. 03½, Roller Bearing with Fan.....	18.00
Feed Table.....	2.00
Basket Board.....	2.00



The Monarch Corn Sheller No. 3

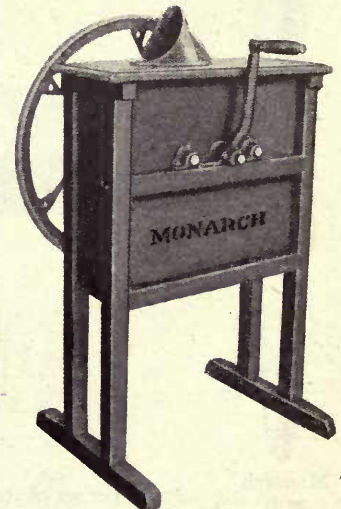
## The Monarch Corn Sheller No. 4

Our No. 4 is a one-hopper, right-hand sheller, with cob and chaff separator, particularly adapted to general farm work. A cheaper sheller than our No. 3. Shafting of cold rolled steel; heavy, large diameter balance wheel.

Capacity: 125 bushels per day.

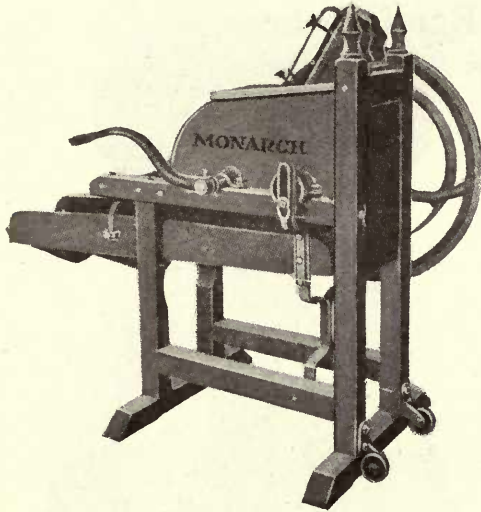
Weight: 125 pounds, crated in one package; 8 cubic feet.

Price: No. 4, Plain Bearing.....	\$15.00
No. 4½, Roller Bearing.....	16.00
No. 04, Plain Bearing with Fan.....	16.00
No. 04½, Roller Bearing with Fan.....	17.00
Feed Table.....	2.00
Basket Board.....	2.00



The Monarch Corn Sheller No. 4





## The Monarch Corn Sheller No. 7

This is our two-hopper, left-hand sheller. It is a sheller we are willing to put against the world. Cold rolled steel shafting, perfect adjustable separator, automatic spring, heavy smooth running gearing, combined flywheel and 20-inch pulley. It is a rapid worker and easy runner.

**The Monarch Corn Sheller No. 7**

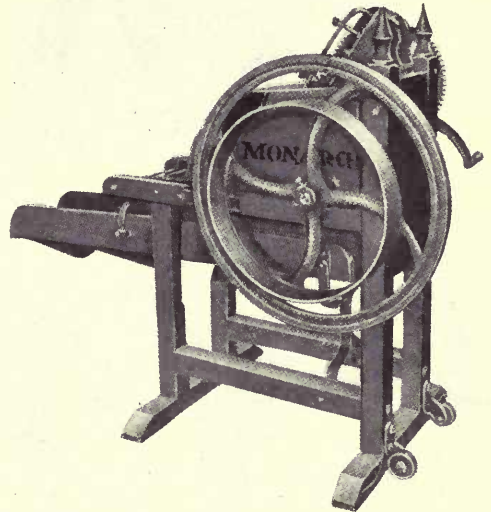
Capacity: By power, 500 to 600 bushels per day; by hand, 200 bushels per day.

Weight: 280 pounds, crated in one package; set up, 24½ cubic feet.

Price: No. 7, Outside Gear, Plain Bearing .....	\$36.00
No. 7½, Outside Gear, Roller Bearing .....	38.00
Feed Table .....	2.00
Basket Board .....	2.00

## The Monarch Corn Sheller No. 8

This is a two-hopper, right-hand sheller of large capacity, for either hand or power use. Adjustable shaker thoroughly separates the grain from cobs and chaff. It will take any sized ear, the shelling apparatus being controlled by a strong automatic spring. The shafting is cold rolled steel, and runs in either roller or plain bearings. Heavy, smooth-running gearing transmits the power from one shaft to the other. It is practically free from clogging and choking, and is suitable for either farm or warehouse, for hand or power use.



**The Monarch Corn Sheller No. 8**

Capacity: By power, 500 to 600 bushels per day; by hand, 200 bushels per day.

Weight: 300 pounds, crated in one package; set up 24½ cubic feet.

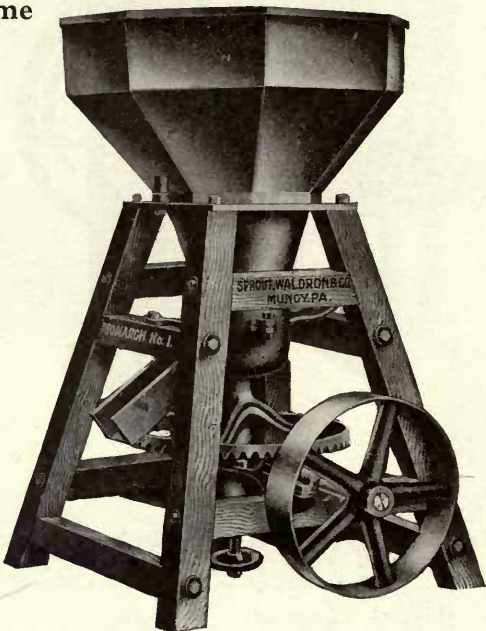
Price: No. 8, With Plain Bearings .....	\$36.00
No. 8½, With Roller Bearings .....	38.00
Feed Table .....	2.00
Basket Board .....	2.00

# The Monarch Corn Ear Crushers

## Wood Frame



Crushing Parts of Our  
Nos. 1 and 2 Crushers



The Monarch Corn Ear Crusher No. 1



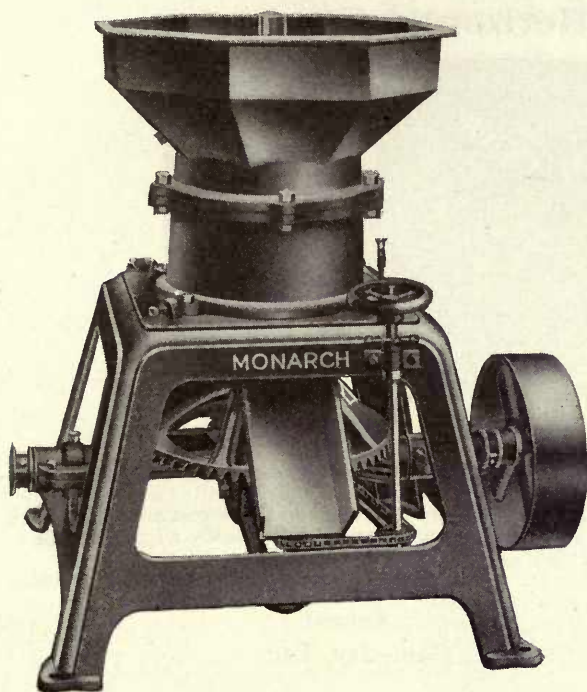
The Monarch Corn Ear Crusher No. 2

The function of our Monarch Corn Ear Crushers is to reduce the corn ears to the proper proportions—about the size of corn grains—to insure perfect grinding on either our Burr or Attrition Mills. They are all built on low designs so that they may be fed by the operator when standing on the floor. These machines are very light running, solid of construction and devoid of almost all vibration. We have given special attention to the construction of details. All crushing parts are made of white iron, which for durability and toughness is unsurpassed. The burrs are made interchangeable and as such can be replaced at small cost, besides they are always sure to fit. We make the breaker shaft and the driving shaft of cold rolled steel and the lower bearings of both shafts are cast in one piece. This, you see, makes it impossible for the gears to get out of alignment. All the bearings are lined with the best babbitt. It is a very simple operation to adjust these Crushers while in operation for the purpose of coarse or fine grinding by means of a hand screw especially provided for that purpose. They may be used not only for crushing corn ears, but for reducing oyster shells, shale, and soft rock to a required degree of fineness.

### Prices, Dimensions, Weights, Capacities, Etc.

Size No.	Price	Height Over All Inches	Floor Space Required Inches	Size Over All Includ'g Pulley Inches	Size of Pulley Inches	Speed of Pulley R.P.M.	Horse Power	Capacity Bushels Per Hour	Weight Lbs.	BOXED FOR EXPORT	
										Weight Lbs.	Volume Cu. Ft.
1	\$56.00	48	30 x 30	30 x 34	16 x 4	400	1 to 2	12 to 25	350	521	34
2	80.00	50	36 x 36	36 x 42	20 x 4	450	2 to 3	40 to 60	750	1144	50





## The Monarch Corn Ear Crushers Nos. 3 and 4

Iron Frames

This is a very strong and substantial machine composed of durable materials constructed in a highly scientific manner. Its crushing parts are composed entirely of the best white iron. The frame work is cast in one solid piece. It has a strong, massive base which absorbs the friction without transmitting it to the floor. It has one peculiar feature of advantage in its reversible drive and also a device for adjusting the machine for fine or coarse crushing.

The machine is constructed with a drive shaft which extends right through the base. Unless otherwise advised we send the machine to you arranged with the drive pulleys as shown in the illustration. If, however, when you come to set up the machine and find that it would be more convenient to have the pulley on the other side, this may be easily accomplished by simply reversing the position of the pulley and changing the pinion to the opposite side. It will be seen that the shaft will then revolve in the opposite direction but the pinion being on the opposite side of the machine will cause the crushing parts to revolve in the same direction as formerly. This is a very important feature.

The adjustment of the machine for fine or coarse crushing is accomplished by means of the lighter rod with hand wheel which operates a supporting bar which in turn upholds the shaft upon which the adjusting step box rests. By the use of lighter rod you can raise or lower the supporting bar, and consequently, by means of the step box upon which the grinding parts rest, which in turn are supported by a strong bar forming a part of the solid frame, you can throw them either closer together, or farther apart, and thus regulate the coarseness or fineness of the crushing.

The shaft which supports the crushing parts rests on a tapered toe of hardened steel which turns upon a base plate of the same hard material. The nature of this connection insures very little wear on the machine at this point and even, if in time, the toe does wear, its tapered shape only tends to settle it more firmly into the socket in which it rests, and the wear is taken up on its sides. This device is arranged to run in oil, thus preventing undue friction and wear, of which there is likely to be very little on account of the comparatively slow motion on this part of the machine.

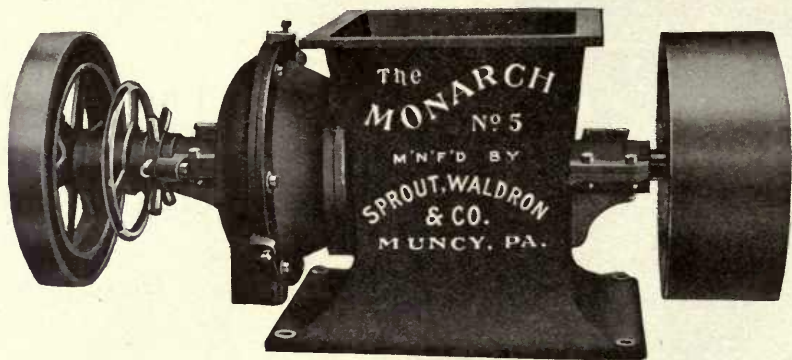
While this machine is reversible, the crushing parts are made on the same plan as our Nos. 1 and 2 machines. The ribs are all set on a slant so that the greatest amount of crushing may be done with a minimum of power. Machines having straight ribs, it has been demonstrated over and over again, are not desirable because of the waste of power which they entail and the unevenness of their work.

The Monarch Crushers are very light running and easy to operate.

### Prices, Dimensions, Weights, Capacities, Etc.

Size Number	Price	Height Over All Inches	Floor Space Required Inches	Size Over All Includ'g Pulley Inches	Size of Pulley Inches	Speed of Pulley R.P.M.	Horse Power	Capacity Bushels Per Hour	Weight Lbs.	BOXED FOR EXPORT	
										Weight Lbs.	Volume Cu. Ft.
3	\$100.00	41	30 x 34	31 x 40	14 x 4	750	2 to 3	40 to 60	700	864	33
4	150.00	50	36 x 39	36 x 44	20 x 5	650	4 to 5	60 to 100	1000	1226	53

# The Monarch Horizontal Crusher



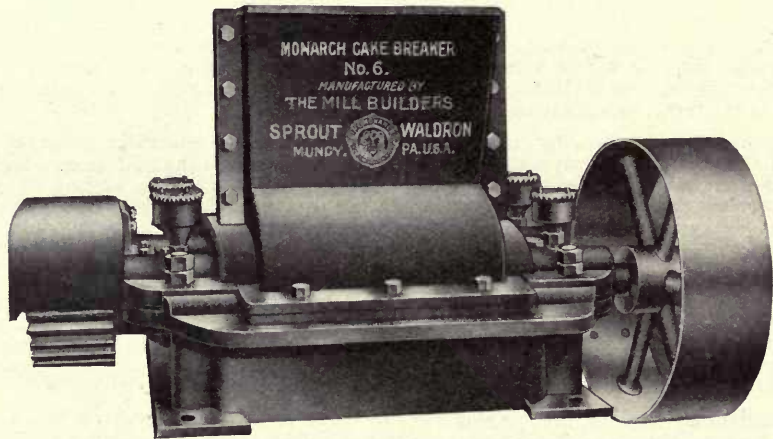
The Monarch Corn Ear Crusher No. 5

To millers who have ample power and who desire large capacity, we recommend our No. 5 Horizontal Crusher, as its capacity is only limited by the amount of power applied. It is built especially strong and heavy to stand the most severe usage and do the largest amount of work in a given time. It is simple in construction, containing but few parts, and can be readily adjusted, while in operation, to crush either fine or coarse. The crushing parts are made of chilled iron and when worn can be replaced at a small cost, which makes the machine an inexpensive one to operate. Built in one size only. This crusher is used extensively for crushing burnt lime and like material.

## Price, Dimensions, Weight, Capacity, Etc.

Size No.	Price	Size Over All with Pulley Inches	Floor Space Inches	Size of Pulley Inches	Speed R. P. M.	Horse Power	Height Inches	Capacity Bushels Per Hour	Weight Lbs.	BOXED FOR EXPORT	
										Weight Lbs.	Vol. Cu. Ft.
5	\$180.00	57 x 22	28 x 21	20 x 8	400 to 600	1 to 10	27	100 to 200	1000	1255	28

# The Monarch Cake Breaker



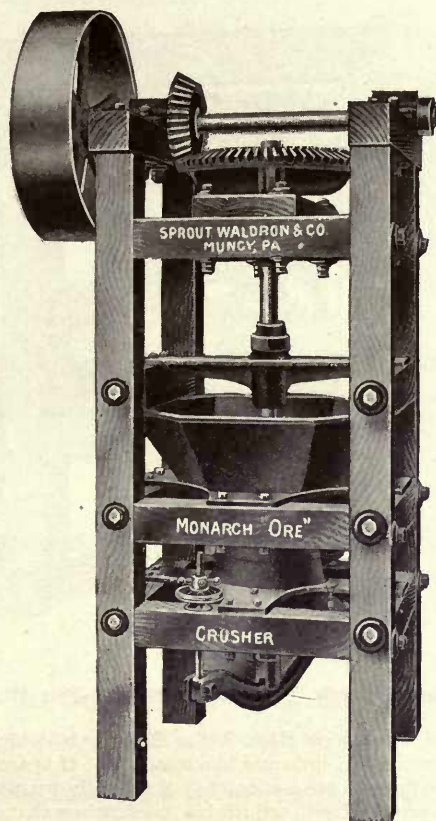
This Breaker is built for strength, durability and economy in operation. The breaker saws are made of one-quarter inch saw steel, nine inches in diameter, and will last indefinitely. The saws are placed on a square shaft, so spaced and arranged that the teeth of the saws pass between the teeth on the opposite roll, thus insuring capacity and an even product. The shafts are geared together by a pair of spur cut gears 8 inches diameter by 5 inches face.

## Price, Dimensions, Weight, Capacity, Etc.

Size No.	Price	Size Over All with Pulley Inches	Height Inches	Floor Space Inches	Size of Pulley Inches	Speed of Pulley R.P.M.	Horse Power	Capacity in 12 Hours Tons	Weight Lbs.	BOXED FOR EXPORT	
										Weight Lbs.	Vol. Cu. Ft.
6	\$350.00	28 x 45	26	24 x 29	20 x 6	400	4 to 6	35 to 40	1300	1447	22



## The Monarch Ore Crusher



The Monarch Ore Crusher No. 9

This Crusher is thoroughly built and its parts made strong for the work for which it was designed. It will crush materials of medium hardness, such as bone, oyster shells, shale, paint rock, etc., for finishing on our vertical mills.

The bearings are all above the crushing parts, which prevents dirt of a gritty nature getting into them.

The machine is supplied with an adjustable hand wheel so that it may be regulated to crush fine or coarse while in operation.

The frame is built of 5 x 5-inch kiln-dried hard wood, the whole being held together by heavy joint bolts. The hardest and toughest iron obtainable has been selected for the making of the crushing parts.

It has a capacity of from three to six tons per hour, according to the material and degree of fineness required.

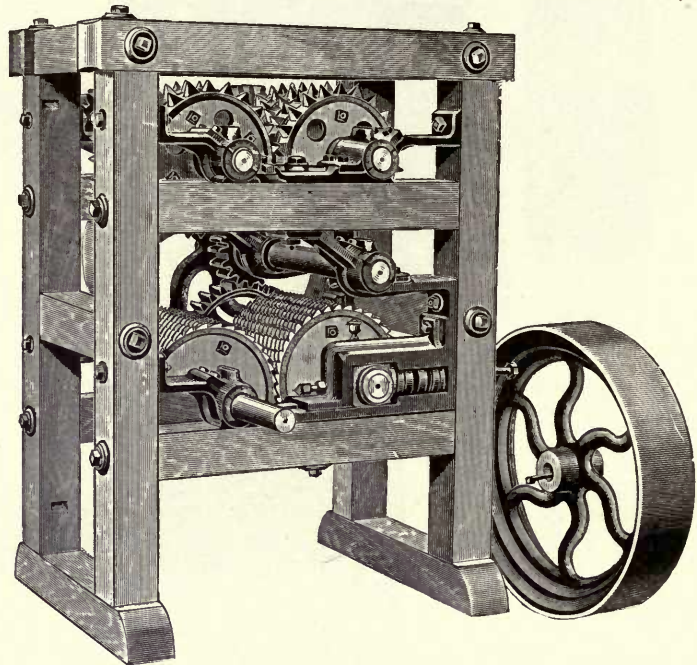
Pieces from three to six inches through are reduced to the size of corn and wheat grains.

The machine is shipped complete ready for the belt, making the erection a very simple operation.

### Price, Dimensions, Weight, Etc.

Size No.	Price	Height Inches	Floor Space Inches	Size Over All with Pulley Inches	Size of Pulley Inches	Speed of Pulley R. P. M.	Horse Power	Weight Lbs.	BOXED FOR EXPORT	
									Weight Lbs.	Vol. Cu.Ft.
9	\$300.00	93	35½ x 35½	35½ x 44½	30 x 7	125	10	2000	2350	110

**The Monarch Roller Crusher**  
**In Wood or Steel Frame**



**The Monarch Roller Crusher—Two-Pair High**

The Monarch Two-Pair and Three-Pair High Roller Crusher is designed for strength, durability and large capacity for crushing clay, coal, coke, lime and like materials. It is arranged to crush these materials to size of corn grains and smaller. The rolls are constructed of specially treated hard steel discs securely bolted together on a square shaft and are provided with adjustable relief springs that may be tensioned to suit materials to be crushed. The frame is made of hard wood mortised and tenoned and securely fastened with draw bolts. We also furnish with steel frame if desired.

Prices for machine equipped with steel housing will be furnished on application.

**Two-Pair High**  
**Prices, Dimensions, Weights, Etc.**

Size Number	Price with Wood Frame	Price with Steel Frame	OVER-ALL DIMENSIONS			Weight Lbs.	BOXED FOR EXPORT	
			Length	Width	Height		Weight Lbs.	Volume Cubic Feet
12	\$700.00	\$1050.00	6' 1½"	3' 10"	4' 4"	4500	4990	78
13	790.00	1100.00	6' 5½"	3' 10"	4' 4"	4600	5100	109
14	850.00	1250.00	6' 11½"	3' 10"	4' 4"	4800	5350	118
15	900.00	1300.00	7' 5½"	3' 10"	4' 4"	5000	5600	126

**Three-Pair High**  
**Prices, Dimensions, Weights, Etc.**

Size Number	Price with Wood Frame	Price with Steel Frame	OVER-ALL DIMENSIONS			Weight Lbs.	BOXED FOR EXPORT	
			Length	Width	Height		Weight Lbs.	Volume Cubic Feet
12	\$ 950.00	\$1350.00	6' 1½"	3' 10"	6' 0"	5500	6100	108
13	1050.00	1450.00	6' 5½"	3' 10"	6' 0"	6000	6650	150
14	1150.00	1600.00	6' 11½"	3' 10"	6' 0"	6500	7160	162
15	1250.00	1700.00	7' 5½"	3' 10"	6' 0"	7000	7700	174



## Grain Measure

To find the capacity in bushels of a bin or wagon-bed, multiply the cubic feet by .8 (tenths). For greater accuracy, add  $\frac{1}{3}$  of a bushel for every 100 cubic feet.

To find the cubic feet, multiply the length, width and depth together.

Find the capacity of a bin 4 feet wide, 5 feet deep, and 15 feet long.

To get the exact answer, 1 bushel is added for the 300 cubic feet.

$$4 \times 5 \times 15 = 300 \text{ cubic feet.}$$

$$\underline{\phantom{00} .8}$$

Answer, 240.0 bushels.

$$240 + 1 = 241 \text{ bushels exact answer.}$$

How many bushels will a wagon-bed hold, 10 feet long, 3 feet wide, 18 inches or  $1\frac{1}{2}$  feet deep?

A bed 10 feet long, 3 feet wide, will hold 2 bushels for every inch in depth.

$$1\frac{1}{2} \times 3 \times 10 = 45 \text{ cubic feet.}$$

$$\underline{\phantom{00} .8}$$

Answer, 36.0 bushels.

## Ear Corn Measure

To find the contents of a corn crib: multiply the cubic feet by 4 and divide the product by 9.\*

Find the contents of a corn crib, 18 feet long, 7 feet wide, 8 feet high.

\*Note. This allows  $2\frac{1}{4}$  cubic feet for a bushel. It is the rule most generally used, and will hold out in ordinary good corn, even if measured at the time it is cribbed.

$$7 \times 8 \times 18 = 1,008 \text{ cubic feet.}$$

$$\underline{\phantom{00} 4}$$

$$9)4,032$$

Answer, 448 bushels.

## Two Simple Rules for Finding the Capacity of Round Bins, in Bushels

Where the dimensions measure exactly in feet, multiply the diameter by the diameter, multiply by the depth, multiply by .63.

Where the dimensions measure in inches, multiply the diameter by the diameter, multiply by the depth, multiply by .000365.

## To Find the Quantity of Grain When Heaped on the Floor in the Form of a Cone

Square the depth and square the slant height, in inches. Take their difference and multiply by the depth, in inches. Multiply this product by .00048. The result will be the contents, in bushels.

## To Find the Quantity of Grain When Heaped Against a Straight Wall

Square one-half of the depth and proceed as in the previous rule.

## Estimated Weights of Lumber, in Pounds

Walnut, dry, per square foot.....	4
Walnut, green, per square foot.....	5
Cherry, dry, per square foot.....	$3\frac{1}{2}$
Cherry, green, per square foot.....	$4\frac{1}{4}$
Ash, dry, per square foot.....	$3\frac{1}{2}$
Ash, green, per square foot.....	$4\frac{1}{2}$
Maple, dry, per square foot.....	$4\frac{1}{2}$
Maple, green, per square foot.....	6
Hickory, dry, per square foot.....	5
Hickory, green, per square foot.....	$6\frac{1}{4}$
Oak, dry, per square foot.....	$4\frac{1}{4}$

Oak, green, per square foot.....	$5\frac{3}{4}$
Sycamore, dry, per square foot.....	$3\frac{3}{4}$
Sycamore, green, per square foot.....	$4\frac{3}{4}$
Chestnut, dry, per square foot.....	$3\frac{1}{2}$
Chestnut, green, per square foot.....	$4\frac{1}{2}$
Basswood, dry, per square foot.....	$2\frac{1}{2}$
Basswood, green, per square foot.....	4
Butternut, dry, per square foot.....	3
Butternut, green, per square foot.....	4
Whitewood, dry, per square foot.....	$2\frac{3}{4}$
Whitewood, green, per square foot.....	4

## Relative Value of Feed Contents of Feed Materials

FEEDING STUFF	Water Per Cent	Ash Per Cent	Protein Per Cent	Fiber Per Cent	Nitrogen Free Extract Per Cent	Fat Per Cent	Number of Analysis
Corn Silage.....	77.3	1.4	1.9	5.9	12.6	0.9	161
Red Clover.....	15.3	6.2	12.3	24.8	38.1	3.3	38
Alfalfa.....	8.4	7.4	14.3	25.0	42.7	2.2	21
Cowpea.....	10.7	7.5	16.6	20.1	42.2	2.9	8
Oat Straw.....	9.2	5.1	4.0	37.0	42.4	2.3	12
Oat Shorts.....	5.5	3.9	18.1	8.9	57.4	5.5	---
Kafir Corn.....	12.5	1.3	10.9	1.9	70.5	2.9	6
Barley.....	10.9	2.4	12.4	2.7	69.8	1.8	10
Oats.....	11.0	3.0	11.8	9.5	59.7	5.0	30
Oat Hulls.....	7.3	6.7	3.3	29.7	52.1	1.0	---
Rye.....	11.6	1.9	10.6	1.7	72.5	1.7	6
Wheat, Spring Varieties.....	10.4	1.9	12.5	1.8	71.9	2.2	13
Wheat, Winter Varieties.....	10.5	1.8	11.8	1.8	72.0	2.1	262
Wheat, All Varieties.....	10.5	1.8	11.9	1.8	71.9	2.1	310
Buckwheat.....	12.6	2.0	10.0	8.7	64.5	2.2	8
Buckwheat Hulls.....	13.2	2.2	4.6	43.5	35.3	1.1	---
Cotton Seed (with Hulls).....	9.1	4.0	19.6	18.9	28.3	20.1	11
Corn Meal.....	15.0	1.4	9.2	1.9	68.7	3.8	77
Rye Flour.....	13.1	0.7	6.7	0.4	78.3	0.8	4
Ground Corn and Oats, Equal Parts.....	11.9	2.2	9.6	---	72.0	4.4	6
Corn Cob.....	10.7	1.4	2.4	30.1	54.9	0.5	18
Hominy Chop.....	11.1	2.5	9.8	3.8	64.5	8.3	12
Corn Bran.....	8.7	1.5	9.8	11.2	62.6	6.2	6
Corn Germ Meal.....	10.7	4.0	9.8	4.1	64.0	7.4	3
Oat Feed.....	7.7	3.7	16.0	6.1	59.4	7.1	4
Rye Bran.....	11.8	3.5	14.7	3.3	63.9	2.8	11
Wheat Bran, Spring Wheat.....	11.5	5.4	16.1	8.0	54.5	4.5	10
Wheat Bran, Winter Wheat.....	12.3	5.9	16.0	8.1	53.7	4.0	7
Wheat Bran, All Analysis.....	11.9	5.8	15.4	9.0	53.9	4.0	88
Wheat Middlings.....	12.1	3.3	15.6	4.6	60.4	4.0	32
Wheat Shorts.....	11.8	4.6	14.9	7.4	56.8	4.5	12
Wheat Screenings.....	11.6	2.9	12.5	4.9	65.1	3.0	10
Rice Hulls.....	8.2	13.2	3.6	35.7	38.6	0.7	3
Buckwheat Bran.....	11.5	4.5	24.8	11.7	40.8	6.7	7
Buckwheat Middlings.....	11.8	4.8	28.0	6.3	41.9	7.2	12
Cotton Seed Meal.....	8.2	7.2	42.3	5.6	23.6	13.1	35
Linseed Meal, New Process.....	9.9	5.6	35.9	8.8	36.8	3.0	33
Peanut Meal.....	10.7	4.9	47.6	5.1	23.7	8.0	2480
Peanut Hulls.....	9.0	3.4	6.6	64.3	15.1	1.6	5
Flaxseed.....	9.2	4.3	22.6	7.1	23.2	33.7	---
Peas.....	14.3	2.5	22.4	9.2	49.1	2.5	---
Dried Blood.....	8.5	4.7	84.4	---	---	2.5	---
Dried Fish.....	10.8	29.2	48.4	---	---	11.16	---



# MONARCH PACKING MACHINES



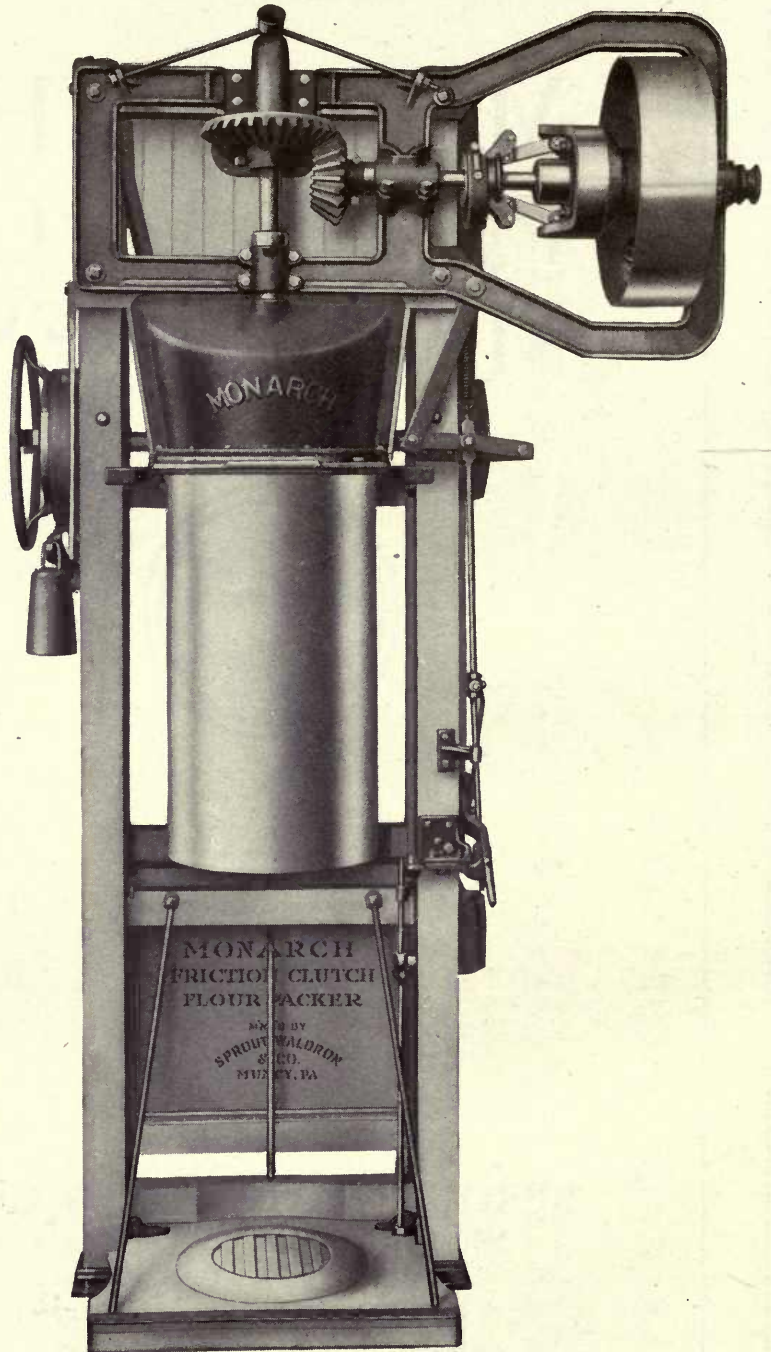
*Section EE, No. 115*

Established 1866

**SPROUT, WALDRON & CO.**

Mill Builders and Mill Furnishers

MUNCY, PA., U. S. A.



The Monarch Friction Clutch Flour Packer



## The Monarch Line of Packing Machines

**T**HE Monarch Line of Packing Machines for flour, feed, bran, alfalfa, cement, etc., etc., is by no means in need of a lengthy introduction to those who are already actively connected with such industries as require use of any of the individual machines of which it is composed. It is therefore mainly for the benefit of prospective users that we have herein assembled, illustrated and briefly described a line of packers which is already well known and widely used by the trade.

While we have made and are still making, packing machines of special design to suit the requirements of every class of manufacturing where the careful and economical filling of barrels, sacks or packages is the final operation, the packers listed on the following pages are standard and have certain qualities which we deem worthy of special comment as follows:

Our Friction Clutch Packers are equipped, for starting and stopping, with the Monarch Friction Clutch, which, while simple in construction and requiring but little attention, is mechanically perfect, easily adjusted and incapable of becoming accidentally engaged or disengaged. It is preeminently durable, has a large area of contacting surface, is scientifically lubricated and will give equal efficiency at all speeds. We invite a close investigation of the merits of this clutch, believing it to be a marked improvement over any other clutch used for the same purpose.

In cases where our packers are described as being started and stopped by the drop gear method, we desire to make note of the fact that this mechanism is constructed in the strongest possible manner. It is well balanced, the packing and driving shafts are both held in rigid alignment and fitted with wide-faced gears best suited to the purpose.

Monarch Packers of wood and iron construction are designed with particular attention to making the combination effectively strong, durable, rigid and satisfactory. The surfaces of iron parts which come in contact with the hardwood frame are large in area, smooth and true. Bolts and braces are made of best grade iron and used in such numbers as to secure unquestioned stability without detracting from the appearance of the machine.

It is hardly necessary to emphasize the importance of fireproof construction nor to call attention to the disadvantage of installing wooden machines in buildings of this type—a practice which we believe is being rapidly discontinued. Monarch Packers constructed of steel and iron, are not only proof against the ravages of fire, but are also proof against its local inception. Furthermore they are beyond any doubt, the most durable, rigid, rapid and economical machines, for the intended purpose, on the market. Frames are made of heavy angle iron, castings are solid, flawless and massive and everything, in both design and method of construction, combines to make an almost unwearable and indestructible unit.

It will be noted on referring to the following pages, the Monarch Line of Packing Machines offers a wide range of selection and covers a wide range of utility. Each machine, be it barrel, sack or package packer, was especially designed for the service for which we recommend it; each machine is economical in its work, automatic and positive in action, easy of adjustment and thoroughly established with a reputation for satisfactory operation. Bearings are extra long and carefully lined; gears, augers, shafting, etc., etc., are made of best materials for the purpose and in the most careful manner and particular attention has been given to cleanly, convenient and economical lubrication.

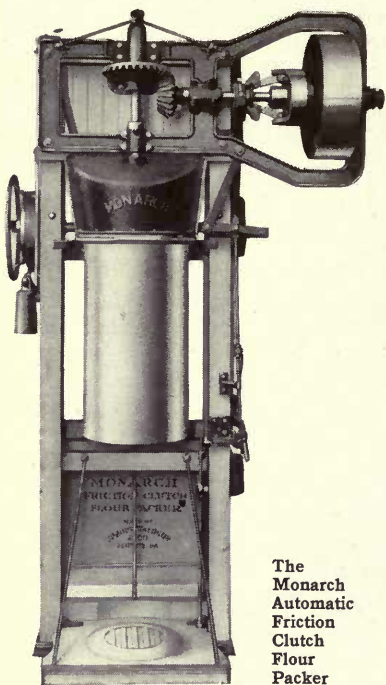
Finally, we invite prospective purchasers of packing machinery to submit their problems to us for expert advice and consideration. We feel that measuring the value of a machine in terms of its usefulness, measuring a guarantee by the character of the plant and the ability of the organization behind it and taking into consideration the length of successful manufacturing experience, we are in a position to give you prompt and permanently satisfactory service.

### Directions for Ordering

Orders for Monarch Flour Packers should be accompanied by information as to: Size and weight of package to be filled; type of packer desired; whether driving is proposed from right or left side as you face machine; whether augers turn with or against the sun or if more readily understood, whether top of driving pulley turns toward the front or back of the machine.

When ordering Bran Packers: In addition to the information asked for above, give width and length of bag to be filled, when same is empty and lying flat on floor.

# The Monarch Automatic Friction Clutch Flour Packer



Style A

The  
Monarch  
Automatic  
Friction  
Clutch  
Flour  
Packer

The illustration conveys some idea of what we guarantee to be a strictly modern, efficient, strong and durable barrel and large sack packer. Its work is rapid, absolutely automatic and satisfactory and is performed with an even pressure the full length of the sack or barrel.

Attention is called to the friction clutch driving arrangement, which, to insure rigidity and long life to the machine, is carried in a strong iron yoke securely bolted across the entire width of the frame. The clutch referred to is of the most approved design; simple, durable, effective and noiseless.

Directions for ordering are contained in footnote on page 211.

## Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Tube and Auger.....	\$180.00
Additional Tube and Auger.....	10.00
Extreme Height to Top of Iron Front.....	8' 7½"
Extreme Height to Top of Frame.....	8' 2½"
Extreme Width.....	4' 11"
Floor to Center of Drive Pulley.....	7' 5¼"
Size of Packing Shaft.....	1 11⁄16"
Size of Countershaft.....	1½"
Size of Driving Pulley.....	20"x 5½"
Speed of Pulley, Revolutions per Minute.....	150
Shipping Weight.....	1200 lbs.
Boxed for Export—Weight.....	2000 lbs.
Volume.....	155 cu. ft.

# The Monarch Automatic Drop Gear Flour Packer

With the exception that it is equipped with the well known drop gear method of stopping and starting, this machine is much the same as the one described and illustrated above and is recommended for the same class of service.

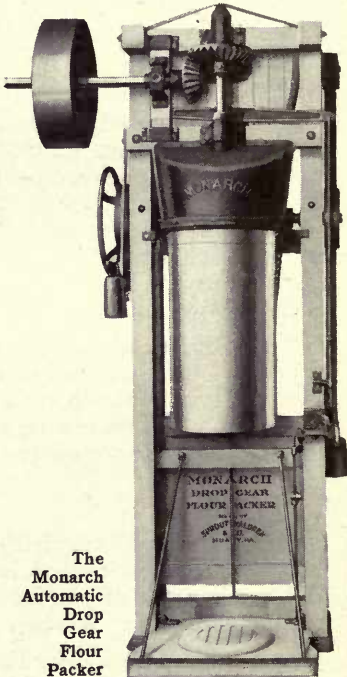
This is a substantial machine, firmly bolted together, insuring a rigid drive and perfect motion of the running parts. Lubrication to the packer shaft, which revolves in a steel toe is accomplished by means of a compression grease cup.

Rapid and reliable operation with small consumption of power have made this packer very popular with the trade.

Directions for ordering are contained in footnote on page 211.

## Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Tube and Auger.....	\$150.00
Additional Tube and Auger.....	10.00
Extreme Height.....	8' 4"
Extreme Width.....	3' 3"
Floor to Center of Drive Pulley.....	7' 5¼"
Size of Packing Shaft.....	1 11⁄16"
Size of Countershaft.....	1½"
Size of Driving Pulley.....	20"x 5½"
Speed of Countershaft, Revolutions per Minute.....	150
Shipping Weight.....	950 lbs.
Boxed for Export—Weight.....	1600 lbs.
Volume.....	110 cu. ft.

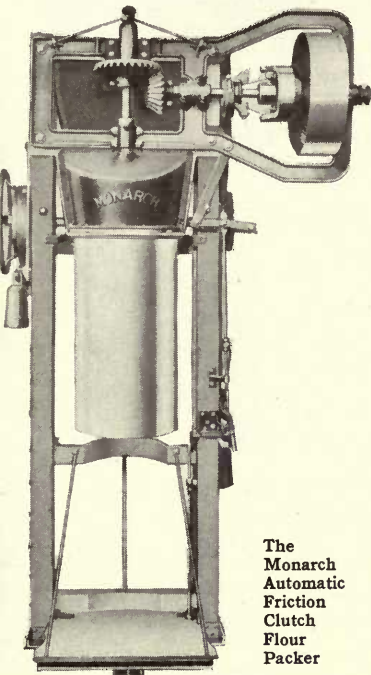


The  
Monarch  
Automatic  
Drop  
Gear  
Flour  
Packer

Style B



## The Monarch Automatic Friction Clutch Flour Packer Steel and Iron Construction



The  
Monarch  
Automatic  
Friction  
Clutch  
Flour  
Packer

Style C

As its name indicates this packer is built entirely of iron and steel, a construction that is proof against the action of fire and gives extreme rigidity to the machine and insures perfect alignment of the bearings.

In respect to operation and the use for which it is intended, it corresponds with the Monarch described and illustrated on the fore part of page 212.

Directions for ordering are contained in footnote on page 211.

### Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Tube and Auger.....	\$350.00
Additional Tube and Auger.....	10.00
Extreme Height to Top of Iron Front.....	8' 7½"
Extreme Height to Top of Frame.....	8' 2½"
Extreme Width.....	4' 11"
Floor to Center of Drive Pulley.....	7' 5¼"
Size of Packing Shaft.....	1½"
Size of Countershaft.....	1½"
Size of Driving Pulley.....	20"x 5½"
Speed of Pulley, Revolutions per Minute.....	150
Shipping Weight.....	1500 lbs.
Boxed for Export—Weight.....	2300 lbs.
Volume.....	155 cu. ft.

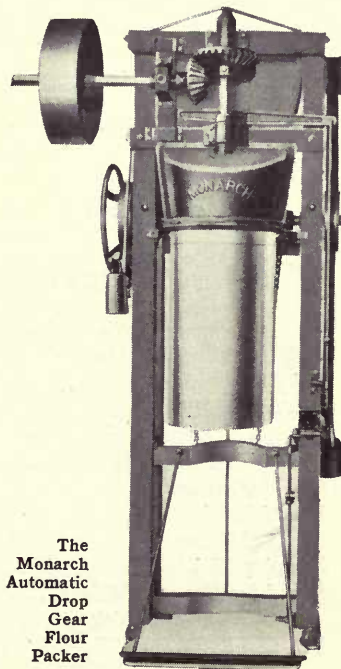
## The Monarch Automatic Drop Gear Flour Packer Steel and Iron Construction

Where steel construction in the drop gear type of packer described on the lower part of page 212 is preferred, we offer this machine as being suitable and serviceable for the requirements.

A machine of this kind is a necessity in a fireproof mill and is so durable as to require almost nothing in the way of repairs.

The design, as in the packer illustrated above, is extremely substantial. The frame, while made up of several pieces, is so securely assembled as to be practically a solid unit. The journals are unusually long, giving strength and bearing surface to preserve alignment.

Directions for ordering are contained in footnote on page 211.



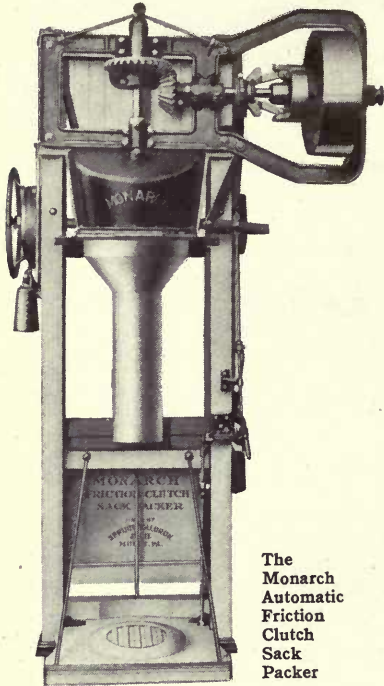
The  
Monarch  
Automatic  
Drop  
Gear  
Flour  
Packer

Style D

### Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with one Tube and Auger.....	\$290.00
Additional Tube and Auger.....	10.00
Extreme Height.....	8' 4"
Extreme Width.....	3' 3"
Floor to Center of Drive Pulley.....	7' 5¼"
Size of Packing Shaft.....	1½"
Size of Countershaft.....	1½"
Speed of Countershaft, Revolutions per Minute.....	150
Size of Driving Pulley.....	20"x 5½"
Shipping Weight.....	1200 lbs.
Boxed for Export—Weight.....	1850 lbs.
Volume.....	110 cu. ft.

# The Monarch Automatic Friction Clutch Sack Packer



Style E

The  
Monarch  
Automatic  
Friction  
Clutch  
Sack  
Packer

A fast, noiseless and easily operated machine, designed for packing sacks ranging in weight from 40 to 100 pounds.

The friction clutch is carried by a substantial iron frame, making a rigid and durable construction.

Directions for ordering are contained in footnote on page 211.

## Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Tube and Auger.....	\$140.00
Additional Tube and Auger.....	10.00
Height to Top of Iron Front.....	7' 4"
Height to Top of Frame.....	6' 11"
Extreme Width.....	4' ½"
Floor to Center of Drive Pulley.....	5' 10"
Size of Packing Shaft.....	1 ⅝"
Size of Countershaft.....	1 ⅝"
Size of Driving Pulley.....	16"x 4½"
Speed of Pulley, Revolutions per Minute.....	135
Shipping Weight.....	700 lbs.
Boxed for Export—Weight.....	1350 lbs.
Volume.....	110 cu. ft.

# The Monarch Automatic Drop Gear Sack Packer

A most satisfactory machine for packing sacks of from 5 to 100 pounds capacity, which operation it performs with a saving of labor and most satisfactory results.

The gear drive is rigidly arranged, shaft and bearings are carefully fitted and every element unites in making construction strong and durable.

Directions for ordering are contained in footnote on page 211.

## Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Tube and Auger.....	\$120.00
Additional Tube and Auger.....	10.00
Height to Top of Frame.....	6' 11"
Extreme Width.....	2' 9"
Floor to Center of Drive Pulley.....	5' 10"
Size of Packing Shaft.....	1 ⅝"
Size of Countershaft.....	1 ⅝"
Size of Driving Pulley.....	16"x 4½"
Speed of Countershaft, Revolutions per Minute.....	135
Shipping Weight.....	500 lbs.
Boxed for Export—Weight.....	1100 lbs.
Volume.....	100 cu. ft.



The  
Monarch  
Automatic  
Drop  
Gear  
Sack  
Packer

Style F



## Automatic Small Sack Packer

This is the most up-to-date Small Sack Packer on the market. It accurately packs sacks of from 2 to 24 pounds weight in from one to three seconds.

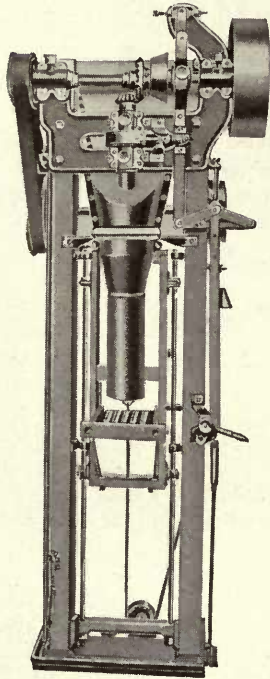
Nothing is required of the operator save placing empty sacks on the tube and depressing the foot lever.

We guarantee this machine to give satisfaction in putting up small packages quickly and economically.

Directions for ordering are contained in footnote on page 211.

### Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Tube and Auger.....	\$200.00
Additional Tube and Auger.....	20.00
Extreme Height.....	7' 10½"
Extreme Length.....	2' 6½"
Extreme Width.....	2' 10½"
Height to Center of Drive Pulley.....	7' 0"
Height to Top of Frame.....	7' 3¾"
Size of Drive Pulley.....	16"x 4½"
Speed of Drive Pulley, Revolutions per Minute.....	250
Shipping Weight.....	700 lbs.
Boxed for Export—Weight.....	1075 lbs.
Volume.....	60 cu. ft.



Style G  
Automatic Small Sack Packer

## Automatic Small Sack Packer

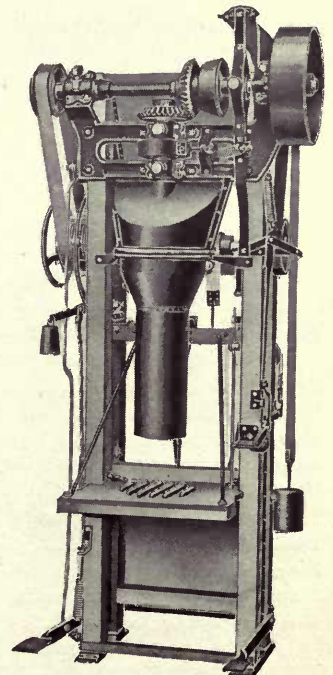
The Style "H" Small Sack Packer is similar in construction to the Style "G" and operates with the same speed and accuracy.

It is designed for packing sacks up to 48 pounds in weight, is unequalled for rapid and accurate work and entirely automatic in action.

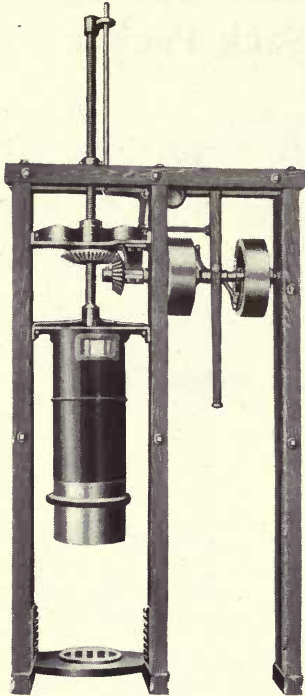
Directions for ordering are contained in footnote on page 211.

### Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Tube and Auger.....	\$200.00
Additional Tube and Auger.....	15.00
Extreme Height.....	8' 0"
Extreme Length.....	3' 5½"
Extreme Width.....	3' 7"
Height to Center of Drive Pulley.....	7' ¾"
Height to Top of Frame.....	7' 2¼"
Size of Drive Pulley.....	16"x 4½"
Speed of Drive Pulley, Revolutions per Minute.....	250
Shipping Weight.....	800
Boxed for Export—Weight.....	1250 lbs.
Volume.....	98 cu. ft.



Style H  
Automatic Small Sack Packer



Style I  
Compression Screw Packer

# Compression Screw Packer

This packer is designed for packing rolled oats, wheat and corn flakes and all other flaky substances that are easily broken, into barrels, half barrels, 90, 50 and 25-pound bags.

## Prices, Dimensions, Speed, Weight, Etc.

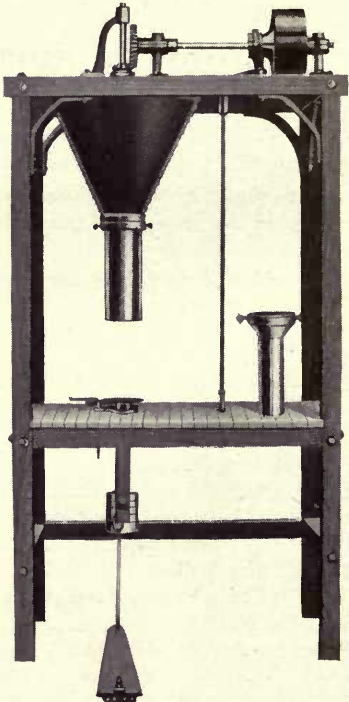
Price—Packer with One Tube and Plunger.....	\$250.00
Additional Tube and Plunger.....	20.00
Additional Enclosing Case.....	24.00
Height to Top of Frame.....	9' 7½"
Height to Center of Countershaft.....	7' 8"
Extreme Width.....	5' 9"
Width of Frame.....	3' 1"
Speed of Countershaft when Screw is Ascending, R. P. M.....	290
Speed of Countershaft when Screw is Descending, R. P. M.....	230
Size of Pulley.....	18"x 5½"
Shipping Weight.....	1300 lbs.
Boxed for Export—Weight.....	1650 lbs.
Volume.....	84 cu. ft.

# Automatic Small Package Packer

Designed for packing small packages of from three ounces to twelve pounds in wrappers, made of any material and any shape.  
Will accurately pack self-rising and graham flour, cereals, etc.

## Prices, Dimensions, Speed, Weight, Etc.

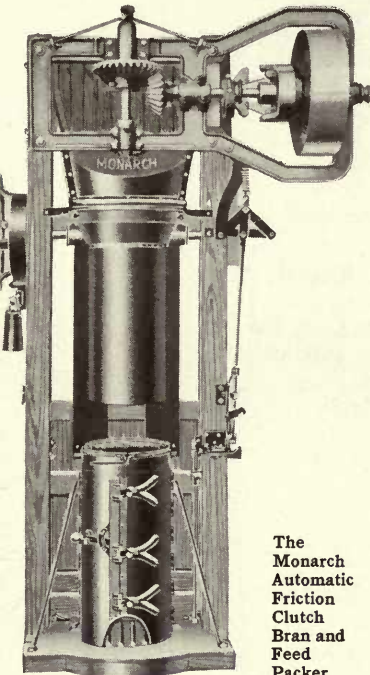
Price—Packer with One Tube and Auger.....	\$180.00
Additional Tube and Auger.....	15.00
Extreme Height.....	8' 4"
Extreme Width.....	3' 11½"
Extreme Depth.....	3' 2¾"
Height to Center of Drive Pulley.....	7' 11"
Height to Top of Table.....	3' 0"
Height to Top of Feed Opening.....	7' 5"
Size of Pulley.....	10"x 3"
Speed, Revolutions per Minute.....	300
Shipping Weight.....	600 lbs.
Boxed for Export—Weight.....	940 lbs.
Volume.....	108 cu. ft.



Style J  
Automatic Small Package Packer



## The Monarch Automatic Friction Clutch Bran and Feed Packer



Style K

The  
Monarch  
Automatic  
Friction  
Clutch  
Bran and  
Feed  
Packer

A strong and durable machine for use in feed mills for the rapid sacking of bran and feed.

Has extra long bearings, powerful friction clutch drive, hardwood frame and is so assembled as to give rigidity and perfect running balance.

Directions for ordering are contained in footnote on page 211.

### Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Enclosing Case, Tube and Auger	\$270.00
Additional Enclosing Case, Tube and Auger	36.00
Additional Enclosing Case	24.00
Extreme Height to Top of Iron Front	9' 2 $\frac{3}{4}$ "
Extreme Height to Top of Frame	8' 9"
Center of Main Shaft to End of Drive Shaft	3' 4 $\frac{1}{4}$ "
Floor to Center of Drive Pulley	7' 10 $\frac{1}{4}$ "
Size of Packing Shaft	2 $\frac{3}{16}$ "
Size of Countershaft	2 $\frac{3}{16}$ "
Size of Driving Pulley	24"x 8 $\frac{1}{2}$ "
Speed of Pulley, Revolutions per Minute	175 to 200
Shipping Weight	1600 lbs.
Boxed for Export—Weight	2600 lbs.
Volume	156 cu.ft.

## The Monarch Automatic Drop Gear Bran and Feed Packer

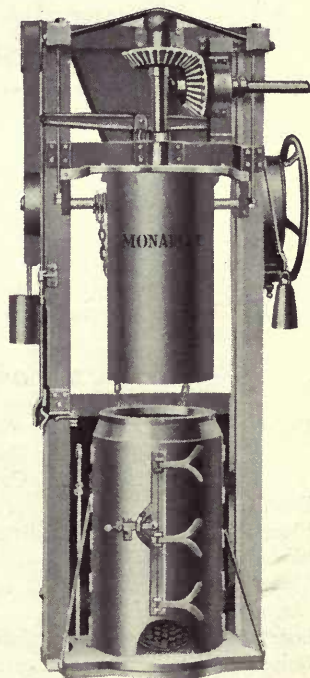
With the exception that it is equipped with the well known drop gear driving arrangement, the packer illustrated herewith is similar to the machine shown above.

We recommend it as being very satisfactory for sacking bran and feed and guarantee construction to be first class in every respect.

Directions for ordering are contained in footnote on page 211.

### Prices, Dimensions, Speed, Weight, Etc.

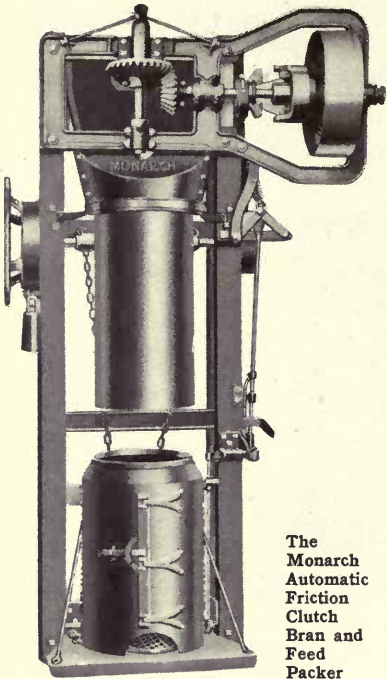
Price—Packer with One Enclosing Case, Tube and Auger	\$200.00
Additional Enclosing Case, Tube and Auger	36.00
Additional Enclosing Case	24.00
Extreme Height	7' 11"
Floor to Center of Drive Pulley	7' 2"
Size of Packing Shaft	1 $\frac{15}{16}$ "
Size of Countershaft	1 $\frac{11}{16}$ "
Size of Driving Pulley	24"x 7 $\frac{1}{2}$ "
Speed of Countershaft, Revolutions per Minute	140
Shipping Weight	1100 lbs.
Boxed for Export—Weight	1900 lbs.
Volume	154 cu. ft.



Style L

The Monarch Automatic Drop  
Gear Bran and Feed Packer

The Monarch Automatic Friction Clutch  
Bran and Feed Packer  
Steel and Iron Construction



Style M

The  
Monarch  
Automatic  
Friction  
Clutch  
Bran and  
Feed  
Packer

In offering our steel and iron construction Bran and Feed Packer to the trade, we feel that we are meeting an increasing popular demand for durable and fireproof construction in mill machinery.

This packer is carefully designed and substantially built, has angle iron frame, solid iron shaft support and long journal bearings and is equipped with our friction clutch drive held rigidly in place by an iron yoke, bolted to the frame.

Directions for ordering are contained in footnote on page 211.

Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Enclosing Case, Tube and Auger	\$400.00
Additional Enclosing Case, Tube and Auger.....	36.00
Additional Enclosing Case.....	24.00
Extreme Height to Top of Iron Front.....	9' 2¾"
Extreme Height to Top of Frame.....	8' 9"
Center of Main Shaft to End of Drive Shaft.....	3' 4¼"
Floor to Center of Drive Pulley.....	7' 10¼"
Size of Packing Shaft.....	2 ¾"
Size of Countershaft.....	2 ¾"
Size of Driving Shaft.....	24"x 8½"
Speed of Pulley, Revolutions per Minute.....	175 to 200
Shipping Weight.....	2000 lbs.
Boxed for Export—Weight.....	3000 lbs.
Volume.....	156 cu. ft.

The Monarch Automatic Drop  
Gear Bran and Feed Packer  
Steel and Iron Construction

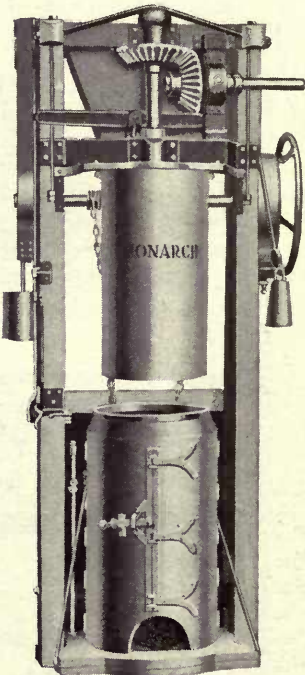
Starting and stopping this machine is accomplished by means of the drop gear construction; otherwise it is similar to the packer described above, having all the advantages found in the steel and iron construction and being guaranteed for fast, accurate, heavy and continuous satisfactory work.

There is no weak point in this packer, because, like the balance of the Monarch Line, it is perfectly proportioned and constructed in a substantial manner to the smallest detail.

Directions for ordering are contained in footnote on page 211.

Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Enclosing Case, Tube and Auger	\$300.00
Additional Enclosing Case, Tube and Auger.....	36.00
Additional Enclosing Case.....	24.00
Extreme Height.....	7' 11"
Floor to Center of Drive Pulley.....	7' 2"
Size of Packing Shaft.....	1 15⁄16"
Size of Countershaft.....	1 15⁄16"
Size of Driving Pulley.....	24"x 7½"
Speed of Countershaft, Revolutions per Minute.....	140
Shipping Weight.....	1375 lbs.
Boxed for Export—Weight.....	2175 lbs.
Volume.....	154 cu. ft.

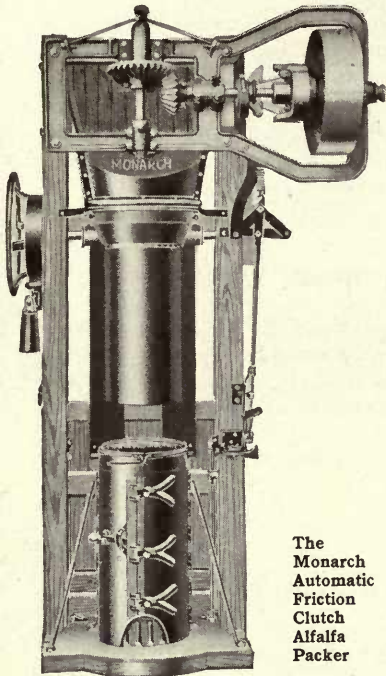


Style N

The Monarch Automatic Drop  
Gear Bran and Feed Packer



# The Monarch Automatic Friction Clutch Alfalfa Packer



The  
Monarch  
Automatic  
Friction  
Clutch  
Alfalfa  
Packer

Style O

The illustration gives a good idea of the details of the construction of this packer and we guarantee that it is strongly made, convenient to operate and practically noiseless.

The friction clutch starting and stopping arrangement will not stick or slip when properly lubricated and adjusted, and is amply supported by a strong iron yoke bolted to the frame of the machine.

Directions for ordering are contained in footnote on page 211.

## Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Enclosing Case, Tube and Auger	\$270.00
Additional Enclosing Case, Tube and Auger .....	36.00
Additional Enclosing Case.....	24.00
Extreme Height to Top of Iron Front.....	9' 6 1/4"
Extreme Height to Top of Frame.....	9' 1/2"
Center of Main Shaft to End of Drive Shaft.....	3' 4 1/4"
Floor to Center of Drive Pulley.....	8' 1 3/4"
Size of Packing Shaft.....	2 3/16"
Size of Countershaft.....	2 3/16"
Size of Driving Pulley.....	24"x 8 1/2"
Speed of Pulley, Revolutions per Minute.....	175 to 200
Shipping Weight.....	1600 lbs.
Boxed for Export—Weight.....	2800 lbs.
Volume.....	160 cu. ft.

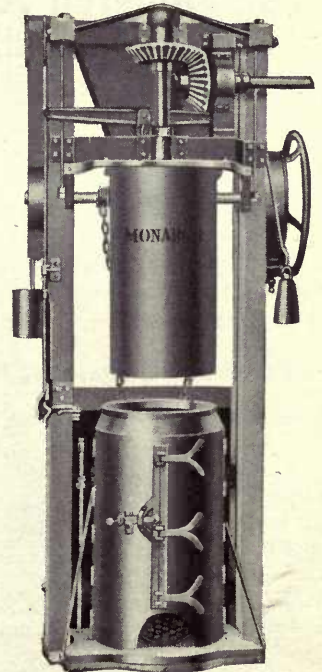
# The Monarch Automatic Drop Gear Alfalfa Packer

The words "Drop Gear" accurately describe the only difference between this packer and the one described above. The drop gear starting and stopping arrangement is preferred by many and we assure prospective purchasers that the construction of this mechanism is carefully looked after to insure perfect rigidity and alignment of the bearings.

Directions for ordering are contained in the footnote on page 211.

## Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Enclosing Case, Tube and Auger	\$200.00
Additional Enclosing Case, Tube and Auger.....	36.00
Additional Enclosing Case.....	24.00
Extreme Height.....	9' 1/2"
Floor to Center of Drive Pulley.....	8' 1 3/4"
Size of Packing Shaft.....	2 3/16"
Size of Countershaft.....	2 3/16"
Size of Driving Pulley.....	24"x 7 1/2"
Speed of Countershaft, Revolutions per Minute.....	175 to 200
Shipping Weight.....	1100 lbs.
Boxed for Export—Weight.....	1900 lbs.
Volume.....	154 cu. ft.

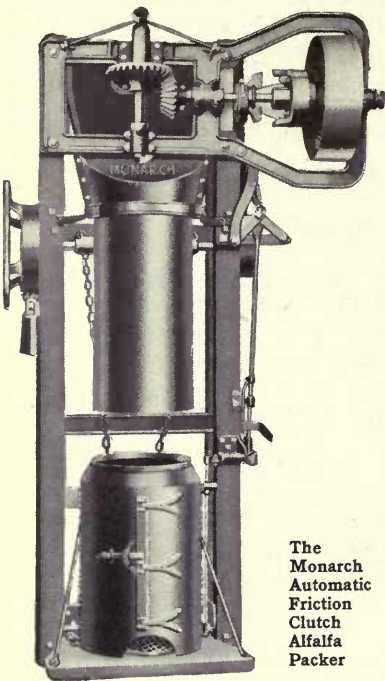


Style P

The Monarch Automatic Drop Gear  
Alfalfa Packer

# The Monarch Automatic Friction Clutch Alfalfa Packer

## Steel and Iron Construction



Style Q

The  
Monarch  
Automatic  
Friction  
Clutch  
Alfalfa  
Packer

We illustrate herewith a combination of strength, durability and capacity for satisfactory operation, that we feel justified in claiming has never been approached in any machine for the intended purpose.

It is fireproof, practically wear proof, rigid, noiseless and powerful; is fitted with the Monarch friction clutch starting and stopping mechanism and operates with absolute certainty.

Directions for ordering are contained in footnote on page 211.

### Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Enclosing Case, Tube and Auger	\$400.00
Additional Enclosing Case, Tube and Auger.....	36.00
Additional Enclosing Case.....	24.00
Extreme Height to Top of Iron Front.....	9' 6 1/4''
Extreme Height to Top of Frame.....	9' 1/2''
Center of Main Shaft to End of Drive Shaft.....	3' 4 1/4''
Floor to Center of Drive Pulley.....	8' 1 3/4''
Size of Packing Shaft.....	2 3/16''
Size of Countershaft.....	2 3/16''
Size of Driving Pulley.....	24''x 8 1/2''
Speed of Pulley, Revolutions per Minute.....	175 to 200
Shipping Weight.....	2000 lbs.
Boxed for Export—Weight.....	3200 lbs.
Volume.....	160 cu. ft.

# The Monarch Automatic Drop Gear Alfalfa Packer

## Steel and Iron Construction

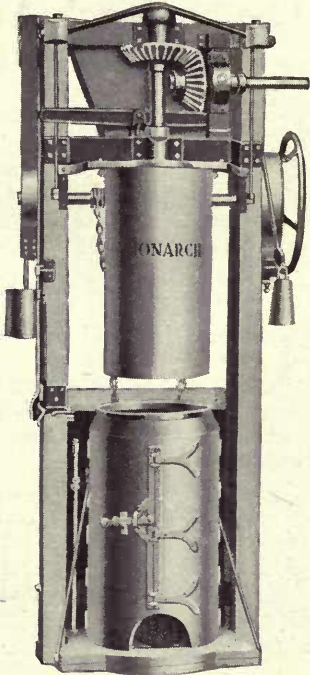
This packer, with the exception that it is equipped with the drop gear arrangement for starting and stopping, is the same in every way as the one shown in the illustration above.

Nothing whatever has been either sacrificed or forgotten to make this steel and iron machine durable, efficient and quick and sure acting, and its reputation is proof of the fact that care in its design was not taken without the production of definite results.

Directions for ordering are contained in footnote on page 211.

### Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Enclosing Case, Tube and Auger	\$300.00
Additional Enclosing Case, Tube and Auger.....	36.00
Additional Enclosing Case.....	24.00
Extreme Height.....	9' 1/2''
Floor to Center of Drive Pulley.....	8' 1 3/4''
Size of Packing Shaft.....	2 3/16''
Size of Countershaft.....	2 3/16''
Size of Driving Pulley.....	24''x 7 1/2''
Speed of Countershaft, Revolutions per Minute.....	175 to 200
Shipping Weight.....	1375 lbs.
Boxed for Export—Weight.....	2175 lbs.
Volume.....	154 cu. ft.



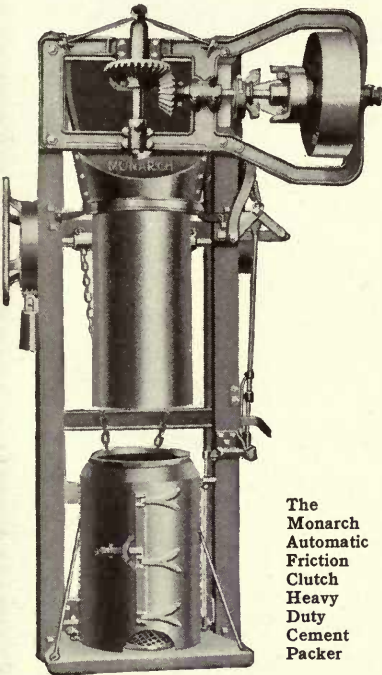
Style R

The Monarch Automatic Drop Gear  
Alfalfa Packer



# The Monarch Automatic Friction Clutch Heavy Duty Cement Packer

For Packing Barrels and Sacks



The  
Monarch  
Automatic  
Friction  
Clutch  
Heavy  
Duty  
Cement  
Packer

Style S

This machine is admirably suited in every way to the class of service for which it is intended.

The steel and iron construction resists the action of fire and at the same time insures durability and steadiness.

The gears of the driving mechanism are forced in and out of mesh by means of the powerful Monarch Friction Clutch; shafting is of steel and the long bearings are maintained in absolute rigidity and alignment.

Directions for ordering are contained in footnote on page 211.

## Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Tube and Auger.....	\$270.00
Additional Tube and Auger.....	20.00
Extreme Height to Top of Iron Front.....	9' 2 3/4"
Extreme Height to Top of Frame.....	8' 9"
Center of Main Shaft to End of Drive Shaft.....	3' 4 1/4"
Floor to Center of Drive Pulley.....	7' 10 1/4"
Size of Packing Shaft.....	2 3/8"
Size of Countershaft.....	2 3/8"
Size of Driving Pulley.....	24"x 8 1/2"
Speed of Pulley, Revolutions per Minute.....	175 to 200
Shipping Weight.....	1600 lbs.
Boxed for Export—Weight.....	2600 lbs.
Volume.....	156 cu. ft.

# The Monarch Automatic Friction Clutch Cement Packer

For Packing Sacks

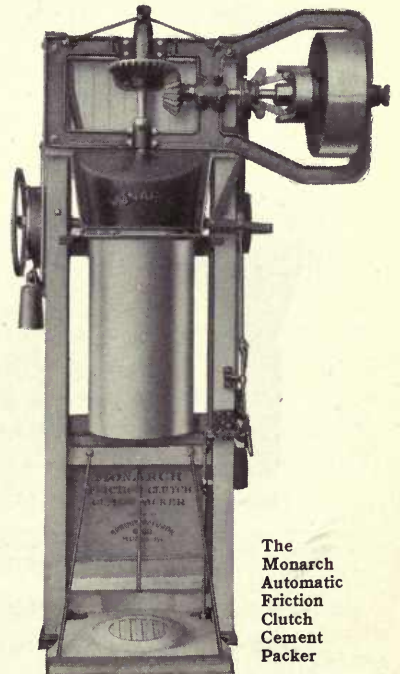
Where it is desired to pack cement in sacks only, the machine illustrated herewith will be found to give the maximum amount of service and to be at once durable and economical.

Notable features are steel and iron construction, friction clutch starting and stopping mechanism, large, strong gears, steel shafting and generally careful construction designed for long periods of heavy work.

Directions for ordering are contained in footnote on page 211.

## Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Tube and Auger.....	\$180.00
Additional Tube and Auger.....	10.00
Extreme Height to Top of Iron Front.....	8' 7 1/2"
Extreme Height to Top of Frame.....	8' 2 1/2"
Extreme Width.....	4' 6 1/2"
Floor to Center of Drive Pulley.....	7' 5 1/4"
Size of Packing Shaft.....	1 11/16"
Size of Countershaft.....	1 11/16"
Size of Driving Pulley.....	20"x 6 1/2"
Speed of Pulley, Revolutions per Minute.....	150
Shipping Weight.....	1200 lbs.
Boxed for Export—Weight.....	2000 lbs.
Volume.....	155 cu. ft.



The  
Monarch  
Automatic  
Friction  
Clutch  
Cement  
Packer

Style T

The Monarch Floor Portable Sacking Scale

This scale is built especially for cleaned, free running grains such as wheat, corn, corn chops, oats, seeds, barley, chicken feed and similar dry, free-flowing granular substances.

This scale is guaranteed to weigh within  $\frac{1}{16}$  of 1% of accuracy if operated as per instructions.

We can also supply this scale in overhead portable type and stationary type.

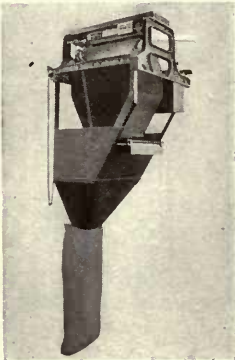
Hopper Capacity Bushels	List Price	Sacks per Minute
3	\$500.00	5 to 6
4	560.00	5
5	625.00	4 to 5
6	667.00	4



Style X

Stationary Sacking Scale  
For All Dry, Cleaned, Free-Flowing Grains

Hopper Capacity	List Price Scale only	List Price of Scale with Small Top Hopper	Sacks per Minute
10 to 25 lbs. For chicken feed -----	\$334.00	\$346.00	{ 10 10-lb. 7 to 8 25-lb. }
3 bu. or 100 lbs. For corn, corn chops, wheat, oats, chicken feed, etc.-----	417.00	426.00	1 to 6
5 bu. { 160 lbs. of oats 100-112 lbs. of corn }-----	500.00	517.00	4 to 5



Style Y

Stationary Sacking Scale  
Of All Iron and Steel Construction

For Corn Meal, Linseed Meal and other similar sluggish materials. This scale is of enclosed type so as to be entirely dust proof. It is supplied with spiked agitator to ensure an even feed of the material to be weighed.

Corn Meal and Meals of Similar Consistency

Hopper Capacity	List Price with Top Hopper, Agitator and Sacking Hopper	Sacks per Minute	Accuracy
9 to 25 lbs.	\$417.00	{ 7 9-lb. 4 25-lb. }	$\frac{1}{2}$ oz.
9 to 50 lbs.	500.00	{ 7 9-lb. 3 to 4 50-lb. }	$\frac{1}{2}$ oz.
50 to 100 lbs.	667.00	2 to 3	2 oz.
100 to 175 lbs.	709.00	3 to 4	$\frac{1}{4}$ lb.
100 to 200 lbs.	750.00	3 to 4	$\frac{1}{4}$ to $\frac{1}{2}$ lb.



Style Z

For Cotton Seed Meal

Hopper Capacity	List Price with Steel Hopper	List Price with Bronze Hopper	Sacks per Minute	Accuracy
100 lbs.	\$584.00	\$626.00	1 to 2	$\frac{1}{4}$ lb.
165 lbs.	709.00	759.00	1 to 2	$\frac{1}{2}$ lb.

NOTE—Meal must be fed evenly from conveyor or elevator.



## Special Floor Portable Meal Sacking Scale

For Corn Meal, Linseed Meal and Similar Materials

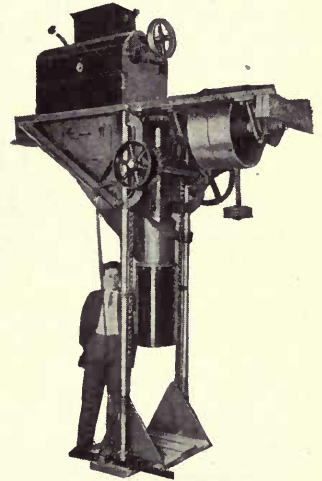
This type is supplied with small top hopper, sacking spout, hand discharge gear, portable frame with four ball bearing wheels, also with  $\frac{1}{4}$  horse power motor and equipment to drive agitator.

Hopper Capacity	List Price with Bronze Weigh Hopper	Sacks per Minute	Accuracy
100 lbs.	\$834.00	2 to 3	$\frac{1}{4}$ of 1%

## Richardson Automatic Mixed Feed Scale and Packer

For Alfalfa Feeds, Mixed Feeds, Hominy Feed, Beet Pulp, Etc.

Hopper Capacity	Price with One Tube and Auger	Price of Extra Tubes and Augers	Code Word
100 lbs. (30 to 40 lbs. per bushel) ..	\$1500.00	\$34.00	Palatial
100 to 175 lbs. (30 to 40 lbs. to bu.) ..	1584.00	34.00	Palatine
100 lbs. (Beet Pulp, Bran, etc.) with jacket .....	1750.00	34.00	Paltos
100 lbs. (Light Feed, 15 to 30 lbs. to bushel) .....	1584.00	34.00	Palude
175 lbs. (Light Feed, 15 to 30 lbs. to bushel) .....	1667.00	34.00	Paludique
100 lbs. (Special All Ball Bearing Packer) .....	2167.00	34.00	Paludoso



Style U

NOTE—Speed varies on feed packers with the feed, i. e., with the material. Gluten feed and corn oil meal, practically free running materials, have been packed at six and seven sacks per minute. Lighter feeds have been packed at three to four sacks per minute. Beet Pulp and bran are only packed at the rate of one sack per minute but mill shorts or middlings can be packed at two sacks per minute. The accuracy varies with the material to be packed as well as with the manner in which it is fed to the scale packer, i. e., from  $\frac{1}{4}$  pound to  $\frac{1}{2}$  pound generally speaking.

# The Monarch Friction Clutch Steel Packer

## For Heavy Duty Service

This packer is built entirely of steel and iron. The frame is made of special heavy channel iron.

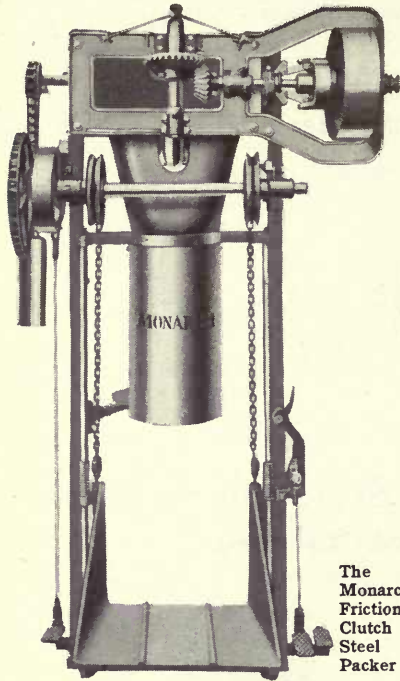
This machine is designed for speedily packing all kinds of feed, alfalfa, barley or oat hulls, malts and grits, cement, plaster of Paris and all kinds of pulverized materials requiring great power and pressure.

This packer will be built with reversible levers so that it may be operated from either front or the rear.

Directions for ordering are contained in footnote on page 211.

## Prices, Dimensions, Speed, Weight, Etc.

Price—Packer with One Tube and Auger.....	\$400.00
Additional Tube and Auger.....	12.00
Additional Enclosing Case.....	24.00
Extreme Height.....	10' 1 3/4"
Height of Frame.....	9' 7 1/4"
Width Over All.....	5' 4 1/4"
Floor to Center of Pulley.....	8' 8 3/4"
Size of Pulley.....	24" x 7"
Speed of Pulley, Revolutions per Minute.....	280
Shipping Weight.....	2000 lbs.
Boxed for Export—Weight.....	3000 lbs.
Volume.....	200 cu. ft.



The Monarch Friction Clutch Steel Packer

Style V

# The Monarch Hand Packer

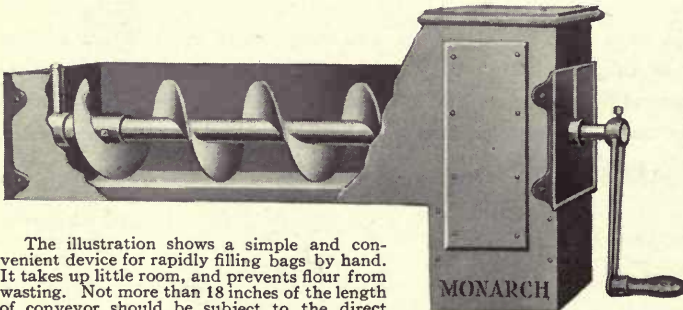
The Monarch Hand Packer as shown in cut, is designed for use in mills having a custom trade, and is very convenient in filling farmers' sacks, obviating the necessity of using a scoop. By its use the flour is conveyed from the packer or a storage bin directly to the sack without packing it, a few turns of the crank being sufficient to fill a two-bushel sack.

## Price, Dimensions, Weight, Etc.

Price.....	\$30.00
Length.....	16 1/2"
Height.....	12' 0"
Weight.....	150 lbs.
Boxed for Export—Weight.....	210 lbs.
Volume.....	18 cu. ft.

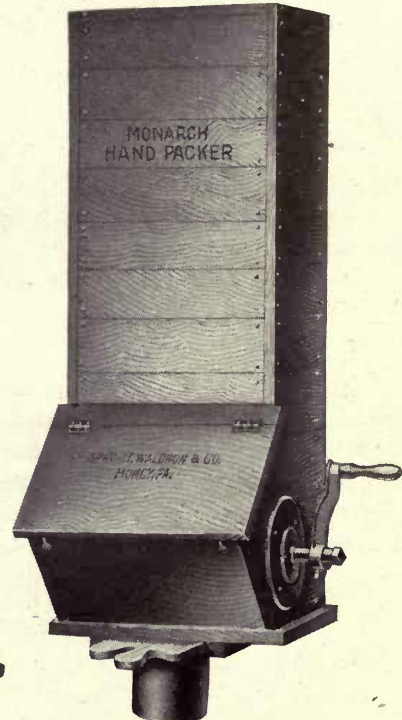
For height over 12 feet, add \$1.00 for each extra foot.

# The Monarch Hand Conveyor Bag Filler



The illustration shows a simple and convenient device for rapidly filling bags by hand. It takes up little room, and prevents flour from wasting. Not more than 18 inches of the length of conveyor should be subject to the direct pressure of the contents of bin, for the weight will cause the conveyor to turn harder than is desirable.

Price—Packer, as shown in cut.....	\$15.00
Conveyor and Handle alone.....	10.00

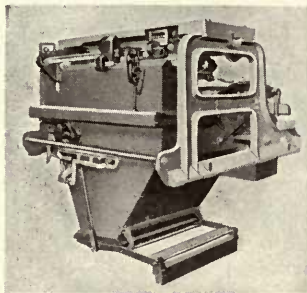


Style W

The Monarch Hand Packer



Richardson Automatic Elevator Scale for Bulk Grains



This Scale is designed to automatically weigh cleaned or uncleaned corn, oats, wheat or similar free-flowing grains. This scale should not be sold for more than a few hours service daily, for not more than ten hours maximum. If scales are required for 24 hours daily service, customers should purchase the Richardson Automatic Mill Grain Scale, which is built on the same principle but of much heavier construction and does not work so fast as the Elevator Scale. (This type scale is described and illustrated below.)

The Richardson Automatic Elevator Scale is guaranteed to weigh any dry free-running cleaned or uncleaned grains having a commercial grading that will pass State Grain Inspectors, within  $\frac{1}{16}$ th of 1% of accuracy.

The Residue Weighing Attachment or Double Checking Beam, which is shown on the cut, is supplied only when specified, and with this attachment any amounts in the hopper less than the hopper capacity can be weighed, or can be used as a double check against the weightment of a full load.

Hourly capacities given are the capacities of the various scales on OATS—a comparatively light material.

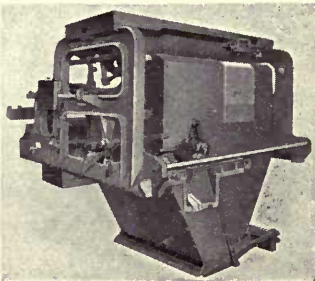
Prices, Dimensions, Etc.

Hopper Capacity Bushels	Hourly Capacity Bushels	Price of Scale Only	Price of Scale with Residue Weighing Attachment	Height Inches	Weight Lbs.
3	750	\$375.00	\$425.00	47 $\frac{3}{4}$	1020
4	1000	417.00	467.00	50 $\frac{3}{4}$	1170
5	1250	459.00	509.00	54 $\frac{3}{4}$	1270
6	1500	500.00	567.00	51 $\frac{1}{4}$	1680
7	1750	542.00	608.00	55 $\frac{1}{4}$	1790
8	2000	584.00	650.00	58 $\frac{1}{4}$	1890
10	2250	625.00	691.00	65 $\frac{1}{4}$	2140
12	2500	900.00	1000.00	58 $\frac{1}{4}$	2810
15	3000	1040.00	1140.00	64 $\frac{1}{4}$	3105

Richardson Automatic Mill Scale for Bulk Grains

This Scale is designed to automatically weigh dry clean wheat, corn, oats or similar free-flowing grains in flour and feed mills, cereal plants, etc. Weighing the grain before it is tempered is the principal function of this scale; thereby the miller can ascertain the exact amount ground to produce a definite quantity of flour. It is equally well adapted for weighing grain in other parts of the mill.

We recommend running this scale at approximately one and one-quarter dumps per minute, and never, under any circumstances, more than two dumps per minute for continuous running or 24 hours a day service. These scales are guaranteed to weigh accurate within  $\frac{1}{16}$ th of 1% if operated at not over two weighings per minute, and if the material to be weighed is fed evenly to the scale. Also the material must not weigh less than 30 pounds to the bushel.

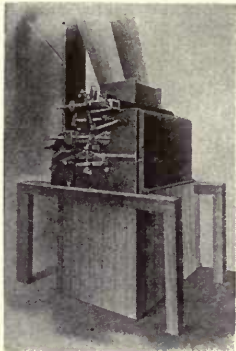


In ordering please specify the grain to be weighed, also if both night and day service is required.

Prices, Dimensions, Etc.

Hopper Capacity Bushels	Price	Hourly Capacity Bushels	Daily Capacity Barrels	Height Inches	Weight Lbs.
$\frac{1}{2}$	\$225.00	30 to 60	125 to 275	29	260
1	267.00	60 to 120	275 to 550	34 $\frac{1}{2}$	360
2	375.00	120 to 240	575 to 1100	44 $\frac{1}{2}$	950
3	400.00	180 to 360	850 to 1700	50	1050
4	417.00	240 to 480	1150 to 2200	55 $\frac{1}{2}$	1110
5	459.00	300 to 600	1450 to 2800	61	1180
6	500.00	360 to 720	1750 to 3400	58 $\frac{1}{2}$	1640

# Richardson Automatic Mill Scale—Enclosed Type for Bulk Grains

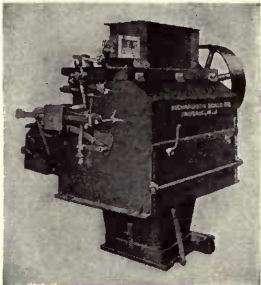


This Automatic Mill Scale is also made in Enclosed, External Lever Dust-Proof type, this type being illustrated on the accompanying cut.

## Sizes and Prices

Hopper Capacity Bushels	Hourly Capacity Bushels	Price of Scale
1/2	30 to 60	\$292.00
1	60 to 120	334.00
2	120 to 240	534.00
3	180 to 360	566.00
4	240 to 480	667.00
5	300 to 600	709.00
6	360 to 720	750.00

# Richardson Automatic Bulk Flour Scale



This cut shows a new departure to automatic scale construction. The machine is not merely of enclosed dust-proof type, but the working parts are dust-proof, by being arranged entirely out of contact with dust and flour. With this scale you can tell the total amount of each grade of flour, also the percentage made. It ensures that correct weight of flour is deposited into each barrel or container, and there will be no spilling of flour on the floor.

We make these scales with steel parts and with non-corrosive metal parts. The weighing hopper of the non-corrosive scale is made of Tobin bronze, and the pins on which the levers work are of brass.

These scales are guaranteed to weigh within 1/8th of 1% of accuracy.

## Sizes and Prices

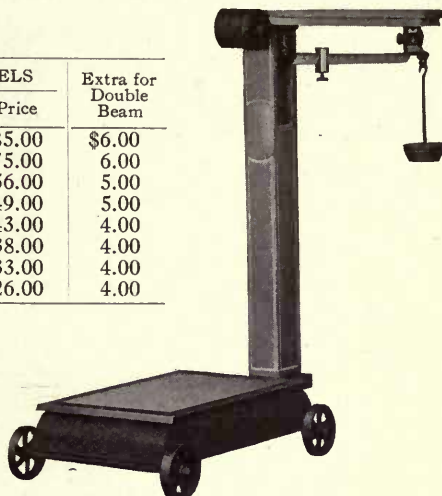
Hopper Capacity	Hourly Capacity Barrels	Price with Non-Corrosive Metal Parts	Price with Steel Parts
1/8 bbl. or 25 lbs.	1 to 8	\$ 542.00	\$500.00
1/4 bbl. or 48 lbs.	5 to 15	560.00	515.00
1/2 bbl. or 96 lbs.	10 to 30	667.00	584.00
1 bbl. or 196 lbs.	30 to 60	750.00	667.00
1 1/2 bbl. or 292 lbs.	60 to 90	1067.00	875.00
1 1/2 bbl. or 292 lbs.	90 to 120	1067.00	875.00
1 1/2 bbl. or 292 lbs.	120 to 150	1067.00	875.00
2 bbl. or 392 lbs.	150 to 180	1112.00	960.00
2 bbl. or 392 lbs.	180 to 200	1112.00	960.00



## Portable Platform Scale

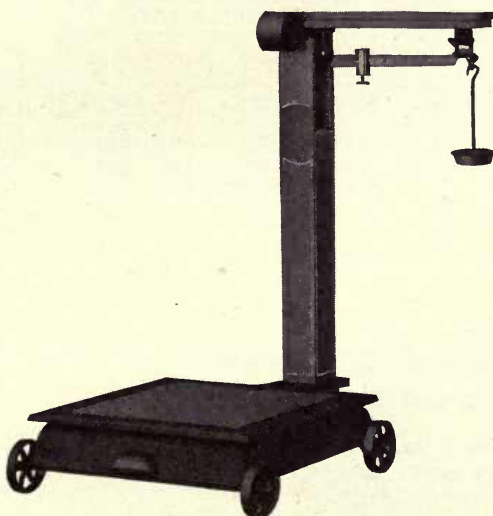
### Capacities, Sizes and Prices

Capacity Lbs.	Size Platform Inches	WITHOUT WHEELS		WITH WHEELS		Extra for Double Beam
		Number	Price	Number	Price	
2,500 x ½	26 x 34	S-1100	\$80.00	S-1116	\$85.00	\$6.00
2,000 x ½	25 x 33	S-1102	70.00	S-1118	75.00	6.00
1,500 x ½	21 x 28	S-1104	52.00	S-1120	56.00	5.00
1,200 x ½	20 x 28	S-1106	45.00	S-1122	49.00	5.00
1,000 x ½	17 x 26	S-1108	39.00	S-1124	43.00	4.00
800 x ½	17 x 26	S-1110	34.00	S-1126	38.00	4.00
600 x ¼	16 x 25	S-1112	30.00	S-1128	33.00	4.00
400 x ¼	15 x 21	S-1114	23.00	S-1130	26.00	4.00



## Portable Platform Scale

### With Square Platform



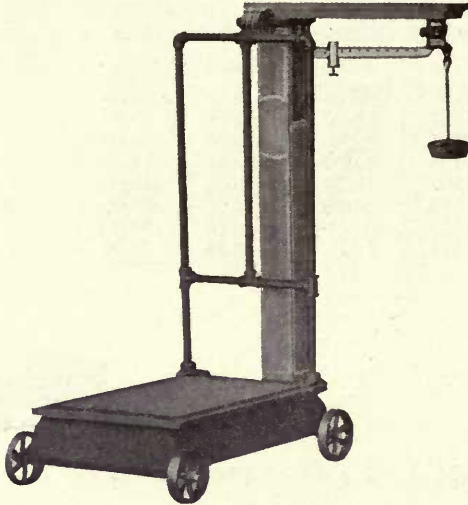
The shape of platform adapts the scale to more bulky goods than the usual oblong pattern.

### Capacities, Sizes and Prices

Capacity Lbs.	Size Platform Inches	WITHOUT WHEELS		WITH WHEELS		WITH WHEELS AND BAG RACK		WITH WHEELS AND DROP LEVER	
		Number	Price	Number	Price	Number	Price	Number	Price
600x ¼	23x23	S-1487	\$32.00	S-1501	\$35.00	S-1529	\$38.50	S-1515	\$43.00
1000x ½	25x25	S-1489	42.00	S-1503	45.00	S-1531	49.00	S-1517	53.00
1200x ½	27x27	S-1491	50.00	S-1505	53.00	S-1533	57.00	S-1519	63.00
1500x ½	29x29	S-1493	56.00	S-1507	60.00	S-1535	64.50	S-1521	74.00
2000x ½	31x31	S-1495	75.00	S-1509	80.00	S-1537	85.00	S-1523	91.00

# Portable Platform Scale

## With Bag Rack for Supporting Sacks or Bales



The bag rack is placed on platform so that material handled in bags will be prevented from leaning against pillar and causing incorrect weighing, also permitting larger quantities to be put on platform.

### Capacities, Sizes and Prices

Capacity Lbs.	Size Platform Inches	WITHOUT WHEELS		WITH WHEELS	
		Number	Price	Number	Price
2500 x 1/2	26 x 34	S-1132	\$84.00	S-1148	\$89.00
2000 x 1/2	25 x 33	S-1134	74.00	S-1150	79.00
1500 x 1/2	21 x 28	S-1136	55.50	S-1152	59.50
1200 x 1/2	20 x 28	S-1138	48.50	S-1154	52.50
1000 x 1/2	17 x 26	S-1140	42.50	S-1156	46.50
800 x 1/2	17 x 26	S-1142	37.50	S-1158	41.50
600 x 1/4	16 x 25	S-1144	33.00	S-1160	36.00
400 x 1/4	15 x 21	S-1146	26.00	S-1162	29.00

# Portable Platform Scale

## With Wheels and Drop Lever

By means of drop lever, all bearings are relieved from wear and danger of breaking the scale mechanism when loading or removing heavy articles from platform.

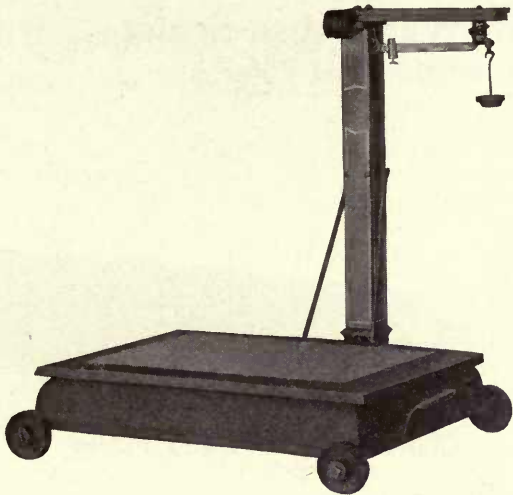
### Capacities, Sizes and Prices

Capacity Lbs.	Size Platform Inches	No.	Price
2,500 x 1/2	26 x 34	S-1166	\$94.00
2,000 x 1/2	25 x 33	S-1168	82.00
1,500 x 1/2	21 x 28	S-1170	70.00
1,200 x 1/2	20 x 28	S-1172	59.00
1,000 x 1/2	17 x 26	S-1174	51.00
800 x 1/2	17 x 26	S-1176	46.00
600 x 1/4	16 x 25	S-1178	41.00
400 x 1/4	15 x 21	S-1180	34.00





## Grain Dealers' Scale



The large platform of these scales adapt them for weighing bags of grain, flour and other materials which are bulky to their weight.

### Capacities, Sizes and Prices

Capacity Lbs.	Size Platform Inches	WITHOUT WHEELS		WITH WHEELS	
		Number	Price	Number	Price
1000 x ½	42 x 30	S-1300	\$68.00	S-1310	\$73.00
1200 x ½	42 x 30	S-1302	72.00	S-1312	77.00
1800 x ½	44 x 35	S-1304	87.00	S-1314	94.00
2000 x ½	44 x 35	S-1306	91.00	S-1316	98.00
2200 x ½	44 x 35	S-1308	93.00	S-1318	100.00

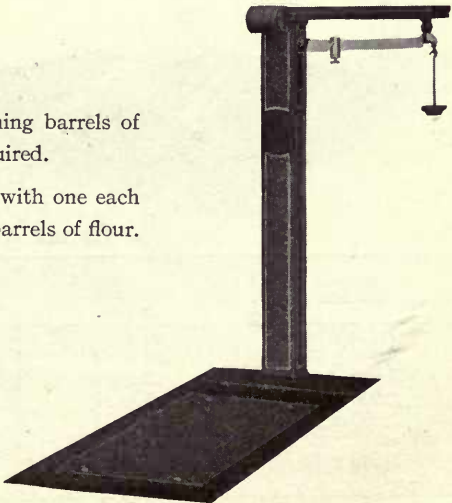
## Dormant Flour Scale

Scale is set dormant in the floor and suitable for weighing barrels of flour or other merchandise where a small dormant scale is required.

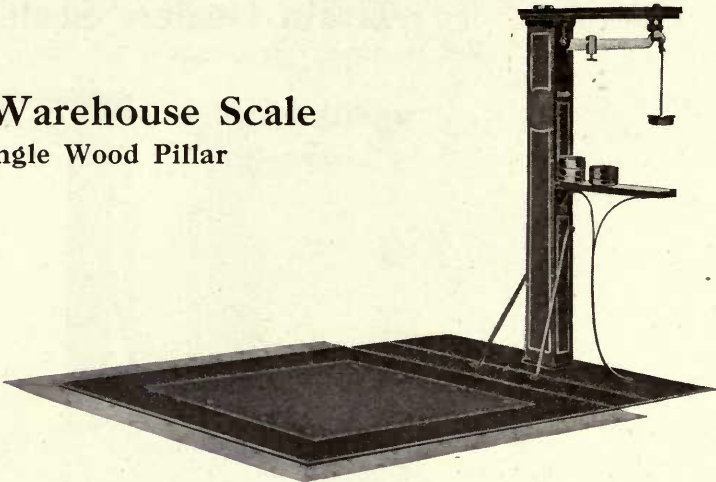
Furnished with set of weights for ordinary weighing and with one each 196-pound and 98-pound weight for weighing barrels and half-barrels of flour.

### Capacities, Sizes and Prices

Capacity Lbs.	Size Platform Inches	Number	Price
600 x ¼	16 x 25	S-1068	\$40.00

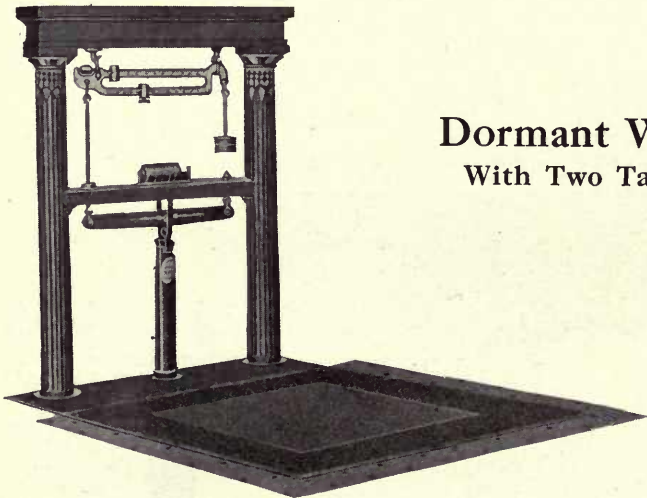


Dormant Warehouse Scale  
With Single Wood Pillar



Capacities, Sizes and Prices

Capacity Pounds	Size Platform Inches	Number	Price	Platform to Pillar Inches
5,000 x ½	48 x 48	S-1036	\$150.00	22
3,500 x ½	42 x 44	S-1038	105.00	12
2,500 x ½	46 x 37	S-1040	92.00	12
1,500 x ½	41 x 32	S-5044	85.00	8½



Dormant Warehouse Scale  
With Two Tall Iron Pillar Outfit

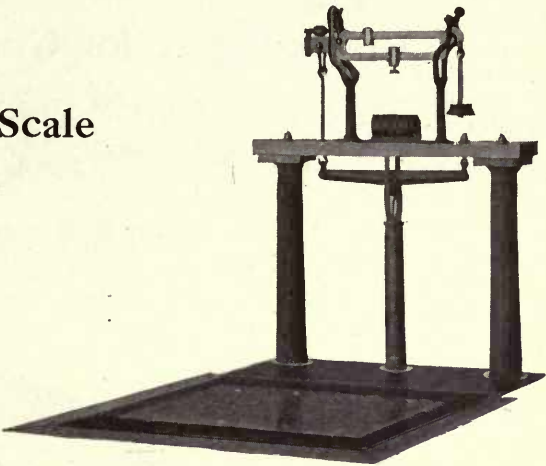
Capacities, Sizes and Prices

Capacity Pounds	Size Platform Inches	Number	Price	Platform to Pillar Inches
6,000 x ½	60 x 54	S- 996	\$260.00	21
5,000 x ½	48 x 48	S-1046	180.00	22
3,500 x ½	42 x 44	S-1048	133.00	12
2,500 x ½	46 x 37	S-1050	113.00	12
1,500 x ½	41 x 32	S-5054	103.00	8½
3,500 x ½	42 x 44 With extra long neck	S-1052	141.00	20



# Dormant Warehouse Scale

Two Short Iron Pillars

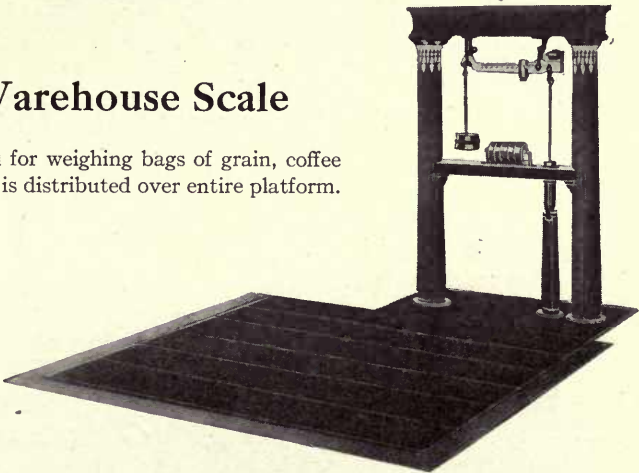


### Capacities, Sizes and Prices

Capacity Lbs.	Size Platform Inches	Number	Price
6,000 x ½	60 x 54	S- 995	\$253.00
5,000 x ½	48 x 48	S-1035	160.00
3,500 x ½	42 x 44	S-1039	120.00
2,500 x ½	46 x 37	S-1041	100.00
1,500 x ½	41 x 32	S-5043	90.00

# Grain or Coffee Warehouse Scale

The large platform makes it useful for weighing bags of grain, coffee or similar bulky material when the load is distributed over entire platform.



### Capacities, Sizes and Prices

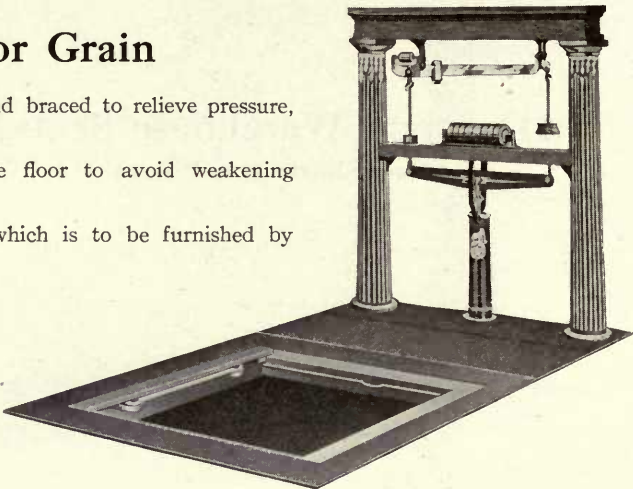
Capacity Lbs.	Size Platform Inches	Platform to Pillars Inches	SINGLE BEAM		DOUBLE BEAM	
			No.	Price	No.	Price
3,500 x 1	76 x 52	1	S-1080	\$125.00	S-1080	\$133.00
5,000 x 1	76 x 52	1	S-1082	190.00	S-1082	198.00

# Hopper Scale for Grain

The hopper is set upon the platform and braced to relieve pressure, permitting a central discharge of grain.

The scales are usually set upon the floor to avoid weakening of building.

Prices are exclusive of the hopper, which is to be furnished by purchaser.



## Capacities, Sizes and Prices

Capacity Bushels	Capacity Lbs.	WITH WOOD PILLAR		WITH TWO IRON PILLARS		Size Platform Inches	Opening for Hopper Inches
		No.	Price	No.	Price		
30	1,800 x ½	S-5600	\$ 85.00	S-5630	\$100.00	42 x 30	14 x 14
40	2,400 x ½	S-5602	92.00	S-5632	105.00	46 x 37	16 x 16
60	3,600 x ½	S-1606	105.00	S-1608	125.00	42 x 44	16 x 16
100	6,000 x ½	S-1610	140.00	S-1612	160.00	48 x 48	22 x 22
125	7,500 x ½	S-1614	160.00	S-1616	180.00	48 x 48	22 x 22
150	9,000 x 1	S-1618	175.00	S-1620	195.00	49½ x 51	36 x 36
200	12,000 x 1	S-1619	195.00	S-1621	215.00	49½ x 51	36 x 36

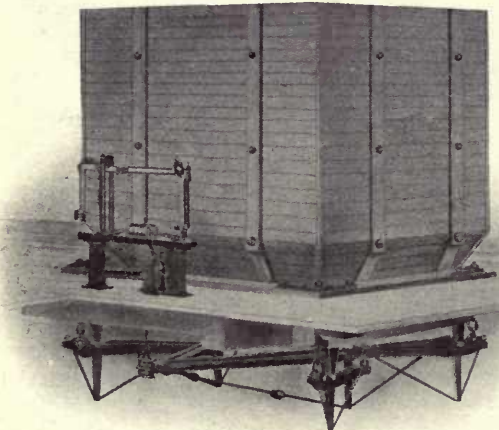
# Hopper Scale for Grain

## Trussed Lever Pattern

These scales used extensively in elevators, grain warehouses, etc., and are suspended in floor.

Scales can be framed in wood or steel.

All prices are exclusive of the hopper and timber or steel, which are to be furnished by purchaser.



## Capacities and Prices

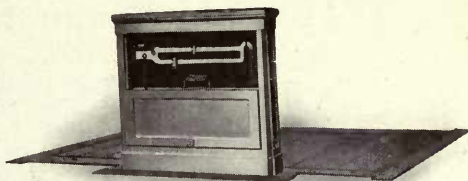
Capacity Bushels	Capacity Lbs.	No.	Price
200	12,000 x 5	S-1750	\$225.00
300	18,000 x 5	S-1752	285.00
350	21,000 x 5	S-1754	300.00
400	24,000 x 5	S-1762	320.00
500	30,000 x 5	S-1764	350.00
600	36,000 x 5	S-1768	390.00
700	42,000 x 5	S-1770	430.00
800	48,000 x 5	S-1772	475.00
1000	60,000 x 5	S-1794	600.00
1200	72,000 x 5	S-1796	700.00
1400	84,000 x 5	S-1739	800.00
1600	96,000 x 5	S-1741	900.00



## Wagon Scale

### Trussed Lever Pattern

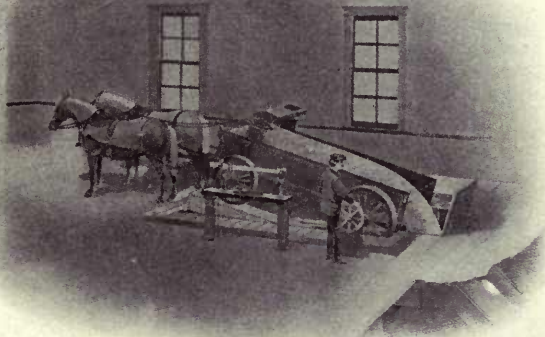
The sizes of platform of these scales may be varied somewhat from the given dimensions without increasing the cost of the scales. All the prices are exclusive of the timber, steel, beam box and foundation, which are to be furnished by purchaser.



### Capacities, Sizes and Prices

Capacity Tons	Size of Platform	No.	PRICE		Distance from Edge of Platform to Beam Rod
			Single Beam	Double Beam	
20	22' x 10' 3 7/8"	S-1800	\$570.00	\$585.00	2' 1"
20	20' x 7' 9 1/2"	S-1836	520.00	535.00	4' 1 3/4"
20	16' x 7' 10"	S-1922	450.00	465.00	1' 10 1/2"
15	22' x 10' 3 7/8"	S-1802	440.00	455.00	2' 1"
15	18' x 8' 3"	S-1838	420.00	435.00	4' 5 1/2"
15	14' x 8' 4 1/4"	S-1924	390.00	405.00	2' 1"
10	22' x 10' 3 7/8"	S-1806	365.00	380.00	2' 1"
10	18' x 8' 3"	S-1843	350.00	365.00	4' 5 1/2"
10	14' x 8' 4 5/8"	S-1928	300.00	315.00	2' 3/4"
8	20' x 7' 9 1/2"	S-1845	315.00	330.00	4' 1 3/4"
8	16' x 7' 10"	S-1930	275.00	290.00	1' 10 1/2"
6	18' x 8' 3"	S-1846	275.00	290.00	4' 5 1/2"
6	14' x 8' 4 5/8"	S-1932	250.00	265.00	2' 3/4"
6	22' x 8' 3"	S-2100	250.00	265.00	2' 9"
5	14' x 8'	S-2112	200.00	210.00	2' 2 1/2"
4	14' x 8'	S-2114	170.00	180.00	2' 2 1/2"

CITY GRAIN ELEVATOR.



## Dump Scale

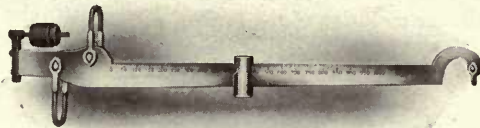
For use in elevators and grain warehouses for convenient and quick weighing and dumping of grain. The platforms of these scales are entirely free from levers, so that dump can be built in the platform. Prices are exclusive of timber and foundation. Beam box or fixtures when furnished, extra, \$25.00. Patent controllable dump irons for holding wagon in any desired position while unloading the grain, furnished, extra, \$75.00. Beams graduated by 2 1/2-pound marks.

### Capacities, Sizes and Prices

Capacity Tons	Size of Platform Feet	Number	PRICE		Distance from Edge of Platform to Beam Rod
			Single Beam	Double Beam	
4	14 x 8	S-2211	\$165.00	\$175.00	2' 8"
6	14 x 8	S-2213	225.00	240.00	2' 8"
6	22 x 8	S-2215	250.00	265.00	3' 4"

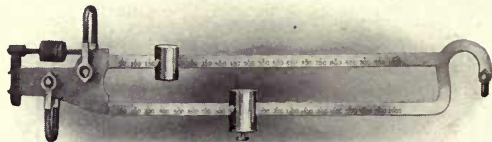
# Beams for Wagon Scales

## Single Beam



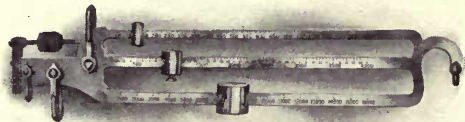
Made of brass, with brass sliding poise, highly polished, accurately graduated, 1,000 pounds on beam. Remainder of capacity of scale is indicated by weights. Two pounds per ton.

## Double Beam



Made of highly polished brass with brass sliding poises and set screw in lower poise. This style is desired to balance the tare weight on lower bar and indicate the net weight on upper bar.

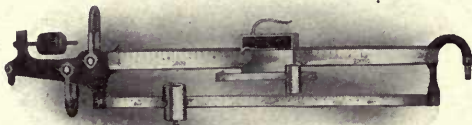
## Triple Beam Without Weights



Made of highly polished brass with brass sliding poises and set screw in poise on middle bar; lower bar is notched on top. This style brass beam has full capacity, and for light service gives same satisfaction as compound beam illustrated below. Furnished with scale at extra price as shown.

Capacity on beam, 5 tons, extra.....\$15.00

## Compound Beam Without Weights



This style has full capacity of scale on beam; no loose weights required.

Upper bar is brass faced, notched on top and has latched roller poise. Lower brass beam has brass sliding poise with set screw. Furnished with scale at extra prices as shown.

Capacity on beam, 5 tons, extra.....\$20.00

Capacity on beam, 6 to 10 tons, extra.....30.00

Double Faced Beams, 5 tons, extra.....40.00

Double Faced Beams, 6 to 10 tons, extra.....50.00

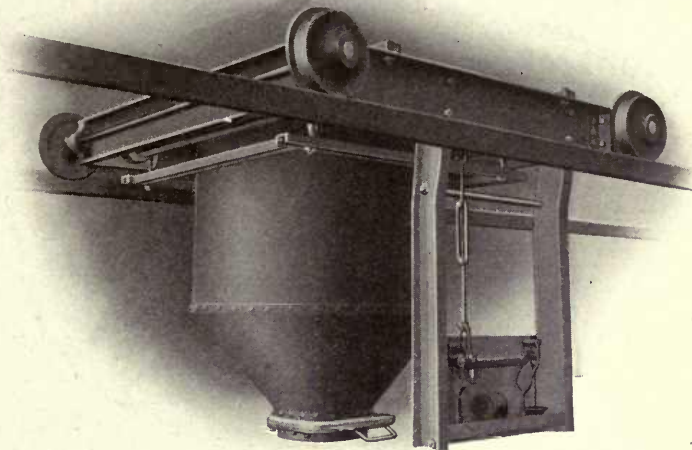


## Flour Hopper Scale

### Moving or Trolley Type

The Stationary Scale is suspended from the ceiling directly over the dough mixer or conveyor to mixer, and is made in two capacities, namely—three and five-barrel, diameter of hopper 37½ inches for both sizes. The five-barrel scale has a longer hopper. From a storage room above scale the flour enters the covered hopper by a spout, and leaves, after weighing, through the gate in cone of hopper.

The Moving Scale, as shown in cut, requires a track to be suspended from ceiling and is moved by an operator, and can supply many Mixers and Automatic Kneaders, justifying, in many plants, the higher cost of installation.



Prices do not include Hopper or Trolley. Scales only with single beam. Weights, ½ pound to 100 pounds.

### Price List

5 bbl. or 1,000 lbs.	-----	\$100.00
7 bbl. or 1,500 lbs.	-----	120.00



## Stonebraker Continuous Feed Hominy Mill

The operation of these machines is extremely simple, the corn being fed in continuously at the end of a cylinder, filled with revolving knives, or cutters having thin edges and arranged so that all the outside of the grain is exposed to their action as it travels to the discharge end, the whole outside covering and the germ being removed, and passing out through openings in the cylinder and deposited in its proper receptacle, the two sizes of finished Hominy passing out through strong air current that removes any meal, or bran that adheres, leaving the product clear and free of dust.

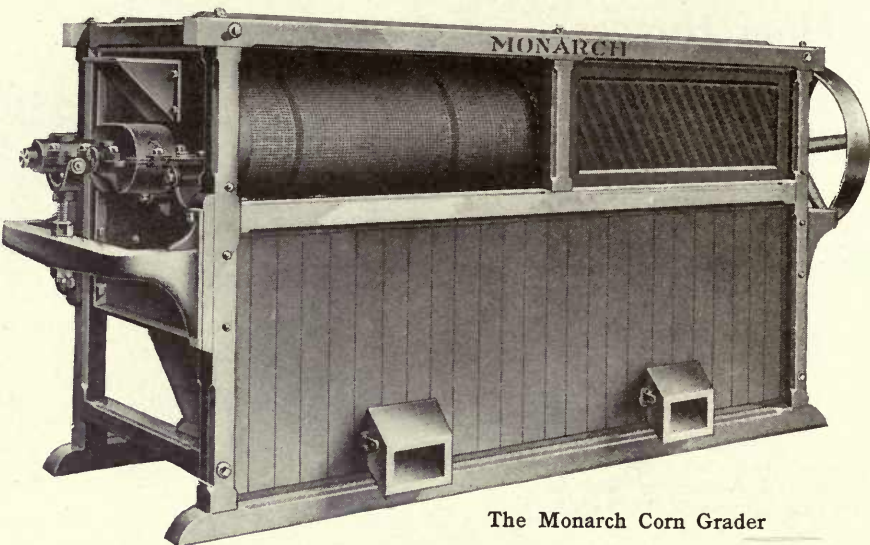
No. 2 is designed for ordinary mills that desire to manufacture Hominy, Grits, etc., for the retail trade. This machine makes two separations of Hominy and Grits, Bran or Blowings and Meal.

No. 4 is a double machine and is used where a very large capacity is demanded. It has two cylinders entirely independent of each other, and can be used separately, or to give two reductions on the same material so as to produce a finished and polished Hominy continuously in large quantities. Machine can be driven from either end.

### Prices, Dimensions, Etc.

No.	Price	Capacity Bushels Per Hour	EXTREME DIMENSIONS			Horse Power	Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
			Height	Length	Width					Weight Lbs.	Volume Cu. Ft.
2	\$500.00	18 to 25	6' 0"	8' 6"	4' 6"	4	10 x 8	800	1800	2650	230
4	570.00	40 to 50	4' 6"	6' 4"	5' 10"	6	10 x 8	800	2100	2780	176

The  
Monarch  
Corn  
Grader



The Monarch Corn Grader

This machine is constructed with a steel cylinder, very similar to the lower reel of the Hominy Separator, and is driven the same, with belt and pulley. It is covered with perforated sheet steel—the holes varying in size, being the smallest at the head of the reel, which takes out the small grains, the next size the medium grains, while the very large grains are passed over the tail. The machine can be made to make four separations, but is built to make three, unless otherwise ordered. Where it is desirable to make the highest grade of Hominy or Grits a much better yield can be obtained, and much better work done, by grading the corn and treating each size to be degerminated separately. The advantage of this is apparent to every corn miller.



The Monarch Corn Temperer

Prices and Dimensions, Etc.

EXTREME			Diameter of Cylinder Inches	Diameter of Fan Inches	Pulley Inches	Revolutions per Minute	Capacity Bushels Per Hour	Weight Lbs.	Price
Length	Width	Height							
11' 0"	5' 4 1/2"	6' 1 1/2"	24	26	28x6	Cylinder 100 Beater Shaft 300 Fan 600	275	1700	\$500.00

The Monarch Corn Temperer

The Monarch Corn Temperer is used for tempering corn by steaming or wetting, or both; thus facilitating the removal of the bran and germ with the smallest possible waste of material. The water and steam both enter the machine at the top, the former through a cone not shown in the illustration, the amount being regulated by suitable valves. Flights on the revolving shaft within the cylinder, thoroughly distribute the grain to the action of steam or water. The amount discharged by the temperer is controlled by a gate, which in turn is regulated by a screw, thus permitting the feeding of the grain to Degerminator or bin in regular quantities.

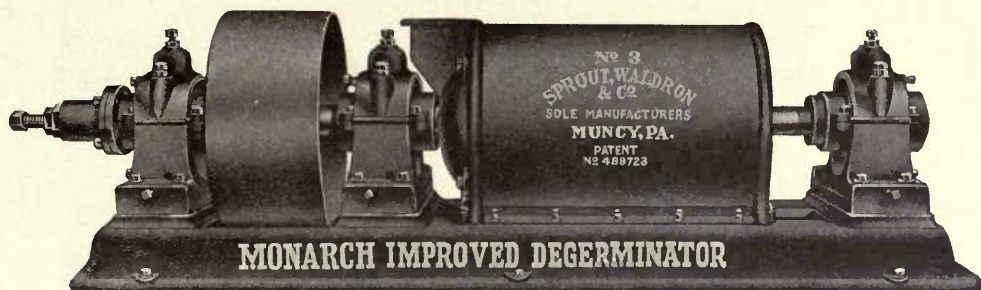
Owing to the differential and arrangement of the gear drive, the amount of power necessary to drive this machine is so small as to be unnoticeable.

Prices, Dimensions, Etc.

List Price	Height Over All	Outside Diam. of Cylinder Inches	Diam. of Inlet Pipe Inches	Floor to Center of Pulley Inches	Floor Space Occupied	Size of Pulley Inches	Speed R.P.M.	Capacity Bushels of Corn Per Hour	Net Weight Lbs.	BOXED FOR EXPORT	
										Weight Lbs.	Volume Cu.Ft.
\$150.00	4' 8"	10	1 1/2	9	3'x2'6"	14 x 3	150	50 to 100	570	783	48



## The Monarch Degerminator



The Monarch Degerminator

The function of the Monarch Degerminator is to remove the germ and hull from the grain for the production of corn goods.

This operation is performed by a revolving cylinder consisting of specially hardened iron rings, keyed to a shaft. At the end of the cylinder is a force feed which delivers the stock to the cylinder and corrugated plates bolted to the sides of the drum. These corrugated plates are adjustable to the proper distance from the cylinder for giving whatever product is desired, as well as for taking the different sizes of corn grains.

The corrugated cylinder is made in rings, instead of being cast solid, in order that the worn sections may be easily and economically removed without replacing the entire cylinder. In replacing rings, it is only necessary to remove the head plate of the machine, after which the bearing and cylinder can be readily slipped out. Between the corrugated plates at the side of the drum and the walls thereof is placed a perforated screen for the retaining of the germs and the passing out of the feed and meal. This screen is so arranged that it is self-cleaning; in other words, the screen does not have to be removed from the machine to be cleaned.

The reduction of the stock into the desired sizes is automatically accomplished by means of a tension spring and nut at the discharge; the tighter the spring is adjusted, the longer the product will be retained in the cylinder and the finer it will be reduced. Whether the machine be regulated for fine or coarse grinding, it is so designed as to keep the stock in the cylinder for the necessary length of time and no longer, the object being to give the product the best possible dress and texture and the greatest uniformity. Machine is built with either ball bearings or interchangeable phosphor bronze or babbitt bearings.

### Price, Dimensions, Etc.

Size No.	PRICE		Capacity in Bu. Per Hr.	Size of Pulley Inches	Speed R. P. M.	EXTREME DIMENSIONS			Size on Floor Inches	Floor to Center of Shaft Inches	Weight Lbs.	BOXED FOR EXPORT	
	With Plain Bearings	With Ball Bearings				Length	Width	Height				Weight Lbs.	Vol. Cu. Ft.
1	\$600.00	\$700.00	80-100	18x8½	900	6' 0"	1' 11"	1' 9"	23 x 66	12	1440	1593	26

The Monarch Samp Mill



The Monarch Samp Mill

For the manufacture of Hominy we recommend the use of the Monarch Samp Mill. This machine is for use in combination with the breaking and hulling apparatus and effectively separates the waste material from the finished hominy. This machine is equipped with a reel for the bolting operation.

The Monarch is designed on lines suggested by successful, practical experience, is well built and the only attention required for its satisfactory operation, is the opening and closing of the valves of the degerminating cylinder.

Prices, Dimensions, Etc.

No.	Price	Capacity Pounds Hominy Per Hour	Bushel Corn for Each Charge	Horse Power	Length	Width	Pulley Inches	Speed R. P. M.	Weight Lbs.	BOXED FOR EXPORT	
										Weight Lbs.	Cu.Ft.
1	\$400.00	300-500	3/4	8 to 10	7' 2"	3' 4"	15 x 11	750 to 850	840	1200	150
2	350.00	200-300	1/2	5 to 7	5' 10"	3' 2"	10 x 8	750 to 850	670	950	110
3	315.00	100-200	1/3	5 to 5	4' 5"	2' 10"	8 x 5	750 to 850	600	870	75

Beall Combination Hominy Mill, Sifter and Aspirator

Prices, Dimensions, Etc.

No.	Price	Capacity Bushels Per Hr.	EXTREME DIMENSIONS			Size on Floor Inches	Height to Feed Inlet	Height to Center of Drive Shaft	Size of Pulley Inches	Speed R.P.M.	Shipping Weight Lbs.
			Height	Length	Width						
0	\$350.00	8- 15	6' 9"	6' 0"	6' 0"	36x40	3' 10"	3' 3"	12 x 7	725	1250
1	450.00	15- 30	7' 0"	6' 2"	6' 8"	36x43	3' 11"	3' 4"	14 x 8	700	1350
2	500.00	30- 60	7' 1"	6' 6"	7' 6"	37x48	4' 2"	3' 6"	14 x 9	675	1750
3	550.00	60-100	7' 2"	6' 7"	7' 10"	37x50	4' 3"	3' 6"	15 x 10	640	2150

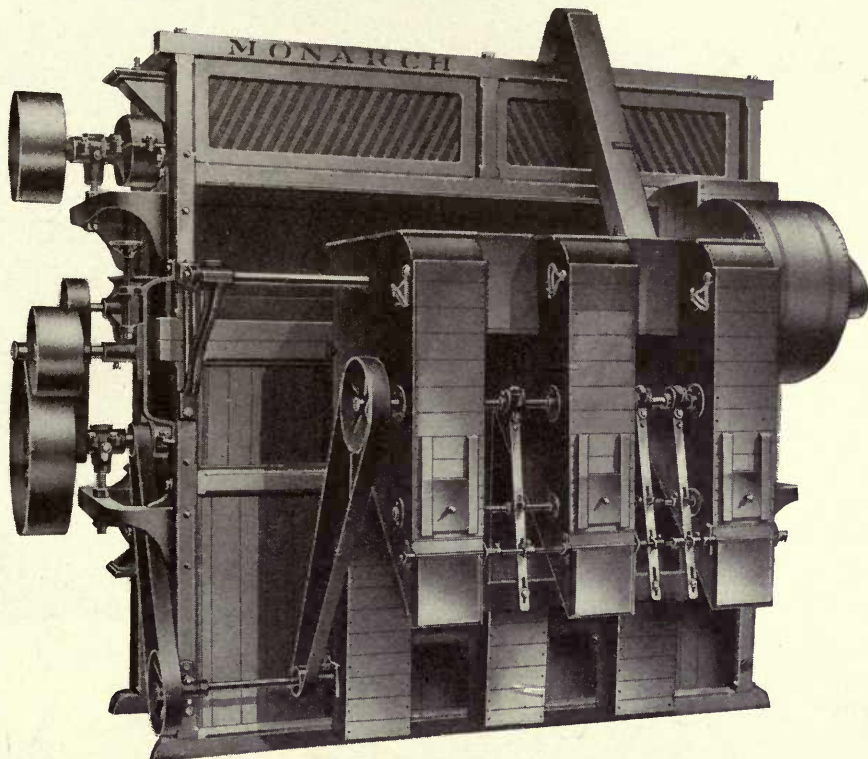
Beall Degerminator

Prices, Dimensions, Etc.

No.	Price	Capacity Bushels Per Hour	Floor Space Inches	Height	Length	Height to Pulley	Pulley Inches	Speed R.P.M.	Weight Lbs.
0	\$200.00	10-20	30 x 34	2' 8"	4' 6"	2' 2 1/2"	10 x 9	750	700-
1	325.00	20-40	28 x 32	2' 9"	4' 10"	2' 3 1/2"	12 x 9	750	800
2	450.00	40-80	30 x 58	3' 0"	6' 4"	2' 1 1/2"	15 x 10	700	1150



## The Monarch Hominy Separator



**The Monarch Hominy Separator—Rear View**

The machine is strongly built and finely finished; best hardwood frame; heads of iron; all working parts of steel. The cylinders are constructed of heavy perforated steel; the beaters are practically indestructible, being made of angle iron. In no part of the machine does the stock come into contact with wood.

The machine is equipped with a very powerful fan. The aspirating process is easily and perfectly controlled by adjustable valves.

There is an upper and a lower reel or cylinder.

The stock is spouted to the head of the first reel, where the separation of the feed from the hominy stock is accomplished.

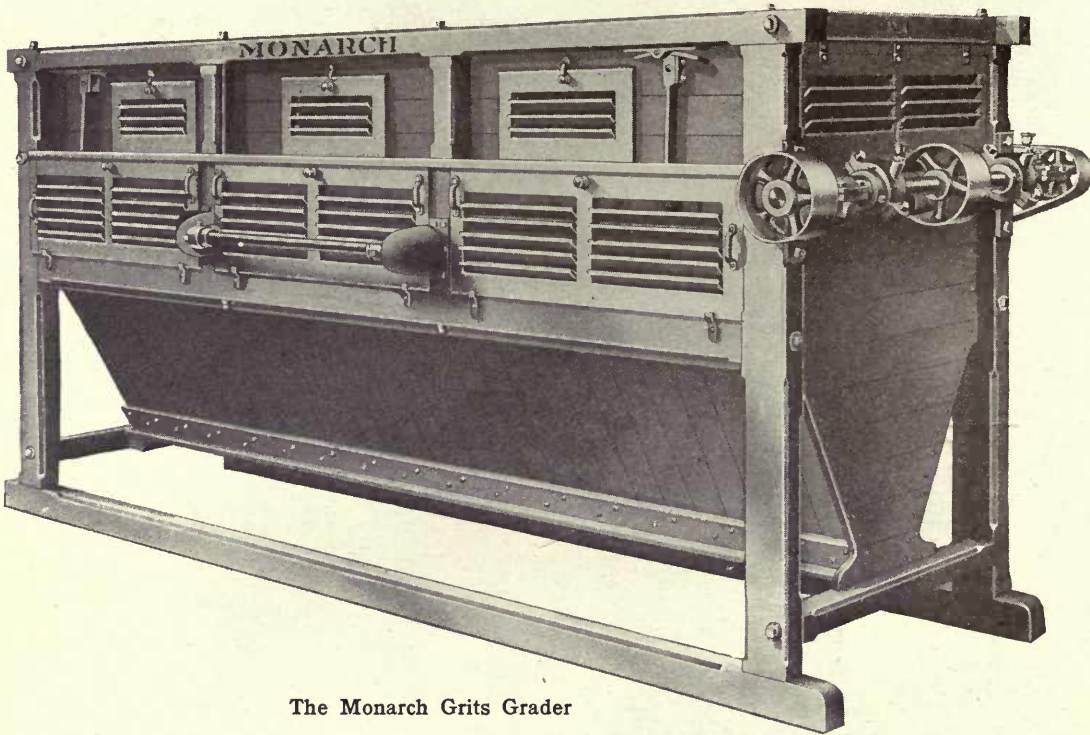
The hominy stock then passes to the second reel, where it is separated into four different sizes.

Each separation receives a thorough aspiration and polishing before leaving the machine. It is then in absolutely perfect condition for the rolls.

### Prices, Dimensions, Weights, Etc.

	EXTREME			REVOLUTIONS			PULLEYS			Capac- ity	Weight	Price
	Length	Width	Height	Beater Shaft	Cyl- inder	Fan	Main Drive Inches	Counter Drive Inches	Fan Inches			
Upper Separ't'r	9' 3"	5' 8"	10' 0"	300	100	600	16x6 ½	16x6 ½	32x6 ½	250	4000	\$1200.00
Lower Separ't'r	----	----	----	171	47	----	----	----	----	250	----	-----

# The Monarch Grits Grader



The Monarch Grits Grader

The Monarch Grits Grader resembles a Purifier in action and construction, with the exception that no fan or air current is used. The arrangement is similar to that of the ordinary purifier sieve.

The Grader sieve is usually clothed with five or more different sizes of wire, each size of wire having underneath the sieve a separate department or box to receive the grits.

The partitions between these apartments are provided with a hinged valve at the top next to the sieve, which may be adjusted to increase or diminish the amount of grits taken into each of the divisions, and also to make an exact adjustment and separation of the different sizes of material passing through the sieve, and permitting each size of grits to go to the proper discharge in the bottom of the machine.

The head of the sieve is provided with an automatic feed box that spreads the stock evenly the entire width of the sieve, under varying conditions of quantity, and when once adjusted requires no further attention.

The sieve is provided with an efficient brush cloth cleaner which is moved by two double-threaded screws, and is kept in contact with the wire by adjustable guides, the brush having a compact and narrow-contact on the underside. The wire cloth is thoroughly cleansed by each passing of the brush so that the meshes are kept open and any particles of grit that may have become fastened in the meshes are pushed out and all the wire used all the time to the best advantage.

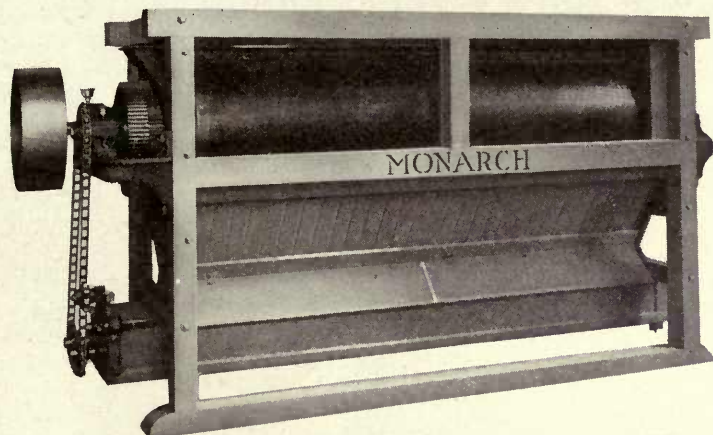
This perfect separation of grits enables them to be aspirated and cleansed perfectly without loss, which would not be possible were the different sizes blended together.

The importance of this feature will be apparent to every manufacturer of corn food products.

## Price, Dimensions, Weight, Etc.

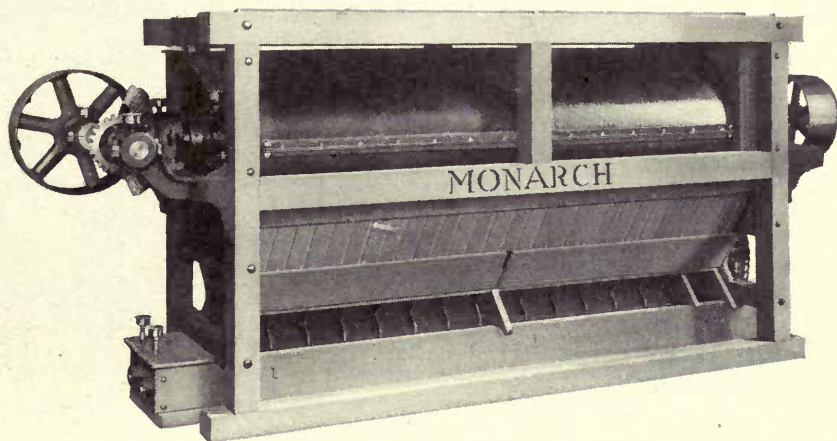
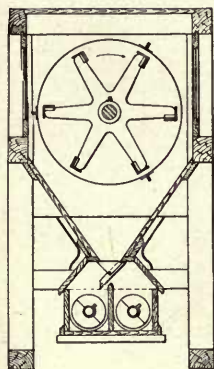
Size No.	Price	EXTREME DIMENSIONS			Size on Floor	Size Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
		Height	Length	Width					Weight Lbs.	Volume Cu. Ft.
1	\$400.00	5' 5½"	13' 1"	4' 8"	3'5"x11'6"	8 x 4	550	1700	2800	334





Style M

## The Monarch Special Ball Bearing Differential Hominy Reel with Perforated Cylinder



Style N

Illustrations show our special, steel cylinder, differential reel, designed for the reception of degerminated corn stock, the removal of all feed products from it and the accurate grading of the hominy into four sizes. Each size or separation of the hominy stock is automatically polished before leaving the machine and is discharged in perfect condition for sending to the rolls.

This machine is substantially built throughout, for heavy and continuous service. The cylinders, which for convenience in handling are in three longitudinal sections, are made of perforated steel carried on steel frames, the differential gears are cut steel, the fast running cylinders are mounted on ball bearings and the entire design provides for an almost unwearable, symmetrical and thoroughly efficient reel for the intended purpose.

### Prices, Dimensions, Weights, Etc.

Size No.	Price	Length of Cylinder Feet	Diam. of Cylinder Inches	FRAME DIMENSIONS			Length Over All	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
				Length	Width	Height						Weight Lbs.	Vol. Cu.Ft.
167	\$600.00	7	26	8' 8 $\frac{3}{4}$ "	3' 1"	5' 4 $\frac{1}{2}$ "	10' 9"	3' 10"	16x6	200	1500	2000	148
168	640.00	8	26	9' 8 $\frac{3}{4}$ "	3' 1"	5' 4 $\frac{1}{2}$ "	11' 9"	3' 10"	16x6	200	1600	2100	162
169	690.00	10	26	11' 8 $\frac{3}{4}$ "	3' 1"	5' 4 $\frac{1}{2}$ "	13' 9"	3' 10"	16x6	200	1700	2400	180

Extra charge for Cross Shaft Drive.

Goulds Power Rotary Force Pumps

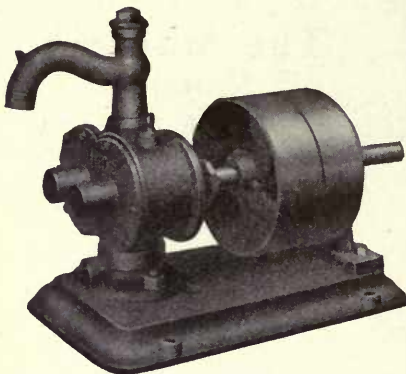


Fig. 1185½

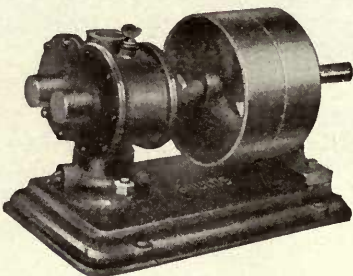


Fig. 1281

These pumps are made with heavy cast iron bases. They are fitted with tight and loose pulleys, supported by bearings with babbitted boxes.

These pumps are especially adapted for pumping molasses in connection with feed mixing plants. When used for this service, molasses must flow to the pump. Pumps are also used extensively for circulating cooling water for gas engines, for filling tank cars, for creamery, cider mill, bottling machine and similar service.

Fig. 1185½—Sizes, Prices, Etc.

No.	Capacity per Minute 200 Rev. Gallons	Suction Pipe Inches	Discharge Hose Inches	Tight and Loose Pulleys Inches	Approx. Weight Lbs.	Iron Price	Bronze Case and Cams Price	Bronze Price
1	20	1¼	1	8 x 2½	70	\$19.75	\$ 66.15	\$ 81.00
2	25	1¼	1	8 x 2½	75	22.00	75.60	87.75
3	28	1½	1¼	8 x 2½	84	23.25	85.00	101.25
4	50	2	1½	12 x 3½	145	44.50	114.00	146.25
4A	50	2	1½	16 x 3½	161	50.30	122.85	160.85
5	55	2	2	12 x 3½	154	47.80	131.60	175.50
5A	55	2	2	16 x 3½	175	53.85	140.40	190.00
6	65	2½	2½	24 x 4	320	80.00	197.45	255.95

Fig. 1281

No.	Capacity Per Minute 200 Rev. Gallons	Suction Pipe Inches	Discharge Pipe Inches	Tight and Loose Pulleys Inches	Approx. Weight Lbs.	Iron Price	Bronze Case and Cams Price	Bronze Price
1	20	1¼	1¼	8 x 2½	66	\$19.00	\$ 64.80	\$ 78.30
2	25	1¼	1¼	8 x 2½	73	21.25	74.25	85.00
3	28	1½	1½	8 x 2½	78	22.35	83.70	98.55
4	50	2	2	12 x 3½	137	43.00	111.15	140.40
4A	50	2	2	16 x 3½	153	49.10	120.00	155.00
5	55	2	2	12 x 3½	146	46.00	128.70	169.65
5A	55	2	2	16 x 3½	167	52.25	137.50	184.25
6	65	2½	2½	24 x 4	300	77.50	193.75	248.60

Total Lift and Force 60 feet from supply to point of delivery. Pump not more than 20 feet above liquid.

Glucose Pot

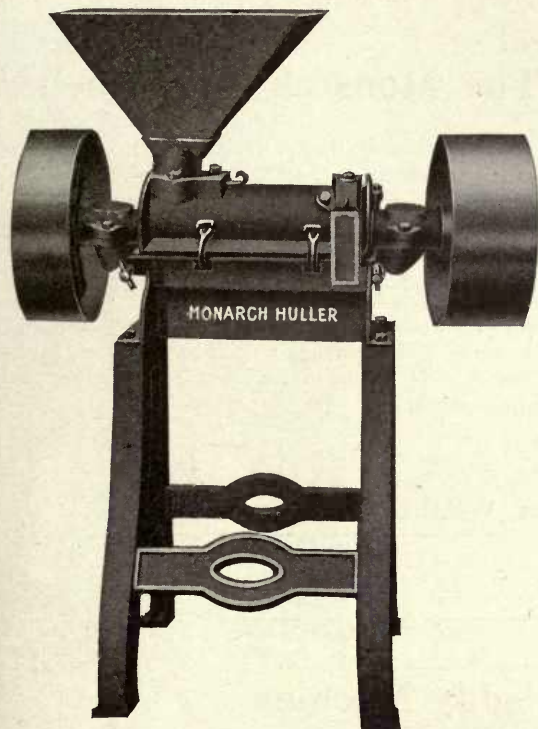
Our Glucose Pot consists of a double can made of heavy galvanized iron, the inner can having considerably less diameter than the outer.

The glucose is kept at the proper temperature by the introduction of steam into the outer can.

The inner can has a close-fitting, galvanized iron, removable top through which the glucose is introduced. A pipe passes from the bottom of the inner can, through the side of the outer can, to the conveyor, which feeds the rice trumble, and is provided with a valve for regulating the supply of glucose.

Price, \$30.00.





## The Monarch Rice Huller

Years of experience in hullers of various makes have enabled us to perfect and embody principles in the Monarch which warrant us in guaranteeing the same to be superior to any other huller.

The Monarch is constructed along the lines to obtain the very best results, with the smallest percentage of breakage, and from the point of mechanical construction—there is no machine of its equal. A number of mills have adopted the Monarch Hullers in preference to others.

It requires but eight horse power to operate this machine.

### Prices, Dimensions, Weights, Etc.

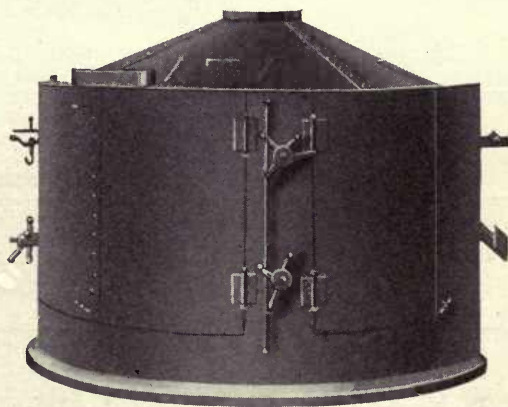
Price With Legs	Price Without Legs	Capacity on Paddy Per Hour Lbs.	Floor Space Occupied Mounted on Iron Legs Inches	Height of Machine With Legs Inches	Height of Machine Without Legs Inches	Size of Drive Pulley Inches	Revolut'ns of Driving Pulley Per Min.	Weight Lbs.	BOXED FOR EXPORT	
									Weight Lbs.	Vol. Cu.Ft.
\$220.00	\$200.00	500	26 x 42	54	24	16 x 7	500	310	420	10

## The Monarch Pearling Cone

The Pearling Cone is a machine devised for the whitening of rices with the smallest percentage of breakage. This machine does particularly good work in cases where you have to handle red rices. It is constructed of iron, which makes the machine strong and of long endurance. The principal working part of the machine is a cone covered with a composition stone; this is surrounded by a sieve mantel, divided by partitions of rubber, which keep the rice from reaching the bottom and prevent the breaking of rice.

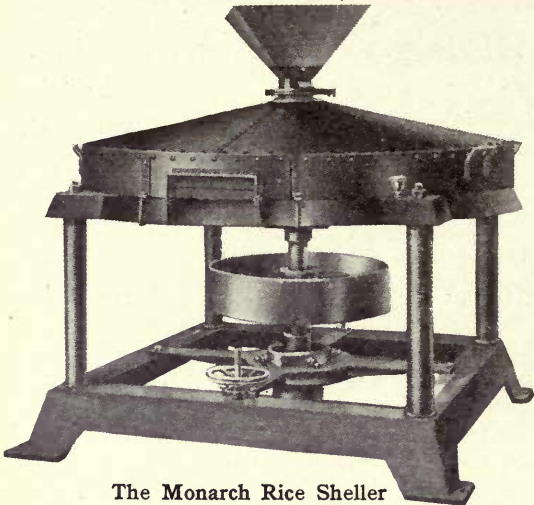
The wire which covers the mantel and the stone can be easily renewed.

One single machine takes place of three or four Hullers, depending on class of work.



### Price, Weight, Capacity, Etc.

Diameter of Stone in Feet	Price	Capacity Per Hour Lbs.	Power Required	Speed R. P. M.	Gross Weight Lbs.
5	\$1,000	6,500	14	160	10,600



The Monarch Rice Sheller

The Monarch Sheller is the heaviest and best sheller on the market. The plates are made of the very best iron, well balanced, and covered with a cement surface that will last for years, and can easily be renewed.

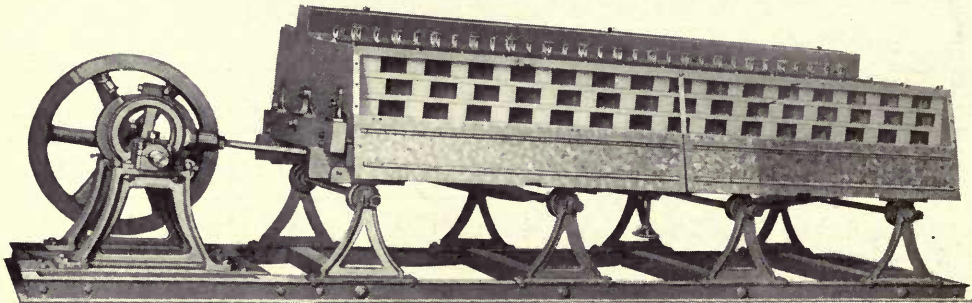
When this sheller is used in connection with our huller better results can be obtained than by attempting to run the paddy through a chilled steel huller, as the huller becomes smooth from the paddy and does very inferior work.

The Monarch Rice Sheller

Prices, Dimensions, Weights, Etc.

Size Inches	Price	Extreme Height	Extreme Length	Extreme Width	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
								Weight Lbs.	Vol. Cu.Ft.
30	\$175.00	4' 7"	3' 4"	3' 4"	12 x 6	400	1240	1600	40
60	290.00	4' 7"	5' 2"	5' 2"	28 x 7	185	2850	3200	112

The Monarch Paddy Machine



The Monarch Paddy Machine

The cut shows our Paddy Machine, which has become a necessity in modern rice milling. This machine separates the hulled rice from the unhulled, which in former times was a very difficult problem, but with the use of this machine the work is accomplished, producing the most satisfactory results.

The cost of installing these machines, when compared with the results, is a mere trifle. They are built on strong lines of the very best material and work smoothly without any jarring.

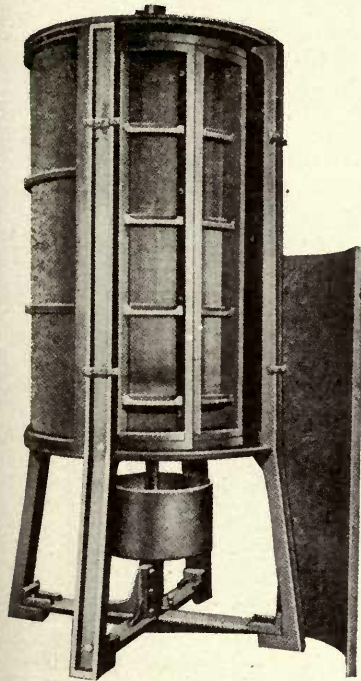
Single Type—Prices, Dimensions, Capacities, Weights, Etc.

Size No.	Price	EXTREME DIMENSIONS			Height to Where Rice Enters	Height to Center of Driv'g Shaft	Size Pulley Inches	Speed R.P.M.	Capacity Per Hour Lbs.	Horse Power Req.	Weight Lbs.	BOXED FOR EXPORT	
		Height	Length	Width								Weight Lbs.	Vol. Cu.Ft.
18	\$275.00	4' 7"	9' 6"	7' 6"	4' 7"	2' 0"	16x5	100	2160	¾	1200	1500	210
24	375.00	4' 7"	11' 0"	7' 6"	4' 7"	2' 0"	20x5	100	2880	1	1500	1900	225
30	475.00	4' 7"	12' 7"	7' 6"	4' 7"	2' 0"	24x6	100	3600	1	1600	2100	240
36	575.00	4' 7"	14' 2"	7' 6"	4' 7"	2' 0"	30x6	100	4320	1 ¼	1900	2500	260
45	680.00	4' 7"	16' 3"	7' 6"	4' 7"	2' 0"	30x6	100	5400	1 ½	2300	2900	310
60	750.00	4' 7"	19' 9"	7' 6"	4' 7"	2' 0"	30x6	100	7200	2	2900	3800	380

Tandem Type

72	1075.00	4' 7"	24' 11"	6' 8"	4' 7"	2' 0"	36x6	100	8640	3 ½	5800	8400	550
90	1215.00	4' 7"	29' 1"	6' 8"	4' 7"	2' 0"	36x6	100	10800	4	6200	9800	650
120	1360.00	4' 7"	36' 1"	6' 8"	4' 7"	2' 0"	36x6	100	14400	6	7500	11000	800





## The Monarch Rice Brush

In the construction of our latest Self-Contained Brush we have spared no expense in putting in the finest material by the most skilled workmen.

The cylinder is made of thick, kiln-dried wooden staves with solid cast iron heads. The top end has flush bolt heads and there is a heavy turned supporting wheel in the center to which the staves are bolted, the bolt heads being sunk deep and the holes plugged. Wrought iron rods passing through hold the heads securely in place. After the cylinder is put together the staves are turned true and finished smooth. The heads are turned to receive the ends of staves, and are keyseated and fitted in line with each other. The case is made in halves and is of very substantial construction. It is fitted on each end with cast iron plate rings, also in halves with ends matched, bored to size and faced two sides at one end and on one side at the other. The frame work is composed of heavy iron posts held together in three places by heavy cast iron spiders.

### Price, Dimensions, Weight, Etc.

Size No.	Price	EXTREME DIMENSIONS			Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	FOR EXPORT	
		Height	Length	Width				Weight Lbs.	Vol. Cu.Ft
1	\$500.00	11' 3"	5' 8 $\frac{3}{4}$ "	5' 8 $\frac{3}{4}$ "	26x14	200 to 300	4200	4200	372

## The Monarch Rice Trumble

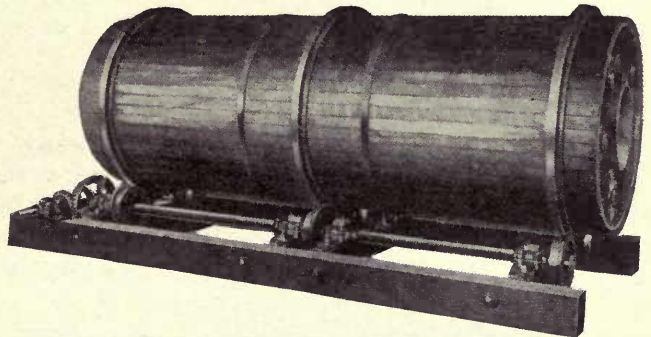
This cut shows our Trumble, which is sometimes called a Rice Polisher. The frame work of the base is made of heavy timbers firmly bolted together so as to be rigid. On the frame work are bolted six bearings, three on each side, through which run two shafts bearing three tram wheels each; the tram wheels engaging three circular tracks are heavy cast iron rings, which surround the Trumble. The faces of the tram wheels and circular tracks are broad and flat, giving good bearing and reducing the wear. The staves which form the Trumble are thoroughly kiln dried and 2 $\frac{3}{4}$  inches thick by 4 inches wide, being grooved along each edge to receive a slip tongue.

The staves are sustained by three heavy cast iron, machine turned rings. These rings are cut into two sections held firmly together by bolts and bolted to the staves forming the track which runs the tram wheels.

The feed head has an opening in the center to receive the rice, while a similar opening in the tail end provides for the discharge. The discharge head has six openings near its circumference. These holes are covered with doors or plates held in place by bolts and small hand wheels. They may be opened while the machine is in motion, which being done, the machine will quickly empty itself.

The machine revolves slowly and gives the final finish to the rice, which is accomplished by the tumbling motion of the large quantity of rice contained in the drum, the finish being regulated by the rapidity with which the material is fed to the machine. The feed may be continuous or intermittent as desired.

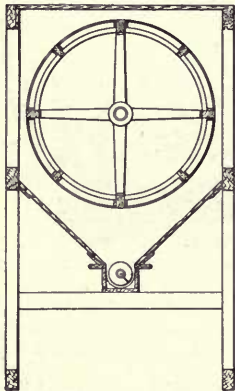
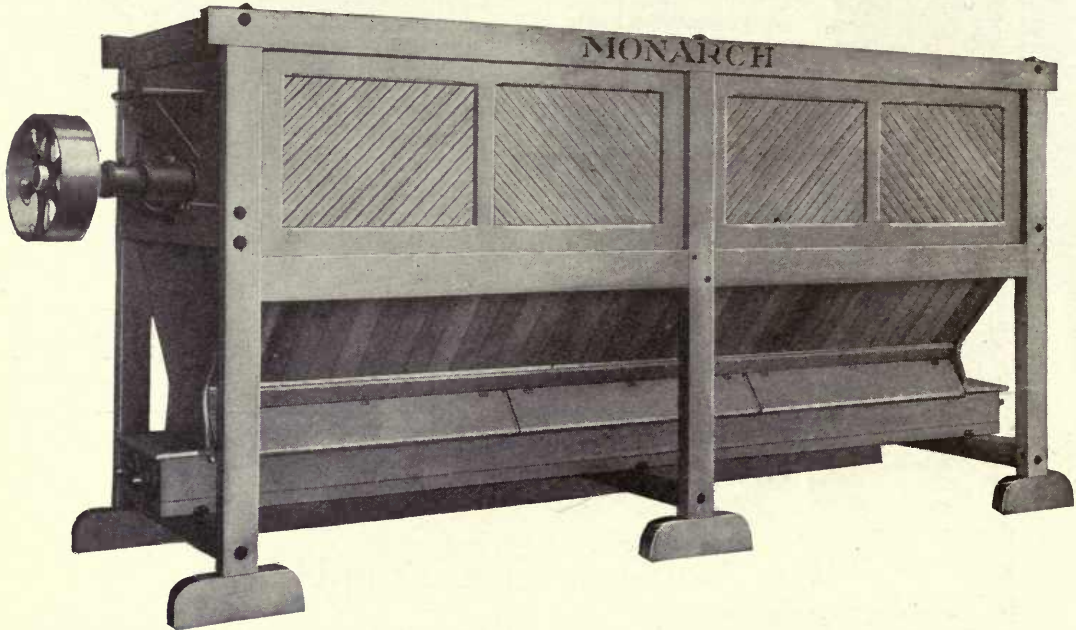
The machines are well constructed and will give years of good service.



### Prices, Dimensions, Weights, Etc.

SIZE OF DRUM		Price	EXTREME DIMENSIONS			Size of Pulley Inches	Speed of Drum R.P.M.	Weight Lbs.	FOR EXPORT	
Length Feet	Width Inches		Height	Length Feet	Width				Weight Lbs.	Volume Cu. Ft.
10	40	\$550.00	5' 6"	12	5' 6"	16x5 $\frac{1}{2}$	15 to 20	5400	5400	363
12	40	575.00	5' 6"	14	5' 6"	16x5 $\frac{1}{2}$	15 to 20	5700	5700	424
14	40	600.00	5' 6"	16	5' 6"	16x5 $\frac{1}{2}$	15 to 20	6000	6000	484
10	50	650.00	6' 4"	12	6' 4"	16x6 $\frac{1}{2}$	10 to 15	6000	6000	481
12	50	675.00	6' 4"	14	6' 4"	16x6 $\frac{1}{2}$	10 to 15	6300	6300	562
14	50	700.00	6' 4"	16	6' 4"	16x6 $\frac{1}{2}$	10 to 15	6700	6700	642

# The Monarch Rice Grading Reel



The Grading Reel shown above is specially designed to meet the requirements of rice handlers and the fact that every one installed has given unqualified satisfaction, is testimony to our definite experience and thorough workmanship.

The Monarch is a well proportioned machine and especially adapted to heavy duty. It is equipped with heavy shaft and iron spiders, has carefully babbitted bearings and a durably constructed conveyor, designed for easy access.

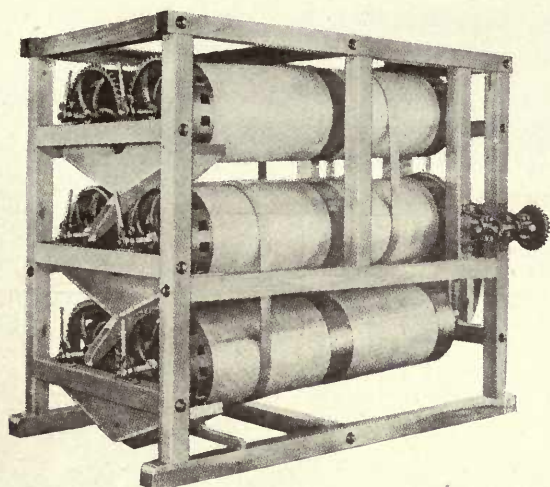
Every feature necessary to the successful, accurate and economical grading of rice, has been included in this reel which is built in two sizes and with and without cleaner frames as desired and as listed below.

## Prices, Dimensions, Weights, Etc.

Size No.	PRICE		Length of Cyl. Feet	Diam. of Cyl. Inches	FRAME DIMENSIONS			Length Over All	Floor to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
	Without Cleaner Frames	With Cleaner Frames			Length	Width	Height						Weight Lbs.	Vol. Cu. Ft.
159	\$550.00	\$650.00	12	40	13' 4"	4' 8"	7' 11"	14' 3"	5' 9"	24x5	25	3300	3500	527
160	600.00	700.00	14	40	15' 4"	4' 8"	7' 11"	16' 3"	5' 9"	24x6	25	3500	3700	600

The above prices do not include cloth for reel.  
Price additional for Cross Shaft Drive for Reels 40 inches in diameter, \$50.00.





## Rice Cylinders

Where floor space is limited, this outfit is a favorite with the practical rice miller. It is easily the most complete and simplest arranged mounting of six cylinders on the market.

For substantial construction, ease of manipulation, perfect regulation, and smooth action this outfit cannot be equalled.

Prices of special outfits of greater capacity furnished on application.

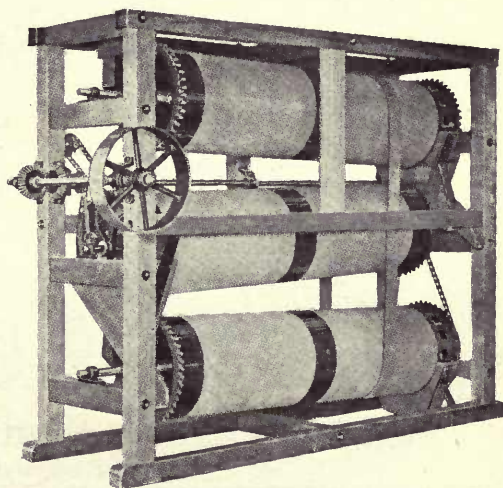
### Prices, Dimensions, Capacities, Weights, Etc.

Size No.	Price	EXTREME DIMENSIONS			Height to Where Rice Enters	Height to Center of Drive Pulley	Size of Pulley Inches	Speed R.P.M.	Capacity Per Hour Lbs.	Weight Lbs.	BOXED FOR EXPORT	
		Height	Length Feet	Width							Weight Lbs.	Vol. Cu.Ft.
61	\$ 785.00	7' 4"	10	7' 4"	7' 4"	4' 3"	24 x 6	170	7200	2650	4000	210
62	850.00	7' 4"	11	7' 4"	7' 4"	4' 3"	24 x 6	170	8100	2850	4200	235
63	925.00	7' 8"	10	7' 6"	7' 8"	4' 3"	24 x 6	170	9300	2950	4400	245
64	1000.00	7' 8"	11	7' 6"	7' 10"	4' 3"	24 x 6	170	10500	3100	4700	275
65	1075.00	8' 0"	10	7' 10"	8' 0"	4' 6"	24 x 6	170	12000	3200	4850	305
66	1150.00	8' 0"	11	7' 10"	8' 2"	4' 6"	24 x 6	170	13200	3350	5000	340

## Rice Cylinders

A direct-connected, self-contained outfit of three cylinders completely equipped, ready to attach drive belt.

The frame is of best quality hardwood, mortised and tenoned, put together with heavy joint bolts; fittings are best that high grade, selected materials and skilled workmanship can produce.



### Prices, Dimensions, Capacities, Weights, Etc.

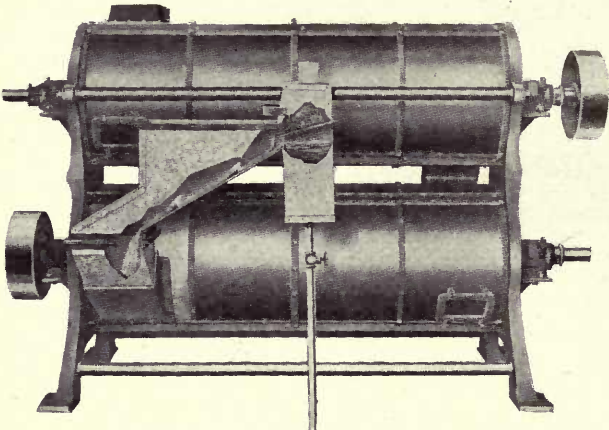
Size No.	Price	EXTREME DIMENSIONS			Height to Where Rice Enters	Height to Center of Drive Pulley	Size of Pulley Inches	Speed R.P.M.	Capacity Per Hour Lbs.	Weight Lbs.	BOXED FOR EXPORT	
		Height	Length	Width							Weight Lbs.	Vol. Cu.Ft.
31	\$400.00	7' 4"	9' 6"	4' 0"	7' 4"	4' 9"	20 x 4	130	3600	1500	2300	118
32	440.00	7' 4"	10' 6"	4' 0"	7' 4"	4' 9"	20 x 4	130	4050	1600	2475	130
33	475.00	7' 8"	9' 6"	4' 2"	7' 8"	5' 0"	20 x 4	130	4650	1650	2550	135
34	515.00	7' 8"	10' 6"	4' 2"	7' 8"	5' 0"	20 x 4	130	5250	1750	2700	140
35	550.00	8' 0"	9' 6"	4' 6"	8' 0"	5' 2"	20 x 5	130	6000	1800	2775	155
36	600.00	8' 0"	10' 6"	4' 6"	8' 0"	5' 2"	20 x 5	130	6600	1875	2850	175

Rice Grader



Prices, Dimensions, Weights, Etc.

Size No.	Price	CYLINDER		Extreme Length	Capacity Per Hour Lbs.	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
		Diameter Inches	Length					Weight Lbs.	Volume Cu. Ft.
1	\$120.00	20	6' 1"	8' 1"	1200	15 to 18	360	600	28
2	130.00	20	7' 1"	9' 1"	1350	15 to 18	385	640	32
3	140.00	22	6' 1"	8' 1"	1550	14 to 17	400	665	32
4	150.00	22	7' 1"	9' 1"	1750	14 to 17	420	700	36
5	160.00	24	6' 1"	8' 1"	2000	13 to 16	432	720	40
6	175.00	24	7' 1"	9' 1"	2200	13 to 16	450	750	45



Wheat Washer and Drier

Prices, Dimensions, Weights, Etc.

No.	No. of Cylinders	PRICE		Capacity Bushels Per Hr.	Approx. H. P. Req.	SPEED, R. P. M.		Pulley Inches	EXTREME DIMENSIONS		
		Collar Oiling	Ball Bearing			Upper Cylinder	Lower Cylinder		Height	Length	Width
*934	1	\$ 800.00	\$ 900.00	5- 30	3- 4	440	460	14 x 6	5' 3"	9' 8"	5' 2"
935	2	1200.00	1400.00	30- 75	4- 6	440	460	14 x 6	6' 4"	7' 11"	5' 2"
936	2	1400.00	1600.00	70-150	6- 8	440	460	14 x 8	6' 4"	9' 8"	5' 2"
9310	2	3000.00	3400.00	150-350	12-18	320	340	18 x 10	8' 4"	15' 0"	7' 2"

No.	SIZE ON FLOOR		Floor to Wheat Inlet	Floor to Wheat Discharge	FLOOR TO C. PULLEY		DIAM. OF SHAFT		Weight Lbs.	BOXED FOR EXPORT	
	Length	Width			Lower Cylinder Inches	Upper Cylinder	Collar Oiling Inches	Ball Bearing Inches		Weight Lbs.	Vol. Cu. Ft.
*934	7' 7"	4' 2"	5' 3"	3' 3"	25	-----	2 1/4	2 1/8	2500	3700	200
935	6' 0"	4' 2"	5' 3"	6' 0"	25	4' 9"	2 1/4	2 1/8	3400	5000	260
936	7' 7"	4' 2"	5' 3"	6' 0"	25	4' 9"	2 1/4	2 1/8	4000	6000	300
9310	11' 6"	6' 0"	5' 4"	7' 10"	28 1/2	6' 0 1/2"	3 1/8	3 1/8	10000	12000	1000

\* Machine No. 934 is but one cylinder high. Net extra price, single drive on 935 and 936, \$30. Net extra price, single drive on 9310, \$60.

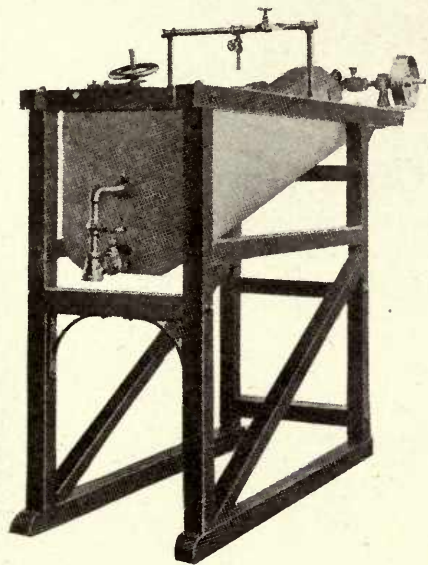
Wheat Washing, Stoning and Drying Machine

Prices, Dimensions, Weights, Etc.

No.	No. of Cylinders	PRICES		Capacity Bushels Per Hr.	Approx. H. P. Req.	SPEED, R. P. M.		Pulley Inches	EXTREME DIMENSIONS		
		Collar Oiling	Ball Bearings			Upper Cylinder	Lower Cylinder		Height	Length	Width
944	1	\$1000.00	\$1100.00	5- 30	3- 4	440	460	12 x 4	4' 3"	13' 3"	4' 2"
945	2	1500.00	1700.00	30- 75	4- 6	440	460	10 x 4	6' 0"	12' 2"	4' 2"
946	2	1700.00	1900.00	100-150	6- 8	440	460	12 x 4	6' 0"	13' 10"	4' 2"
9410	2	3400.00	3800.00	225-300	12-18	320	340	20 x 8	10' 6"	20' 6"	6' 0"

No.	SIZE ON FLOOR		Floor to Wheat Inlet	Floor to Wheat Discharge	FLOOR TO C. PULLEY		DIAM. OF SHAFT		Weight Lbs.	BOXED FOR EXPORT	
	Length	Width			Bottom Cylinder	Top Cylinder	Collar Oiling Inches	Ball Bearing Inches		Weight Lbs.	Vol. Cu. Ft.
944	12' 0"	4' 2"	4' 3"	2' 11"	2' 1"	-----	2 1/4	2 1/8	3025	4625	249
945	10' 11"	4' 2"	4' 3"	5' 7"	2' 1"	4' 9"	2 1/4	2 1/8	3975	6000	316
946	12' 7"	4' 2"	4' 3"	5' 7"	2' 1"	4' 9"	2 1/4	2 1/8	4600	7025	356
9410	19' 0"	6' 0"	4' 3"	7' 2"	2' 6"	6' 2"	3 1/8	3 1/8	11300	13800	1300





# Wheat Washer

We guarantee this machine to thoroughly and completely wash the worst samples of smutty wheat and remove all traces of smut, both in appearance and odor.

This machine is strong and substantially constructed; with the exception of the frame it is made entirely of iron and steel. It consists of a heavy, galvanized, boiler plate tank in which is placed one or more agitator cylinders, depending on the capacity.

The agitator cylinder, the outer shell of which is perforated galvanized steel, is very similar to a conveyor with its lower end adjustable to any depth into water, depending on the condition of the grain.

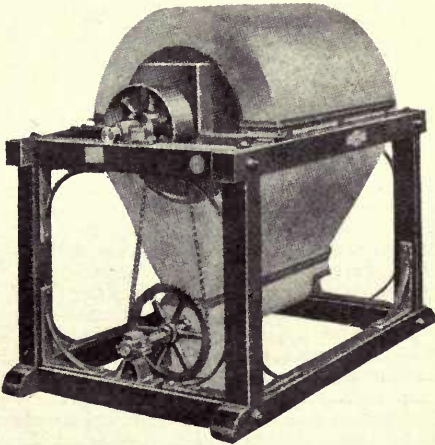
## Prices, Dimensions, Weights, Etc.

Size No.	Price	Capacity Bushels Per Hour	EXTREME DIMENSIONS			Height to Where Grain Enters	Height to Where Water Enters	Height to Center of Driv'g Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
			Length	Width	Height							Weight Lbs.	Vol. Cu.Ft.
332	\$350.00	100	6' 6"	2' 9"	5' 10"	4' 8"	5' 7"	5' 4"	12x3	200	850	1365	107
333	400.00	200	6' 6"	3' 7"	5' 10"	4' 8"	5' 7"	5' 4"	12x4½	200	1100	1700	137
334	500.00	300	6' 6"	4' 6"	5' 10"	4' 8"	5' 7"	5' 4"	12x5½	200	1950	2625	176
335	600.00	400	6' 8"	5' 4"	5' 10"	4' 8"	5' 7"	5' 4"	14x5½	200	2800	3600	213
336	700.00	500	6' 8"	6' 3"	5' 10"	4' 8"	5' 7"	5' 4"	14x6	200	3050	3900	250

# Wheat Whizzer

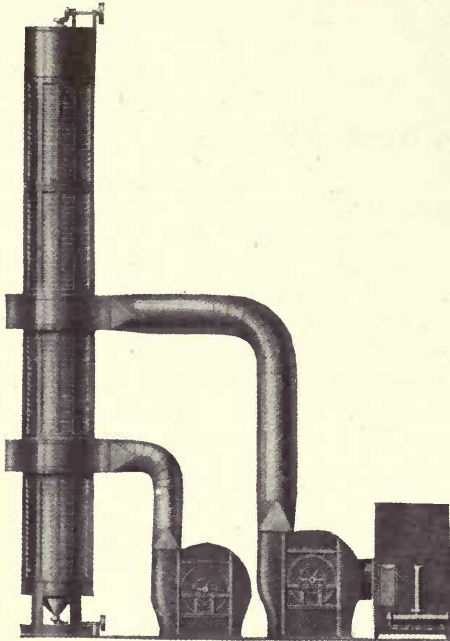
In our Whizzer the water is separated by centrifugal motion on the same principle as a centrifugal dryer used in sugar mills and laundries. The action of the machine is gentle, the wheat is not scoured or broken because there are no beaters nor other moving mechanism to cause the slightest injury.

It is strongly built, extremely simple in construction, and entirely automatic in operation—requires no adjustment whatever and no attention beyond oiling occasionally.



## Price, Dimensions, Weights, Etc.

Size No.	Price	Capacity Bushels Per Hour	EXTREME DIMENSIONS			Height to Top of Frame	Height to Top of Feed Spout	Height to Center of Pulley	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
			Length	Width	Height							Weight Lbs.	Vol. Cu.Ft.
1	\$350.00	100-200	5' 0"	3' 3"	4' 5"	2' 11"	3' 9"	3' ½"	9x4½	450	800	1175	74



Eureka Grain Dryer

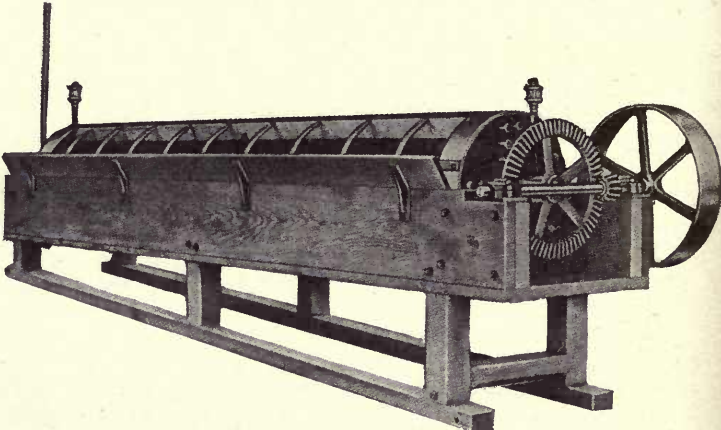
This apparatus will completely dry any kind of grain or seed; also is successful for kiln drying corn. The drying and cooling is accomplished by a current of air passing through the body of the grain. By use of a special outside wall of peculiar shape, the grain is continually turning over and over and changing place so that even drying is insured..

Prices, Dimensions, Weights, Etc.

No.	Price	Capacity Bushels Per Hr.	Extr'me Height	Extr'me Diam.	SPACE FOR DOUBLE FAN			SPACE FOR HEATER			Speed Fans	H. P. Fans	H. P. Boiler for Heater	Steam Pipe Inches	Weight Lbs.
					Height	Width	Length	Length	Width	Height					
17-A	\$1210.00	10- 15	25' 11"	2' 11"	5' 4"	3' 0"	3' 4"	4' 6"	3' 8"	3' 10"	850	1 3/4	6	2 1/2	3110
17-B	1320.00	20- 25	31' 11"	2' 11"	5' 10"	3' 5"	3' 9"	4' 6"	3' 8"	3' 10"	900	2	7	2 1/2	3735
22-C	1452.00	30- 40	26' 2"	3' 11"	5' 10"	3' 5"	3' 9"	4' 10"	3' 8"	5' 8"	850	3	8	2 1/2	5000
22-D	1694.00	40- 50	32' 2"	3' 11"	6' 4"	3' 9"	4' 2"	4' 10"	3' 8"	5' 8"	900	4 1/2	9	2 1/2	5710
32-E	1948.00	60- 70	26' 7"	4' 11"	6' 4"	3' 9"	4' 2"	5' 6"	3' 8"	5' 8"	800	6	10	3	6325
32-F	2178.00	70- 80	32' 7"	4' 11"	6' 10"	4' 2"	4' 6"	5' 6"	3' 8"	5' 8"	850	12	12	3	7130
42-G	2476.00	80- 90	27' 1"	5' 11"	7' 6"	4' 5"	4' 10"	5' 7"	4' 6"	5' 9"	750	18	15	3	9150
42-H	2750.00	100-125	35' 1"	5' 11"	8' 1"	4' 9"	5' 5"	6' 3"	4' 6"	5' 9"	750	25	20	3	10000

Cutler Steam Dryer

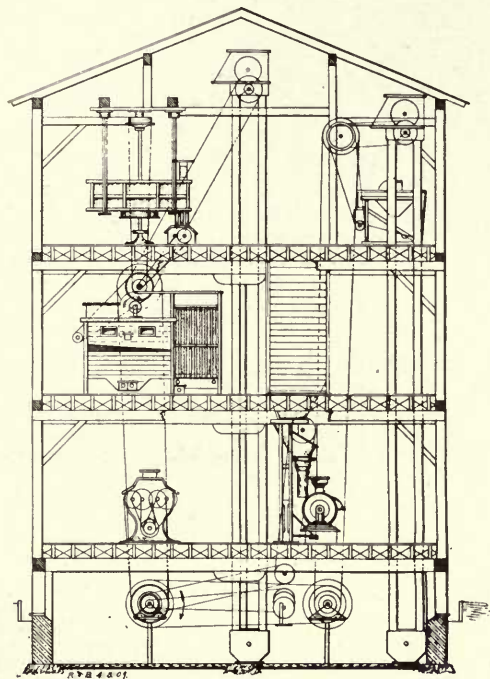
For Drying Corn Meal, Hominy, Brewer's Grits and Meal and all Cereal Products, Sand, Coal Dust, Paint, Clay, Mica, Graphite, etc. The drying cylinder consists of a large number of steam pipes. These pipes are closed up solid at one end, the open end being connected with a hollow steam chamber. The cylinder is mounted in a strong portable box frame and covered with sheets of steel riveted together. Openings are provided for the escape of the moisture, that comes from the material in process of drying. A steam trap takes away the condensed water without allowing the steam to escape—and is attached to the exhaust pipe. When in operation the product is conveyed by means of floats up to the top and dropped over the heated pipes to the bottom, this process being repeated hundreds of times before the lower end of the machine is reached.



Prices, Dimensions, Weights, Etc.

No.	Price	Cap. Bush. Per Hr.	H.P. Boiler Req.	No. of Pipes	Length of Pipes Feet	Diam. of Cyl. Inches	Size Supply Pipe Inches	Length	Width	Height	Pulley Inches	Speed R.P.M.	Rev. of Cyl.	Weight Lbs.
0	\$250.00	15	5- 6	12	10	12	3/4	12' 2"	1' 6"	2' 0"	20x3	65	18	1100
1	300.00	20	8-10	16	10	16	3/4	12' 2"	2' 2"	2' 4"	20x3	65	18	1500
1 1/2	400.00	30	10-12	24	12	20	3/4	14' 0"	2' 4"	2' 8"	24x4	64	16	2000
2	550.00	50	10-15	34	12	22	3/4	14' 3"	2' 6"	3' 4"	24x4	80	15	2700
3	800.00	80	15-20	52	12	30	1	14' 6"	3' 4"	4' 6"	30x5	70	14	4500
4	1100.00	120	20-25	88	12	40	1 1/4	15' 0"	4' 2"	5' 4"	36x7	60	12	6500

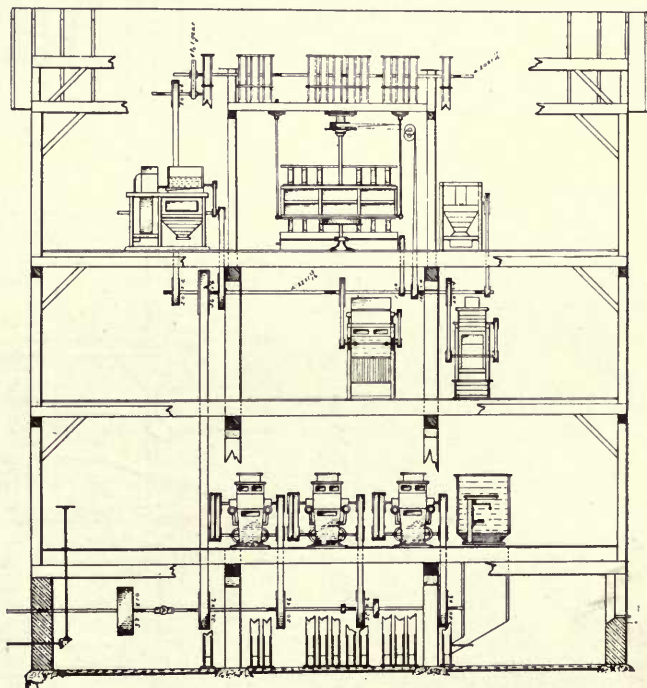




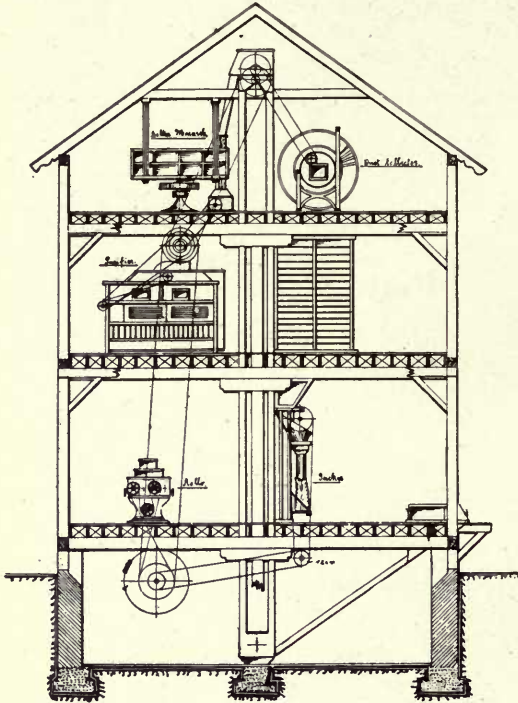
End Elevation

## Plan No. 683

Standard Flour Mill Having a  
Capacity of 25 Barrels per 24  
hours.



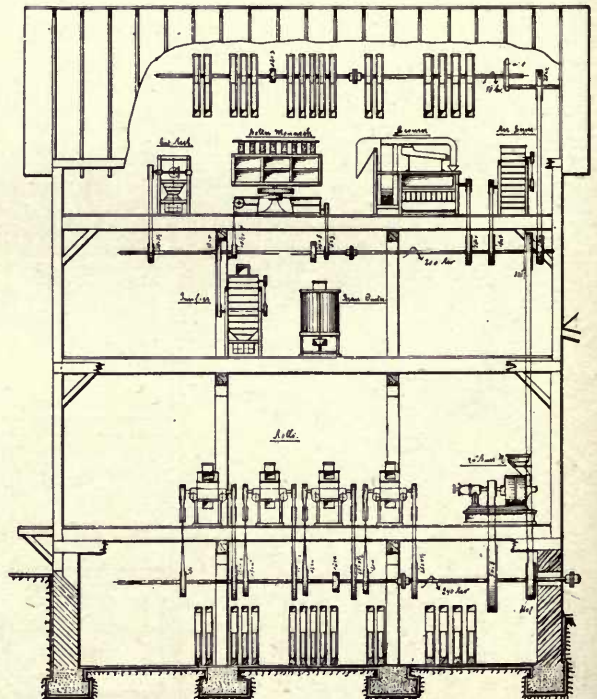
Side Elevation



End Elevation

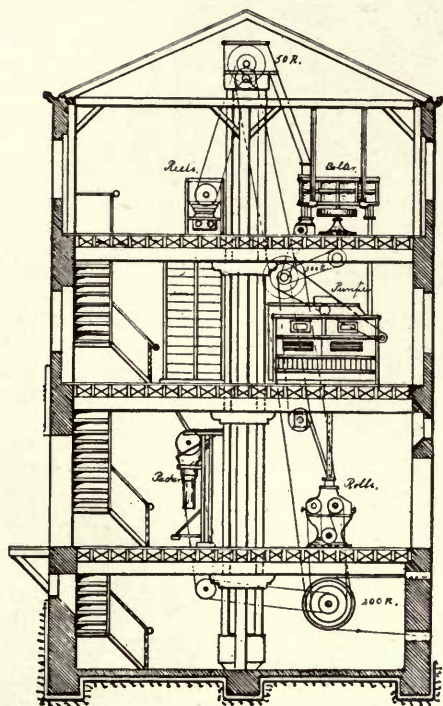
# Plan No. 362

Standard Flour Mill Having a Capacity of 50 Barrels per 24 hours.



Side Elevation

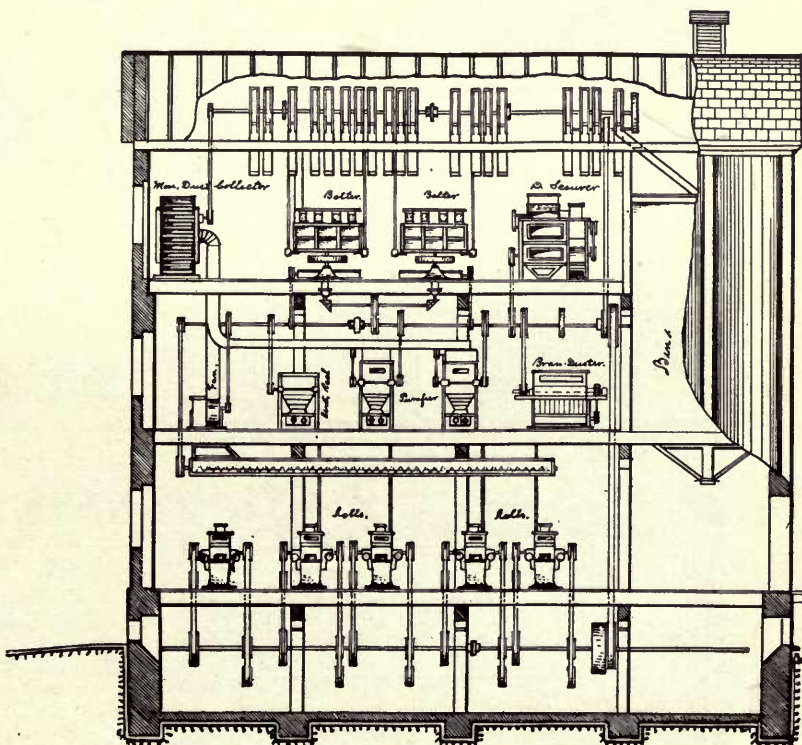




End Elevation

## Plan No. 422

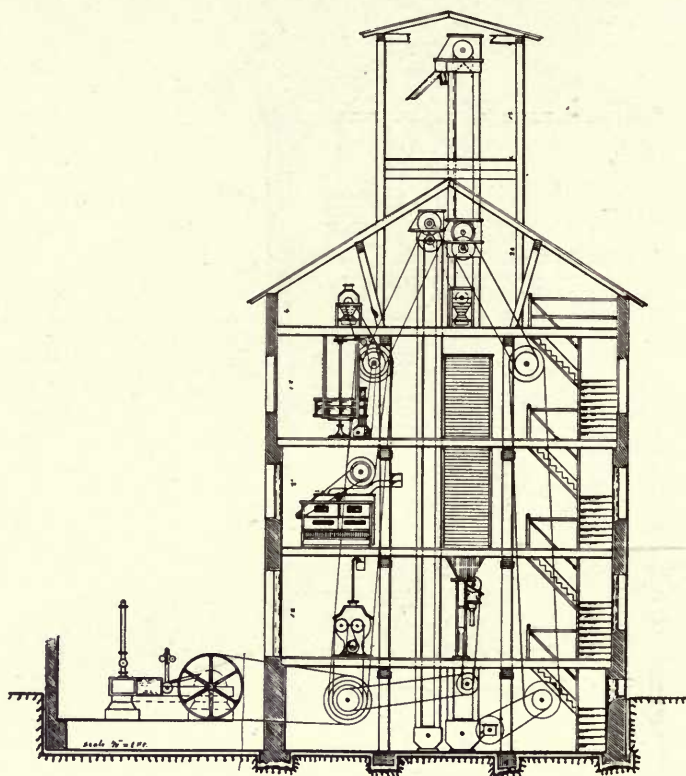
Standard Flour Mill Having a Capacity of 100 Barrels per 24 hours.



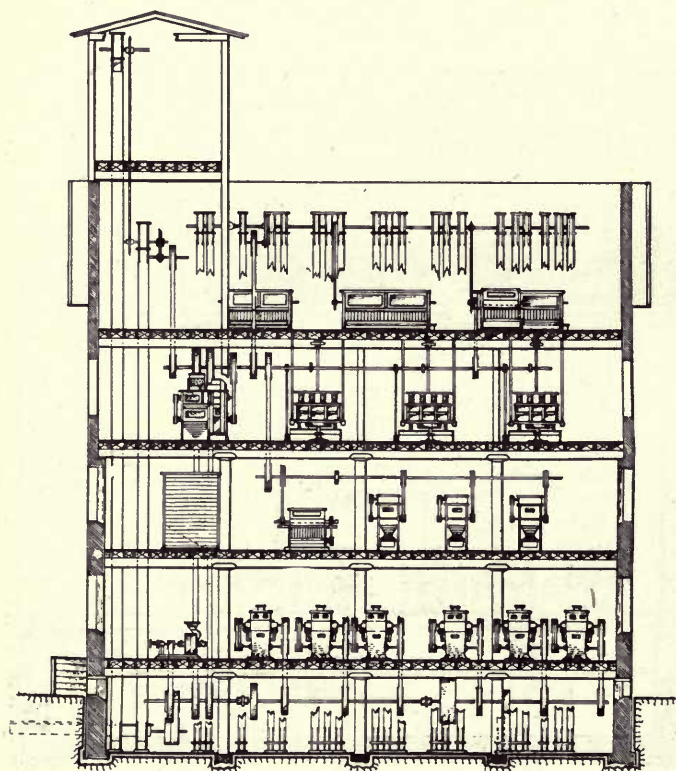
Side Elevation

## Plan No. 651

Standard Flour Mill Having a  
Capacity of 150 Barrels of Flour  
in 24 hours.

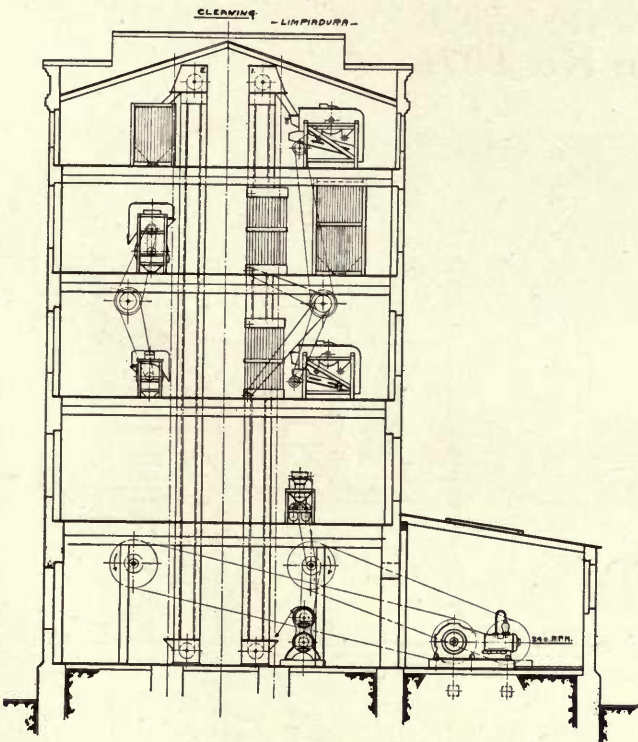


End Elevation



Side Elevation

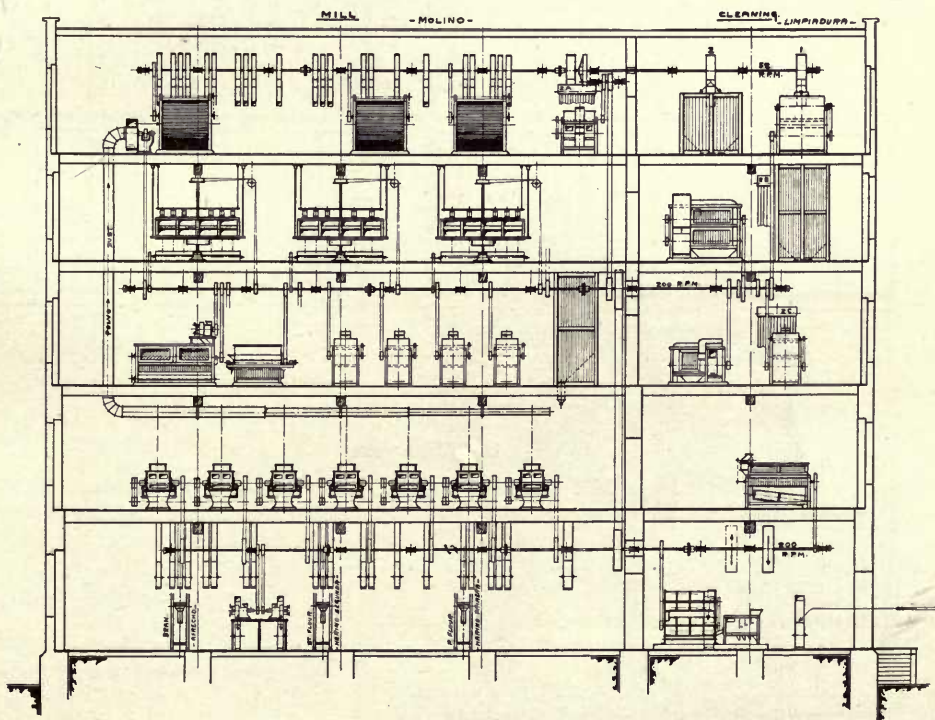




End Elevation

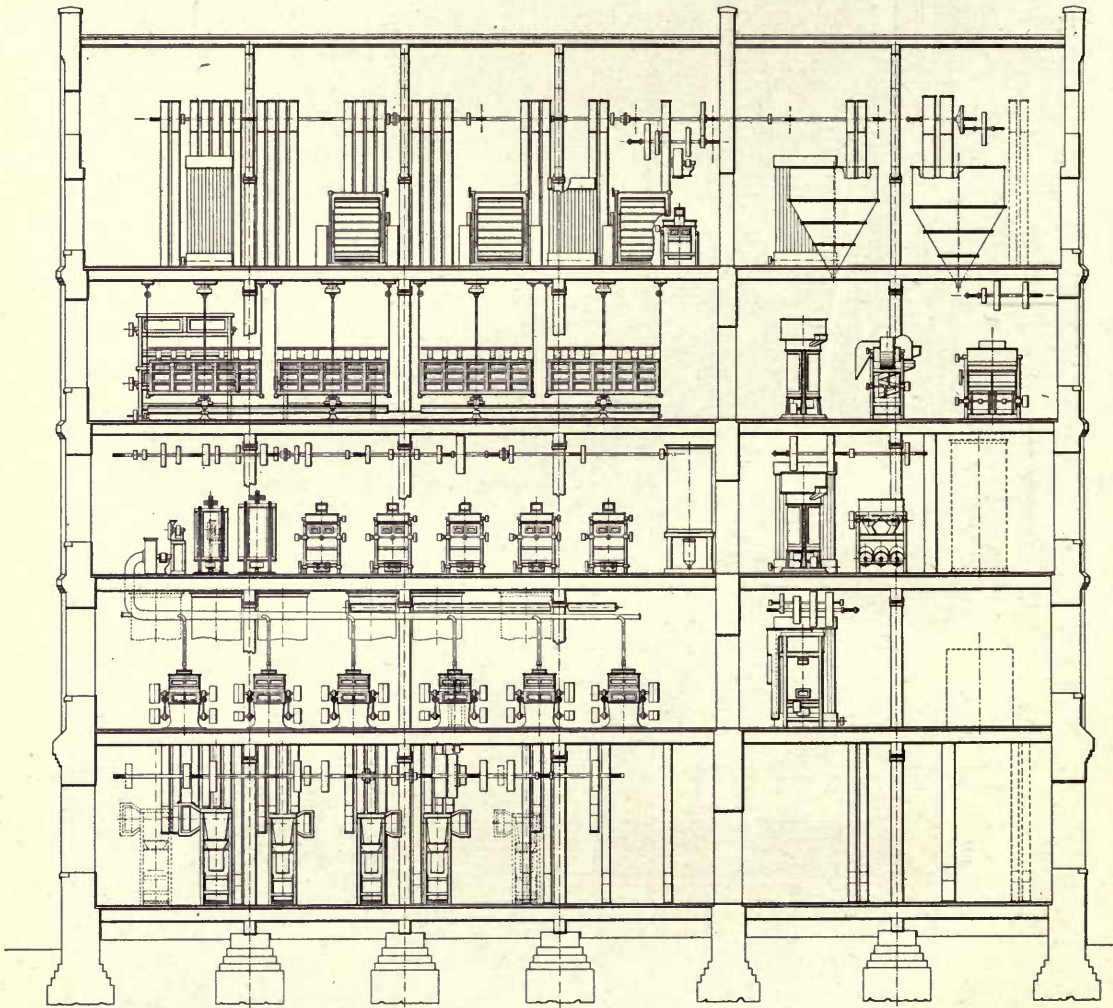
## Plan No. 1092

Standard Flour Mill Having a Capacity of 250 Barrels of Flour in 24 hours.



Side Elevation

## Plan No. 1076

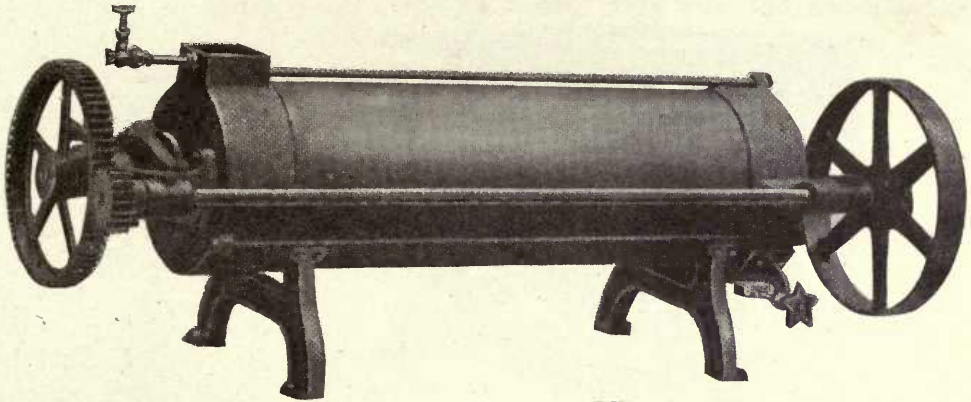


Side Elevation

Standard Flour Mill Having a Capacity of 500 Barrels per 24 hours



## Corn Steamer

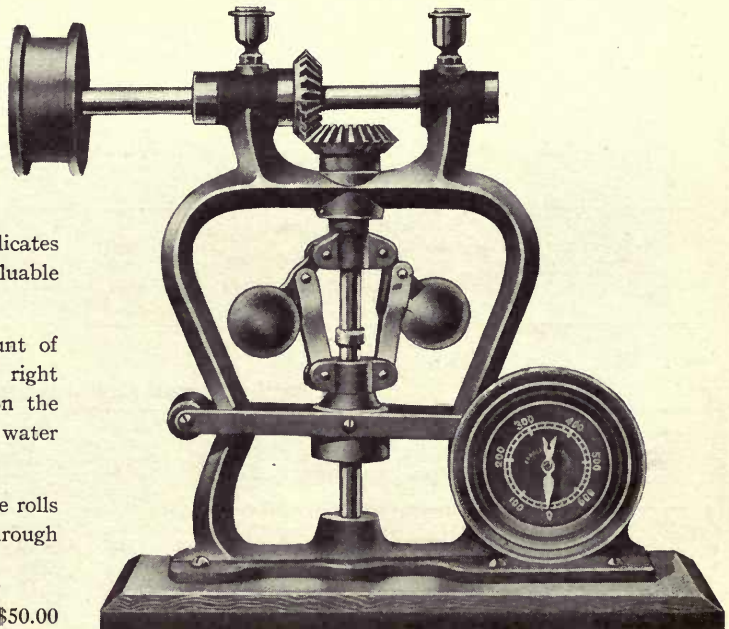


The Steamer is used for steaming corn slightly before its reduction to hominy, thus facilitating the removal of the bran and germ. An adjustment is provided with which to regulate the capacity of the machine, and the adjustable discharge gate is used to regulate the discharge of the corn to suit the capacity, at the same time keeping the cylinder full. Steam is supplied direct from a boiler, and the quantity of steam entering the steamer is controlled by the adjustment of a needle valve.

### Price, Dimensions, Etc.

Price	DIMENSIONS			Size of Pulley Inches	Speed R. P. M.	Weight Lbs.
	Width Inches	Height Inches	Length Inches			
\$100.00	29	21	61 ½	16 x 2 ½	140	400

## The Monarch Speed Indicator



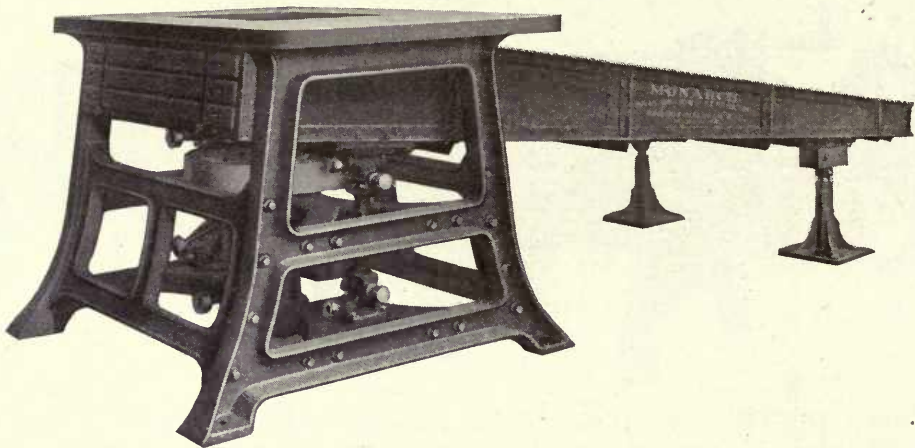
The Monarch Speed Indicator indicates the proper speed for the mill and is invaluable in a water mill for that purpose.

The operator turns on the amount of water needed to bring the mill to the right speed—as indicated by the pointer on the dial. The proper regulation of the water secures a regular speed for the rolls.

By securing a regular speed for the rolls the miller gets a regular flow of stock through the mill.

Price.....\$50.00

# The Monarch Ball-Bearing Gyratory Separator



The Monarch Ball-Bearing Gyratory Separator—Steel and Iron Construction

In order to meet the preference of the purchaser, Monarch Ball-Bearing Gyratory Separators will be furnished either in wood and iron or steel and iron construction, as desired. In both types of construction, as will be noted by reference to the illustration, the platform provided for the huller is supported by a rigid and substantial cast-iron framework which overcomes any tendency toward the transmission of vibration. The sieves, in both types, are interchangeable and can be quickly removed, thus giving the operator perfect control of the separations and insuring uniformity of the product. Extra sieves of different mesh cloth may be ordered with each machine, so that different separations may be provided for in a few minutes.

These machines mark a great advance in the design and construction of Cotton Seed Separators, their gyratory motion and the arrangement of the sieves, providing a means of quick separation of the meats from the hulls and greatly increasing capacity. The value of the quick separation of the meats from the hulls is twofold; it reduces the loss from absorption to a minimum and gives a Monarch machine of smaller size a greater capacity than a larger Separator operating with a reciprocating motion.

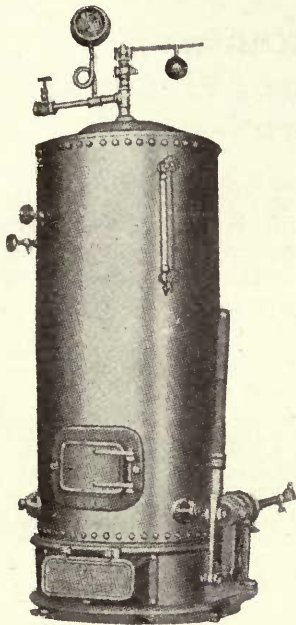
## Prices, Dimensions, Etc. Wood and Iron Construction

Size Inches	List Price	Width Over All Inches	Height Over All Inches	Length Over All Inches	Length Including Space to Change Sieve Inches	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
									Weight Lbs.	Vol. Cu. Ft.
30	\$550.00	62	51	171	209	18 x 4	250	2000	3100	313
36	650.00	66	51	171	209	18 x 4	250	2500	3700	334
42	750.00	78	53	173	211	18 x 4	250	3500	4900	425

## Steel and Iron Construction

Size Inches	List Price	Width Over All Inches	Height Over All Inches	Length Over All Inches	Length Including Space to Ch'ge Sieves Inches	Size of Pulley Inches	Speed R.P.M.	Weight Lbs.	BOXED FOR EXPORT	
									Weight Lbs.	Vol. Cu. Ft.
36	\$700.00	66	51	172	210	18 x 4	250	3500	4700	333
42	800.00	78	53	174	212	18 x 4	250	4500	5900	334
48	950.00	78	53	174	212	18 x 4	250	5000	6400	334





Gate City Steam Generator

This Generator is made just like a boiler. All seams are beveled and calked and it is warranted to carry sixty pounds of steam. It has corrugated fire box in all sizes except No. 0 which is plain, heavy, durable grate, sub-base with air space underneath and pan for water, no tubes to get out of order, and complies with insurance requirements.

If necessary, it can be used to heat mill office in addition to other work.

By placing wheat heater higher than steam generator, condensation can be returned to steam generator and effect a saving both of labor of pumping water and fuel used. The same is applicable to coils or radiators in office.

Price covers boiler, hand pump, pipe connections between water barrel, pump and generator, steam gauge, water gauge, two gauge cocks, safety valve, blow-off cock, one steam valve, three hand plates, fusible plug, chimney elbow, one set of grates, cast-iron base which forms ash pan and sub-base. Anything else extra.

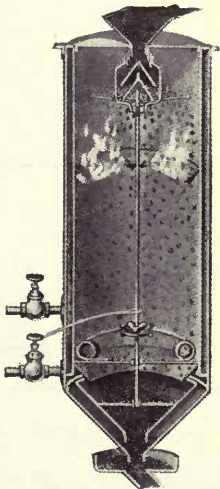
Prices, Dimensions, Etc.

Number	Price	Horse Power	Diameter Inches	Height Inches	Diameter Smoke Pipe Inches	Weight Lbs.
0	\$65.00	1	18	44	5	500
1	85.00	1½	22	52	6	840
2	95.00	2	24	54	6	950
3	105.00	3	26	54	6	1200
4	125.00	4	28	56	8	1250
5	135.00	5	30	58	8	1400

Floor Space required, 2½ x 5 to 3 x 5 feet.

Beall Automatic Wheat Steamer

The cut shows a sectional view of the Beall Steamer. It will be seen that it is made of two copper cylinders. The space between the cylinders is always filled with steam. This steam, freed from condensation, enters inside of steamer and tempers the wheat. It is held under pressure because the wheat prevents its escape at top and bottom. This pressure of dry steam, suddenly applied to wheat, tends to loosen the bran from the inside of the berry, and toughens it so it remains tough throughout the reductions. The inside of the berry is not even moistened, the dry steam penetrating the bran only. That leaves the flour-producing part of the berry in its natural state. This steamer is absolutely automatic and controls flow of wheat into it to suit feed of rolls.



Prices, Dimensions, Etc.

Number	Price With Valves	Height Over All Inches	Diameter Over All Inches	Capacity In Barrels For 24 Hours	Shipping Weight
00	\$45.00	20	8	10 to 50	25
0	60.00	24	9	50 to 75	31
1	75.00	26	10	75 to 125	36
2	90.00	30	11	125 to 250	44
3	110.00	34	13	250 to 375	55

# Thermal Wheat Steamer

## Style "A"

Style "A" Steamer uses steam from an independent boiler or generator.

The unique construction of the wheat chute with its alternating shelves causes the wheat to turn over and over, exposing all sides of the grain to the toughening action of the steam. The wheat is tempered evenly, the moisture is drawn to the outside, with the consequent result of large, flaky bran, and a stronger, whiter, and more uniform grade of flour.

### Prices, Dimensions, Etc.

Number	Price	Capacity for Barrels of Flour in 24 Hrs.	Size Supply Pipe Inches	OUTSIDE CASE		Height to Top of Feed Chute Inches	Top of Feed Chute to Disch'ge Inches	Width of Discharge Spout Inches	Weight Lbs.
				Diameter Inches	Height Inches				
A 1	\$35.00	20	1/4	9	15	20	18	6	35
A 2	40.00	30	1/4	9 1/2	16	21	19	6	40
A 3	45.00	40	1/4	10	17	22	20	6	45
A 4	50.00	50	1/4	11	18	23 1/2	21	7	50
A 5	55.00	75	1/4	12	19	24 1/2	22	8	55
A 6	60.00	100	1/4	13	20	25 1/2	23	9	60
A 7	70.00	125	1/4	14	22	28	25	9	65
A 8	80.00	150	1/4	15	23	29	26	9	70
A 9	90.00	200	1/4	16	24	30	27	10	75
A 10	100.00	300	1/4	17	25	31	28	10	80

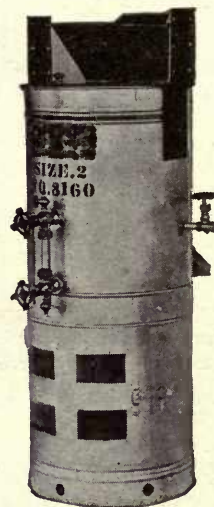
## Style "B"

This type of Steamer is for use in gas, electric, and water power mills. It is equipped with a self-contained boiler, double jacketed, insulated with asbestos, and uses either an oil blue flame or gas burner.

One gallon of oil will evaporate three gallons of water, which will thoroughly temper dry, hard wheat in cold weather for twenty-five barrels of flour.

### Prices, Dimensions, Etc.

Number	Price	Capacity for Bbls. of Flour in 24 Hrs.	OUTSIDE CASE		Height to Top of Feed Chute Inches	Top of Feed Chute to Disch'ge Inches	Width of Discharge Spout Inches	Style of Burner	Weight Lbs.
			Diameter Inches	Height Inches					
B 1	\$ 70.00	20	13 1/2	32	37	20	6	Oil or Gas	70
B 2	80.00	30	14	33	38	21	6	"	80
B 3	90.00	40	14 1/2	34	39	22	6	"	90
B 4	100.00	50	15 1/2	36	41 1/2	23 1/2	7	"	100
B 5	110.00	75	16 1/2	37	42 1/2	24 1/2	8	"	110
B 6	120.00	100	17 1/2	38	43 1/2	25 1/2	9	"	120
B 7	140.00	125	18 1/2	40	46	28	9	"	130
B 8	160.00	150	20 1/2	41	47	29	9	Gas only	140
B 9	180.00	200	22	42	48	30	10	"	150
B 10	200.00	300	24 1/2	43	49	31	10	"	160





## How to Operate Thermal Wheat Steamer for Water-Power Mills

1st. Fill water tank, open water gauges till boiler shows one inch or less in glass tube. Close the upper gauge. Lower gauge is always kept open.

2nd. Always keep air cock at top of glass tube open. Lower cock is only opened when it is desired to empty boiler.

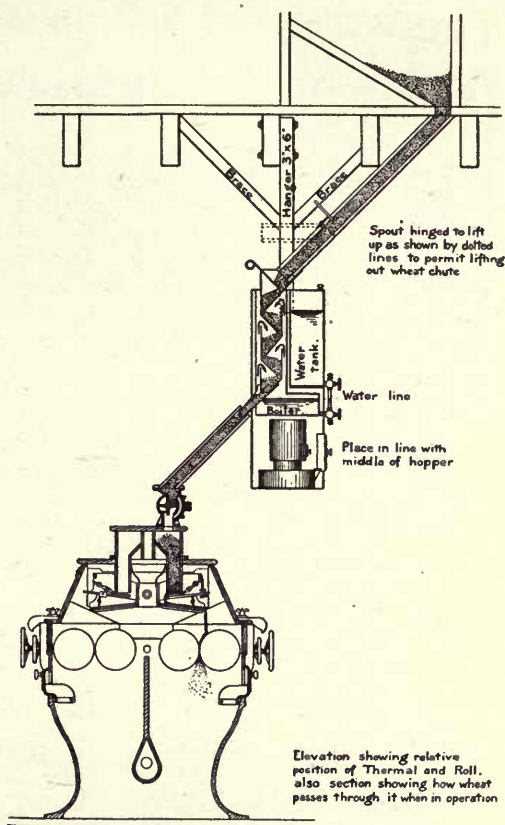
3rd. Fill oil reservoir with best Head Light Oil. Do not turn the wick up till it smokes. Clean wick every few days.

4th. In about 10 minutes after lighting turn in the wheat allowing both hopper and steamer to fill. Regulate quantity of steam by turning wick up or down.

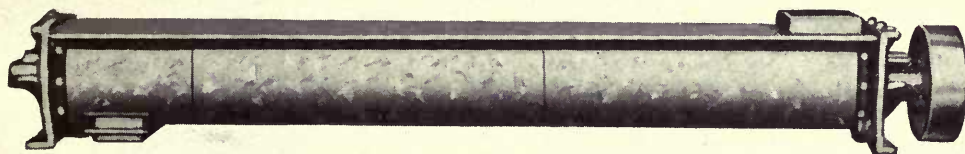
## McNeil Automatic Wheat Steamer

### Price (With Valves)

Size No.	Capacity in Barrels 24 Hours	Price
1	10 to 50	\$20.00
2	50 to 100	25.00
3	100 to 250	35.00
4	250 to 375	45.00



## Wheat Tempering Conveyor



It is a well known fact that a slight wetting with cold water, followed by a short period of tempering, puts the grain in first-class condition for reduction and aids in the production of superior results. The tempering conveyor which is shown in the illustration is designed for use on the stock before it is delivered to the first break rolls and the satisfaction obtained from its use is general in the numerous installations made.

Outfit consists of galvanized iron conveyor with box of the same material and cast-iron ends with babbitted bearings; the whole carefully assembled and ready for work.

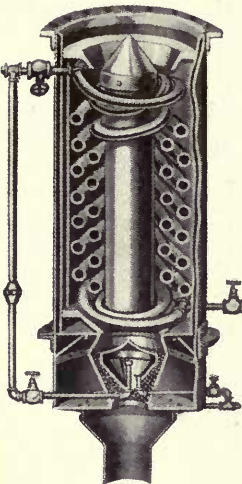
### Sizes and Prices

Diameter of Conveyor Inches	LENGTH OF CONVEYOR					Diameter of of Shaft Inches
	4 Feet	5 Feet	6 Feet	8 Feet	10 Feet	
4	\$30.00	\$32.50	\$35.00	\$42.50	\$50.00	1
6	35.00	37.50	40.00	50.00	60.00	1½
9	45.00	50.00	55.00	67.50	80.00	1½

Speed—50 revolutions per minute.

Two high or Double Tempering Conveyors connected together with spur gears requiring only one driving wheel double the list prices.

Prices do not include driving wheel.



With Steaming Attachment

## Braden's Improved Wheat Heater

The Heater consists of two steam coils, an inner flue, and an inner and outer casing, the whole enclosed in a planished copper casing, arranged so ready access can be had to the interior. The coils contain from 65 to 185 feet of steel piping. The inner coils fit into the open space of the outer ones, thus forming natural corrugations which thoroughly agitate the wheat on its passage through the heater. The spaces between the coils and the outer and inner casings are graduated so as to force every grain of wheat into direct contact with the heated pipes.

We make the heater with or without the steaming attachment.

Millers that are favorable to steaming wheat will find a heater a great help in putting the grain in good condition for the steaming process in extreme cold weather and when the wheat is frozen.

### Prices, Dimensions and Capacities

Size Inches	PRICE		Diameter Inches	Capacity Per Hour In Bushels
	Without Steaming Attachment	With Steaming Attachment		
24	\$35.00	\$45.00	9 3/4	10 to 15
27	40.00	50.00	9 3/4	20 to 25
30	45.00	55.00	10 1/4	30 to 35
35	50.00	65.00	12	45 to 50
40	60.00	75.00	12	50 to 55
45	75.00	-----	16	60 to 65
50	100.00	-----	16	75 to 80

The steaming attachment will add 6 inches to the length or height of the heater.

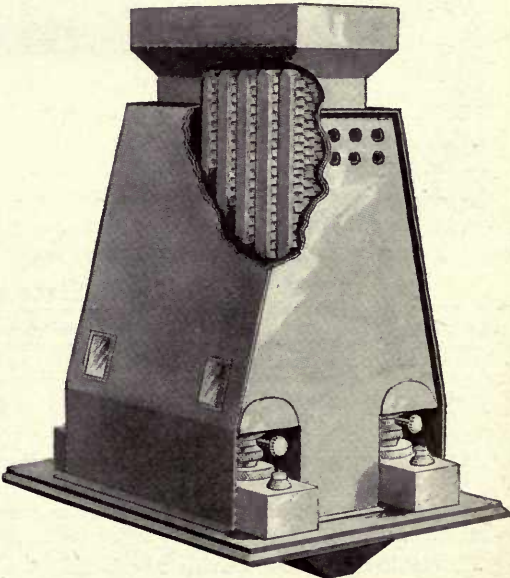
In using two-pair rolls on first break we recommend the use of the heater for each side to secure best results.

## The "Miles" Hot-Air Wheat Heater

This Heater is especially adapted for use in mills where no steam is available. It is made of sheet steel incased with planished or Russia iron, lined throughout with asbestos and mounted on a wood base with sheet iron hoppering underneath. Heat is generated by oil lamps of an improved design, constructed especially with a view to perfect safety and protected from strong air drafts. Mica windows are provided for observing the flame. The heater may be placed on top of roller mill case or directly above rolls.

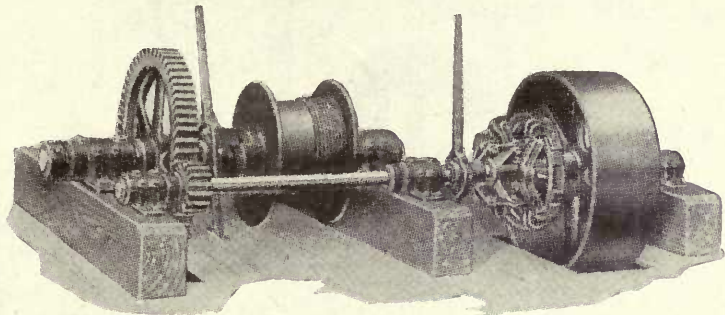
### Sizes, Dimensions, Capacities, Weights and Prices

No.	Price	DIMENSIONS			Capacity Per Hour Bushels	Weight Lbs.
		Height Inches	Width Inches	Length Inches		
2	\$35.00	30	16	13	7 to 10	55
3	40.00	30	16	15	10 to 14	65
4	45.00	30	16	17	14 to 18	75





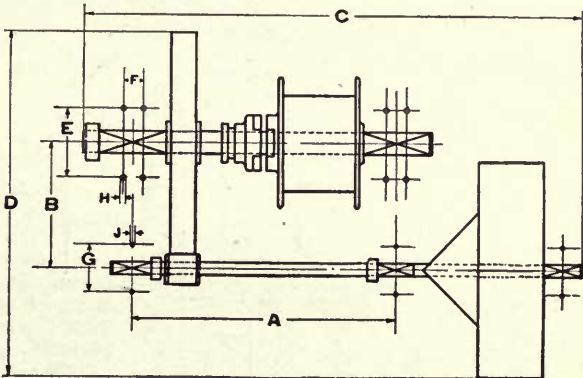
Single Drum Wire Rope Car Puller



Operated by friction clutch on the driving shaft, and controlled by jaw clutch at the drum.

On account of the rapid crystallization of iron wire rope, the use of "plough steel" wire rope is advised.

Capacities given below are based on straight and level track, in good condition.



Price List

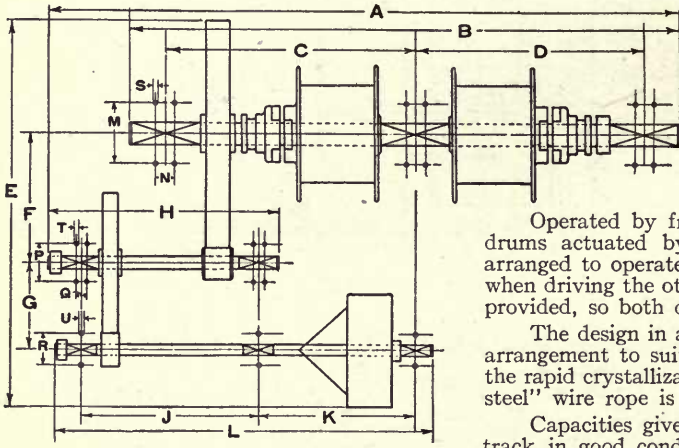
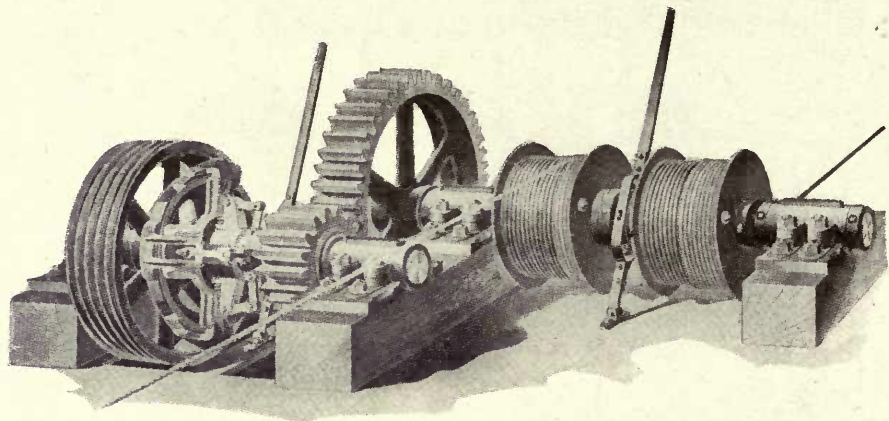
No. of Car Puller	Capacity Cars	Pulling Speed Feet per Min.	WIRE ROPE		PULLEY		Price Each Without Rope
			Size Inches	Drum Capac'y Feet	Size Inches	Speed R. P. M.	
11	3	83	3/8	227	28 x 9	100	\$190.00
12	8	83	1/2	266	36 x 14	100	330.00
13	12	83	5/8	290	48 x 16	102	500.00
14	18	83	3/4	355	60 x 18	100	900.00

Price includes Pulley, but not any Lead Sheaves or Rope.

Dimensions

No. of Car Puller	Capacity Cars	DIMENSIONS, INCHES							FOOT BOLTS	
		A	B	C	D	E	F	G	H	J
11	3	40	19 5/16	81	50	9 3/8	---	7 5/8	7/8	5/8
12	8	50	22 1/2	100	60	11 1/2	3 3/4	8 1/4	3/4	3/4
13	12	60	27 3/8	117	77	13 3/4	4 1/8	9 3/8	7/8	7/8
14	18	72	34	136	96	16	5	9 7/8	1	7/8

# Double Drum Wire Rope Car Puller



Operated by friction clutch on the driving shaft, with drums actuated by jaw clutches. The clutches may be arranged to operate by one sliding part, releasing one drum when driving the other, but usually independent clutches are provided, so both drums may be worked at the same time.

The design in all sizes permits variations of gearing and arrangement to suit different requirements. On account of the rapid crystallization of iron wire rope, the use of "plough steel" wire rope is advised.

Capacities given below are based on straight and level track, in good condition.

## Price List

No.	Capacity Cars	Pulling Speed Feet per Min.	WIRE ROPE		PULLEY		Price Each Without Rope
			Size Inches	Drum Capac'y Feet	Size Inches	Speed R. P. M.	
25	16	75	3/4	355	30 x 12	321	\$ 900.00
26	24	75	1	380	36 x 14	352	1560.00
27	36	75	1 1/8	456	42 x 16	314	2400.00

Price includes Pulley, but not any Lead Sheaves or Rope.

## Dimensions

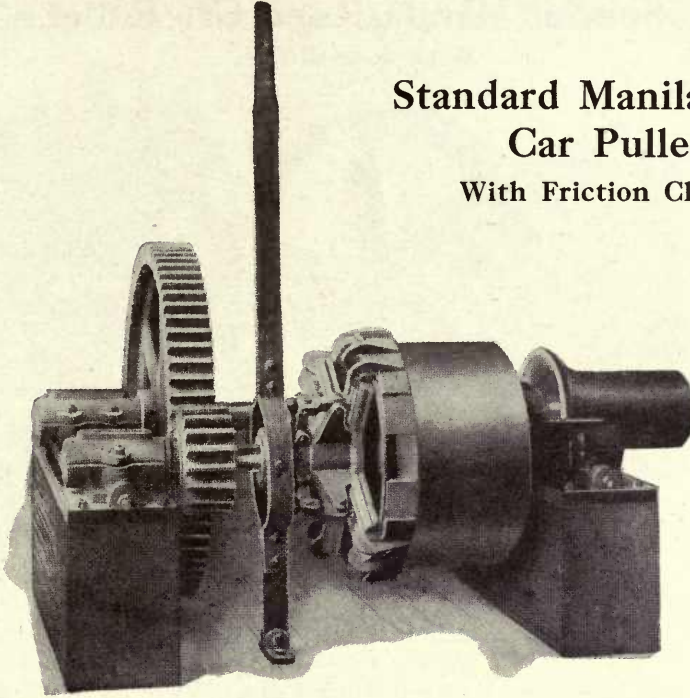
No. of Car Puller	Capacity Cars	DIMENSIONS, INCHES								
		A	B	C	D	E	F	G	H	J
25	16	168	144	66	60	106	34 $\frac{3}{8}$	22 $\frac{15}{16}$	60	47
26	24	210	183	82	75	127	43	25 $\frac{1}{2}$	74	58
27	36	240	211	97	86	154	54	29	80	63

No. of Car Puller	DIMENSIONS, INCHES							DIAM. OF FOOT BOLTS, IN.		
	K	L	M	N	P	Q	R	S	T	U
25	--	60	16	5	9 $\frac{7}{8}$	--	8 $\frac{1}{4}$	1	$\frac{7}{8}$	$\frac{3}{4}$
26	53	120	20 $\frac{5}{8}$	6 $\frac{3}{4}$	10 $\frac{3}{8}$	2 $\frac{7}{8}$	8 $\frac{3}{4}$	1 $\frac{1}{8}$	$\frac{5}{8}$	$\frac{3}{4}$
27	63	137	23	7 $\frac{5}{8}$	11 $\frac{1}{2}$	3 $\frac{1}{4}$	9 $\frac{7}{8}$	1 $\frac{1}{8}$	$\frac{3}{4}$	$\frac{7}{8}$



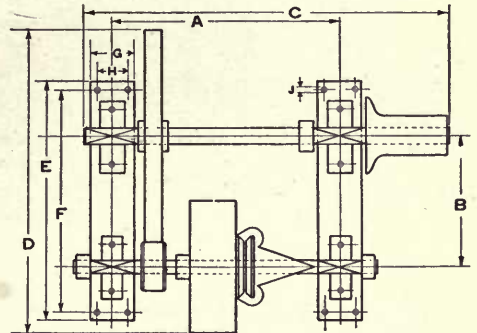
## Standard Manila Rope Car Puller

With Friction Clutch



Has a friction clutch of ample capacity. Shaft bearings are fitted to special double base plates, insuring permanence of alignment.

Capacities given below are based on straight track, in good condition.



### Price List

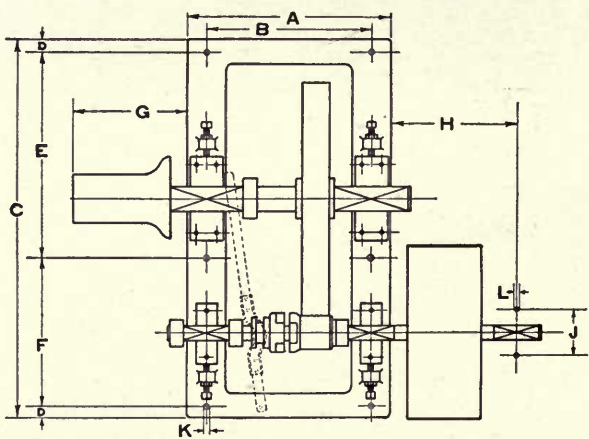
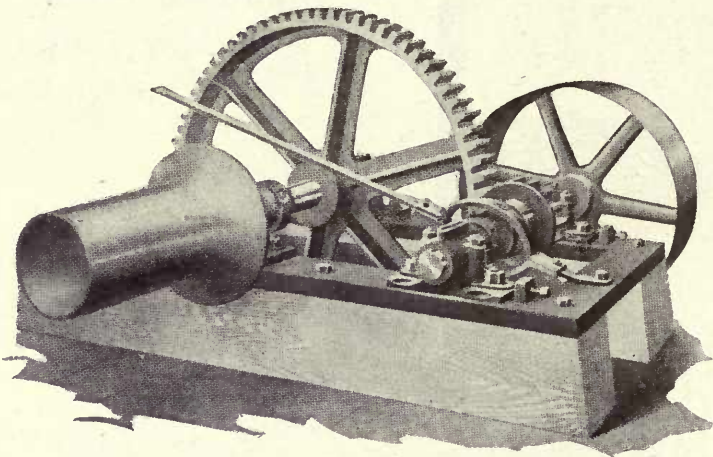
No. of Car Puller	Capacity Cars	Pulling Speed Feet per Min.	Size of Rope, Inches	PULLEY		Price Each
				Size, Inches	Speed, R. P. M.	
31	3	83	1 1/8	20 x 7	225	\$120.00
32	8	83	1 1/2	24 x 11	225	186.00
33	12	83	1 3/4	30 x 13	200	306.00
34	18	80	2	36 x 15	200	390.00

Price includes Pulley, but not any Lead Sheaves or Rope.

### Dimensions

No. of Car Puller	Capacity Cars	DIMENSIONS, INCHES								Base Bolts J
		A	B	C	D	E	F	G	H	
31	3	34 1/2	19 1/8	55 1/2	47	36	33 1/2	6 3/4	4 3/4	7/8
32	8	43 1/2	22	71 1/2	54	39	36 1/2	7 1/2	5	7/8
33	12	49 1/2	23 3/8	82	60	45 1/2	42 1/2	8 1/2	5 1/2	1 1/8
34	18	57 1/2	27 3/8	93	70	49 1/2	46 1/2	9 1/2	6 1/2	1 1/8

Special Manila Rope Car Puller  
With Jaw Clutch



Complete with full cast-iron frame. Capacities are based on straight and level track, in good condition.

Price List and Dimensions

No. of Car Puller	Capacity Cars	Pulling Speed Feet per Min.	Size of Rope, Inches	PULLEY		Price, Each
				Size, Inches	Speed, R. P. M.	
41	3	83	1 1/8	20 x 7	225	\$ 96.00
42	8	83	1 1/2	24 x 11	225	162.00
43	12	83	1 3/4	30 x 13	200	240.00
44	18	80	2	36 x 15	200	342.00

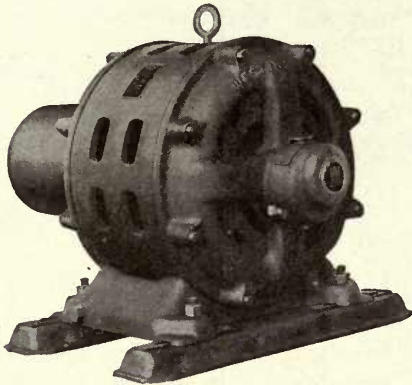
Price includes Pulley, but not any Lead Sheaves or Rope.

Dimensions

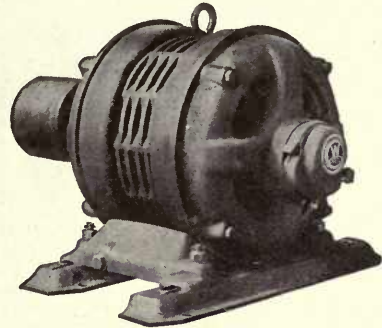
No. of Car Puller	Capacity Cars	DIMENSIONS, INCHES									DIAM. OF FOOT BOLTS, INCHES	
		A	B	C	D	E	F	G	H	J	K	L
41	3	28 1/2	23 1/2	52 3/4	2	29 3/4	19	14	12 1/2	7	7/8	5/8
42	8	29	23 1/2	58	2	32 1/2	21 1/2	20	19 1/2	7 5/8	7/8	5/8
43	12	36	29 1/2	66	2 1/4	36 3/4	24 3/4	23	22 3/4	8 1/4	1	3/4
44	18	42	34	78	2 1/2	42 1/2	30 1/2	23 1/4	26 1/4	9 3/8	1	7/8



# Type "CS," Constant-Speed, A. C. Induction Motors



Westinghouse Electric Alternating-Current  
Squirrel-Cage Induction Motor



10-Horse Power Westinghouse Electric Motor

**Voltage.** Motors listed will operate continuously at full rating without injury on 10 per cent higher or lower than rated voltage.

**Price and Weight** of complete motor includes standard paper pulley, two rails † for floor, wall or ceiling mounting, and Type "E" Auto Starter (except with motors 5 h. p. and below). Motors are regularly supplied for floor mounting, but will be arranged for wall or ceiling mounting if so specified. If auto starter is desired with motors 5 h. p. and below, add \$40.00 to regular retail price.

Omission prices must not be used as separate selling prices.

## Ratings, Regular Retail Prices, Pulleys and Approximate Weights 220 and 440 Volts, Two and Three Phase; 550 Volts, Three Phase

H. P.	No. Poles	Full Load R. P. M.	Frame No.	REGULAR RETAIL PRICE			Standard Pulley  Dia. x Face Inches	SHIPPING WEIGHT, LBS.		
				Complete Motor	Deduct for Omission of			Complete Motor	Deduct for Omission of	
					†Rails	Pulley	†Rails		Pulley	
*2	4	1720	220	\$ 55.00	\$3.00	\$1.00	4 x 3	145	20	5
*2	6	1120	226	71.00	3.00	1.00	4 x 3	160	20	5
*2	8	850	328	87.00	5.00	1.00	4 x 4	225	30	5
*3	4	1730	224	62.00	3.00	1.00	4 x 3	155	20	5
*3	6	1130	328	82.00	5.00	1.00	4 x 4	225	30	5
*3	8	850	356A	102.00	5.00	1.00	5 x 4½	315	30	5
*5	4	1735	328	72.00	5.00	1.00	4 x 4	225	30	5
*5	6	1140	356A	100.00	5.00	1.00	5 x 4½	315	30	5
*5	8	850	446	130.00	7.00	1.00	6 x 5	435	40	10
*5	10	675	544	150.00	7.00	2.00	7 x 6	550	50	10
*5	12	565	546	180.00	7.00	3.00	8 x 7	580	50	15
*7 ½	4	1740	354A	128.00	5.00	1.00	5 x 4½	535	35	5
*7 ½	6	1140	452	172.00	7.00	1.00	6 x 5	680	40	10
*7 ½	8	855	466A	190.00	7.00	2.00	7 x 6	755	40	10
*7 ½	10	680	548	220.00	7.00	3.00	8 x 7	880	50	15
*7 ½	12	570	558	250.00	7.00	4.00	9 x 8	960	50	25
10	4	1740	453	153.00	7.00	1.00	6 x 5	685	40	10
10	6	1150	464A	197.00	7.00	2.00	7 x 6	755	40	10
10	8	860	548	215.00	7.00	3.00	8 x 7	900	50	15
10	10	680	558	248.00	7.00	4.00	9 x 8	960	50	25
10	12	570	636	277.00	9.00	4.00	10 x 9	1400	100	35
15	4	1740	471A	202.00	7.00	2.00	7 x 6	775	40	10
15	6	1155	554	228.00	7.00	3.00	8 x 7	900	50	15
15	8	860	572	260.00	7.00	4.00	9 x 8	1000	50	25
15	10	680	636	297.00	9.00	4.00	10 x 9	1400	100	35
15	12	570	646	335.00	9.00	5.00	11 x 10	1575	100	40

\*Can be furnished for 110 Volts, 2 and 3 Phase, at same price.

†Motors built on frames smaller than number 400 are furnished with bed plates.

Type "CS," Constant-Speed, A. C. Induction Motors—Continued

H. P.	No. Poles	Full Load R. P. M.	Frame No.	REGULAR RETAIL PRICE			Standard Pulley Dia. x Face Inches	SHIPPING WEIGHT, LBS.		
				Complete Motor	Deduct for Omission of			Complete Motor	Deduct for Omission of	
					†Rails	Pulley			†Rails	Pulley
20	4	1740	563	\$230.00	\$ 7.00	\$ 4.00	9 x 8	975	50	25
20	6	1160	574	268.00	7.00	4.00	9 x 8	1125	50	25
20	8	860	644	302.00	9.00	4.00	10 x 9	1550	100	35
20	10	685	654	345.00	9.00	5.00	11 x 10	1750	100	40
20	12	575	746	370.00	13.00	5.00	12 x 12	2275	150	55
25	4	1755	573	275.00	7.00	4.00	9 x 8	1050	50	25
25	6	1160	644	293.00	9.00	4.00	9 x 8	1540	100	25
25	8	865	646	335.00	9.00	4.00	10 x 9	1625	100	35
25	10	685	744	378.00	13.00	5.00	11 x 10	2150	150	40
25	12	575	748	412.00	13.00	5.00	12 x 12	2375	150	55
35	4	1755	651	325.00	9.00	4.00	10 x 9	1900	100	35
35	6	1170	654	348.00	9.00	5.00	11 x 10	2000	100	40
35	8	870	658A	402.00	9.00	5.00	12 x 12	2300	100	55
35	10	685	748	440.00	13.00	6.00	13 x 12	2625	150	60
35	12	575	758	485.00	13.00	6.00	14 x 12	2850	150	65
50	4	1755	655A	405.00	9.00	5.00	11 x 10	2175	100	50
50	6	1170	744	425.00	13.00	5.00	12 x 12	2400	150	55
50	8	870	754	475.00	13.00	6.00	13 x 12	2650	150	60
50	10	690	758	540.00	13.00	6.00	14 x 12	2850	150	65
50	12	580	856	590.00	15.00	7.00	16 x 13	3500	225	100

† Motors built on frames smaller than number 400 are furnished with bed plates.



Two-Point Oil-Immersed Self-Contained Starters for Type "CS" Induction Motors

Type "E" Auto-Starters can be used on voltages 10% higher or lower than rated voltage. Weight and price includes complete auto-starter with self-contained auto-transformers and oil, which is shipped in a separate package.

Any Type "E" Auto-Starter can be equipped with a self-contained automatic no-voltage release and with a separate overload release, as described on following page.

Prices are regular; weights are gross (shipping) and may vary 5% from figures given.

Ratings, Weights and Regular Prices

H. P.	60 CYCLE		25 CYCLE	
	Weight, Lbs.	Regular Price	Weight, Lbs.	Regular Price
220 Volts				
7 1/2	250	\$ 60.00	250	\$ 65.00
15	250	60.00	290	75.00
30	290	70.00	535	90.00
50	535	90.00	615	115.00
100	875	190.00	875	200.00
440 and 550 Volts				
7 1/2	250	\$ 60.00	250	\$ 65.00
15	250	60.00	290	75.00
30	290	75.00	535	95.00
50	535	95.00	615	120.00
100	615	140.00	875	175.00
200	875	220.00	---	-----
2,200 Volts				
50	745	\$110.00	745	\$140.00
100	745	120.00	745	185.00
200	745	160.00	---	-----

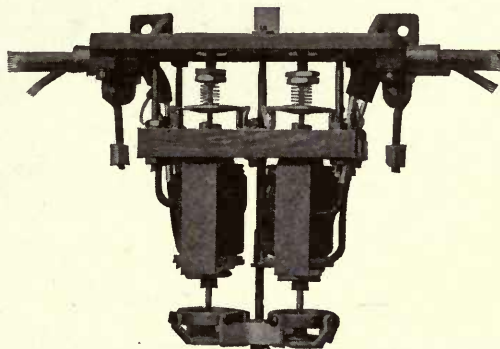
50 and 60, 25 and 40 Cycles

2 and 3 Phase

240, 440, 550 and 2200 Volts



## No-Voltage and Overload Release Devices for Use with Type "E" Auto-Starters



Type "H" Overload Relay—Tank Removed

Both no-voltage and overload release devices can be supplied with Type "E" Auto-Starters. When equipped with no-voltage release, these starters will be designated as Type "E1."

**The No-Voltage Release** consists of an electromagnetically operated latch attached to the front of the auto-starter in place of the ordinary dial plate. The electromagnet is excited when the handle is in the running position, and the latch holds the handle. If the voltage fails, however, the handle is released and it returns instantly to the off position. The handle can be released at any time by pressing the thumb piece. This device can be mounted on auto-starters already in service by substituting it for the dial plate and drilling the case to bring out leads to the release coil.

**Type "H" Overload Release** consists of an electromagnetically operated contact in series with the magnet coil of the no-voltage release. Two magnet coils operate the contact, their pull depending on the current through two phases of the motor primary; the tripping point can be adjusted between wide limits. An inverse time element prevents the contact from opening under temporary overload. The overload release coils and inverse time element are immersed in a tank of oil, the whole device being arranged for mounting on a vertical support separate from the auto-starter.

### Ratings and Regular Prices

MAXIMUM HORSE POWER				REGULAR PRICE	
220-Volt	440-Volt	550-Volt	2200-Volt	No Voltage	Overload
35	75	100	200	\$10.00	\$15.00
100	200	200	---	10.00	18.00

With voltages above 550, each no-voltage release device requires one potential transformer and each overload relay requires two current transformers.

### Regular Prices—Transformers for 2000-2200 Volts

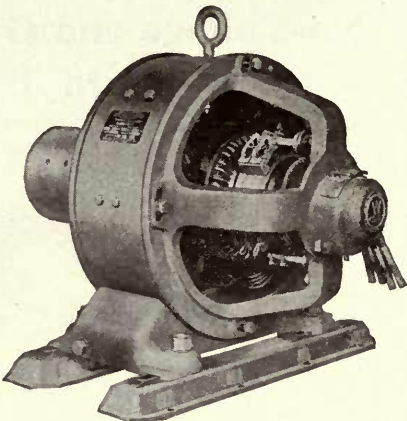
Potential Transformers, all ratings and frequencies. Regular price, each.....	\$20.00
Current Transformers (two), all frequencies, 20- 50 h. p. Regular price (two).....	30.00
60-200 h. p. Regular price (two).....	35.00

Direct-Current Motors

**Voltage.** All motors listed below will operate continuously at full rating without injury on 10% higher or lower than rated voltage.

Speeds may vary 7½% from those listed on frames 40 and below and 5% on frames 50 and above; they can be increased 15% by shunt field control.

Price and weight of complete motor include Type "D" starting rheostat, standard paper pulley, and two rails for floor, wall or ceiling mounting. Motors are regularly supplied for floor mounting, but will be arranged for wall or ceiling mounting if so specified.



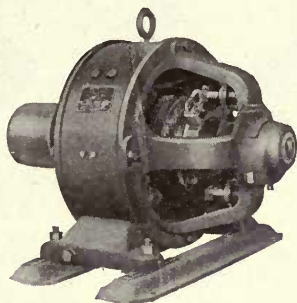
Westinghouse Electric Direct-Current Motor

Ratings, Regular Retail Prices, Pulleys and Weights—230 Volts

H.P.	Full Load R.P.M.	Frame No.	REGULAR RETAIL PRICES						Standard Pulley Dia. x Face Inches	APPROXIMATE SHIPPING WEIGHT, POUNDS			
			COMPLETE MOTOR OPEN TYPE		DEDUCT FOR OMISSION OF			Complete Motor		DEDUCT FOR OMISSION OF			
			Shunt	Compound	Rails	Pulley	Rheostat			Rails	Pulley	Rheostat	
1 ½	900	10	\$ 92.00	\$ 95.00	\$4.00	\$1.00	\$4.00	4 x 3	285	30	5	20	
2	1200	10	92.00	95.00	4.00	1.00	4.00	4 x 3	285	30	5	20	
2	850	20	113.00	116.00	5.00	1.00	4.00	4 x 4	325	30	5	20	
3	1800	10	92.00	95.00	4.00	1.00	4.00	4 x 3	295	30	5	30	
3	1150	20	113.00	116.00	5.00	1.00	4.00	4 x 4	335	30	5	30	
3 ½	850	30	140.00	144.00	5.00	1.00	6.00	5 x 4 ½	425	35	5	30	
5	1800	20	113.00	116.00	5.00	1.00	6.00	4 x 4	335	30	5	30	
5	1100	30	140.00	144.00	5.00	1.00	6.00	5 x 4 ½	425	35	5	30	
5	850	40	176.00	181.00	7.00	1.00	6.00	6 x 5	560	35	10	30	
7 ½	1700	30	140.00	144.00	5.00	1.00	8.00	5 x 4 ½	435	35	5	40	
7 ½	1150	40	180.00	185.00	7.00	1.00	8.00	6 x 5	570	35	10	40	
7 ½	975	50	198.00	204.00	7.00	2.00	8.00	7 x 6	600	40	10	40	
7 ½	850	60	201.00	207.00	7.00	2.00	8.00	7 x 6	640	40	10	40	
7 ½	650	70	240.00	247.00	7.00	3.00	8.00	8 x 7	765	50	15	40	
10	1700	40	189.00	195.00	7.00	1.00	9.00	6 x 5	570	35	10	40	
10	1300	50L	205.00	211.00	7.00	2.00	9.00	7 x 6	610	40	10	40	
10	1150	60L	215.00	221.00	7.00	2.00	9.00	7 x 6	650	40	10	40	
10	850	70	230.00	237.00	7.00	3.00	9.00	8 x 7	765	50	15	40	
10	730	80	242.00	249.00	8.00	3.00	9.00	8 x 7	840	60	15	40	
10	600	90	268.00	276.00	8.00	4.00	9.00	9 x 8	890	60	25	40	
15	1700	60L	220.00	227.00	7.00	3.00	13.00	7 x 6	735	40	10	125	
15	1250	70L	240.00	247.00	7.00	3.00	13.00	8 x 7	865	50	15	125	
15	1100	80L	242.00	249.00	8.00	3.00	13.00	8 x 7	945	60	15	125	
15	825	90	265.00	273.00	8.00	4.00	13.00	9 x 8	975	60	25	125	
15	675	100L	328.00	338.00	8.00	4.00	13.00	10 x 9	1225	85	35	125	
15	600	110L	345.00	355.00	9.00	5.00	13.00	11 x 10	1310	100	40	125	
20	1700	70L	263.00	271.00	7.00	3.00	18.00	8 x 7	865	50	15	125	
20	1100	90	323.00	333.00	8.00	4.00	18.00	9 x 8	975	60	25	125	
20	900	100L	335.00	345.00	8.00	4.00	18.00	10 x 9	1225	85	35	125	
20	750	110L	395.00	407.00	9.00	5.00	18.00	11 x 10	1330	100	40	125	
20	650	120	432.00	445.00	10.00	5.00	18.00	11 x 10	1475	100	40	125	
25	1400	90	340.00	350.00	8.00	4.00	20.00	9 x 8	975	60	25	125	
25	1100	100L	355.00	366.00	8.00	4.00	20.00	10 x 9	1225	85	35	125	
25	950	110L	410.00	422.00	9.00	5.00	20.00	11 x 10	1330	100	40	125	
25	825	120	432.00	445.00	10.00	5.00	20.00	11 x 10	1475	100	40	125	
25	600	130	495.00	510.00	13.00	5.00	20.00	12 x 12	1775	150	55	125	
30	1700	90	343.00	353.00	9.00	4.00	23.00	9 x 8	975	60	25	125	
30	1150	110L	390.00	402.00	9.00	5.00	23.00	11 x 10	1330	100	40	125	
30	975	120	432.00	445.00	10.00	5.00	23.00	11 x 10	1475	100	40	125	
30	725	130	535.00	551.00	13.00	5.00	23.00	12 x 12	1775	150	55	125	
30	600	140	585.00	602.00	14.00	6.00	23.00	13 x 12	2225	150	60	125	
35	1700	100L	400.00	412.00	8.00	4.00	23.00	10 x 9	1225	100	35	125	
35	1150	120	432.00	445.00	10.00	5.00	23.00	11 x 10	1475	100	40	125	
35	850	130	505.00	520.00	13.00	5.00	23.00	12 x 12	1775	150	55	125	
35	675	140	570.00	587.00	14.00	6.00	23.00	13 x 12	2250	150	60	125	
40	1700	110L	440.00	453.00	9.00	5.00	30.00	11 x 10	1445	100	40	240	
40	950	130	505.00	520.00	13.00	5.00	30.00	12 x 12	1900	150	55	240	
40	775	140	570.00	587.00	14.00	6.00	30.00	13 x 12	2350	150	60	240	
40	600	150	665.00	685.00	15.00	6.00	30.00	14 x 12	2775	225	65	240	
50	1700	120L	480.00	494.00	10.00	5.00	40.00	11 x 10	1610	100	40	240	
50	975	140L	595.00	613.00	14.00	6.00	40.00	13 x 12	2400	150	60	240	
50	750	150	665.00	685.00	15.00	6.00	40.00	14 x 12	2775	225	65	240	
50	565	160	785.00	808.00	16.00	7.00	40.00	16 x 13	3300	225	100	240	



## Direct-Current Generators

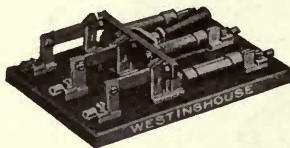


Machines listed are designed to operate within a variation of not more than 5% from rated voltage and speed. Price and weight include a standard pulley, two rails, and field rheostat. The switchboard mounting rheostat is regularly supplied with a 3½-inch tetrapod, but a 6¾-inch tetrapod will be supplied at the same price if specified.

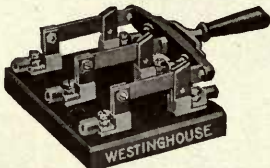
### Prices, Ratings, Etc.—125 Volts

Kw.	No. of 50-Watt Lamps	PRICE GENERATOR COMPLETE WITH		Amps.	Full Load R. P. M.	Frame No.	Standard Pulley Diam. x Face Inches	Shipping Weight Lbs.
		Separate Mtg. Rheo.	Switchboard Mtg. Rheo.					
¾	15	\$126.00	\$131.00	6	1900	3	3½ x 2½	180
1¼	25	168.00	173.00	10	1650	4	3½ x 3	250
1½	30	200.00	204.00	12	1380	10	4 x 3	300
2	40	206.00	210.00	16	1830	10	4 x 3	300
3	60	231.00	236.00	24	1700	20	4 x 4	335
3	60	269.00	273.00	24	1500	30	5 x 4½	425
4½	90	294.00	300.00	36	1930	30	5 x 4½	425
5	100	389.00	393.00	40	1120	40	6 x 5	560
6	120	389.00	393.00	48	1480	40	6 x 5	560
7	140	452.00	456.00	56	1210	60-L	7 x 6	640
9	180	441.00	445.00	72	1700	50-L	7 x 6	600
9	180	588.00	593.00	72	950	80-L	8 x 7	850
10	200	714.00	719.00	80	750	100-L	10 x 9	1130
12½	250	578.00	582.00	100	1350	80-L	8 x 7	850
12½	250	714.00	719.00	100	875	100-L	10 x 9	1130
18	360	756.00	761.00	144	1100	100-L	10 x 9	1130
18	360	840.00	845.00	144	800	120	11 x 10	1380

Knife Switches and Fuses



Style No. 148841  
Fused Knife Switch



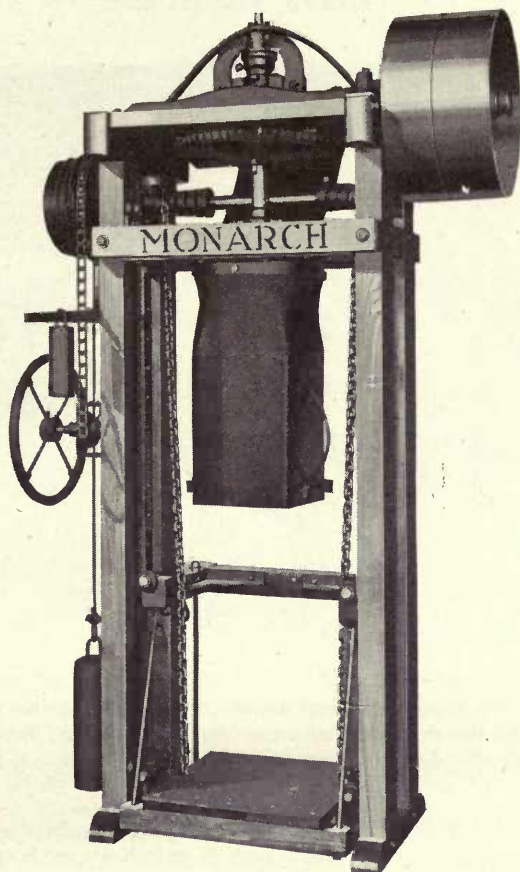
Style No. 142660  
Non-Fused Knife Switch

Sizes, Prices, Etc.

No. of Motor	H.P.	Volts	Phase	Amps.	Switch	S No.	SINGLE THROW SWITCHES				Double Throw Switches
							Price	Fuse	Price	Total Price	Price
1	7 1/2	220	2	18.5	30A 4P	181259	\$1.92	30A-S No.37165	\$0.15	\$2.52	\$2.88
1	7 1/2	220	3	20.5	30A 3P	142700	1.44	30A-S No.37165	.15	1.89	2.16
1	7 1/2	440	2	9.2	30A 4P	181260	3.05	15A-S No.37194A	.24	4.01	4.57
1	7 1/2	440	3	10.3	30A 3P	181261	2.28	15A-S No.37194A	.24	3.00	3.42
1	7 1/2	550	3	8.3	30A 3P	181262	3.00	12A-S No.37193A	.24	3.42	4.50
1	10	220	2	25	30A 4P	181259	1.92	40A-S No.37167	.21	2.76	2.88
1	10	220	3	25	30A 3P	142700	1.44	40A-S No.37167	.21	2.07	2.16
1	10	440	2	11.5	30A 4P	181260	3.05	20A-S No.37195A	.24	4.01	4.57
1	10	440	3	12.6	30A 3P	181261	2.28	20A-S No.37195A	.24	3.00	3.42
1	10	550	3	10.7	30A 3P	181262	3.00	15A-S No.37194A	.24	3.72	4.50
1	15	220	2	35	60A 4P	142709	2.83	50A-S No.37169	.21	3.67	4.24
1	15	220	3	37	60A 3P	142701	2.12	50A-S No.37169	.21	2.75	3.18
1	15	440	2	16.5	30A 4P	181260	3.05	25A-S No.37196A	.24	4.01	4.57
1	15	440	3	18.6	30A 3P	181261	2.28	25A-S No.37196A	.24	3.00	3.42
1	15	550	3	15	30A 3P	181262	3.00	25A-S No.37196A	.24	3.72	4.50
2	10	220	2	50	100A 4P	142710	5.69	75A-S No.37171	.54	7.85	8.53
2	10	220	3	50	100A 3P	142702	4.26	75A-S No.37171	.54	5.88	6.39
2	10	440	2	23	30A 4P	181260	3.05	35A-S No.37198A	.36	4.49	4.57
2	10	440	3	25	30A 3P	181261	2.28	35A-S No.37198A	.36	3.36	3.42
2	10	550	3	21.5	30A 3P	181262	3.00	30A-S No.37197A	.24	3.72	4.50
2	15	220	2	70	100A 4P	142710	5.69	100A-S No.37173	.54	7.85	8.53
2	15	220	3	74	100A 3P	142702	4.26	100A-S No.37173	.54	5.88	6.39
2	15	440	2	33	60A 4P	142728	4.62	50A-S No.37201A	.36	4.44	6.93
2	15	550	3	30	60A 3P	142727	3.36	45A-S No.37200A	.36	4.44	5.04
2	20	220	2	88	100A 4P	142710	5.69	125A-S No.37174	1.20	10.49	8.53
2	20	220	3	97	100A 3P	142702	4.26	100A-S No.37175	1.20	7.86	6.39
2	20	440	2	42.6	60A 4P	142728	4.62	60A-S No.37202A	.36	6.06	6.93
2	20	440	3	48.6	60A 3P	142727	3.36	60A-S No.37202A	.36	4.44	5.04
2	20	550	3	39	60A 3P	142727	3.36	60A-S No.37202A	.36	4.44	5.04
2	25	220	2	106	200A 4P	142711	7.32	150A-S No.37175	1.20	12.12	10.98
2	25	220	3	123	200A 3P	142704	5.49	150A-S No.37175	1.20	9.09	8.23
2	25	440	2	53	100A 4P	142731	5.20	75A-S No.37203	.90	8.80	7.80
2	25	440	3	60	100A 3P	142729	4.68	85A-S No.37204	.90	7.38	7.02
2	25	550	3	48	100A 3P	25134A	4.35				6.52
2	25	550	3			FB-124393	3.15	75A-S No.37203	.90	10.20	
2	30	220	2	126	200A 4P	142711	7.32	200A-S No.37177	1.20	10.92	10.98
2	30	220	3	144	200A 3P	142704	5.49	200A-S No.37177	1.20	9.09	8.23
2	30	440	2	63	100A 4P	142731	5.20	100A-S No.37205	.90	7.90	7.80
2	30	440	3	72	100A 3P	142727	4.68	100A-S No.37205	.90	7.38	7.02
2	30	550	3	58	100A 3P	25134A	4.35				6.52
2	30	550	3			FB-124393	3.15	75A-S No.37203	.90	10.20	
2	35	220	2	145	200A 4P	142711	7.32	200A-S No.37177	1.20	10.92	10.98
2	35	220	3	165	200A 3P	142704	5.49	200A-S No.37177	1.20	9.09	8.23
2	35	440	2	72	100A 4P	142731	5.20	125A-S No.37206	1.50	9.70	7.80
2	35	440	3	82	100A 3P	142729	4.68	125A-S No.37206	1.50	9.18	7.02
2	35	550	3	66	100A 3P	25134A	4.35				6.52
2	35	550	3			FB-124393	3.15	100A-S No.37205	.90	10.20	
2	40	220	2	168	200A 4P	142711	7.32	250A-S No.37179	2.16	13.80	10.98
2	40	220	3	193	200A 3P	142704	5.49	300A-S No.37180	2.16	11.97	8.23
2	40	440	2	84	100A 4P	142731	5.20	125A-S No.37206	1.50	9.70	7.80
2	40	440	3	96	100A 3P	142729	4.68	125A-S No.37206	1.50	4.18	7.02
2	40	440	3			25134A	4.35				6.52
2	40	550	3	77	100A 3P	FB-124393	3.15	120A-S No.189132	1.50	12.15	
2	50	220	2	209	300A 4P	31951	20.49	300A-S No.37180	2.16	26.97	30.73
2	50	220	3	229	300A 3P	31944	12.30	300A-S No.37180	2.16	18.78	18.45
2	50	440	2	119	200A 4P	142732	8.33	150A-S No.37207	1.50	12.83	12.49
2	50	440	3	119	200A 3P	142730	6.25	150A-S No.37207	1.50	10.75	9.37
2	50	550	3	96	100A 3P	FB-124394	5.40	150A-S No.37207	1.50	14.25	
2	75	220	2	304	300A 4P	31951	20.49	450A-S No.184121	3.30	30.39	30.73
2	75	220	3	353	400A 4P	142707	14.58	450A-S No.184121	3.30	24.40	21.87
2	75	440	2	156	200A 4P	142732	8.33	200A-S No.37209	1.50	12.83	12.49
2	75	440	3	176	200A 3P	142730	6.25	250A-S No.37211	3.30	16.15	9.37
2	75	440	3			25135A	6.95				10.42
2	75	550	3	141	200A 3P	FB-124394	5.40	200A-S No.37209	1.50	16.85	
2	15	440	3	37	60A 3P	142727	3.36	50A-S No.37201A	.36	4.44	5.04



## The Monarch Cotton Seed Hull Packer With Square Sacking Attachment



**The Monarch Cotton Seed Hull Packer with Tight and Loose Pulley Drive**

This machine is especially designed for packing cotton seed hulls in 100-pound, square packages, which are universally preferred by dealers and consumers and which set a convenient standard and eliminate the confusion occasioned by the use of sacks and packages of various weights, shapes and sizes. The sack required in order to give the desired package, when laid flat, measures 29 inches in width and from 40 to 42 inches in length.

By first subjecting the hulls to a packing pressure inside the chamber provided for the purpose and subsequently forcing this compact mass into the sack, the Monarch avoids destruction of the container and obviates the necessity for handling an outside case, as must be done in packers of less modern design.

Hull packing requires very heavy pressure, and the construction of the machine shown in the illustration is adequately strong to resist any strain to which it might be subjected. Augers, gears, shafting, bearings, etc., are of extra heavy type and are designed for long and hard service.

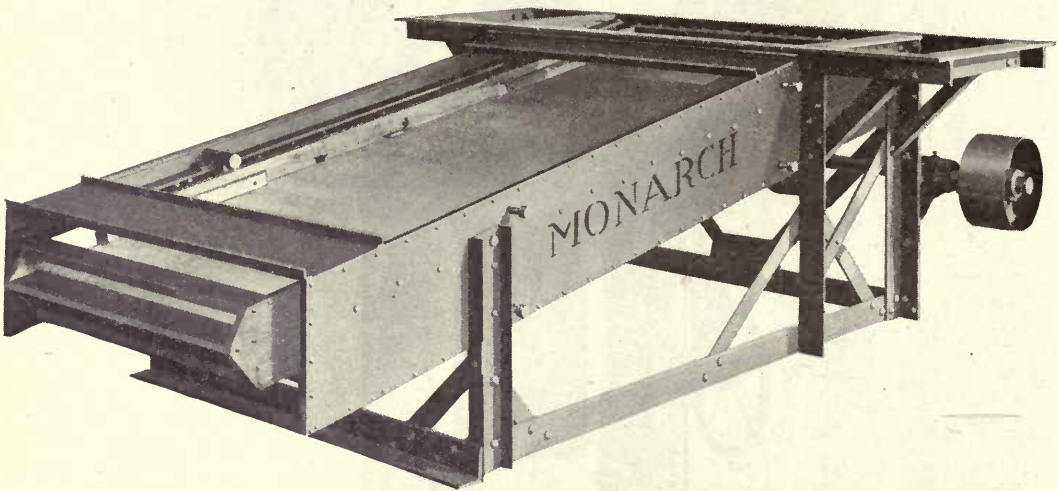
The general report from the large number of users of the Monarch indicates that it is giving excellent service, furnishing ample capacity, requiring little operating attention and gradually superseding the hitherto popular, round tube packer.

Orders should be accompanied by a notation as to the motion of the auger, whether with or against the sun and whether, as you stand facing the machine, countershaft is to extend to left or right.

### Price, Dimensions, Weight, Etc.

Price with Friction Clutch Pulley	Price with Tight and Loose Pulleys	Extreme Height Feet	Size on Floor Inches	Floor to Center of Pulley Feet	Size of Pulley Inches	Speed R. P. M.	Weight Lbs.
\$350.00	\$340.00	10	39 x 25 $\frac{1}{4}$	8	24 x 6	200	2250

The Monarch Hull Bran Shaker



The Monarch Hull Bran Shaker

A growing tendency on the part of Cotton Seed Oil Mill Executives to operate the separating machinery without regard to the reduction of ammonia, and thereby running through the presses a minimum amount of non-oil producing matter, led to origination by us, of the Monarch Hull Bran Shaker. This machine has given eminent and invariable satisfaction in the work for which it is intended and is rapidly growing in use and popularity.

In the operation of this shaker, the product of the Hull Grinder is allowed to drop directly upon the upper sieve or screen, which tails off the heavy or coarse portion and allows the bottom screen to do the finishing work; its tailing being the hull bran ready for mixing with the material which has been passed through or subjected to the action of the presses.

The Monarch is designed from experience gained in actual working conditions and is constructed entirely of steel and iron, with the exception of the sieve box which is of well seasoned yellow poplar, enclosed in a sheet iron casing to keep down flying lint and dust. The two wire screens are made in three sections each; all of which are conveniently arranged for removal from the top of the machine. Ball bearing eccentric and chain oiling bearings on eccentric shaft insure light and easy running and minimize the amount of power necessary for effective operation.

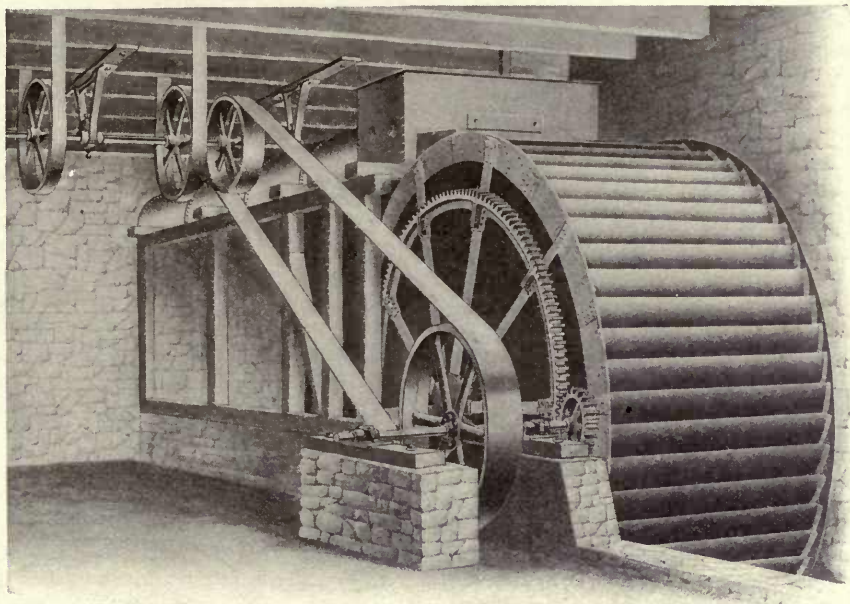
The construction of this shaker is first class in every detail. It is well riveted and carefully braced and the materials used are selected with due regard to giving the machine great durability and insuring continuously satisfactory service.

Prices, Dimensions, Weights, Etc.

Size	Price	EXTREME DIMENSIONS			Size of Pulley Inches	Speed R. P. M.	Weight Lbs.
		Length Feet	Width	Height			
24" x 8'	\$340.00	9	5' 9"	2' 10"	10 x 4	250-300	1350
30" x 8'	380.00	9	6' 6"	2' 10"	10 x 4	250-300	1400
36" x 8'	420.00	9	7' 8"	2' 10"	10 x 4	250-300	1500



## I-X-L Steel Overshoot Water Wheel with Segment Gear



### The I-X-L Equipped with Segment Gearing

We can furnish segment gears with the cogs on the outside of the circle as shown or on the inside of the circle just as desired. The latter type is known as an internal segment gear and will drive the pinion wheel in the same direction that the water wheel travels.

The Overshot Wheel derives its power directly from the force of gravity. The weight of the water which is admitted to the buckets, loads one side of the wheel, causing it to revolve.

The water is applied to the wheel at a point close to the crown of the wheel, hence the name "overshot" in distinction from other types of gravity wheels, such as pitch-back, breast-wheels, and undershot-wheels.

Wheels of all these types were formerly built of wood. Many picturesque examples of this method of construction are still to be found in rural districts. The overshot wheel possessed so many advantages that it soon displaced the other early types of water wheels. With all its crude design and ill-suited material, the wood wheel still persists as a strong competitor of the modern small turbine.

The field of the Overshot Wheel lies in the development of small powers. It is not suitable for use in very large developments on account of the increase in size and weight of the wheel as the head and discharge are increased beyond certain limits. It can be built in any diameter needed up to 60 feet and in any width desired up to a capacity of 3,000 cubic feet per minute in single units.

The power of an overshot wheel depends upon both the diameter of the wheel and the width of the wheel. The larger the diameter of an overshot wheel, the more power it will develop with the same amount of water. The wider the wheel is made, the more water it will accommodate. The relative power of two wheels of the same diameter is of course in direct proportion to the amount of water each wheel is capable of using, if other conditions are equal. The question of determining the proper size wheel to use for any particular location is one which should usually be left to the judgment of the builder of the wheel.

## To Compute Horse Power

A horse power is the amount of power required to raise 33,000 pounds one foot per minute. To compute the horse power of any stream, multiply the number of cubic feet of water it flows per minute by  $62\frac{1}{2}$  (which is the weight in pounds of one cubic foot). Multiply that product by the head (in feet) and divide the product by 33,000. The quotient will be the full horse power of the stream.

Most turbine manufacturers claim that their wheels will develop 80% efficiency, but it is well known that very few of them in actual use will ever reach 70% efficiency and then only under the most favorable conditions.

The I-X-L will develop from 90% to 95% efficiency, depending upon the diameter of the wheel; or at least one-third more power than any other wheel using the same amount of water. It will develop just as high efficiency at one-third or one-fourth capacity as it will when run at normal capacity. A turbine will do practically no work at all when run much below full gate, so that in the course of a year's run on a variable stream, the I-X-L will develop twice the power of the most economical turbine.

Measurement of Water

It is highly important to those who contemplate improving or utilizing their water power to determine the head that can be secured—that is, the vertical distance from the surface of tail-water to the surface of head-water. Then ascertain the amount of water that can be relied upon. It would not be prudent for parties to subject themselves to an expense without having the assurance of having power sufficient to propel their proposed machinery. It has frequently occurred that mills and factories have been completed, and not until then was the mistake discovered.

By knowing the head and the number of cubic feet of water that flows per minute, the size of wheel that is best adapted can be selected and the horse power determined. We would, therefore, recommend, when convenient, to get some one who is skilled in hydraulics to make the calculations; however, if this cannot be conveniently done, parties can measure their streams themselves by methods which we propose.

There are many ways by which streams of water can be measured approximately, but, undoubtedly, the most correct way by which it can be done, is by means of a "Weir Dam." If the stream is not too large, take a board, or, if required, joint and nail together with cleats more than one, wide and long enough to form a dam across the stream. Cut a notch in the top of the board of sufficient depth to allow all the water to pass through. The length of said notch should not be more than half or two-thirds the width of dam, and should be beveled on the down side of the stream nearly to a feathered edge. Be particular to have the notch level across the stream so the water will be of the same depth at both ends. Drive a stake in the ground about four feet up the stream from the board, so that the top of the stake will be on a level with the bottom of said notch, which can readily be seen when the water begins to flow over it.

When the dam is made perfectly tight, so that all the water passes through the notch or Weir, and the water raised to its maximum height, measure carefully how much the water raises above the top of stake. This measurement is the basis from which the calculations are made to find the amount of water that flows per minute, as shown in the Weir Table. Care must be taken to get a board wide enough to dam the water to a dead level before it begins to flow over the notch, and that the water has a fall, enough to clear itself below—say a depth of six inches, or more in a large stream.

Another matter of importance is the possibility of storing the water by means of a dam or pond, so that the machinery can be run during the time when the regular flow of the stream is not sufficient—say, if the location admits, a dam or pond can be constructed so as to store the water through the night to be used through the day, or store and use as the case may suit; thus, if the water can be stored for twelve hours, the next twelve the power will be double that of the regular stream.

We emphatically state that every water power in existence within the range of this type of wheel can be greatly improved by the use of our I-X-L Steel Overshoot Water Wheel. No difference whose make or what kind of a wheel is used, we can increase your power 25% to 50%. This is especially true of light streams, where the economical use of water is an object.

The Weir Table

	O	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$		O	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
0	.00	.01	.05	.09	.14	.19	.26	.32	13	18.74	19.01	19.29	19.56	19.84	20.11	20.39	20.67
1	.40	.47	.55	.64	.73	.82	.92	1.02	14	20.95	21.23	21.51	21.80	22.08	22.37	22.65	22.94
2	1.13	1.23	1.35	1.46	1.58	1.70	1.82	1.95	15	23.23	23.52	23.82	24.11	24.40	24.70	25.00	25.30
3	2.07	2.21	2.34	2.48	2.61	2.76	2.90	3.05	16	25.60	25.90	26.20	26.50	26.80	27.11	27.42	27.72
4	3.20	3.35	3.50	3.66	3.81	3.97	4.14	4.30	17	28.03	28.34	28.65	28.97	29.28	29.59	29.91	30.22
5	4.47	4.64	4.81	4.98	5.15	5.33	5.51	5.69	18	30.54	30.86	31.18	31.50	31.82	32.15	32.47	32.80
6	5.87	6.06	6.25	6.44	6.62	6.82	7.01	7.21	19	33.12	33.45	33.78	34.11	34.44	34.77	35.10	35.44
7	7.40	7.60	7.80	8.01	8.21	8.42	8.63	8.83	20	35.77	36.11	36.45	36.78	37.12	37.46	37.80	38.15
8	9.05	9.26	9.47	9.69	9.91	10.13	10.35	10.57	21	38.49	38.83	39.18	39.53	39.87	40.22	40.57	40.92
9	10.80	11.03	11.25	11.48	11.71	11.94	12.17	12.41	22	41.27	41.62	41.98	42.33	42.69	43.04	43.40	43.76
10	12.64	12.88	13.12	13.36	13.60	13.85	14.09	14.34	23	44.12	44.48	44.84	45.20	45.56	45.93	46.29	46.66
11	14.59	14.84	15.09	15.34	15.59	15.85	16.11	16.36	24	47.03	47.39	47.76	48.13	48.50	48.87	49.24	49.62
12	16.62	16.88	17.15	17.41	17.67	17.94	18.21	18.47									

This table is to assist in ascertaining the capacity of a stream of water. It gives the number of cubic feet of water that will pass over a Weir one inch wide, and from  $\frac{1}{8}$  of an inch to  $24\frac{1}{8}$  in depth. The figures on the first upright column represent whole inches, and those on the top horizontal line represent fractional parts of an inch of depth over the Weir. The figures on the second upright column indicate the number of cubic feet of water that will flow per minute over the Weir, for whole inches in depth, and on the succeeding columns whole inches and the fractions under which they occur. Then the number of cubic feet thus found, multiplied by the width of the Weir in inches, will give the capacity of a stream.

EXAMPLE: To find the required number of cubic feet of water that will flow over a Weir,  $6\frac{1}{4}$  inches in depth and 50 inches in width, follow down the left-hand column of figures in the table to 6, then across, until directly under the  $\frac{1}{4}$  in the top line, where will be found 6.62; this, multiplied by 50, will give 331, the number of cubic feet of water that passes over the whole Weir.



## Measurements in Miner's Inches

A miner's inch is the quantity of water that will flow through an orifice one inch square when the head above the center of the orifice is six inches. This is but an approximate definition, as the "miner's inch" seems to be differently understood in different sections. It ranges in value from 1.20 to 1.76 cubic feet per minute, but with a head of six inches is about 1.60 cubic feet per minute.

When correspondents speak of miner's inches they should accompany their statement by a description of the kind of miner's inch they have in view, when writing. As we have before intimated, the amount of pressure over the opening differs in different parts of the country, or in different mining districts, and each depth, or miner's inch, will discharge differently. The kind of miner's inch we have described above, is one that is generally used.

A miner's inch is a measure for flow of water, and is an opening one inch square in plank, two inches thick, under a head of six inches of water to upper edge of opening.

## Measurement of Larger Streams

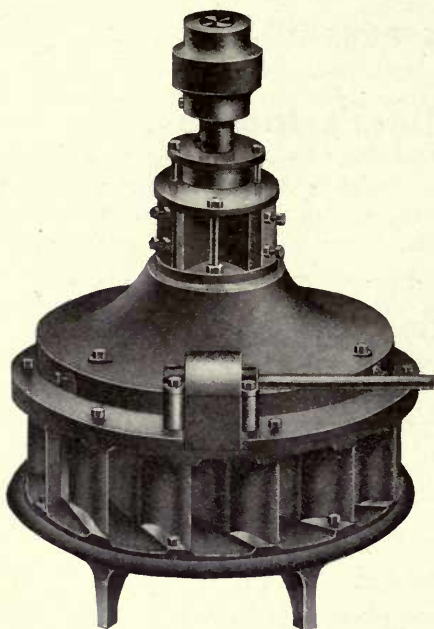
In streams too large to measure by Weir, the Float Measurement method may be used. Select a place where the bed of the stream is smooth and comparatively uniform both as to width and as to depth. Throw into the middle of the stream some light floating objects of sufficient weight to sink well into the water. Time the passage of these floats between certain fixed points, say 20 or 30 feet apart. The average velocity of the stream will be about 75% of the velocity of the floats, for the water does not run as fast along the sides or on the bed of the stream as it does in the center of the stream.

Secure the average depth and average width of the stream at the points where the velocity was taken. The more nearly uniform the stream is in width and depth, the nearer correct your estimates will be. Multiply the average depth (in feet) by the average width (in feet), and multiply the product by the velocity in feet per minute as ascertained from the floats. The result will be the number of cubic feet per minute which the stream flows.

## Measurement of Water Through Openings Under Pressure

Table giving the number of cubic feet of water discharged per minute, by an orifice one inch square, under any head from 3 to 62 inches

Head	Cubic Feet	Head	Cubic Feet	Head	Cubic Feet	Head	Cubic Feet	Head	Cubic Feet	Head	Cubic Feet
3	1.12	13	2.20	23	2.91	33	3.47	43	3.95	53	4.39
4	1.27	14	2.27	24	2.97	34	3.52	44	4.00	54	4.42
5	1.41	15	2.36	25	3.03	35	3.57	45	4.05	55	4.46
6	1.53	16	2.44	26	3.09	36	3.63	46	4.10	56	4.52
7	1.64	17	2.51	27	3.15	37	3.67	47	4.13	57	4.55
8	1.75	18	2.58	28	3.20	38	3.72	48	4.18	58	4.58
9	1.85	19	2.65	29	3.26	39	3.77	49	4.22	59	4.63
10	1.94	20	2.72	30	3.32	40	3.82	50	4.27	60	4.66
11	2.03	21	2.78	31	3.37	41	3.86	51	4.30	61	4.71
12	2.12	22	2.85	32	3.42	42	3.92	52	4.34	62	4.74



Burnham Turbine Water Wheel

## Burnham Turbine Water Wheels

Complete with Eccentric  
or Worm Gear Gate

### Size, Power, Speed, Etc.

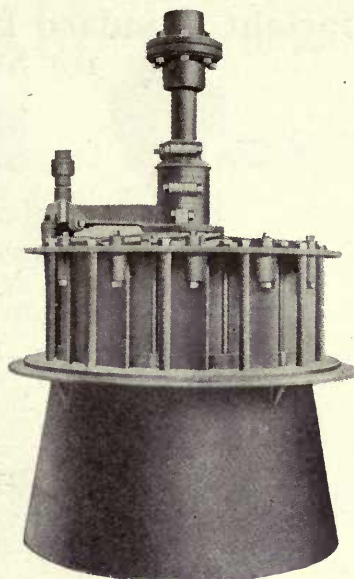
Size of Wheels	Head-----	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
9	Water-----	63	77	89	100	109	118	126	134	141	148	154	160	166	172	178	184	190	195	200
	Power-----	.19	.36	.55	.77	1.02	1.29	1.57	1.87	2.18	2.53	2.88	3.24	3.61	4.00	4.41	4.84	5.28	5.73	6.18
	Speed-----	190	232	270	302	330	358	382	404	426	448	468	487	505	523	540	557	573	588	603
10 1/2	Water-----	86	105	121	135	149	161	171	182	192	201	210	219	228	236	244	251	258	265	271
	Power-----	.27	.49	.75	1.05	1.36	1.75	2.13	2.54	2.98	3.42	3.90	4.41	4.93	5.47	6.03	6.60	7.19	7.80	8.42
	Speed-----	162	200	232	258	284	306	327	348	366	384	401	417	433	448	463	477	491	504	517
12	Water-----	112	138	159	177	194	210	225	238	250	262	274	286	297	308	318	327	336	345	354
	Power-----	.33	.65	1.00	1.40	1.81	2.29	2.79	3.33	3.89	4.47	5.10	5.77	6.45	7.17	7.89	8.61	9.37	10.16	10.98
	Speed-----	143	175	202	226	248	268	286	304	320	336	351	365	379	392	405	417	429	441	453
13 1/2	Water-----	142	174	201	225	246	265	283	300	316	333	348	363	379	389	402	414	426	438	450
	Power-----	.44	.81	1.25	1.74	2.28	2.88	3.51	4.20	4.93	5.67	6.47	7.32	8.18	9.03	9.97	10.91	11.88	12.90	13.95
	Speed-----	127	156	180	201	220	236	255	270	285	299	312	325	337	349	360	371	382	392	402
15	Water-----	175	215	247	277	303	328	351	372	391	411	429	447	465	481	497	512	527	541	555
	Power-----	.54	.99	1.53	2.15	2.82	3.57	4.37	5.21	6.07	7.01	7.98	9.02	10.08	11.16	12.30	13.48	14.69	15.93	17.20
	Speed-----	115	140	162	181	198	214	229	243	256	269	281	292	303	314	324	334	344	353	362
16 1/2	Water-----	211	259	300	336	367	397	424	450	474	498	521	542	562	581	600	618	636	654	671
	Power-----	.66	1.20	1.86	2.61	3.42	4.29	5.27	6.27	7.35	8.49	9.68	10.91	12.16	13.50	14.88	16.29	17.75	19.25	20.79
	Speed-----	104	128	147	165	180	195	208	221	233	244	255	265	275	285	295	304	313	321	329
18	Water-----	252	309	347	399	438	472	505	537	565	594	620	645	669	693	717	737	758	779	800
	Power-----	.78	1.44	2.21	3.10	4.08	5.13	6.27	7.47	8.72	10.13	11.52	12.95	14.45	16.05	17.70	19.41	21.14	22.94	24.78
	Speed-----	95	117	135	151	165	179	191	202	213	224	234	244	253	262	270	278	286	294	302
21	Water-----	343	421	486	543	595	643	687	729	769	807	842	876	909	942	972	1002	1032	1060	1086
	Power-----	1.07	1.97	3.02	4.22	5.49	6.99	8.52	10.16	11.93	13.76	15.65	17.66	19.73	21.90	24.11	26.40	28.76	31.19	33.66
	Speed-----	81	100	116	129	142	153	164	174	183	192	200	208	216	224	232	239	246	253	259
24	Water-----	448	549	634	709	777	840	897	952	1003	1053	1100	1145	1187	1229	1269	1308	1346	1383	1419
	Power-----	1.40	2.55	3.93	5.51	7.22	9.12	11.12	13.29	15.56	17.96	20.45	23.06	25.76	28.56	31.47	34.46	37.55	40.75	44.00
	Speed-----	72	88	101	113	124	134	143	152	160	168	175	182	189	196	203	209	215	221	226
27	Water-----	568	696	804	900	984	1060	1132	1200	1264	1334	1392	1449	1505	1557	1608	1658	1706	1752	1797
	Power-----	1.86	3.24	5.00	6.96	9.12	11.52	14.04	16.83	19.70	22.74	25.89	29.19	32.64	36.19	39.87	43.68	47.58	51.60	55.71
	Speed-----	64	78	90	101	110	119	127	135	142	149	156	162	168	174	180	186	191	196	201
30	Water-----	702	866	994	1112	1215	1312	1404	1488	1569	1645	1719	1789	1857	1921	1984	2047	2106	2163	2220
	Power-----	2.18	3.96	6.15	8.60	11.30	14.24	17.26	20.66	24.32	28.05	31.98	36.06	40.29	44.67	49.22	53.90	58.70	63.71	68.82
	Speed-----	57	70	81	91	99	107	115	122	128	134	140	146	152	157	162	167	172	177	181
36	Water-----	1011	1237	1429	1597	1750	1891	2022	2143	2260	2360	2475	2577	2674	2770	2859	2946	3031	3115	3196
	Power-----	3.13	5.76	8.86	12.37	16.27	20.55	25.08	29.90	35.04	40.41	46.08	51.93	58.07	64.35	70.90	77.61	84.58	91.74	99.09
	Speed-----	48	58	67	75	82	90	96	102	107	112	117	122	127	131	135	139	143	147	151
42	Water-----	1444	1770	2044	2284	2503	2704	2889	3066	3232	3390	3540	3684	3823	3956	4087	4213	4336	4455	4570
	Power-----	4.47	8.23	12.67	17.74	23.28	29.34	35.82	42.76	50.10	58.27	65.85	74.24	82.93	92.04	101.5	111.0	121.0	131.2	141.6
	Speed-----	41	50	58	65	71	77	82	87	92	96	100	104	108	112	116	120	123	126	129
48	Water-----	1884	2290	2644	2956	3238	3498	3739	3967	4185	4384	4579	4763	4947	5125	5289	5451	5608	5763	5913
	Power-----	5.84	10.65	16.22	22.97	30.12	37.95	46.35	55.32	64.80	74.57	85.18	96.06	107.3	119.1	131.1	143.4	156.4	169.7	183.3
	Speed-----	36	44	51	57	62	67	72	76	80	84	88	92	95	98	101	104	107	110	113
54	Water-----	2328	2847	3334	3729	4089	4411	4716	5002	5274	5530	5776	6012	6240	6459	6670	6874	7074	7269	7456
	Power-----	7.30	13.42	20.67	28.93	37.98	47.86	58.47	69.87	81.75	94.29	107.4	121.1	135.4	150.0	165.4	181.1	197.3	214.0	231.1
	Speed-----	32	39	45	50	55	60	64	68	71	74	77	80	84	87	90	93	96	99	102
60	Water-----	2901	3579	4101	4585	5023	5427	5815	6153	6486	6797	7105	7395	7674	7944	8203	8457	8701	8940	9172
	Power-----	9.00	16.51	25.42	35.53	46.72	58.87	72.10	85.83	100.5	115.9	132.0	149.0	166.5	184.5	203.4	222.8	242.7	263.2	284.3
	Speed-----	29	35	40	45	50	54	57	61	64	67	70	73	76	79	82	85	87	89	91

Power=Horse Power. Water=Cubic Feet per Minute. One Cubic Foot=62 1/2 lbs. Speed=Revolutions at work, per min.

NOTE: Net prices, dimensions and detailed specifications will be furnished on application.



# Improved Upright Samson Turbines



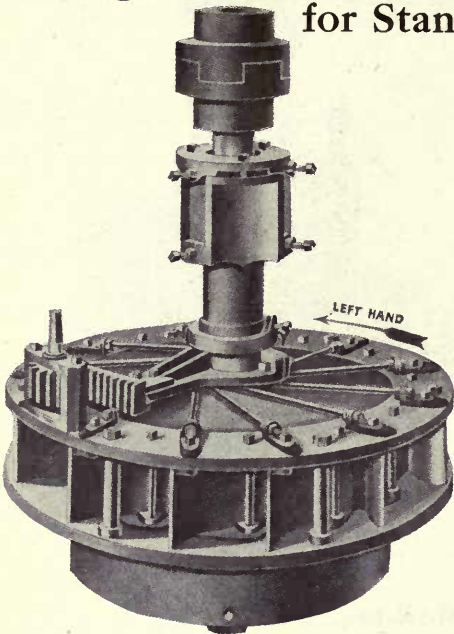
Upright Samson Turbine Complete

## Size, Power, Speed, Etc.

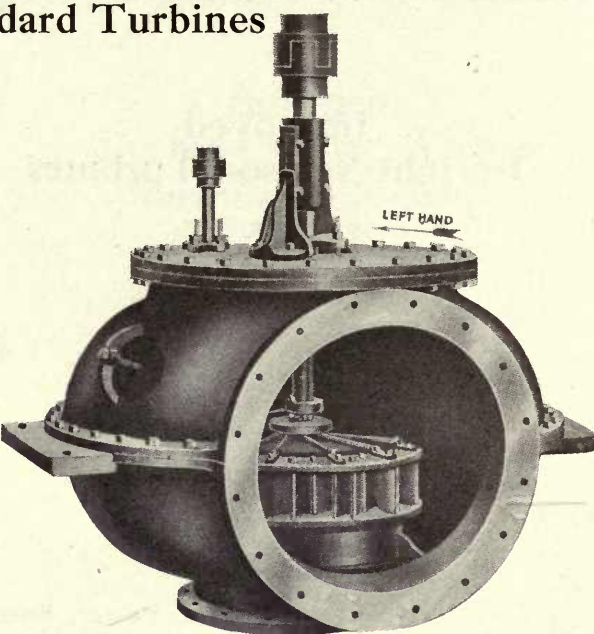
Size	Head	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
17E	Water	---	---	---	---	384	411	436	460	482	503	524	544	553	581	599	617	634	650
	Power	---	---	---	---	4.1	5.0	6.0	7.0	8.1	9.2	10.4	11.7	12.9	14.3	15.6	17.0	18.4	19.9
	Speed	---	---	---	---	246	264	280	294	308	322	335	348	360	373	384	394	405	416
17D	Water	---	---	---	464	502	536	569	601	629	657	683	709	734	758	782	804	827	848
	Power	---	---	---	4.3	5.4	6.5	7.8	9.2	10.6	12.0	13.6	15.2	16.9	18.6	20.4	22.1	24.0	25.9
	Speed	---	---	---	228	246	264	280	294	308	322	335	348	360	373	384	394	405	416
17C	Water	---	---	558	611	650	706	749	791	828	864	900	934	967	998	1029	1059	1088	1116
	Power	---	---	4.3	5.6	7.1	7.6	10.3	12.1	14.0	15.8	17.9	19.0	22.2	24.5	26.8	29.1	31.6	34.1
	Speed	---	---	208	228	246	264	280	294	308	322	335	348	360	373	384	394	405	416
17B	Water	---	616	689	754	815	871	924	975	1021	1066	1110	1153	1193	1232	1270	1307	1343	1377
	Power	---	3.7	5.3	7.0	8.7	10.6	12.7	14.9	17.2	19.5	22.0	24.7	27.4	30.2	33.1	36.0	39.0	42.1
	Speed	---	186	208	228	246	264	280	294	308	322	335	348	360	372	384	394	405	416
17A	Water	697	805	900	986	1065	1139	1208	1275	1335	1394	1451	1506	1559	1610	1660	1708	1755	1800
	Power	3.2	4.9	6.9	9.1	11.4	13.9	16.6	19.5	22.5	25.5	28.8	32.3	35.6	39.5	43.3	47	51	55
	Speed	161	186	208	228	246	264	280	294	308	322	336	348	360	372	384	391	406	416
20	Water	914	1055	1180	1293	1396	1493	1583	1669	1750	1828	1903	1975	2044	2111	2179	2239	2300	2360
	Power	4.2	6.4	9.0	11.9	15.0	18.3	21.8	25.5	29.5	33.6	37.8	42.3	46.9	51.5	56.6	61.7	66.9	72.2
	Speed	140	162	182	199	215	230	244	257	270	282	293	304	315	325	335	345	354	364
23	Water	1209	1391	1561	1710	1847	1974	2094	2207	2315	2418	2517	2612	2703	2792	2878	2961	3043	3122
	Power	5.5	8.5	11.9	15.7	19.8	24.2	28.8	33.8	39	44.4	50	55.9	62	68.3	74.9	81.6	88.5	95.5
	Speed	127	141	158	173	187	200	211	224	235	245	255	265	274	283	292	300	308	316
26	Water	1545	1784	1995	2185	2360	2523	2676	2821	2959	3090	3216	3338	3455	3569	3678	3785	3888	3919
	Power	7.10	10.9	15.2	20.1	25.3	30.9	36.8	43.2	49.8	56.7	64	71.5	79.3	87.3	95.7	104	113	121
	Speed	108	125	140	153	166	177	188	198	207	217	226	234	242	250	258	265	273	280
30	Water	2057	2375	2656	2909	3142	3359	3563	3756	3939	4114	4282	4444	4600	4751	4897	5039	5177	5312
	Power	9.44	14.5	20.3	26.7	33.6	41.1	49.1	57.5	66.3	75.5	85.2	95.2	106	116	127	139	150	162
	Speed	94	108	121	132	143	153	163	171	180	188	195	203	210	217	224	230	236	242
35	Water	2789	3220	3600	3944	4260	4554	4830	5091	5339	5577	5805	6024	6236	6440	6638	6831	7018	7200
	Power	12.8	19.7	27.5	36.2	45.6	55.7	66.5	77.9	89.8	102	115	129	143	158	173	188	204	220
	Speed	81	93	104	114	123	132	140	147	154	161	168	174	180	186	192	197	203	208
40	Water	3657	4223	4722	5172	5587	5972	6335	6677	7003	7315	7613	7900	8178	8446	8706	8958	9204	9443
	Power	16.8	25.8	36.1	47.5	59.8	73.1	87.2	102	118	134	151	169	188	207	226	247	268	289
	Speed	70	81	91	100	108	115	122	129	135	141	147	152	157	163	168	172	177	182
45	Water	4629	5344	5975	6546	7070	7558	8017	8450	8861	9257	9635	9999	10350	10689	11018	11337	11648	11951
	Power	21.2	32.7	45.7	50.1	75.7	92.5	110	129	149	170	192	214	238	262	287	312	336	366
	Speed	63	72	81	88	96	102	109	114	120	125	130	135	140	145	149	153	158	162
50	Water	5714	6598	7377	8081	8729	9331	9897	10433	10942	11429	11795	12344	12777	13196	13603	13997	14380	14754
	Power	26.2	40.5	56.4	74.2	93.5	114	136	150	184	210	235	264	293	324	354	385	418	451
	Speed	56	65	73	80	86	92	98	103	108	113	117	122	126	130	134	138	142	145
56	Water	7168	8277	9254	10137	10950	11705	12415	13087	13726	14336	14922	15485	16028	16554	17063	17558	18039	18508
	Power	32.9	50.6	70.8	93	117	143	171	200	231	263	297	332	368	405	444	484	524	566
	Speed	50	58	65	71	77	82	87	92	96	101	105	109	112	116	120	123	127	130
62	Water	8787	10146	11344	12426	13419	14349	15219	16042	16825	17574	18291	18982	19648	20292	20917	21523	22113	22688
	Power	40.3	62.1	86.8	114	144	176	210	245	283	323	364	407	451	497	544	593	643	694
	Speed	45	52	59	64	69	74	79	83	87	91	95	98	102	105	108	111	114	117
68	Water	10570	12204	13645	14947	16145	17258	18306	19297	20238	21139	22002	22832	23634	24409	25160	25890	26599	27290
	Power	48.5	74.7	104	137	171	211	252	295	341	388	438	489	542	597	654	713	773	835
	Speed	41	48	53	59	63	68	72	76	79	83	86	89	93	96	99	101	104	107
74	Water	12517	14453	16159	17701	19120	20439	21679	22852	23967	25034	26056	27039	27988	28906	29796	30659	31500	32318
	Power	57.5	88.5	124	162	205	250	299	350	403	460	518	579	642	708	775	844	916	992
	Speed	38	44	49	54	58	62	66	70	73	76	79	82	85	88	91	94	96	99

Power=Horse Power. Water=Cubic Feet per Minute. One Cubic Foot=62 1/2 pounds. Speed=Revolutions per Minute at Work.  
NOTE: Net prices, dimensions and detailed specifications will be furnished on application.

Upright Standard Leffel Turbines and Globe Cases  
for Standard Turbines



Standard Leffel Turbine



Standard Leffel Turbine and Globe Case

Size, Power, Speed, Etc.

Size	Head.....	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
No. 10 Standard	Water.....	---	---	---	142	153	163	172	180	188	196	203	211	217	224	231	237	243
	Power.....	---	---	---	3	3.7	4.6	5.2	6	6.8	7.7	8.6	9.6	10.5	11.5	12.6	13.6	14.7
	Speed.....	---	---	---	502	535	567	598	628	655	682	707	732	757	780	802	824	846
No. 11 1/2 Standard	Water.....	---	---	174	189	201	213	224	235	246	256	265	275	284	292	301	308	316
	Power.....	---	---	3.2	4	4.9	5.8	6.8	7.8	8.9	10.1	11.2	12.5	13.75	15	16.4	17.7	19.1
	Speed.....	---	---	403	436	463	493	520	545	569	593	615	636	658	678	697	716	735
No. 13 1/2 Standard	Water.....	---	211	232	250	267	284	299	313	327	341	354	366	378	390	401	412	423
	Power.....	---	3.2	4.2	5.3	6.5	7.75	9	10.4	11.9	13.4	15	16.6	18.3	20	21.8	23.7	25.6
	Speed.....	---	319	349	378	404	428	451	473	495	514	533	553	571	589	605	622	638
No. 15 1/2 Standard	Water.....	246	275	301	325	348	369	389	407	426	443	460	476	492	507	521	536	550
	Power.....	3	4.2	5.5	6.9	8.4	10	11.8	13.5	15.5	17.4	19.5	21.6	23.8	26.1	28.4	31.8	33.3
	Speed.....	248	284	303	328	351	372	393	411	430	447	464	480	496	511	526	540	555
No. 17 1/2 Standard	Water.....	321	359	393	425	455	482	508	533	557	579	602	622	643	663	682	700	719
	Power.....	3.9	5.4	7.12	9	11	13.1	15.4	17.7	20.2	22.8	25.5	28.2	31.1	34.9	37.1	40.2	43.5
	Speed.....	217	242	265	286	306	324	341	358	374	390	404	418	433	445	459	471	483

Size	Head.....	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74
No. 11 1/2 Standard	Water.....	324	332	340	348	356	363	371	378	385	391	396	402	408	414	420	426	432
	Power.....	20.6	22.1	23.6	25.25	26.9	28.5	30.3	32	33.8	35.5	37.1	38.9	40.7	42.6	44.4	46.37	48.3
	Speed.....	756	770	790	807	824	842	857	871	885	898	912	925	939	953	966	984	999
No. 13 1/2 Standard	Water.....	433	444	454	464	474	482	491	500	509	518	527	535	543	552	561	570	577
	Power.....	27.5	29.5	31.6	33.7	35.8	37.9	40.1	42.3	44.62	47	49.4	51.8	54.2	56.75	59.37	62	64.6
	Speed.....	654	669	685	698	713	727	741	755	768	782	794	807	820	832	844	856	868
No. 15 1/2 Standard	Water.....	563	576	589	602	614	626	638	650	662	674	686	696	706	716	725	738	748
	Power.....	35.75	38.3	41	43.7	46.4	49.3	52.1	55	58	61.1	64.3	67.3	70.4	73.6	76.75	80.3	83.7
	Speed.....	568	582	595	607	621	632	644	656	667	679	691	702	713	724	734	746	753
No. 17 1/2 Standard	Water.....	736	752	768	784	800	816	832	848	864	880	896	912	928	942	956	969	982
	Power.....	46.3	50	53.4	56.9	60.5	64.2	67.9	71.8	75.8	79.8	84	88.25	92.6	96.87	101	105	110
	Speed.....	495	506	518	530	540	551	561	571	582	592	601	611	621	630	639	648	657
No. 20 Standard	Water.....	---	---	---	---	---	---	1132	1152	1172	1192	1212	1233	1253	1273	1292	1310	1327
	Power.....	---	---	---	---	---	---	92.4	97.5	103	108	114	119	125	131	137	143	148
	Speed.....	---	---	---	---	---	---	492	501	509	518	527	534	542	551	559	567	575
No. 23 Standard	Water.....	---	---	---	---	---	---	1475	1501	1532	1561	1587	1613	1637	1660	1681	1702	1726
	Power.....	---	---	---	---	---	---	120	127	134	142	149	156	163	171	178	185	193
	Speed.....	---	---	---	---	---	---	429	436	442	449	457	463	469	476	483	492	500

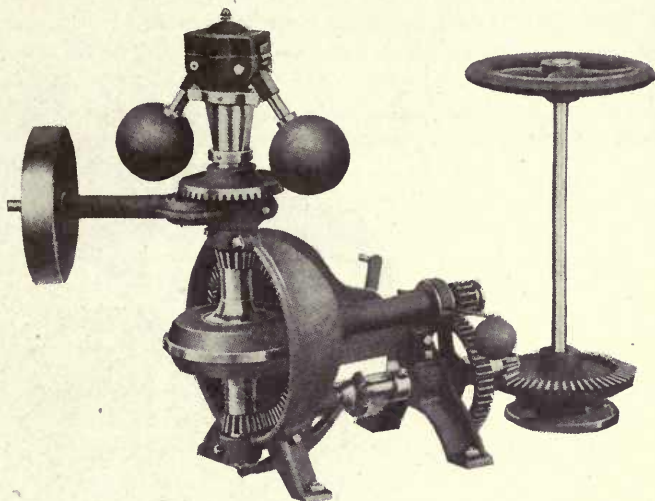
Power=Horse Power. Water=Cubic Feet per Minute. One Cubic Foot=62.37 pounds. Speed=Revolutions per Minute at Work.  
NOTE: Net prices, dimensions and detailed specifications will be furnished on application.



## The Woodward Standard Water Wheel Governor

Recommended for use on water wheels driving flouring mills, feed mills, or any machinery where load is irregular and a uniform speed is desired.

In ordering, or in writing for prices or advice it is necessary to answer the following questions as fully as possible. Where it is not convenient to give us all of this information with your inquiry we can usually make a satisfactory reply if you give us what you can. In fitting up governors for shipment we must have the data as complete as possible, especially that in regard to the gate.



The Woodward Standard Water Wheel Governor

Make and size of water wheels.....  
 Number of wheels in unit.....  
 Style of gate (Register, Wicket or Cylinder).....  
 Head: Distance from open water above wheels to tail water. Max....., Min....., Ave.....  
 Speed of wheels, actual, not nominal.....  
 Position of main gate shaft, vertical or horizontal.....  
 Number of turns of main gate shaft from shut to full open.....  
 Diameter of main gate shaft.....  
 Direction of rotation in opening gates.....  
 Position of shaft to which governor will be geared.....  
 Diameter of this shaft.....  
 Number of turns of this shaft from shut to full open gate.....  
 Direction of rotation in opening gates.....  
 Describe gate rig and if there is any lost motion state how much.....  
 Speed and size of shaft from which the governor may be driven.....

### Prices, Dimensions, Weights, Etc.

No.	To Regulate Diameter Wheel	Price	Height	Width	Length	Pulley Inches	Speed R. P. M.	Weight Lbs.
0	60" and over	\$300.00	4' 10"	2' 0"	4' 2"	12x3 1/4	175 to 200	850
1	54" and less	187.50	3' 0"	1' 6"	3' 3"	10x2 1/2	180 to 205	385
2	42" and less	150.00	2' 6"	1' 2"	3' 0"	8x2	200 to 225	250
3	27" and less	112.50	2' 0"	0' 11"	2' 4"	6x1 1/2	270 to 310	160

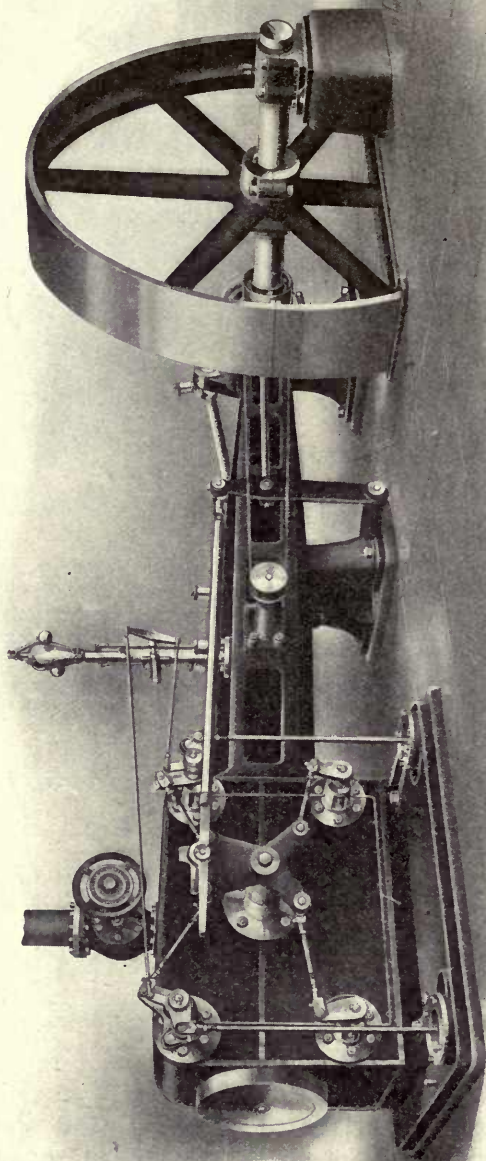
## The Woodward Compensating Type Governor

For Electric Machinery and all work requiring Quick and Accurate Control

### Prices, Dimensions, Weights, Etc.

No.	To Regulate Diameter Wheel	Price	Height	Width	Length	Pulley Inches	Speed R. P. M.	Weight Lbs.
B	2-60" wheels	\$1050.00	3' 8"	3' 4"	5' 0"	30x6	120 to 150	2200
C	42" and less	525.00	3' 7"	2' 0"	4' 3"	18x4	180 to 225	900
D	27" and less	375.00	3' 0"	1' 6"	3' 4"	12x3	270 to 325	450
F	60" and less	750.00	3' 5"	2' 10"	4' 3"	22x5	170 to 200	1100

# Standard Corliss Engine



**Box Girder Engine with Double Eccentrics**

Prices, dimensions, indicated horse power, weights, etc., furnished on application.



## **Power Plant Equipment**

Fluctuation in the market price of materials and the cost of labor, transportation, etc., etc., make it impossible for us to compile price lists on power plant equipment, the accuracy of which would remain undispatched for a reasonable length of time.

We are prepared at all times however, to quote prices and to furnish plans and specifications for complete outfits for the generation of power or for such parts as are desired and noted below, with the greatest possible dispatch and satisfaction.

Everything supplied by us in this line, is strictly first class, modern in design, carefully constructed and well adapted to the service which will be required of it. In ordering power plants, or parts thereof, from us without our having first quoted prices thereon, our patrons are assured that they will be given every possible advantage in the matter of discounts, freight rates, etc., etc.

### **Steam Engines**

These engines include only such types as combine all the features of design and construction which make for maximum strength and efficiency. They are guaranteed to be economical in the use of fuel and the cost of repairs, have perfect regulation and are meeting with absolute success and approval wherever installed.

### **Gas and Gasoline Engines**

We include under this heading a series of engines which have been thoroughly tested in practical use, which are simple in construction, easily manipulated and as near perfect as thorough mechanical skill can make them.

They are designed to run on either natural or manufactured gas or gasoline, are always ready to start and do not increase the cost of insurance or require expert handling or attention.

### **Oil Engines**

The oil engines which we furnish are of the horizontal, single-cylinder, two-cycle type and can be operated with either crude or fuel oil.

They are made to stand up to steady hard work and long hours of service with very little attention or operating expense, are made in sizes to meet every requirement and carefully tested before leaving the factory.

### **Boilers**

We will furnish any type of horizontal or vertical boiler desired and give special attention to supplying the best type and size for the service specified.

We insist on selected materials of construction and apply careful tests before shipments go forward.

### **Pumps**

In ordering fire or boiler feed pumps, injectors, etc. from us, our patrons are requested to give a careful account of the service for which they are intended. We will thereby be enabled to intelligently select and recommend from the many approved types which we handle, the ones best fitted for the class of work described.

### **Water Heaters and Purifiers**

Open or closed heaters will be furnished as desired and specified; the former heating and purifying the water and the latter simply heating it.

These heaters are of the latest types, well and carefully made, fully tested and continuously satisfactory in operation.

We will gladly and promptly furnish prospective customers with full descriptive details of the whole or any part of our various power plant equipments and will guarantee that such equipments or parts thereof are first class in every respect.

Cast-Iron Cut Spur Gears  
Hubs Flush, Bore and Keyseat as Ordered

Pitch Diam.	Teeth	Price	Pitch Diam.	Teeth	Price	Pitch Diam.	Teeth	Price	Pitch Diam.	Teeth	Price
7 D.P. Involute 1 3/4-inch Face			5 D.P. Involute 1 1/2-inch Face			3 1/2 D.P. Involute 2 1/2-inch Face			2 1/2 D.P. Involute 3 1/2-inch Face		
1 1/2	12	\$ 1.70	3 1/2	188	\$20.70	8	28	\$ 6.15	4 1/2	12	\$ 5.45
2 1/2	18	2.00	3 3/4	192	21.35	9 1/2	32	7.00	6 1/2	16	6.50
3 1/2	24	2.30	3 7/8	196	21.90	10 1/2	36	7.55	8 1/2	20	7.70
4 1/2	30	2.50	4 0	200	22.75	11 1/2	40	8.30	9 3/4	24	8.80
5 1/2	36	2.85	4 1/4	204	23.20	12 1/2	44	8.95	11 1/4	28	9.95
6	42	3.10	4 1/2	208	24.05	13 1/2	48	9.70	12 1/2	32	11.15
6 3/4	48	3.45	4 3/4	212	24.90	14 1/2	52	10.50	14 1/2	36	12.30
7 1/4	54	3.80	4 3/8	216	25.45	16	56	11.25	16	40	13.35
8 1/4	60	4.05	4 4	220	26.00	17 1/2	60	12.15	17 1/2	44	14.85
9 3/4	66	4.35	4 1/2	224	26.75	18 1/2	64	12.90	19 1/2	48	16.15
10 3/4	72	5.15	4 3/4	228	27.50	19 1/2	68	13.90	20 1/2	52	17.50
11 1/2	78	5.20	4 3/8	232	28.25	20 1/2	72	14.55	22 1/2	56	18.70
12	84	5.30	4 7/8	236	29.10	21 1/2	76	15.20	24	60	19.95
12 3/4	90	5.65	4 8	240	30.00	22 1/2	80	16.10	25 1/2	64	21.30
13 1/2	96	6.05	4 3/4	244	30.75	24	84	16.65	27 1/2	68	22.60
14 1/2	102	6.45	4 3/8	248	31.60	25 1/2	88	17.35	28 1/2	72	23.95
15 1/2	108	6.85	5 0	252	32.50	26 1/2	92	17.90	30 1/2	76	25.20
16 1/2	114	7.25	5 1/4	256	33.40	27 1/2	96	18.70	32	80	26.55
17 1/2	120	7.55	5 1/2	260	34.30	28 1/2	100	20.00	33 1/2	84	27.65
18	126	7.90	5 1/4	264	35.00	29 1/2	104	21.35	35 1/2	88	28.85
18 3/4	132	8.35	5 3/8	268	35.60	30 1/2	108	21.95	36 1/2	92	30.15
19 1/2	138	8.70	5 1/2	272	36.30	32	112	23.25	38 1/2	96	31.65
20 1/2	144	10.20	5 3/4	276	37.00	33 1/2	116	24.45	40	100	33.25
21 1/2	150	10.75	5 6	280	37.50	34 1/2	120	25.25	41 1/2	104	35.30
22 1/2	156	11.20	5 3/4	284	38.00	35 1/2	124	26.10	43 1/2	108	37.40
23 1/2	162	11.45	5 7/8	288	38.50	36 1/2	128	26.85	44 1/2	112	38.90
24	168	11.80	5 3/4	292	39.00	37 1/2	132	27.70	46 1/2	116	40.35
24 1/2	174	12.30	4 D.P. Involute 2 1/4-inch Face			38 1/2	136	28.60	48	120	41.65
25 1/2	180	13.35	3	12	\$ 2.35	40	140	29.40	49 1/2	124	44.40
26 1/2	186	14.00	4	16	2.80	41 1/2	144	30.25	51 1/2	128	45.60
27 1/2	192	14.55	5	20	3.30	42 1/2	148	30.95	52 1/2	132	46.80
28 1/2	198	15.00	6	24	3.80	43 1/2	152	31.90	54 1/2	136	48.05
29 1/2	204	15.40	7	28	4.30	44 1/2	156	32.80	56	140	49.55
30	210	17.50	8	32	4.70	45 1/2	160	33.40	57 1/2	144	51.05
30 3/4	216	18.15	9	36	5.15	46 1/2	164	34.60	59 1/2	148	52.45
31 1/2	222	18.65	10	40	5.60	48	168	35.25	60 1/2	152	53.25
32 1/2	228	19.10	11	44	6.05	49 1/2	172	36.00	2 D.P. Involute 4 1/4-inch Face		
33 1/2	234	19.85	12	48	6.45	50 1/2	176	36.40	6	12	\$ 7.95
34 1/2	240	20.30	13	52	6.90	51 1/2	180	38.25	8	16	9.85
35 1/2	246	20.85	14	56	7.45	52 1/2	184	38.75	10	20	11.65
36	252	21.30	15	60	7.95	53 1/2	188	40.20	12	24	13.30
36 3/4	258	22.10	16	64	8.45	54 1/2	192	40.65	14	28	15.10
37 1/2	264	22.50	17	68	8.90	56	196	41.20	16	32	16.35
38 1/2	270	23.45	18	72	9.45	57 1/2	200	42.45	18	36	17.85
39 1/2	276	23.90	19	76	9.80	58 1/2	204	42.95	20	40	19.95
40 1/2	282	24.65	20	80	10.45	59 1/2	208	44.40	22	44	21.50
5 D.P. Involute 1 3/4-inch Face			21	84	10.85	60 1/2	212	44.95	24	48	23.15
2 1/2	12	\$ 2.00	22	88	11.30	3 D.P. Involute 3-inch Face			26	52	25.40
3 1/2	16	2.30	23	92	12.10	4	12	\$ 3.90	28	56	27.00
4	20	2.70	24	96	13.15	5 1/2	16	4.70	30	60	29.10
4 1/2	24	3.05	25	100	13.90	6 1/2	20	5.55	32	64	30.95
5 1/2	28	3.40	26	104	14.65	8	24	6.65	34	68	33.15
6 1/2	32	3.70	27	108	15.60	9 1/2	28	7.80	36	72	35.05
7 1/2	36	3.95	28	112	16.35	10 1/2	32	8.70	38	76	38.45
8	40	4.30	29	116	16.90	12	36	9.65	40	80	41.15
8 3/4	44	4.65	30	120	17.35	13 1/2	40	10.55	42	84	44.70
9 3/4	48	4.95	31	124	17.70	14 1/2	44	11.50	44	88	47.65
10 3/4	52	5.30	32	128	18.55	16	48	12.40	46	92	49.45
11 1/2	56	5.60	33	132	19.80	17 1/2	52	13.35	48	96	51.75
12	60	6.00	34	136	20.35	18 1/2	56	14.40	50	100	53.40
12 1/2	64	6.40	35	140	23.60	20	60	15.50	52	104	56.00
13 1/2	68	6.70	36	144	24.15	21 1/2	64	16.35	54	108	60.00
14 1/2	72	6.95	37	148	25.20	22 1/2	68	17.25	56	112	61.50
15 1/2	76	7.35	38	152	25.80	24	72	18.30	58	116	64.55
16	80	7.70	39	156	26.50	25 1/2	76	19.15	60	120	70.90
16 1/4	84	8.05	40	160	27.30	26 1/2	80	20.00	1 3/4 D.P. Involute 5-inch Face		
17 1/4	88	8.40	41	164	28.20	28	84	20.90	6 3/4	12	\$ 9.15
18 1/4	92	8.95	42	168	28.95	29 1/2	88	21.55	9 1/4	16	11.65
19 1/4	96	9.35	43	172	29.70	30 3/4	92	22.45	11 3/4	20	14.30
20	100	9.90	44	176	30.50	32	96	23.60	13 3/4	24	16.90
20 1/2	104	10.25	45	180	31.25	33 1/4	100	24.65	16	28	19.65
21 1/2	108	10.40	46	184	31.80	34 3/4	104	25.70	18 3/4	32	22.40
22 1/2	112	10.75	47	188	32.65	36	108	26.55	20 3/4	36	25.20
23 1/2	116	11.20	48	192	33.50	37 1/4	112	27.45	22 3/4	40	27.75
24	120	11.65	49	196	34.15	38 3/4	116	28.10	25 1/4	44	30.50
24 1/2	124	11.90	50	200	34.95	40	120	28.90	27 1/4	48	33.30
25 1/2	128	12.15	51	204	35.50	41 1/4	124	29.75	29 1/4	52	36.25
26 1/2	132	12.60	52	208	36.10	42 3/4	128	30.70	32	56	38.95
27 1/2	136	13.95	53	212	36.75	44	132	31.95	34 1/2	60	41.75
28	140	14.60	54	216	37.50	45 1/4	136	33.05	36 1/2	64	44.60
28 1/2	144	15.05	55	220	37.75	46 3/4	140	34.00	38 1/2	68	47.30
29 1/2	148	15.40	56	224	38.50	48	144	34.95	41 1/2	72	50.70
30 1/2	152	15.85	57	228	39.50	49 1/4	148	37.20	43 1/2	76	53.25
31 1/2	156	16.10	58	232	40.75	50 3/4	152	39.45	45 1/2	80	56.50
32	160	16.45	59	236	41.50	52	156	40.50	47 1/2	84	59.45
32 1/2	164	16.70	60	240	42.25	53 1/4	160	41.50	50 1/2	88	62.50
33 1/2	168	17.45	3 3/4 D.P. Involute 2 1/2-inch Face			54 3/4	164	42.60	52 1/2	92	66.30
34 1/2	172	18.80	3 3/8	12	\$3.05	56	168	43.65	54 1/2	96	68.90
35 1/2	176	19.25	4 1/8	16	3.85	57 1/4	172	44.75	57 1/4	100	72.30
36	180	19.70	5 1/8	20	4.55	58 3/4	176	45.80	60 1/4	104	77.55
36 1/2	184	20.25	6 1/8	24	5.30	60	180	46.95			



## Rawhide Pinions

Face In.	Price Complete Gears	Face In.	Price Complete Gears	Face In.	Price Complete Gears	Face In.	Price Complete Gears	Face In.	Price Complete Gears
<b>2 1/4 In. Outside Diam.</b>		<b>4 1/4 In. Outside Diam.</b>		<b>3 3/4 In. Outside Diam.</b>		<b>4 3/4 In. Outside Diam.</b>		<b>2 3/4 In. Outside Diam.</b>	
1 3/4	\$2.55	1 3/4	\$ 4.91	3 3/4	\$12.15	4 3/4	\$22.62	2 3/4	\$15.58
2	2.70	2	5.45	3 3/4	13.01	5	23.75	2 3/4	17.04
2 1/4	2.92	2 1/4	6.01	3 3/4	14.72	5 1/4	24.89	3	18.49
2 1/2	3.13	2 1/2	6.57	4 1/4	15.58	5 1/2	26.03	3 1/4	19.95
<b>2 3/4 In. Outside Diam.</b>		2 3/4	7.13	4 1/4	16.44	5 3/4	27.17	3 1/2	21.41
1 3/4	\$2.73	3	7.68	4 1/2	17.30	6	28.30	3 3/4	22.87
2	2.95	3 1/4	8.24	4 3/4	18.15	6 1/4	29.44	4	24.32
2 1/4	3.20	3 1/2	8.80	5 1/4	19.01	6 1/2	30.58	4 1/4	25.78
2 1/2	3.44	3 3/4	9.36	5 1/2	19.87	6 3/4	31.72	4 1/2	27.24
2 3/4	3.69	4	9.90	5 3/4	20.73	7	32.85	4 3/4	28.70
<b>3 In. Outside Diam.</b>		4 1/4	10.46	6	21.58	<b>7 1/4 In. Outside Diam.</b>		5 1/4	30.15
1 3/4	\$2.93	4 1/2	11.02	<b>6 1/4 In. Outside Diam.</b>		5 1/2	31.61	5 1/2	33.07
2	3.20	4 3/4	11.58	1 3/4	\$ 7.47	5 3/4	34.53	5 3/4	35.98
2 1/4	3.48	<b>5 In. Outside Diam.</b>		2	8.39	6	36.21	6	37.44
2 1/2	3.75	1 3/4	\$ 5.31	2 1/4	9.32	2 1/4	11.93	6 1/4	38.90
2 3/4	4.03	2	5.92	2 1/2	10.24	2 1/2	13.14	6 1/2	40.36
3	4.30	2 1/4	6.54	2 3/4	11.16	3	14.35	6 3/4	41.81
<b>3 1/4 In. Outside Diam.</b>		2 1/2	7.15	3	12.09	3 1/4	15.57	7	43.27
1 3/4	\$3.15	2 3/4	7.77	3 1/4	13.02	3 1/2	16.79	7 1/4	44.73
2	3.45	3	8.38	3 1/2	13.94	4	18.00	7 1/2	46.19
2 1/4	3.77	3 1/4	9.00	4	14.86	4 1/4	19.21	8	47.64
2 1/2	4.07	3 1/2	9.61	4 1/4	15.78	4 1/2	20.42	<b>8 1/4 In. Outside Diam.</b>	
2 3/4	4.38	3 3/4	10.23	4 1/2	16.71	4 3/4	21.64	1 3/4	\$11.81
3	4.68	4	10.84	4 3/4	17.63	5	22.85	2	13.35
3 1/4	4.99	4 1/4	11.46	5	18.55	5 1/4	24.06	2 1/4	14.90
<b>3 1/2 In. Outside Diam.</b>		4 1/2	12.07	5 1/4	19.48	5 1/2	25.28	2 1/2	16.44
1 3/4	\$3.38	4 3/4	12.69	5 1/2	20.41	5 3/4	26.50	2 3/4	17.98
2	3.70	5	13.30	6	21.33	6	27.71	3	19.53
2 1/4	4.04	<b>5 1/4 In. Outside Diam.</b>		5 3/4	22.25	6 1/4	28.92	3 1/4	21.08
2 1/2	4.38	1 3/4	\$ 5.72	6	23.17	6 1/2	30.13	3 1/2	22.62
2 3/4	4.72	2	6.39	6 1/4	24.10	6 3/4	31.35	3 3/4	24.16
3	5.05	2 1/4	7.07	<b>6 1/2 In. Outside Diam.</b>		7	32.56	4	25.70
3 1/4	5.39	2 1/2	7.74	1 3/4	\$ 7.95	7 1/4	33.77	4 1/4	27.25
3 1/2	5.73	2 3/4	8.41	2	8.94	7 1/2	34.99	4 1/2	28.79
<b>3 3/4 In. Outside Diam.</b>		3	9.09	2 1/4	9.94	<b>7 1/2 In. Outside Diam.</b>		4 3/4	30.33
1 3/4	\$3.68	3 1/4	9.77	2 1/2	10.93	1 3/4	\$10.05	5	31.88
2	4.05	3 1/2	10.44	2 3/4	11.92	2	11.34	5 1/4	32.43
2 1/4	4.44	4	11.11	3	12.91	2 1/4	12.64	5 1/2	33.97
2 1/2	4.82	4 1/4	11.78	3 1/4	13.91	2 1/2	13.93	5 3/4	36.51
2 3/4	5.20	4 1/2	12.46	3 1/2	14.90	3	15.22	6	38.05
3	5.58	4 3/4	13.13	3 3/4	15.89	3 1/4	16.51	6 1/4	39.60
3 1/4	5.97	5	13.80	4	16.88	3 1/2	17.81	6 1/2	41.14
3 1/2	6.35	5 1/4	14.48	4 1/4	17.88	3 3/4	19.10	6 3/4	42.68
3 3/4	6.74	<b>5 1/2 In. Outside Diam.</b>		4 1/2	18.87	4	20.39	7	44.23
<b>4 In. Outside Diam.</b>		1 3/4	\$ 6.13	4 3/4	19.86	4 1/4	21.68	7 1/4	45.78
1 3/4	\$4.40	2	6.86	5	20.85	4 1/2	22.98	7 1/2	47.32
2	4.83	2 1/4	7.60	5 1/4	21.85	4 3/4	24.27	8	48.86
2 1/4	5.25	2 1/2	8.33	5 1/2	22.84	5	25.56	8 1/4	50.40
2 1/2	5.68	2 3/4	9.06	6	23.83	5 1/4	26.85	<b>8 1/2 In. Outside Diam.</b>	
3	6.10	3	9.79	6 1/4	24.82	5 1/2	28.15	1 3/4	\$12.41
3 1/4	6.53	3 1/4	10.53	6 1/2	25.82	6	29.44	2	14.04
3 1/2	6.95	3 1/2	11.26	<b>6 3/4 In. Outside Diam.</b>		6 1/4	30.73	2 1/4	15.67
3 3/4	7.38	3 3/4	11.99	1 3/4	\$ 8.45	6 1/2	32.02	2 1/2	17.30
4	7.80	3 1/2	12.72	2	9.51	6 3/4	33.32	2 3/4	18.93
<b>4 1/4 In. Outside Diam.</b>		4 1/4	13.46	2 1/4	10.58	7	34.61	3	20.56
1 3/4	\$4.29	4 1/2	14.19	2 1/2	11.64	7 1/4	35.90	3 1/4	22.19
2	4.75	4 3/4	14.92	2 3/4	12.70	7 1/2	37.19	3 1/2	23.82
2 1/4	5.22	5	15.65	3	13.77	<b>7 3/4 In. Outside Diam.</b>		3 3/4	25.45
2 1/2	5.69	5 1/4	16.39	3 1/4	14.84	1 3/4	\$10.63	4	27.08
2 3/4	6.16	5 1/2	17.12	3 1/2	15.90	2	11.99	4 1/4	28.71
3	6.63	<b>5 3/4 In. Outside Diam.</b>		3 3/4	16.96	2 1/4	13.37	4 1/2	30.34
3 1/4	7.10	1 3/4	\$ 6.56	4	18.02	2 1/2	14.74	4 3/4	31.97
3 1/2	7.57	2	7.35	4 1/4	19.09	3	16.12	5	33.60
3 3/4	8.04	2 1/4	8.15	4 1/2	20.15	3 1/4	17.49	5 1/4	35.23
4	8.50	2 1/2	8.94	4 3/4	21.21	3 1/2	18.87	5 1/2	36.86
<b>4 1/2 In. Outside Diam.</b>		2 3/4	9.73	5	22.28	3 3/4	20.24	5 3/4	38.49
1 3/4	\$4.59	3	10.53	5 1/4	23.35	4	21.62	6	40.12
2	5.10	3 1/4	11.33	5 1/2	24.41	4 1/4	22.98	6 1/4	41.75
2 1/4	5.62	3 1/2	12.12	6	25.47	4 1/2	24.36	6 1/2	43.38
2 1/2	6.13	3 3/4	12.91	6 1/4	26.53	4 3/4	25.73	6 3/4	45.01
2 3/4	6.64	4	13.70	6 1/2	27.60	5	27.11	7	46.64
3	7.15	4 1/4	14.50	6 3/4	28.66	5 1/4	28.48	7 1/4	48.27
3 1/4	7.67	4 1/2	15.29	<b>7 In. Outside Diam.</b>		5 1/2	29.46	7 1/2	49.90
3 1/2	8.18	4 3/4	16.08	1 3/4	\$ 8.97	5 3/4	30.83	8	51.53
3 3/4	8.69	5	16.88	2	10.10	6	32.21	8 1/4	53.16
4	9.20	5 1/4	17.68	2 1/4	11.24	6 1/4	33.97	8 1/2	54.79
4 1/4	9.72	5 1/2	18.47	2 1/2	12.38	6 1/2	35.35	<b>8 3/4 In. Outside Diam.</b>	
4 1/2	10.23	5 3/4	19.26	2 3/4	13.52	6 3/4	36.72	1 3/4	\$13.04
<b>6 In. Outside Diam.</b>		<b>6 1/2 In. Outside Diam.</b>		3	14.65	7	38.10	2	14.75
1 3/4	\$ 7.01	1 3/4	\$ 7.01	3 1/4	15.79	7 1/4	39.47	2 1/4	16.47
2	7.86	2 1/4	8.72	3 1/2	16.93	7 1/2	40.85	2 1/2	18.19
2 1/4	8.72	2 1/2	9.58	4	18.07	8	42.22	2 3/4	19.91
2 1/2	9.58	2 3/4	10.44	4 1/4	19.20	<b>8 In. Outside Diam.</b>		3	21.63
2 3/4	10.44	3	11.29	4 1/2	20.34	1 3/4	\$11.21	3 1/4	23.35
<b>6 3/4 In. Outside Diam.</b>		<b>7 1/4 In. Outside Diam.</b>		4 3/4	21.48	2	12.66	3 1/2	25.07
1 3/4	\$ 8.97	1 3/4	\$ 8.97	<b>7 3/4 In. Outside Diam.</b>		2 1/4	14.12	3 3/4	26.79
2	10.10	2	11.24	1 3/4	\$ 9.50	<b>8 1/2 In. Outside Diam.</b>			
2 1/4	11.24	2 1/4	12.38	2	10.71	<b>8 3/4 In. Outside Diam.</b>			
2 1/2	12.38	2 1/2	13.52	2 1/2	11.93	<b>9 In. Outside Diam.</b>			
2 3/4	13.52	2 3/4	14.65	2 3/4	13.14	<b>9 1/4 In. Outside Diam.</b>			
3	14.65	3	15.79	3	14.35	<b>9 1/2 In. Outside Diam.</b>			
3 1/4	15.79	3 1/4	16.93	3 1/4	15.57	<b>9 3/4 In. Outside Diam.</b>			
3 1/2	16.93	3 1/2	18.07	3 1/2	16.79	<b>10 In. Outside Diam.</b>			
3 3/4	18.07	4	19.20	4	18.00	<b>10 1/4 In. Outside Diam.</b>			
4	19.20	4 1/4	20.34	4 1/4	19.21	<b>10 1/2 In. Outside Diam.</b>			
4 1/4	20.34	4 1/2	21.48	4 1/2	20.42	<b>10 3/4 In. Outside Diam.</b>			
4 1/2	21.48	5	22.62	5	21.64	<b>10 1/2 In. Outside Diam.</b>			

Rawhide Pinions—Continued

Face In.	Price Complete Gears	Face In.	Price Complete Gears	Face In.	Price Complete Gears	Face In.	Price Complete Gears	Face In.	Price Complete Gears
4	\$28.50	5 1/4	\$41.20	6 1/4	\$53.78	7 1/4	\$68.25	8 1/4	\$84.78
4 1/4	30.22	5 1/2	43.11	6 1/2	55.89	7 1/2	70.57	8 1/2	87.32
4 1/2	31.94	5 3/4	45.02	6 3/4	58.00	7 3/4	72.89	8 3/4	89.86
4 3/4	33.66	6	46.93	7	60.12	8	75.20	9	92.40
5	35.38	6 1/4	48.85	7 1/4	62.23	8 1/4	77.52	11 In. Outside Diam.	
5 1/4	37.10	6 1/2	50.76	7 1/2	64.34	8 1/2	79.84		
5 1/2	38.82	6 3/4	52.67	7 3/4	66.45	8 3/4	82.16	1 3/4	\$19.55
5 3/4	40.54	7	54.59	8	68.56	9	84.48	2	22.20
6	42.25	7 1/4	56.51	8 1/4	70.67	10 1/4 In. Outside Diam.		2 1/4	24.85
6 1/4	43.97	7 1/2	58.42	8 1/2	72.78			2 1/2	27.50
6 1/2	45.69	7 3/4	60.33	8 3/4	74.89	1 3/4	\$18.00	2 3/4	30.15
6 3/4	47.41	8	62.24	9	77.01	2	20.42	3	32.80
7	49.13	8 1/4	64.16	10 In. Outside Diam.		2 1/4	22.85	3 1/4	35.45
7 1/4	50.85	8 1/2	66.08			2 1/2	25.28	3 1/2	38.10
7 1/2	52.57	8 3/4	67.99	1 3/4	\$16.49	2 3/4	27.71	3 3/4	40.75
7 3/4	54.29	9	69.90	2	18.70	3	30.13	4	43.40
8	56.00	9 1/4 In. Outside Diam.		2 1/4	20.92	3 1/4	32.56	4 1/4	46.05
8 1/4	57.72			2 1/2	23.13	3 1/2	34.99	4 1/2	48.70
8 1/2	59.44	1 3/4	\$15.09	2 3/4	25.34	3 3/4	37.42	4 3/4	51.35
8 3/4	61.16	2	17.10	3	27.55	4	39.84	5	54.00
9 In. Outside Diam.		2 1/4	19.12	3 1/4	29.76	4 1/4	42.27	5 1/4	56.65
		2 1/2	21.13	3 1/2	31.97	4 1/2	44.70	5 1/2	59.30
1 3/4	\$13.71	2 3/4	23.14	3 3/4	34.18	4 3/4	47.13	5 3/4	61.95
2	15.52	3	25.15	4	36.40	5	49.55	6	64.60
2 1/4	17.34	3 1/4	27.17	4 1/4	38.62	5 1/4	51.98	6 1/4	67.25
2 1/2	19.15	3 1/2	29.18	4 1/2	40.83	5 1/2	54.41	6 1/2	69.90
2 3/4	20.97	3 3/4	31.19	4 3/4	43.04	5 3/4	56.84	6 3/4	72.55
3	22.78	4	33.20	5	45.25	6	59.26	7	75.20
3 1/4	24.60	4 1/4	35.22	5 1/4	47.47	6 1/4	61.69	7 1/4	77.85
3 1/2	26.41	4 1/2	37.23	5 1/2	49.68	6 1/2	64.12	7 1/2	80.50
3 3/4	28.23	4 3/4	39.24	5 3/4	51.89	6 3/4	66.55	7 3/4	83.15
4	30.04	5	41.25	6	54.10	7	68.97	8	85.80
4 1/4	31.86	5 1/4	43.27	6 1/4	56.32	7 1/4	71.40	8 1/4	88.45
4 1/2	33.67	5 1/2	45.28	6 1/2	58.53	7 1/2	73.83	8 1/2	91.10
4 3/4	35.49	5 3/4	47.29	6 3/4	60.74	7 3/4	76.26	8 3/4	93.75
5	37.30	6	49.30	7	62.95	8	78.68	9	96.40
5 1/4	39.12	6 1/4	51.32	7 1/4	65.17	8 1/4	81.11	11 1/4 In. Outside Diam.	
5 1/2	40.93	6 1/2	53.33	7 1/2	67.38	8 1/2	83.54		
5 3/4	42.75	6 3/4	55.34	7 3/4	69.59	8 3/4	85.97	1 3/4	\$20.37
6	44.56	7	57.35	8	71.80	9	88.39	2	23.13
6 1/4	46.38	7 1/4	59.37	8 1/4	74.02	10 3/4 In. Outside Diam.		2 1/4	25.90
6 1/2	48.19	7 1/2	61.38	8 1/2	76.23			2 1/2	28.66
6 3/4	50.01	7 3/4	63.39	8 3/4	78.44	1 3/4	\$18.78	2 3/4	31.43
7	51.82	8	65.40	9	80.65	2	21.31	3	34.20
7 1/4	53.64	8 1/4	67.42	10 1/4 In. Outside Diam.		2 1/4	23.85	3 1/4	36.97
7 1/2	55.45	8 1/2	69.43			2 1/2	26.39	3 1/2	39.73
7 3/4	57.27	8 3/4	71.44	1 3/4	\$17.24	2 3/4	28.93	3 3/4	42.50
8	59.08	9	73.45	2	19.55	3	31.47	4	45.26
8 1/4	60.90	9 1/4 In. Outside Diam.		2 1/4	21.87	3 1/4	34.01	4 1/4	48.03
8 1/2	62.71			2 1/2	24.19	3 1/2	36.55	4 1/2	50.79
8 3/4	64.53	1 3/4	\$15.78	2 3/4	26.51	3 3/4	39.09	4 3/4	53.56
9	66.34	2	17.89	3	28.83	4	41.62	5	56.33
9 1/4 In. Outside Diam.		2 1/4	20.00	3 1/4	31.15	4 1/4	44.16	5 1/4	59.10
		2 1/2	22.11	3 1/2	33.47	4 1/2	46.70	5 1/2	61.86
1 3/4	\$14.40	2 3/4	24.22	3 3/4	35.79	4 3/4	49.24	5 3/4	64.63
2	16.31	3	26.34	4	38.10	5	51.78	6	67.39
2 1/4	18.23	3 1/4	28.45	4 1/4	40.42	5 1/4	54.32	6 1/4	70.16
2 1/2	20.14	3 1/2	30.56	4 1/2	42.74	5 1/2	56.86	6 1/2	72.92
2 3/4	22.05	3 3/4	32.67	4 3/4	45.06	5 3/4	59.40	6 3/4	75.69
3	23.97	4	34.78	5	47.38	6	61.93	7	78.46
3 1/4	25.89	4 1/4	36.89	5 1/4	49.70	6 1/4	64.47	7 1/4	81.23
3 1/2	27.80	4 1/2	39.00	5 1/2	52.02	6 1/2	67.01	7 1/2	83.99
3 3/4	29.71	4 3/4	41.11	5 3/4	54.34	6 3/4	69.55	7 3/4	86.76
4	31.62	5	43.23	6	56.65	7	72.09	8	89.52
4 1/4	33.54	5 1/4	45.34	6 1/4	58.97	7 1/4	74.63	8 1/4	92.29
4 1/2	35.45	5 1/2	47.45	6 1/2	61.29	7 1/2	77.17	8 1/2	95.05
4 3/4	37.37	5 3/4	49.57	6 3/4	63.61	7 3/4	79.71	8 3/4	97.82
5	39.28	6	51.67	7	65.93	8	82.24	9	100.59

Bevel Gears

Planed Teeth, Involute Form, Keyseats as Ordered

Pitch	Number of Teeth		Pitch Diam.		Face	Price Complete	Pitch	Number of Teeth		Pitch Diam.		Face	Price Complete
	Pin	Gear	Pin	Gear				Pin	Gear	Pin	Gear		
20	30	120	1 1/4	6	1 1/4	\$4.85	18	12	48	2 3/4	2 3/4	1 1/4	3.30
20	30	90	1 1/4	4 1/2	1 1/4	3.85	18	12	36	2 3/4	2	1 1/4	3.15
20	30	60	1 1/2	3	1 1/2	3.55	18	12	24	2 3/4	1 1/2	1 1/4	3.10
20	20	100	1	5	1	3.70	18	12	18	2 3/4	1	1 1/4	2.90
20	20	80	1	4	1	3.55	16	24	84	1 1/4	5 1/4	1 1/4	4.25
20	20	60	1	3	1	3.25	16	24	72	1 1/4	4 1/4	1 1/4	4.10
20	20	40	1	2	1	3.00	16	24	60	1 1/2	3 3/4	1 1/4	3.90
20	20	30	1	1 1/2	1	2.75	16	24	48	1 1/2	3	1 1/4	3.85
18	26	78	1 1/4	4 3/4	1 1/4	4.20	16	24	36	1 1/2	2 1/4	1 1/4	3.70
18	26	52	1 1/4	2 3/4	1 1/4	3.65	16	16	96	1	6	1 1/4	4.70
18	26	40	1 1/4	2	1 1/4	3.55	16	16	84	1	5 1/4	1 1/4	4.60
18	18	72	1	4	1	3.85	16	16	72	1	4 1/4	1 1/4	4.20
18	18	54	1	3	1	3.45	16	16	64	1	4	1 1/4	4.05
18	18	36	1	2	1	3.25	16	16	56	1	3 3/4	1 1/4	3.90
18	18	27	1	1 1/2	1	3.25	16	16	48	1	3	1 1/4	3.85
18	12	60	3/4	3 3/4	1 1/4	3.45	16	16	40	1	2 3/4	1 1/4	3.85



## Bevel Gears—Continued

### Planed Teeth, Involute Form, Keyseats as Ordered

Pitch	Number of Teeth		Pitch Diam.		Face	Price Complete	Pitch	Number of Teeth		Pitch Diam.		Face	Price Complete
	Pin	Gear	Pin	Gear				Pin	Gear	Pin	Gear		
16	16	32	1	2	$\frac{3}{8}$	\$ 3.70	6	20	60	$3\frac{1}{2}$	10	$1\frac{3}{8}$	\$ 8.10
16	16	24	1	$1\frac{1}{2}$	$\frac{3}{8}$	3.70	6	20	50	$3\frac{1}{2}$	$8\frac{1}{2}$	$1\frac{1}{8}$	7.60
16	12	48	$\frac{3}{4}$	3	$\frac{3}{8}$	3.50	6	20	40	$3\frac{1}{2}$	$6\frac{3}{4}$	$1\frac{1}{8}$	6.90
16	12	36	$\frac{3}{4}$	$2\frac{1}{2}$	$\frac{3}{8}$	3.35	6	20	30	$3\frac{1}{2}$	5	1	6.20
16	12	24	$\frac{3}{4}$	$1\frac{1}{2}$	$\frac{3}{8}$	3.25	6	16	48	$2\frac{3}{8}$	8	$1\frac{1}{8}$	6.55
14	24	84	$1\frac{1}{8}$	6	$\frac{3}{4}$	4.40	6	16	40	$2\frac{3}{8}$	$6\frac{3}{4}$	$1\frac{1}{8}$	6.40
14	24	72	$1\frac{1}{8}$	$5\frac{1}{2}$	$\frac{1}{2}$	4.05	6	16	32	$2\frac{3}{8}$	$5\frac{1}{2}$	1	6.05
14	24	60	$1\frac{1}{8}$	$4\frac{1}{2}$	$\frac{5}{8}$	4.00	6	16	24	$2\frac{3}{8}$	4	$\frac{7}{8}$	5.55
14	24	48	$1\frac{1}{8}$	$3\frac{3}{4}$	$\frac{1}{2}$	3.80	6	12	48	2	12	1	6.55
14	24	32	$1\frac{1}{8}$	$2\frac{3}{4}$	$\frac{1}{2}$	3.80	6	12	40	2	10	$\frac{1}{2}$	6.25
14	16	64	$1\frac{1}{8}$	$4\frac{1}{4}$	$\frac{1}{2}$	4.40	6	12	36	2	9	$\frac{7}{8}$	6.05
14	16	56	$1\frac{1}{8}$	4	$\frac{5}{8}$	4.20	6	12	28	2	7	$\frac{3}{4}$	5.45
14	16	48	$1\frac{1}{8}$	$3\frac{3}{4}$	$\frac{5}{8}$	4.10	6	12	24	2	4	$\frac{1}{2}$	5.25
14	16	40	$1\frac{1}{8}$	$2\frac{3}{4}$	$\frac{1}{2}$	4.05	5	25	65	5	13	$1\frac{1}{2}$	10.45
14	16	32	$1\frac{1}{8}$	$2\frac{3}{4}$	$\frac{1}{2}$	4.00	5	25	50	5	10	$1\frac{3}{8}$	9.45
14	16	24	$1\frac{1}{8}$	$1\frac{1}{2}$	$\frac{1}{2}$	3.90	5	25	40	5	8	1	9.20
14	12	48	$\frac{3}{8}$	$3\frac{3}{4}$	$\frac{1}{2}$	3.80	5	20	80	4	16	$1\frac{5}{8}$	11.45
14	12	36	$\frac{3}{8}$	$2\frac{3}{4}$	$\frac{1}{2}$	2.65	5	20	60	4	12	$1\frac{1}{2}$	9.80
14	12	30	$\frac{3}{8}$	$2\frac{1}{4}$	$\frac{1}{2}$	3.50	5	20	50	4	10	$1\frac{1}{2}$	9.30
14	12	24	$\frac{3}{8}$	$1\frac{1}{4}$	$\frac{1}{2}$	3.35	5	20	40	4	8	$1\frac{1}{2}$	8.10
12	24	84	2	7	$\frac{1}{2}$	5.05	5	20	30	4	6	$1\frac{1}{4}$	7.45
12	24	72	2	6	$\frac{3}{4}$	4.70	5	14	56	$2\frac{3}{8}$	$11\frac{1}{2}$	$1\frac{1}{2}$	10.15
12	24	60	2	5	$\frac{1}{2}$	4.40	5	14	42	$2\frac{3}{8}$	$8\frac{1}{2}$	$1\frac{1}{2}$	8.55
12	24	48	2	4	$\frac{1}{2}$	4.10	5	14	28	$2\frac{3}{8}$	$5\frac{1}{2}$	$1\frac{1}{2}$	6.75
12	24	36	2	3	$\frac{1}{2}$	4.00	5	14	21	$2\frac{3}{8}$	$4\frac{1}{2}$	$1\frac{1}{4}$	6.40
12	20	90	$1\frac{1}{2}$	$7\frac{1}{2}$	$\frac{1}{2}$	4.85	5	12	48	$2\frac{3}{8}$	$9\frac{1}{2}$	$1\frac{1}{2}$	8.35
12	20	80	$1\frac{1}{2}$	$6\frac{3}{4}$	$\frac{1}{2}$	4.60	5	12	40	$2\frac{3}{8}$	8	$1\frac{1}{4}$	7.40
12	20	70	$1\frac{1}{2}$	$5\frac{1}{2}$	$\frac{1}{2}$	4.40	5	12	36	$2\frac{3}{8}$	$7\frac{1}{2}$	$1\frac{1}{4}$	7.15
12	20	60	$1\frac{1}{2}$	5	$\frac{3}{4}$	4.20	5	12	28	$2\frac{3}{8}$	$5\frac{1}{2}$	$1\frac{1}{2}$	6.25
12	20	50	$1\frac{1}{2}$	$4\frac{1}{2}$	$\frac{3}{4}$	4.05	5	12	24	$2\frac{3}{8}$	$4\frac{1}{2}$	1	6.00
12	20	40	$1\frac{1}{2}$	$3\frac{3}{4}$	$\frac{1}{2}$	3.80	4	24	96	6	24	$2\frac{1}{4}$	24.65
12	20	30	$1\frac{1}{2}$	$2\frac{3}{4}$	$\frac{1}{2}$	3.70	4	24	72	6	18	$1\frac{1}{2}$	19.90
12	16	88	$1\frac{1}{4}$	$7\frac{1}{4}$	$\frac{1}{2}$	4.40	4	24	48	6	12	$1\frac{3}{4}$	14.50
12	16	80	$1\frac{1}{4}$	$6\frac{3}{4}$	$\frac{1}{2}$	4.25	4	20	60	5	15	2	16.20
12	16	72	$1\frac{1}{4}$	6	$\frac{3}{4}$	4.20	4	20	50	5	$12\frac{1}{2}$	$1\frac{3}{4}$	13.15
12	16	64	$1\frac{1}{4}$	$5\frac{1}{2}$	$\frac{3}{4}$	4.05	4	20	40	5	10	$1\frac{1}{2}$	11.45
12	16	56	$1\frac{1}{4}$	$4\frac{3}{4}$	$\frac{1}{2}$	4.00	4	20	30	5	$7\frac{1}{2}$	$1\frac{1}{2}$	9.10
12	16	48	$1\frac{1}{4}$	4	$\frac{1}{2}$	3.90	4	16	48	4	12	$1\frac{1}{2}$	12.15
12	16	40	$1\frac{1}{4}$	$3\frac{3}{4}$	$\frac{1}{2}$	3.85	4	16	40	4	10	$1\frac{1}{4}$	10.45
12	16	32	$1\frac{1}{4}$	$2\frac{3}{4}$	$\frac{1}{2}$	3.80	4	16	32	4	8	$1\frac{1}{2}$	9.45
12	16	24	$1\frac{1}{4}$	2	$\frac{1}{2}$	3.25	4	16	24	4	6	$1\frac{1}{2}$	8.45
12	12	48	1	4	$\frac{1}{2}$	3.85	4	12	48	3	12	$1\frac{1}{4}$	11.45
12	12	40	1	$3\frac{1}{2}$	$\frac{1}{2}$	3.80	4	12	36	3	9	$1\frac{1}{2}$	9.80
12	12	36	1	3	$\frac{1}{2}$	3.65	4	12	24	3	6	$1\frac{1}{4}$	8.10
12	12	30	1	$2\frac{1}{2}$	$\frac{1}{2}$	3.50	4	12	18	3	$4\frac{1}{2}$	$1\frac{3}{8}$	7.10
12	12	24	1	2	$\frac{1}{2}$	3.35	3	20	60	$6\frac{3}{8}$	20	$2\frac{1}{4}$	18.00
10	24	96	$2\frac{1}{2}$	$9\frac{3}{4}$	$1\frac{1}{4}$	6.40	3	20	50	$6\frac{3}{8}$	$16\frac{3}{4}$	2	16.20
10	24	84	$2\frac{1}{2}$	$8\frac{3}{4}$	$1\frac{1}{4}$	5.95	3	20	40	$6\frac{3}{8}$	$13\frac{3}{4}$	$1\frac{3}{4}$	15.30
10	24	72	$2\frac{1}{2}$	$7\frac{1}{2}$	1	5.40	3	20	30	$6\frac{3}{8}$	10	$1\frac{3}{4}$	12.00
10	24	60	$2\frac{1}{2}$	6	$\frac{1}{2}$	4.90	3	16	48	$5\frac{1}{2}$	16	2	15.30
10	24	48	$2\frac{1}{2}$	$4\frac{1}{2}$	$\frac{1}{2}$	4.65	3	16	40	$5\frac{1}{2}$	$13\frac{1}{2}$	2	14.10
10	24	36	$2\frac{1}{2}$	$3\frac{3}{4}$	$\frac{1}{2}$	4.40	3	16	32	$5\frac{1}{2}$	$10\frac{3}{4}$	$1\frac{1}{2}$	11.70
10	20	100	2	10	$1\frac{1}{4}$	6.50	3	16	24	$5\frac{1}{2}$	8	$1\frac{1}{2}$	10.20
10	20	90	2	9	$1\frac{1}{4}$	6.05	3	12	48	4	16	2	15.60
10	20	80	2	8	$1\frac{1}{2}$	5.65	3	12	36	4	12	$1\frac{3}{4}$	13.80
10	20	70	2	7	1	5.35	3	12	24	4	8	$1\frac{3}{4}$	9.60
10	20	60	2	6	$\frac{1}{2}$	4.90	$2\frac{1}{2}$	24	60	$9\frac{1}{2}$	24	3	29.15
10	20	50	2	5	$\frac{1}{2}$	4.65	$2\frac{1}{2}$	24	48	$9\frac{1}{2}$	$19\frac{1}{2}$	$2\frac{1}{2}$	25.25
10	20	40	2	4	$\frac{3}{4}$	4.25	$2\frac{1}{2}$	24	36	$9\frac{1}{2}$	$14\frac{1}{2}$	2	21.00
10	20	30	2	3	$\frac{1}{2}$	4.05	$2\frac{1}{2}$	20	60	8	24	3	28.15
10	16	48	$1\frac{1}{2}$	$4\frac{1}{2}$	$\frac{1}{2}$	4.50	$2\frac{1}{2}$	20	50	8	20	$2\frac{1}{2}$	23.95
10	16	40	$1\frac{1}{2}$	4	$\frac{1}{2}$	4.30	$2\frac{1}{2}$	20	40	8	16	$2\frac{1}{4}$	21.45
10	16	32	$1\frac{1}{2}$	$3\frac{1}{2}$	$\frac{1}{2}$	4.20	$2\frac{1}{2}$	20	30	8	12	2	18.25
10	16	28	$1\frac{1}{2}$	$2\frac{3}{4}$	$\frac{1}{2}$	4.00	$2\frac{1}{2}$	16	64	$6\frac{3}{8}$	$25\frac{1}{2}$	$3\frac{1}{4}$	28.30
10	16	24	$1\frac{1}{2}$	$2\frac{1}{4}$	$\frac{1}{2}$	3.90	$2\frac{1}{2}$	16	54	$6\frac{3}{8}$	$21\frac{1}{2}$	3	25.45
10	12	48	$1\frac{1}{2}$	$4\frac{1}{2}$	$\frac{1}{2}$	4.45	$2\frac{1}{2}$	16	48	$6\frac{3}{8}$	$19\frac{1}{2}$	$2\frac{3}{4}$	23.05
10	12	36	$1\frac{1}{2}$	$3\frac{3}{4}$	$\frac{1}{2}$	4.05	$2\frac{1}{2}$	16	40	$6\frac{3}{8}$	16	$2\frac{1}{4}$	20.25
10	12	30	$1\frac{1}{2}$	3	$\frac{1}{2}$	4.00	$2\frac{1}{2}$	16	32	$6\frac{3}{8}$	$12\frac{1}{2}$	2	17.70
10	12	24	$1\frac{1}{2}$	$2\frac{1}{4}$	$\frac{1}{2}$	3.85	$2\frac{1}{2}$	16	24	$6\frac{3}{8}$	$9\frac{1}{2}$	$1\frac{3}{4}$	15.25
8	24	96	3	12	$1\frac{1}{2}$	7.85	$2\frac{1}{2}$	12	72	$4\frac{1}{2}$	$28\frac{1}{2}$	3	29.85
8	24	72	3	9	$1\frac{1}{2}$	6.40	$2\frac{1}{2}$	12	60	$4\frac{1}{2}$	24	$2\frac{1}{2}$	26.00
8	24	60	3	$7\frac{1}{2}$	$1\frac{1}{2}$	6.05	$2\frac{1}{2}$	12	48	$4\frac{1}{2}$	$19\frac{1}{2}$	$2\frac{1}{4}$	22.15
8	24	48	3	6	1	5.65	$2\frac{1}{2}$	12	36	$4\frac{1}{2}$	$14\frac{1}{2}$	$2\frac{1}{4}$	17.95
8	24	36	3	$4\frac{1}{2}$	$\frac{1}{2}$	5.35	$2\frac{1}{2}$	12	24	$4\frac{1}{2}$	$9\frac{1}{2}$	$1\frac{3}{4}$	14.70
8	20	80	$2\frac{1}{2}$	10	$1\frac{1}{2}$	6.60	2	24	60	12	30	$3\frac{3}{4}$	38.70
8	20	60	$2\frac{1}{2}$	$7\frac{1}{2}$	$1\frac{1}{2}$	5.40	2	24	48	12	24	$3\frac{1\$	

# Miter Gears

Planed Teeth, Involute Form, Keyseats as Ordered

Pitch	Number of Teeth	Pitch Diam. Inches	Face Inches	Price Per Pair Complete	Pitch	Number of Teeth	Pitch Diam. Inches	Face Inches	Price Per Pair Complete
16	112	7	$\frac{7}{16}$	\$7.40	8	18	$2\frac{1}{4}$	$\frac{11}{16}$	\$ 4.25
16	96	6	$\frac{1}{16}$	6.40	8	16	2	$\frac{1}{8}$	4.05
16	72	$4\frac{1}{2}$	$\frac{1}{16}$	5.40					
16	64	$4\frac{1}{2}$	$\frac{1}{16}$	4.70	7	56	8	$1\frac{1}{8}$	8.90
16	56	$4\frac{1}{2}$	$\frac{1}{16}$	4.40	7	49	7	$1\frac{1}{16}$	8.10
16	48	$3\frac{1}{2}$	$\frac{1}{16}$	3.70	7	42	6	1	7.15
16	44	$3\frac{1}{2}$	$\frac{1}{16}$	3.50	7	35	5	$\frac{11}{16}$	6.35
16	40	$2\frac{1}{2}$	$\frac{1}{16}$	3.35	7	28	4	$\frac{1}{8}$	5.55
16	32	2	$\frac{1}{16}$	3.10	7	21	3	$\frac{1}{16}$	4.80
16	28	$1\frac{3}{4}$	$\frac{1}{16}$	3.00					
16	24	$1\frac{1}{4}$	$\frac{1}{16}$	2.85	6	60	10	$1\frac{3}{8}$	10.95
16	20	$1\frac{1}{4}$	$\frac{1}{16}$	2.70	6	54	9	$1\frac{1}{4}$	10.00
16	16	1	$\frac{1}{16}$	2.70	6	48	8	$1\frac{1}{4}$	9.30
					6	40	$6\frac{3}{4}$	$1\frac{1}{8}$	8.30
14	90	$6\frac{3}{4}$	$\frac{1}{2}$	7.30	6	36	6	$1\frac{1}{8}$	7.60
14	84	6	$\frac{1}{2}$	6.80	6	30	5	$1\frac{1}{8}$	6.75
14	80	$5\frac{5}{8}$	$\frac{1}{2}$	6.50	6	24	4	$1\frac{1}{8}$	5.95
14	76	$5\frac{1}{2}$	$\frac{1}{2}$	6.05	6	20	$3\frac{1}{2}$	1	5.40
14	70	5	$\frac{1}{2}$	5.65	6	18	3	$\frac{7}{8}$	5.15
14	60	$4\frac{3}{4}$	$\frac{1}{2}$	4.85					
14	56	4	$\frac{1}{2}$	4.40	5	60	12	$1\frac{3}{4}$	13.30
14	49	$3\frac{1}{2}$	$\frac{1}{2}$	4.20	5	55	11	$1\frac{3}{4}$	12.35
14	44	$3\frac{1}{4}$	$\frac{1}{2}$	4.05	5	50	10	$1\frac{3}{8}$	11.35
14	42	3	$\frac{1}{2}$	3.90	5	45	9	$1\frac{1}{2}$	10.30
14	40	$2\frac{3}{4}$	$\frac{1}{2}$	3.70	5	40	8	$1\frac{1}{8}$	9.30
14	38	$2\frac{1}{2}$	$\frac{1}{2}$	3.70	5	35	7	$1\frac{1}{8}$	9.20
14	35	$2\frac{1}{2}$	$\frac{1}{2}$	3.50	5	30	6	$1\frac{1}{8}$	8.10
14	32	$2\frac{1}{4}$	$\frac{1}{2}$	3.45	5	28	$5\frac{1}{8}$	$1\frac{1}{4}$	7.60
14	30	$2\frac{1}{4}$	$\frac{1}{2}$	3.35	5	25	5	$1\frac{1}{4}$	7.20
14	28	2	$\frac{1}{2}$	3.35	5	20	4	$1\frac{1}{8}$	6.25
14	26	$1\frac{7}{8}$	$\frac{1}{2}$	3.30	5	18	$3\frac{3}{8}$	$1\frac{1}{8}$	6.15
14	24	$1\frac{1}{2}$	$\frac{1}{2}$	3.15	5	15	3	1	5.80
14	22	$1\frac{1}{4}$	$\frac{1}{2}$	3.15					
14	20	$1\frac{1}{4}$	$\frac{1}{2}$	3.05	4	60	15	$2\frac{1}{2}$	18.65
14	18	$1\frac{1}{4}$	$\frac{1}{2}$	3.05	4	56	14	$2\frac{1}{2}$	17.20
					4	48	12	$2\frac{1}{2}$	15.30
12	70	$5\frac{5}{8}$	$\frac{3}{4}$	6.05	4	40	10	2	12.80
12	66	$5\frac{1}{2}$	$\frac{3}{4}$	5.75	4	36	9	$1\frac{5}{8}$	11.80
12	60	5	$\frac{3}{4}$	5.60	4	30	$7\frac{1}{2}$	$1\frac{1}{8}$	10.30
12	56	$4\frac{3}{4}$	$\frac{3}{4}$	5.25	4	24	6	$1\frac{1}{2}$	8.75
12	50	$4\frac{1}{4}$	$\frac{3}{4}$	5.05	4	20	5	$1\frac{1}{8}$	7.75
12	48	4	$\frac{3}{4}$	4.80	4	18	$4\frac{1}{2}$	$1\frac{1}{8}$	7.10
12	40	$3\frac{1}{3}$	$\frac{3}{4}$	4.50	4	16	4	$1\frac{1}{4}$	6.60
12	38	$3\frac{1}{4}$	$\frac{3}{4}$	4.40	4	14	$3\frac{1}{2}$	$1\frac{1}{4}$	6.25
12	36	3	$\frac{3}{4}$	4.20					
12	34	$2\frac{3}{4}$	$\frac{3}{4}$	4.20	3	48	16	$2\frac{3}{4}$	27.35
12	32	$2\frac{3}{4}$	$\frac{3}{4}$	4.05	3	40	$13\frac{1}{3}$	$2\frac{3}{4}$	23.60
12	30	$2\frac{1}{2}$	$\frac{3}{4}$	3.90	3	36	12	$2\frac{1}{2}$	21.35
12	28	$2\frac{1}{2}$	$\frac{3}{4}$	3.80	3	30	10	$2\frac{1}{4}$	18.35
12	26	$2\frac{1}{4}$	$\frac{3}{4}$	3.65	3	24	8	2	13.25
12	24	2	$\frac{3}{4}$	3.55	3	20	6	$1\frac{3}{4}$	12.15
12	22	$1\frac{3}{4}$	$\frac{3}{4}$	3.55	3	18	6	$1\frac{1}{2}$	10.80
12	20	$1\frac{1}{2}$	$\frac{3}{4}$	3.50	3	16	$5\frac{1}{2}$	$1\frac{1}{8}$	9.45
12	18	$1\frac{1}{2}$	$\frac{3}{4}$	3.45	3	14	$4\frac{3}{4}$	$1\frac{1}{4}$	8.10
					3	12	4	$1\frac{1}{4}$	6.75
10	60	6	$1\frac{1}{8}$	6.05					
10	55	$5\frac{1}{2}$	$\frac{1}{2}$	5.85	$2\frac{1}{2}$	36	$14\frac{1}{2}$	$2\frac{3}{4}$	26.75
10	50	5	$\frac{1}{2}$	5.55	$2\frac{1}{2}$	34	$13\frac{1}{2}$	$2\frac{3}{4}$	24.85
10	45	$4\frac{1}{2}$	$\frac{1}{2}$	5.25	$2\frac{1}{2}$	32	$12\frac{1}{2}$	$2\frac{3}{4}$	23.60
10	40	4	$\frac{1}{2}$	4.90	$2\frac{1}{2}$	30	12	$2\frac{3}{4}$	22.45
10	35	$3\frac{1}{2}$	$\frac{1}{2}$	4.60	$2\frac{1}{2}$	28	$11\frac{1}{2}$	$2\frac{3}{4}$	20.60
10	32	$3\frac{1}{8}$	$\frac{1}{2}$	4.45	$2\frac{1}{2}$	24	$9\frac{3}{4}$	$2\frac{1}{4}$	18.20
10	30	3	$\frac{1}{2}$	4.40	$2\frac{1}{2}$	22	$8\frac{1}{2}$	$2\frac{1}{4}$	17.00
10	28	$2\frac{3}{4}$	$\frac{1}{2}$	4.30	$2\frac{1}{2}$	20	8	$2\frac{1}{4}$	15.50
10	26	$2\frac{1}{2}$	$\frac{1}{2}$	4.25	$2\frac{1}{2}$	18	$7\frac{1}{2}$	2	14.85
10	24	$2\frac{1}{4}$	$\frac{1}{2}$	4.20	$2\frac{1}{2}$	16	6	2	13.95
10	22	$2\frac{1}{4}$	$\frac{1}{2}$	4.05	$2\frac{1}{2}$	15	6	2	13.10
10	20	2	$\frac{1}{2}$	3.90					
10	18	$1\frac{1}{2}$	$\frac{1}{2}$	3.70	2	48	24	4	45.90
10	15	$1\frac{1}{2}$	$\frac{1}{2}$	3.65	2	44	22	4	41.15
					2	40	20	$3\frac{1}{2}$	38.80
8	60	$7\frac{1}{2}$	$1\frac{1}{8}$	7.90	2	36	18	$3\frac{1}{4}$	35.10
8	56	7	$1\frac{1}{8}$	7.40	2	32	16	$3\frac{1}{4}$	31.05
8	50	$6\frac{1}{4}$	$1\frac{1}{8}$	7.10	2	28	14	3	28.35
8	48	6	$1\frac{1}{8}$	6.90	2	24	12	3	26.30
8	46	$5\frac{3}{4}$	1	4.70	2	20	10	3	24.30
8	44	$5\frac{1}{2}$	1	6.50	2	16	8	$2\frac{1}{2}$	22.60
8	42	$5\frac{1}{4}$	1	6.25	2	12	6	$2\frac{1}{2}$	20.25
8	40	5	$1\frac{1}{8}$	6.15					
8	36	$4\frac{1}{2}$	$\frac{1}{2}$	5.80	$1\frac{1}{2}$	36	24	$4\frac{3}{4}$	56.70
8	34	$4\frac{1}{4}$	$\frac{1}{2}$	5.55	$1\frac{1}{2}$	32	$21\frac{1}{2}$	$4\frac{3}{4}$	48.60
8	30	$3\frac{3}{4}$	$\frac{1}{2}$	5.25	$1\frac{1}{2}$	28	$18\frac{3}{4}$	$4\frac{3}{4}$	45.50
8	28	$3\frac{1}{2}$	$\frac{1}{2}$	5.00	$1\frac{1}{2}$	24	16	4	36.10
8	26	$3\frac{1}{4}$	$\frac{1}{2}$	4.80	$1\frac{1}{2}$	20	$13\frac{1}{2}$	$3\frac{3}{4}$	33.40
8	24	3	$\frac{1}{2}$	4.60	$1\frac{1}{2}$	16	$10\frac{1}{2}$	$3\frac{3}{4}$	29.00
8	22	$2\frac{3}{4}$	$\frac{1}{2}$	4.45	$1\frac{1}{2}$	12	8	$3\frac{3}{4}$	25.65
8	20	$2\frac{1}{2}$	$\frac{1}{2}$	4.40					



# MONARCH ELEVATING AND CONVEYING MACHINERY



*Section G, No. 115*

Established 1866

**SPROUT, WALDRON & CO.**

**Mill Builders and Mill Furnishers**

**MUNCY, PA., U. S. A.**

The Monarch Special Dry Mixer

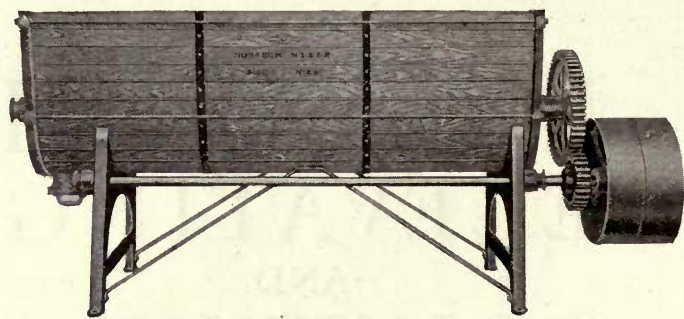


Fig. No. 301

This machine was designed for mixing material in bulk and can be used for varied purposes. May be used as a continuous or batch mixer. Write for particulars.

Prices, Dimensions, Capacities, Etc.

Size No.	Price	EXTREME DIMENSIONS			SIZE ON FLOOR		Height to Center of Pulley	Height to Center of Mixer	Size of Pulley Inches	Speed R.P.M.	Cap. Per Hour Bu.	Weight Lbs.
		Length	Width	Height	Length	Width						
35	\$300.00	7' 1"	2' 8"	4' 8"	4' 0"	2' 6"	1' 8"	2' 8½"	16 x 4	80	10	700
36	370.00	8' 4"	2' 8"	4' 8"	4' 7½"	2' 6"	1' 8"	2' 8½"	20 x 4	60	16	900
37	500.00	10' 7"	3' 4"	4' 8¾"	6' 0½"	3' 0"	2' 0"	3' 1"	24 x 6	60	30	1300

The Monarch Feed Mixer  
For Wet Materials



Fig. No. 302

The Monarch Feed Mixer is designed for mixing molasses feed stock food materials that require mixing with liquid. If other sizes than those listed are required, prices will be quoted on application.

Prices, Dimensions, Capacities, Etc.

Size No.	Price	EXTREME DIMENSIONS			CYLINDER		Capacity Per Charge Ton	Height to Center of Pulley Inches	Size of Pulley Inches	Speed R.P.M.	Horse Power	Weight Lbs.
		Length	Width	Height	Diam. Inches	Length						
4	\$ 600.00	11' 8"	4' 9"	4' 0"	38	6' 6"	¼	20	30 x 6	235	6	2600
5	750.00	13' 4"	5' 9"	5' 0"	40	8' 0"	½	22	36 x 8	180	8	3200
6	1000.00	15' 6"	6' 9"	6' 0"	60	10' 0"	1	24	36 x 10	145	10	3800



## The Monarch Mixing and Blending Machine

This machine was designed and built especially to meet the requirements of the manufacturers of chick feed. Each one of the feeders is entirely independent of the others and can be regulated to feed any amount, large or small, into the conveyor. The conveyor thoroughly mixes the different materials and delivers the product through the spout at the driving end perfectly blended. When the machine is placed on the second story, the conveyor can be placed directly on the floor.

In addition to the mixing of chick feed, this machine can be used for many purposes where different materials of various amounts are desired to be blended. The engraving shows four mixers and feeders, but any number desired may be used. We furnish the machine with or without the frame, as desired.

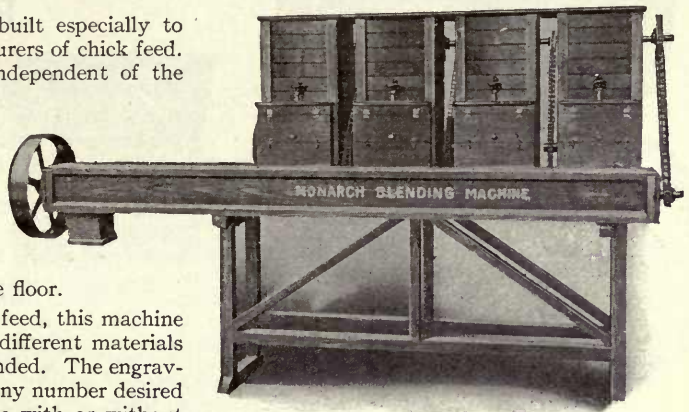


Fig. No. 303

### Dimensions, Prices, Etc., with No. 1 Mixers

No. of Mixers	Price	Length Over All	Width Over All	Height Over All	Floor to Center of Pulley Inches	Speed of Conveyor Shaft	Capacity
2	\$ 85.00	5' 0"	2' 7 1/2"	5' 7"	31 1/2	80	Capacity is regulated by feed gate of machines and depends on materials mixed.
3	110.00	7' 1"	2' 7 1/2"	5' 7"	31 1/2	80	
4	145.00	9' 1"	2' 7 1/2"	5' 7"	31 1/2	80	
5	175.00	11' 1"	2' 7 1/2"	5' 7"	31 1/2	100	
6	200.00	13' 2"	2' 7 1/2"	5' 7"	31 1/2	100	
7	240.00	15' 1"	2' 7 1/2"	5' 7"	31 1/2	120	
8	280.00	17' 2"	2' 7 1/2"	5' 7"	31 1/2	120	

### Dimensions, Prices, Etc., with No. 2 Mixers

No. of Mixers	Price	Length Over All	Width Over All	Height Over All	Floor to Center of Pulley Inches	Speed of Conveyor Shaft	Capacity
2	\$112.00	5' 8"	3' 0"	5' 7"	31 1/2	80	Capacity is regulated by feed gate of machines and depends on materials mixed.
3	150.00	8' 0"	3' 0"	5' 7"	31 1/2	80	
4	190.00	10' 4"	3' 0"	5' 7"	31 1/2	80	
5	230.00	12' 8"	3' 0"	5' 7"	31 1/2	100	
6	270.00	15' 0"	3' 0"	5' 7"	31 1/2	100	
7	312.00	17' 4"	3' 0"	5' 7"	31 1/2	120	
8	360.00	19' 8"	3' 0"	5' 7"	31 1/2	120	



Fig. No. 304

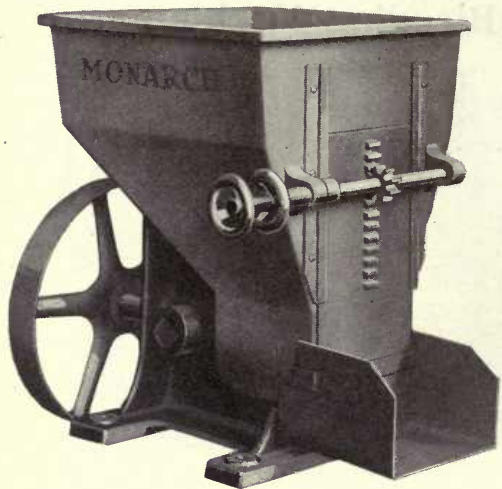
## The Monarch Cylinder Mixer and Feeder

This feeder is specially recommended for feeding flour that has become lumpy, due to hard packing, etc.

The cylinder has enough of the grinding action to thoroughly pulverize and feed the same to the elevator or to the blender so that it will re-bolt with little or no loss. The best feeder for feeding in material accumulated from chokes. We build them in groups of two or more machines for mixing chick feed.

### Dimensions, Prices, Etc.

No.	Price	Height Inches	Width Inches	Length Inches	Size of Pulley Inches	Speed
1	\$20.00	37	16	22	18 x 3	35
2	30.00	37	20	24 1/2	18 x 3	35



# The Monarch Poultry Food Feeder

The demonstrated convenience, economy and accuracy of the machine illustrated, has brought it into prominence and general use in milling plants, poultry ranges and private enterprises where the qualities enumerated above are appreciated as necessities.

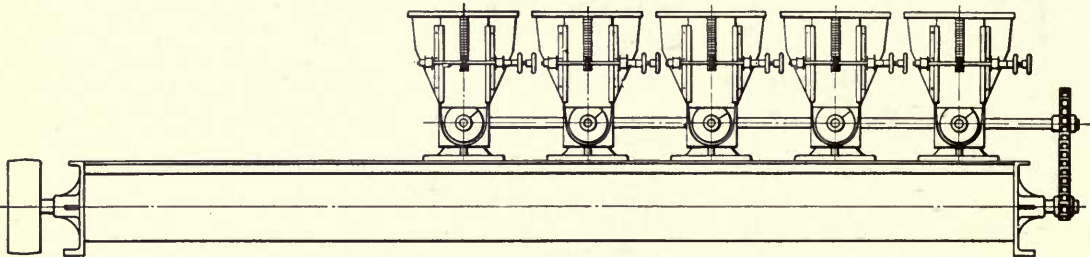
It will feed any kind of stock used in poultry raising; is easily adjusted for quantity, non-chokeable, has light joints to prevent leakage and is well and carefully built of best materials throughout.

The combination of two or more of these units with a special conveyor, as described below, makes a very efficient and satisfactory mixing outfit, which is reasonable in price, easy to install and requires very little attention after once being set up and regulated.

## Prices, Dimensions, Etc.

Size No.	Price	EXTREME DIMENSIONS			Floor to Center of Pulley Inches	Size of Pulley Inches	Speed R. P. M.
		Length	Width	Height			
3	\$30.00	1' 4½"	1' 8"	1' 7½"	4⅞	8 x 2	50

# The Monarch Poultry Food Feeding and Mixing Outfit



A feeding and mixing outfit is indispensable to those who raise poultry on a large scale or who cater to the wants of those engaged in this occupation, and whatever the scale of operation or the demands of the individual, conditions are ably met by the Monarch Equipment illustrated herewith.

Two or more feeders are used in this combination and steadily discharge the cracked corn, grit, charcoal, salt, gravel, crushed bone or whatever materials are to compose the feed, into a mixing conveyor, where they are thoroughly mixed by the action of the specially constructed flights.

Quantities are easily and quickly regulated by means of adjusting screw and ratchet. The short conveyor sections contained in the feeders make choking up impossible and guarantee a uniform supply of each commodity to the mixer.

Power required to operate is very small, construction is of steel and iron which gives both strength and neatness and the entire outfit will give years of satisfactory service with profitable results.

## Prices, Dimensions, Etc.

No. of Feeders	Price	EXTREME DIMENSIONS			Speed of Conveyor Shaft R. P. M.	Size of Pulley Inches
		Length Feet	Width	Height		
2	\$ 90.00	6	2' 2"	2' 6"	150	8 x 3
3	125.00	8	2' 2"	2' 6"	150	8 x 3
4	175.00	10	2' 6"	2' 9"	150	8 x 4
5	215.00	12	2' 6"	2' 9"	150	8 x 4
6	255.00	14	2' 6"	2' 9"	150	8 x 5
7	295.00	16	2' 6"	2' 9"	150	8 x 5
8	335.00	18	2' 6"	2' 9"	150	8 x 5

NOTE. Prices are for machine with ordinary steel conveyor; if mixing conveyor is desired, price additional quoted on application.



# Gardner's Patent Combined "Rapid" Sifter and Mixer

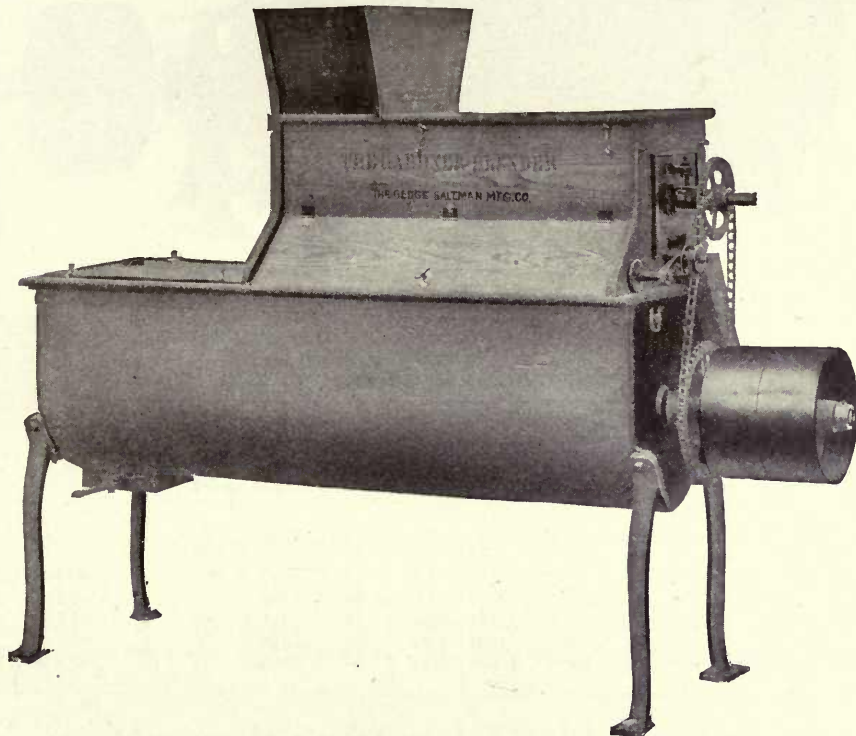


Fig. No. 305  
Sizes for Power—Pulley Drive

A reference to illustration above will show that this machine is fitted with fast and loose pulleys for power driving.

Hundreds in use for baking powder, self-rising flour, coffee, chicory and powders.

## Sizes, Dimensions, Capacities and Prices

Size	Extreme Length	Extreme Width	Extreme Height	Diam. of Cylinder Inches	Length of Cylinder	Cap. in Flour, Per Chge. Lbs.	Cap. Cont. Flow Per Hour, Bbls.	Diam. of Brush Inches	Length of Brush Inches	Height to Center of Pulley, In.	Size of Tight and Loose Pulleys, In.	Pulley Speed R. P. M.	Horse Power	Price Plain Iron	Price Gal. Iron	Shipping Weight Lbs.
C	4' 0"	1' 8"	4' 8"	14	2' 6"	75	6	6	22	29	12x3	50	$\frac{3}{4}$	\$ 80.00	\$ 90.00	350
D	4' 10"	1' 8"	5' 0"	14	3' 4"	100	8	8	24	29	14x4	45	1	100.00	110.00	450
E	6' 10"	1' 8"	5' 2"	14	5' 0"	150	10	8	30	29	14x4	45	1	125.00	138.00	500
F	6' 0"	2' 0"	5' 6"	18½	4' 0"	200	20	10	30	27	18x5	40	2	150.00	165.00	700
G	7' 9"	2' 0"	5' 6"	18½	5' 10"	300	25	10	36	27	20x5	40	2	175.00	195.00	900
H	7' 4"	2' 4"	5' 8"	22½	5' 0"	400	35	12	36	28	20x6	35	2½	200.00	220.00	1,000
I	8' 10"	2' 4"	5' 10"	22½	6' 6"	500	45	12	42	28	20x6	35	3	240.00	265.00	1,450

The Gardner Mixer

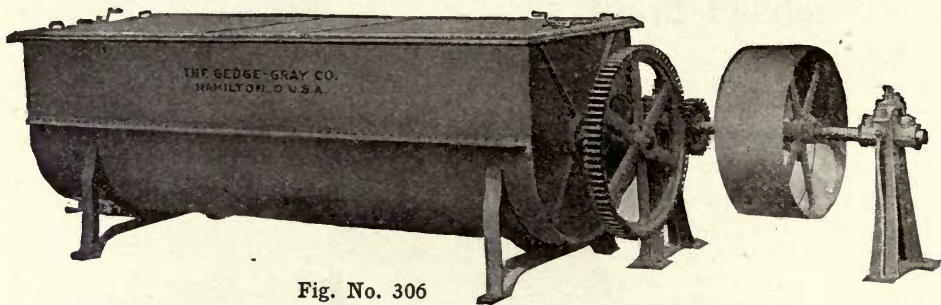


Fig. No. 306

This style machine is expressly adapted where no sifting is required, is constructed exactly in the same sizes and style as the Combined Sifter and Mixer, and is furnished with gears, countershaft and pulleys as shown in cut.

Sizes, Dimensions, Capacities and Prices

Size	Extreme Length	Extreme Width	Extreme Height	Diam. of Cylinder Inches	Length of Cylinder	Cap. Flour Per Charge Pounds	Capacity Continuous Flow Per Hour, Bbls.	Height to Center of Pulley Inches	Size Tight and Loose Pulleys Inches	Pulley Speed R. P. M.	Horse Power	Price Plain Iron	Price Gal. Iron	Shipping Weight Pounds
JJ	9' 0"	3' 0"	2' 10"	24	7' 0"	600	55	18	22x5	120	2	\$245.00	\$270.00	1,300
	10' 0"	3' 2"	3' 0"	26	8' 0"	800	65	18	24x5	100	2 1/2	320.00	355.00	1,500
K	10' 0"	3' 6"	3' 3"	30	8' 0"	1,000	70	18	24x5	100	3	360.00	400.00	1,800
L	10' 6"	3' 10"	3' 9"	36	7' 6"	1,500	85	24	30x6	80	4	475.00	525.00	2,300
M	13' 0"	3' 10"	3' 9"	36	10' 0"	2,000	100	24	30x6	80	5	575.00	625.00	3,000
N	13' 0"	4' 4"	4' 3"	42	10' 0"	3,000	150	24	36x6	75	8	690.00	750.00	4,500
O	13' 0"	4' 10"	4' 9"	48	10' 0"	4,000	200	24	30x8	75	10	850.00	925.00	6,000

Batch Sifter and Mixer

Batch Sifters and Mixers are suitable for the blending of self-rising flours, cereals, all kinds of prepared powders for cereals, and washing preparations, drugs, coffees and spices, and all kinds of feeds and like materials.

Our Sifters and Mixers are provided with an intake hopper, which contains an adjustable automatic feeder which is adjustable from 0 to maximum capacity, insuring a steady continuous feed to sieve, and are constructed of the very best material and workmanship, on the most scientific principles of perfection attained in this type of Blenders.

Machine will be furnished with or without sifters, as desired.

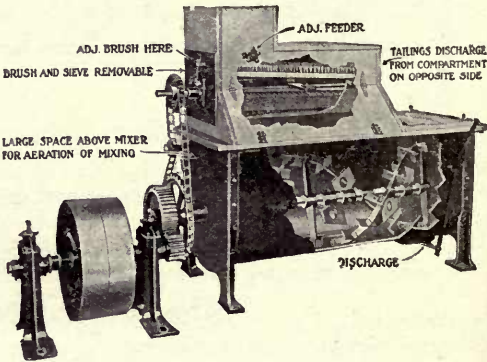


Fig. No. 307

Sizes, Dimensions, Capacities and Prices

Cap. Flour Per Charge Pounds	Price with Direct Drive	Price with Gear Drive	For Clutch Drive Add to List	Shipping Weight Pounds	Price Without Sieve At. Deduct	L'gh Over all Without Counter Drive	Width Over all	Height Over all	Diameter Cylinder Inches	Length Cylinder Inches	Size Brush Inches	Cap. Con. Per Hour Bbls.	Height to Cen. of Pul. Inches	Size Pulley Inches	Pulley Speed R. P. M.	Horse Power
150	\$125.00	-----	\$6.00	650	\$27.00	5' 2"	2' 0"	3' 1"	14	48	10x24	10	12	20x4	60	1
300	170.00	\$200.00	7.00	1225	34.00	5' 5"	2' 1"	4' 8"	21	48	10x24	20	16	20x4	200	1 1/2
400	210.00	230.00	7.00	1350	36.00	6' 5"	2' 1"	4' 8"	21	60	10x30	25	16	20x4	200	2
500	244.00	260.00	7.50	1600	38.00	7' 5"	2' 1"	4' 8"	21	72	10x30	30	16	20x4	200	2 1/2
600	-----	300.00	9.25	1800	40.00	6' 1"	2' 6"	5' 6"	26	54	10x30	35	19	24x5	300	2
700	-----	335.00	9.25	2000	45.00	6' 7"	2' 6"	5' 6"	26	60	10x36	40	19	24x5	300	2 1/2
1000	-----	425.00	10.00	2350	50.00	9' 7"	2' 6"	5' 6"	26	96	10x40	65	19	24x5	300	3
1400	-----	500.00	13.50	3300	55.00	7' 0"	3' 6"	6' 8"	36	60	12x40	70	24	24x6	300	4
2000	-----	650.00	15.00	4200	60.00	10' 0"	3' 6"	6' 8"	36	96	12x50	100	24	30x8	300	6



## The Gauntt Adjustable Feeder

The illustration of the Gauntt Improved Adjustable Continuous Feeder shows a simple device which is an indispensable necessity in a well equipped mill or in blending plants of all kinds for accurately feeding in, or blending several different kinds of stock in any desired quantity. By the use of two or more of these machines a mixing outfit of superior quality can be obtained.

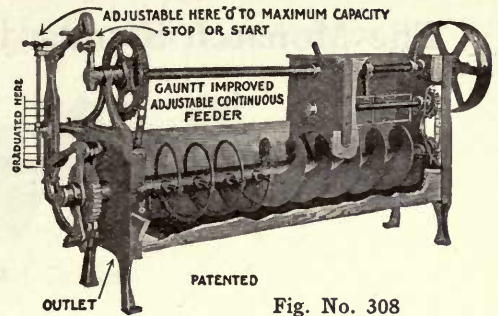


Fig. No. 308

### Prices, Dimensions, Weights, Etc.

Number Machine	Price	OVER ALL, INCHES			ON FLOOR, INCHES				SIZE INLET, INCHES				Size Pulley Inches	Capacity Bushels Per Hr.	Ship'g Weight Lbs.
		Length	Width	Height	Length	Width	Height A	Height B	W'th F	L'th G	W'th L'th	L'th			
430	\$32.00	50	14	22	39	7 1/2	14	19	4 1/2x15	4 1/2x 8	8x3	15	8x3	15	135
636	42.00	67 1/4	17 1/2	29	49 3/4	9 1/2	16	21 1/4	6 1/2x20	6 1/2x10	8x3	45	8x3	45	190
930	65.00	58	19	33	46 1/2	12	21 1/2	27	9 1/2x12	9 1/2x 8	14x3	150	14x3	150	240
936	70.00	64	19	33	52 1/2	12	21 1/2	27	9 1/2x18	9 1/2x14	14x3	200	14x3	200	260
948	80.00	75 3/4	19	33	64	12	21 1/2	27	9 1/2x30	9 1/2x20	14x3	250	14x3	250	315
1236	160.00	67 1/2	30	47 1/2	50 1/2	17	26 1/2	32 1/2	12 1/2x16	12 1/2x 8	20x4	400	20x4	400	500
1248	170.00	79 1/2	30	47 1/2	59 1/2	17	26 1/2	32 1/2	12 1/2x24	12 1/2x16	20x4	450	20x4	450	530
1260	180.00	89 1/2	30	47 1/2	69 1/2	17	26 1/2	32 1/2	12 1/2x36	12 1/2x24	20x4	500	20x4	500	700
1648	220.00	95 1/2	35	72	74 1/2	23 1/2	46 1/2	53 1/4	17 x20	17 x16	20x5	700	20x5	700	1080
1660	240.00	107 3/4	35	72	86 1/2	23 1/2	46 1/2	53 1/4	17 x32	17 x20	20x5	800	20x5	800	1200
Chemical 4	50.00	50	14	22	39	7 1/2	14	19	4 1/2x15	-----	8x3	300 lbs.	8x3	300 lbs.	140
" 6	65.00	67 1/4	17 1/2	29	49 3/4	9 1/2	16	21 1/4	6 1/2x20	-----	8x3	800 lbs.	8x3	800 lbs.	220

### Speed of All Machines—20 to 50

These dimensions are approximate and are not intended for installation purposes. We will not be responsible for errors caused thereby. Send for blue prints. For Pulleys or Sprockets larger than standard an extra charge will be made. A, Height to top of Hopper without Legs. B, Height to top of Hopper with Legs. Use size "F" inlet for soft or ground material that flows slowly. Use size "G" inlet for grain and coarse material that flows easily.

## The Monarch Sectional Flight Conveyor With Heavy Flights

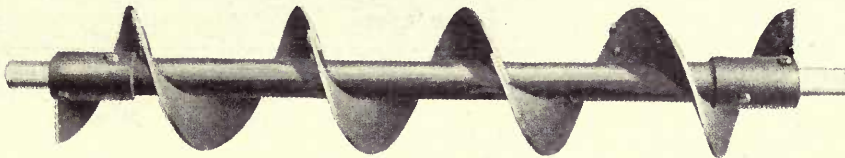


Fig. No. 309

### Price List

Diameter Inches	Thick-ness of Steel Flights Inches	Inside Diam. Hollow Shaft Inches	Per Foot Price	Stand. Length Feet	Outside Diam. of Hollow Shaft Inches	Diam. of Coup. Inches	Diameter Inches	Thick-ness of Steel Flights Inches	Inside Diam. Hollow Shaft Inches	Price per Foot	Stand. Length Feet	Outside Diameter of Hollow Shaft Inches	Diam. of Coup. Inches
4	3/8	1	\$2.50	8	1 1/8	1	12	1/2	3	\$15.00	12	3 1/2	3
4	1/2	1	3.00	8	1 1/8	1	14	1/2	2	7.00	12	2 3/8	2
4	3/4	1	3.50	8	1 1/8	1	14	3/4	2	8.00	12	2 3/8	2
6	3/8	1 1/2	3.00	10	1 1/8	1 1/2	14	1/2	3	8.00	12	3 1/2	3
6	1/2	1 1/2	3.50	10	1 1/8	1 1/2	14	3/4	3	9.00	12	3 1/2	3
6	3/4	1 1/2	4.00	10	1 1/8	1 1/2	16	1/2	2	9.00	12	2 3/8	2
6	1	1 1/2	5.50	10	1 1/8	1 1/2	16	3/4	2	9.50	12	2 3/8	2
9	3/8	1 1/2	3.75	10	1 1/8	1 1/2	16	1/2	3	9.00	12	3 1/2	3
9	1/2	1 1/2	4.75	10	1 1/8	1 1/2	16	3/4	3	10.00	12	3 1/2	3
9	3/4	1 1/2	5.50	10	1 1/8	1 1/2	16	1	3	12.00	12	3 1/2	3
9	1	2	4.75	10	2 3/8	2	16	3/8	3	15.00	12	3 1/2	3
9	1 1/4	2	5.50	10	2 3/8	2	16	1/2	3	18.00	12	3 1/2	3
9	1 1/2	2	6.25	10	2 3/8	2	18	1/2	3	12.50	12	3 1/2	3
9	1 3/4	2	7.25	10	2 3/8	2	18	3/4	3	14.00	12	3 1/2	3
9	2	2	8.00	10	2 3/8	2	18	1	3	16.00	12	3 1/2	3
12	3/8	2	6.00	12	2 3/8	2	18	3/8	3	20.00	12	3 1/2	3
12	1/2	2	7.00	12	2 3/8	2	18	1/2	3	25.00	12	3 1/2	3
12	3/4	3	7.00	12	3 1/2	3	20	1/2	3	14.00	12	3 1/2	3
12	1	3	8.50	12	3 1/2	3	20	3/4	3	16.50	12	3 1/2	3
12	1 1/4	3	10.00	12	3 1/2	3	20	1	3	19.00	12	3 1/2	3
12	1 1/2	3	11.50	12	3 1/2	3							

Prices above are for regular strength of pipe shaft, and include one hanger and one coupling for each standard section. Lining not included with heavy conveyors.

# The Monarch Standard Sectional Flight Conveyor

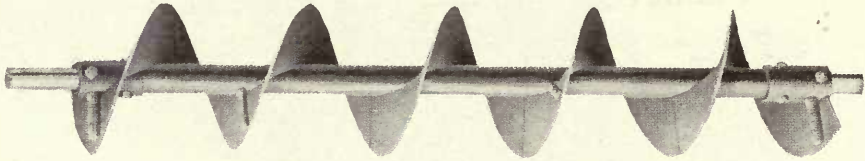
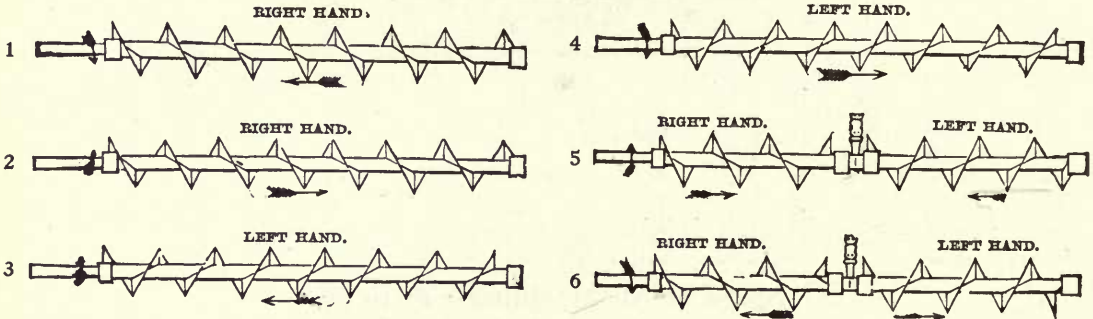


Fig. No. 310



The arrows indicate in the cuts which way the conveyors turn and also which way the material is conveyed. Conveyors run by belts can be made to run either way by operating the belts crossed or straight. Changing the conveyor end for end does not change the direction in which it conveys. In ordering pick out the conveyor with the motion you want from the diagram. Send us this number, the length and diameter of driving end, and we will fill your order promptly.

## Price List

Diameter Inches	Price Per Foot Standard Steel	Price Per Foot Galvanized Steel	Standard Lengths Feet	Inside Diam. of Hollow Shaft Inches	Outside Diam. of Hollow Shaft Inches	Diam. of Couplings Inches
4	\$1.40	\$1.90	8	1	1 <sup>5</sup> / <sub>16</sub>	1
6	2.00	2.70	10	1 ½	1 <sup>11</sup> / <sub>16</sub>	1 ½
9	2.50	3.50	10	1 ½	1 <sup>11</sup> / <sub>16</sub>	1 ½
12	3.50	5.00	12	2	2 <sup>3</sup> / <sub>8</sub>	2
16 on 2	5.00	7.00	12	2	2 <sup>3</sup> / <sub>8</sub>	2
16 on 3	6.25	8.75	12	3	3 ½	3
18	7.50	10.50	12	3	3 ½	3

Price list includes one hanger and one coupling for each standard length, with necessary bolts and linings.

For Galvanized Conveyor we do not regularly furnish hangers and box end galvanized. Unless specially ordered to the contrary, the fittings furnished by us will be black.

Standard lengths as given above include the width of one hanger bearing.

We can furnish sections of conveyor in any desired lengths, but for readier shipment from stock recommend the use of standard lengths as far as possible.

It is always preferable to use a cast-iron box end as a bearing for the driving ends of conveyor.

If a regular hanger is to be used for this purpose, an extra one should be ordered, for which an additional charge is made.

A proper reduction is made for fittings not needed.



# The Monarch Standard Helicoid Conveyor



Fig. No. 311

## Dimensions and Prices

Diameter Inches	Price Per Foot Standard Steel	Price Per Foot Galvanized Steel	Standard Lengths Feet	Diam. of Couplings Inches	In. Diam. of Hol. Sh't Inches	Out. Diam. of Hol. Sh't Inches	Rev. per Minute	Capacity Per Hour Bushels	Diameter Inches	Price Per Foot Standard Steel	Price Per Foot Galvanized Steel	Standard Lengths Feet	Diam. of Couplings Inches	In. Diam. of Hol. Sh't Inches	Out. Diam. of Hol. Sh't Inches	Rev. per Minute	Capacity per Hour Bushels
3	\$1.40	\$1.90	8	$\frac{3}{4}$	1	$1\frac{5}{16}$	100	75	9	\$2.50	\$3.50	10	$1\frac{1}{2}$	2	$2\frac{3}{8}$	150	1000
4	1.40	1.90	8	1	$1\frac{1}{4}$	$1\frac{5}{8}$	100	100	10	3.00	4.20	10	$1\frac{1}{2}$	2	$2\frac{3}{8}$	160	1100
5	2.00	2.70	8	1	$1\frac{1}{4}$	$1\frac{5}{8}$	140	200	12	3.50	5.00	12	2	$2\frac{1}{2}$	$2\frac{7}{8}$	160	2000
6	2.00	2.70	10	$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{8}$	140	300	14	5.00	7.00	12	$2\frac{7}{16}$	3	$3\frac{1}{2}$	160	3000
7	2.50	3.50	10	$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{8}$	140	400	16	6.25	8.75	12	3	$3\frac{1}{2}$	4	160	5000
8	2.50	3.50	10	$1\frac{1}{2}$	2	$2\frac{3}{8}$	150	750									

The standard lengths as given above include the width of one hanger bearing.

Price list above includes one hanger and one coupling for each standard length, with necessary coupling bolts and linings.

The sizes shown in **black face** type are regular sizes carried in stock in standard lengths. The sizes shown in regular type are odd sizes not carried in stock.

# The Monarch Heavy Helicoid Conveyor

The process of manufacturing Helicoid Conveyors permits the production of heavy conveyors of any desired thickness of flight and the use of any size of pipe or shaft.

As the preparation of the machinery for making special conveyors is expensive, we give below prices of heavy conveyors as regularly made, and by ordering from this list prompt shipment will be secured.

## Price List

Diameter Inches	Price Per Foot	Standard Length Feet	Thickness of Flight Next Pipe Inches	Thickness of Flight Outer Edge Inches	Inside Diameter Pipe Inches	Diameter Couplings Inches	If Made on Solid Shaft Diam. Shaft Inches
4x	\$2.50	8	$\frac{3}{16}$	.11	$1\frac{1}{4}$	1	$1\frac{5}{8}$
6x	3.00	10	$\frac{1}{4}$	.125	$1\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{8}$
6xx	3.50	10	$\frac{3}{8}$	.2	$1\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{8}$
7x	3.75	10	$\frac{1}{4}$	.141	$1\frac{1}{2}$	$1\frac{3}{16}$	$1\frac{15}{16}$
9x	4.75	10	$\frac{3}{8}$	.172	2	$1\frac{1}{2}$	$2\frac{3}{8}$
9xx	5.50	10	$\frac{3}{8}$	.19	$2\frac{1}{2}$	2	$2\frac{15}{16}$
10xx	6.50	10	$\frac{3}{8}$	.19	$2\frac{1}{2}$	2	$2\frac{15}{16}$
12x	6.00	12	$\frac{3}{8}$	.17	$2\frac{1}{2}$	2	$2\frac{15}{16}$
12xx	7.00	12	$\frac{3}{8}$	.18	3	$2\frac{7}{16}$	$3\frac{7}{16}$
12xxx	8.50	12	$\frac{1}{2}$	.25	$3\frac{1}{2}$	3	$3\frac{15}{16}$
14xx	8.00	12	$\frac{7}{16}$	.234	$3\frac{1}{2}$	3	$3\frac{15}{16}$
16xxx	10.00	12	$\frac{1}{2}$	.25	4	3	$4\frac{7}{16}$

Prices above are for regular strength of pipe shaft, and include one hanger and one coupling for each standard section. Lining not included with heavy conveyors.

## Directions for Ordering

State whether right-hand conveyor or left-hand conveyor is wanted.

State whether linings and hangers are wanted, and state style of hanger preferred.

State length and diameter of driving end, and if possible, order driving ends of standard diameters.

When possible, order conveyors in feet without fractional parts of a foot, and we can fill promptly with stock lengths.

All conveyors made of steel unless otherwise ordered.

All conveyors shipped right hand at our discretion unless otherwise ordered.

Unless order specifies exact length of pipe, we deduct from length given the width of one hanger bearing.

## Conveyors with Mixing Paddles

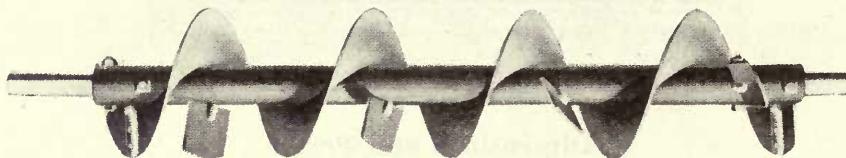


Fig. No. 312

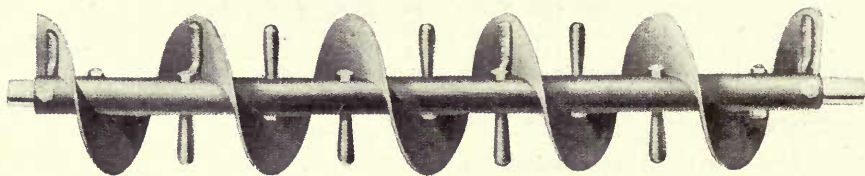


Fig. No. 313

To thoroughly mix, in transit, several kinds of material or several grades of the same material, we sometimes recommend the use of our Standard Conveyor with Mixing Paddles inserted.

By setting these paddles in the direction opposite to the pitch of the conveyor flights, the material is thrown back and the combined forward and backward movement accomplishes the mixing.

These conveyors are used in lines 24, 36 and 48 feet long, or one or two sections can be placed at the delivery end of the regular conveyor to mix the feed or other material before it is discharged.

Prices will be quoted on application.

## Ribbon Conveyor



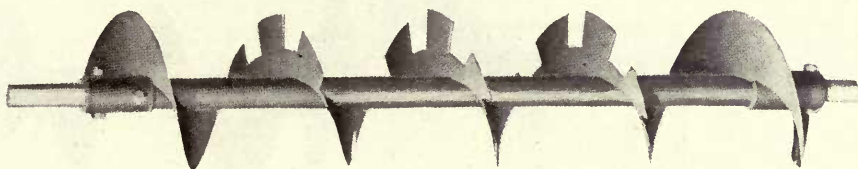
Fig. No. 314

Especially adapted to the handling of sticky materials, the clear space between the flights and pipe preventing the collection of any substance where they join.

Prices will be quoted on application.



## Cut Flight Conveyor

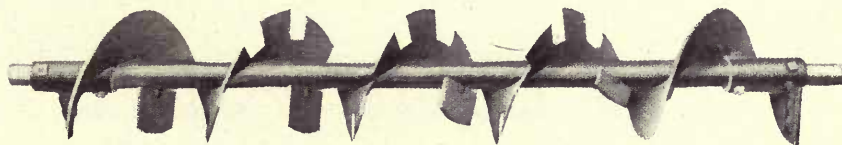


**Fig. No. 315**

This conveyor is designed to remove sand, grit and other foreign substances from cotton seed, insuring a clean product for gin or storage. Perforated conveyor box lining must be used for this purpose.

Prices furnished on application.

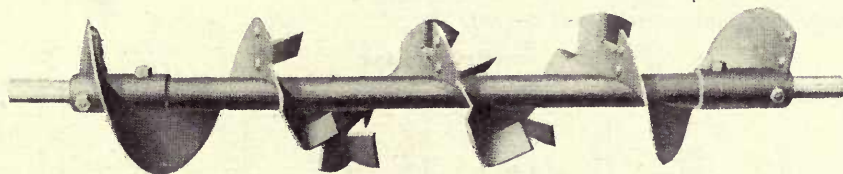
## Cut Flight Conveyor with Mixing Paddles



**Fig. No. 316**

For thoroughly mixing material in a short conveyor. Prices furnished on application.

## Cut and Folded Flight Conveyor



**Fig. No. 317**

A type of mixing and drying conveyor which has been found efficient and suitable for use with a large variety of materials.

Prices furnished on application.

The Monarch Standard Conveyor Couplings

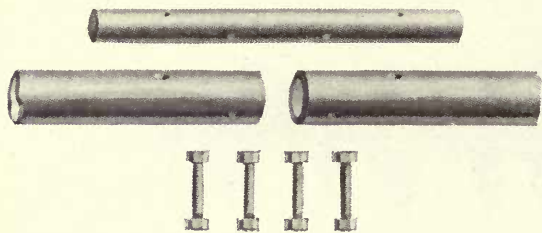


Fig. No. 318

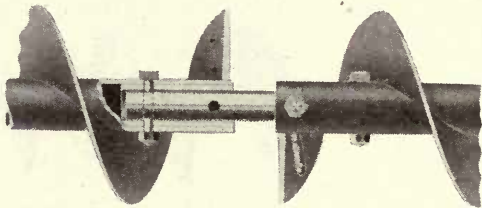


Fig. No. 319

Prices and Dimensions

Diameter of Conveyor, Inches	Diameter of Coupling Inches	Price Each
3.....	3/4	\$0.30
4.....	1	.50
5-6-7-8-9-10.....	1 1/2	.75
9-10-12-14-16.....	2	1.50
12-14-16.....	2 7/8	2.00
12-14-16-18.....	3	2.50

Conveyor Coupling Bolts—Square Head and Nut  
Price List

Diameter of Conveyor	Size of Bolt Inches	Price Per Dozen
4-inch on 1-inch pipe.....	3/8 x 2 1/4	\$0.40
5-inch 6-inch 8-inch on 1 1/2-inch pipe.....	1/2 x 3	.60
9-inch		
10-inch		
12-inch	5/8 x 4	.90
14-inch on 2-inch pipe.....		
16-inch		
12-inch on 2 1/2-inch pipe.....	5/8 x 4 1/2	1.00
14-inch		
16-inch		
14-inch on 3-inch pipe.....	3/4 x 5	1.40
16-inch		

Drive Ends for Conveyor

The standard diameters of driving ends are as follows:

Diameter of conveyor:  
4" 6" 9" 12" 16 on 2" 16 on 3" 18"  
Diameter of drive end:  
1" 1 1/2" 1 1/2" 2" 2" 3" 3"

Can furnish any diameter drive end desired.

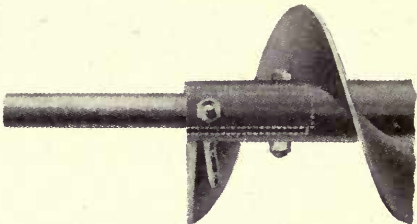


Fig. No. 320

Price List

Projection from Pipe, Inches	Diameter 1 Inch	Diameter 1 1/2 Inches	Diameter 2 Inches	Diameter 2 1/4 Inches	Diameter 3 Inches
6	\$0.70	\$1.20	\$2.00	\$2.70	\$3.40
8	.80	1.35	2.25	3.05	3.95
10	.90	1.50	2.50	3.40	4.50
12	1.00	1.65	2.75	3.75	5.05
14	1.10	1.80	3.00	4.10	5.60
16	1.20	1.95	3.25	4.45	6.15
18	1.30	2.10	3.50	4.80	6.70
20	1.40	2.25	3.75	5.15	7.25
22	1.50	2.40	4.00	5.50	7.80
24	1.60	2.55	4.25	5.85	8.35



# The Monarch Standard Sectional Conveyor Flight

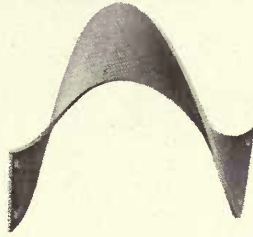


Fig. No. 321

## Price List

Diameter of Conveyor Inches	THICKNESS OF FLIGHTS, INCHES							Approximate Pitch Inches
	Standard	⅛-Inch	1/16-Inch	¼-Inch	⅜-Inch	½-Inch	¾-Inch	
3	\$0.20	\$0.30	-----	-----	-----	-----	-----	3½
4	.20	.30	\$0.50	\$0.75	-----	-----	-----	4½
5	.30	.40	-----	-----	-----	-----	-----	6
6	.30	.40	.60	1.00	-----	-----	-----	6
7	.45	.65	1.00	-----	-----	-----	-----	6
8	.45	.65	1.00	1.50	-----	-----	-----	8½
9	.45	.65	1.00	1.50	\$2.50	\$2.50	-----	10
10	.75	1.00	1.50	2.20	2.75	3.25	-----	10
12	.75	1.00	1.50	2.20	2.75	3.25	-----	12
14	1.00	1.20	2.25	3.50	4.50	5.00	-----	14
16	1.35	-----	2.50	4.00	5.00	5.75	\$ 7.50	16
18	2.25	-----	3.50	5.25	6.00	7.50	10.00	18

When ordering flights, be particular to give the pitch of screw, inside or outside diameter of pipe and whether right or left hand. In case any flights are wanted for the end of the section of conveyor, it should be noted, as end flights have a space cut to allow them to go over the end collar on the pipe.

## Flight Studs



Fig. No. 322



Fig. No. 323

For end flights use the short stud with threaded end, which is screwed into collar on end of pipe and riveted to flight. Lugs for center flights have a long shank which passes through both walls of pipe and is riveted on opposite side. Lugs are made of Norway iron.

In ordering studs, state whether for end or center flights and give size of conveyor.

## Price List

Size of Conveyor Inches	CENTER STUD		Size of Conveyor Inches	END STUD	
	Size of Stud Inches	Price		Size of Stud Inches	Price
4	⅜	\$0.04	4	½	\$0.09
6	7/16	.05	6	5/8	.11
8	7/16	.06	8	5/8	.12
9	7/16	.06	9	5/8	.12
10	7/16	.06	10	5/8	.12
12	5/8	.07	12	¾	.16
14	5/8	.08	14	¾	.18
16	5/8	.08	16	7/8	.25
18	5/8	.08	18	7/8	.25

Regular Styles of Hangers for Conveyors

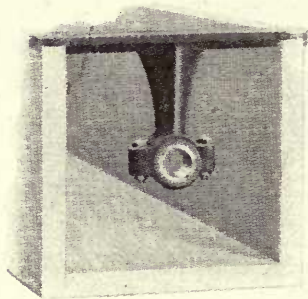


Fig. No. 324

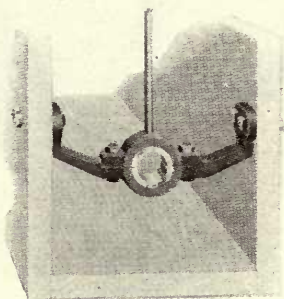


Fig. No. 325

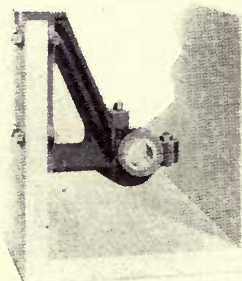


Fig. No. 326

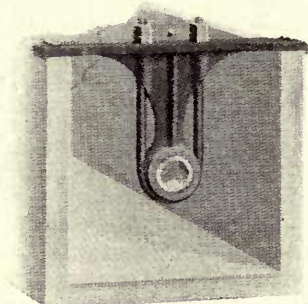


Fig. No. 328

Illustrations Showing Regular Hangers for Conveyors

Price List

Diameter Conveyor Inches	Diameter Coupling Inches	Width of Bearing Inches	Fig. 324-A Solid Eye	Fig. 324 Bolted Cap	Fig. 325	Fig. 326	Fig. 327	Fig. 328	Fig. 329	Fig. 330
3	3/4	1 1/2	\$0.40							
4	1	1 1/2	.45	\$0.60						
5	1	1 1/2	.60					\$2.00		
5	1 1/2	2	.60							
6	1 1/2	2	.60	.90	\$1.00	\$1.00	2.50	\$1.00	\$1.00	\$1.40
7	1 1/2	2	1.00							
8	1 1/2	2		1.00	1.20		2.75	1.20	1.20	1.70
9	1 1/2	2		1.00	1.20	1.60	2.75	1.20	1.20	1.70
9	2	2		1.40	1.70		3.00	1.70	1.70	2.20
10	1 1/2	2		1.40	1.70		3.25	1.70	1.70	2.40
10	2	2		1.60	1.80		3.50	2.00	2.00	2.50
12	2	2		1.80	2.00	2.40	3.50	2.00	2.00	2.50
12	2 7/16	3		2.50	2.50		4.50	2.75	2.75	3.50
12	3	3		2.70	2.70		5.00	3.25	3.25	4.00
14	2	2		3.00	3.00		5.00	3.00	3.00	3.75
14	2 7/16	3		3.40	3.40		5.50	3.40	3.40	4.00
16	2	2		3.80	3.80		5.50	3.80	3.80	4.25
16	3	3		4.50	4.50	5.00	6.00	4.50	4.50	5.00
18	3	3		5.50	5.50		7.00	5.50	5.50	6.00



Conveyor Hangers for Wood Box

Fig. Nos. 324 and 324-A

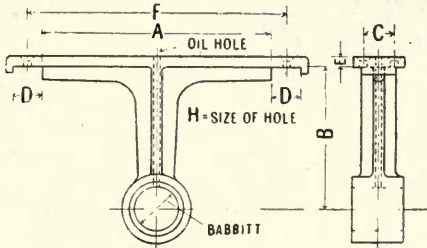


Fig. No. 324-A—Solid Eye

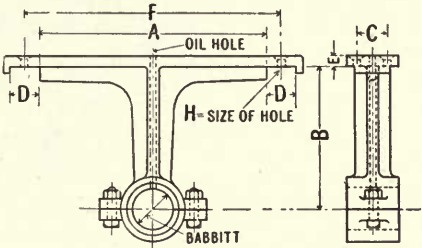


Fig. No. 324—Bolted Cap

Table of Dimensions

Diameter of Conveyor, In.	Bearing Bore Inches	Bearing Length, In.	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	H Inches
3	3/4	1 1/2	4	2 5/8	3/4	7/8	5/16	5	9/32
4	1	1 1/2	5	3	1	3/4	5/16	5 3/4	9/32
5	1	1 1/2	6	3 3/4	1	7/8	5/16	6 3/4	9/32
5	1 1/2	2	6	3 1/2	1	3/4	1/2	6 3/4	9/32
6	1 1/2	2	7	4	1 1/4	3/4	5/16	7 3/4	9/32
7	1 1/2	2	8	4 1/2	1 3/8	1	1/2	9	9/32
8	1 1/2	2	9	5	1 3/8	1 1/4	1/2	10 1/4	9/32
9	1 1/2	2	10	5 3/4	1 1/2	1 1/2	1/2	11 1/2	9/32
9	2	2	10	5 7/8	1 3/4	1 1/2	1/2	11 1/2	9/32
10	1 1/2	2	11	7	1 3/4	1 1/2	1/2	12 1/2	9/32
10	2	2	11	7	1 3/4	1 1/2	1/2	12 1/2	9/32
12	2	2	13	8 1/2	1 3/4	1 3/4	5/16	14 3/4	9/32
12	2 7/16	3	13	8 1/2	1 3/4	1 3/4	3/4	14 3/4	9/16
12	3 1/8	3	13	8 1/2	1 7/8	1 1/2	5/8	14 3/4	5/16
14	2	2	15	9 5/8	1 3/4	2	5/8	17	5/16
14	2 7/16	3	15	9 1/4	2 3/4	2	5/8	17	5/16
14	3 1/8	3	15	9 1/8	2 3/4	2	5/8	17	5/16
16	2	2	17	10 1/2	3	2	1 1/16	18 3/4	5/16
16	3	3	17	10 1/2	3 1/4	2	5/8	18 3/4	5/16
18	3	3	19	11 3/4	3 3/4	2	1 1/16	20 3/4	1 1/32

NOTE. Sizes from 3 to 7 inches inclusive are made from solid eye pattern. Above 7 inches they are made from split or bolted cap pattern.

Conveyor Hanger for Wood or Steel Box

Fig. No. 325

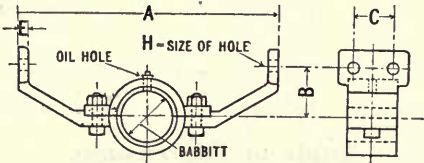


Table of Dimensions

Diameter of Conveyor, Inches	Bearing Bore Inches	Bearings Length, Inches	A Inches	B Inches	C Inches	E Inches	H Inches
4	1	1 1/2	5	3/4	1 3/8	5/16	3 3/8
6	1 1/2	2	7	2	1 3/8	5/16	3 3/8
8	1 1/2	2	9	1 1/2	2 1/4	1/2	4 1/16
9	1 1/2	2	10	2	2 1/4	1/2	4 1/16
9	2	2	10	2	2 1/4	1/2	4 1/16
10	1 1/2	2	11	2	2 1/4	5/16	4 1/16
10	2	2	11	1 3/4	2 1/4	5/16	4 1/16
12	2	2	13	2 1/2	2 1/4	5/16	4 1/16
12	3	3	13	2 1/2	2 1/4	3/4	4 1/16
14	2	2	15	3 1/4	2 3/8	3/4	4 1/16
14	2 7/16	3	15	4	3	3/4	4 1/16
16	2	2	17	3 1/2	2 3/8	5/8	4 1/16
16	3	3	17	3 7/8	2 3/8	3/4	4 1/16
18	3	3	19	3 3/4	2 1/2	3/4	4 1/16
20	3	3	21	3 7/8	2 7/8	1 1/4	4 1/16

Conveyor Hanger for Wood Box  
Fig. No. 326

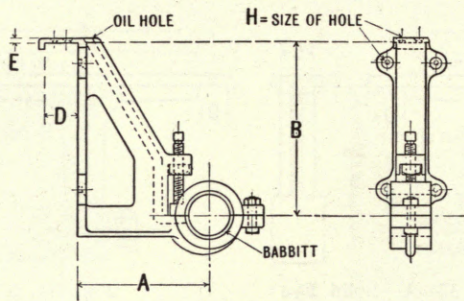


Table of Dimensions

Diameter of Conveyor Inches	Bearing Bore Inches	Bearing Length Inches	A Inches	B Inches	D Inches	E Inches	H Inches
6	1½	2	3½	4	¾	5/16	9/32
9	1½	2	5	5¾	1½	5/16	9/32
9	2	2	5	5¾	1½	5/16	9/32
10	1½	2	5½	7	1½	5/16	9/32
12	2	2	6½	8½	1¾	5/16	9/32
12	2 7/16	3	6½	8½	1¾	3/8	5/16
14	2	2	7½	9¼	1¾	3/8	5/16
14	2 7/16	3	7½	9¼	1¾	3/8	5/16
16	2	2	8½	10 7/8	1¾	7/16	5/16
16	3	3	8½	10 7/8	1¾	7/16	5/16

Conveyor Hanger for Wood Box  
Fig. No. 330

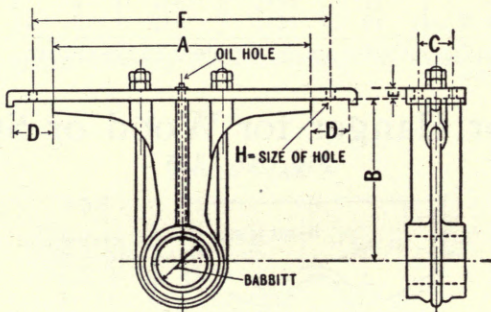


Table of Dimensions

Diameter of Conveyor Inches	Bearing Bore Inches	Bearing Length Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	H Inches
6	1½	2	7	4 1/8	1¼	¾	5/16	7¾	9/32
8	1½	2	9	5½	1¾	1½	3/8	10½	7/16
9	1½	2	10	5¾	1¾	1½	7/16	11½	7/16
9	2	2	10	5¾	1¾	1½	7/16	11	7/16
10	1½	2	11	7 1/8	2	1½	7/16	12½	7/16
10	2	2	11	7 1/8	1½	1½	7/16	12½	7/16
12	2	2	13	8 5/8	1 7/8	1¾	1/2	15	7/16
12	2 7/16	3	13	8 5/8	1¾	1¾	1/2	15	7/16
12	3	3	13	8 5/8	1¾	1¾	7/16	15½	7/16
14	2 7/16	3	15	9¼	1¾	1½	1/2	17	7/16
16	2	2	17	10½	1¾	1½	1/2	19	7/16
16	3	3	17	10½	2½	1½	1/2	19	7/16
18	3	3	19	12	2½	1 5/8	9/16	21	9/16



# Conveyor Hanger for Wood Box

Fig. No. 328

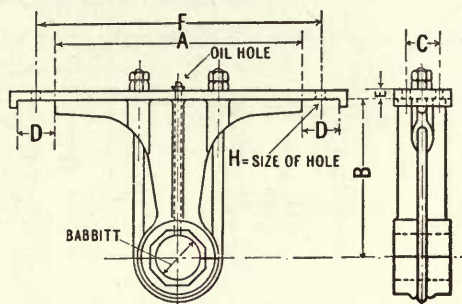


Table of Dimensions

Diameter of Conveyor Inches	Bearing Bore Inches	Bearing Length Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	H Inches
6	1½	2	7	4⅛	1¼	¾	⅝	7¾	⅞
8	1½	2	9	5½	1¾	1½	¾	10½	⅞
9	1½	2	10	5¾	1¾	1½	⅞	11½	⅞
9	2	2	10	5⅞	1¾	1½	⅞	11	⅞
10	1½	2	11	7⅞	2	1½	⅞	12½	⅞
10	2	2	11	7⅞	1⅝	1½	⅞	12½	⅞
12	2	2	13	8⅝	1⅞	1¾	½	15	⅞
12	2⅞	3	13	8⅝	1¾	1¾	½	15	⅞
12	3	3	13	8⅝	1¾	1¾	⅞	15½	⅞
14	2⅞	3	15	9¼	1¾	1½	½	17	⅞
16	2	2	17	10½	1¾	1⅝	½	19	⅞
16	3	3	17	10½	2½	1⅝	½	19	⅞
18	3	3	19	12	2½	1⅝	⅞	21	⅞

# Conveyor Hanger for Wood and Steel Box

Fig. No. 329

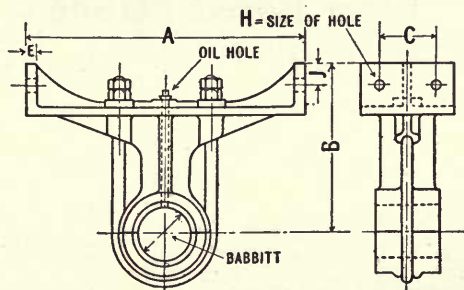


Table of Dimensions

Size Conveyor Inches	Bearing Bore Inches	Bearing Length Inches	A Inches	B Inches	C Inches	E Inches	H Inches	J Inches
6	1½	2	7	4⅜	1⅞	¼	⅞	¾
8	1½	2	9	5¾	2½	⅞	⅞	⅞
9	1½	2	10	6	2⅝	⅞	⅞	⅞
9	2	2	10	6	2⅝	⅞	⅞	⅞
10	1½	2	11	6⅜	2⅝	⅞	⅞	¾
10	2	2	11	6⅜	2⅝	⅞	⅞	¾
12	2	2	13	7⅝	2⅝	⅞	⅞	1
12	2⅞	3	13	7⅝	2⅝	⅞	⅞	1
12	3	3	13	7⅝	2⅝	½	⅞	1
14	2	2	15	9	2¾	½	⅞	⅞
14	2⅞	3	15	9	2¾	½	⅞	⅞
16	3	3	17	10⅝	2¾	⅞	⅞	1
18	3	3	19	12	3	¾	⅞	1¼

Conveyor Hanger for Wood and Steel Box  
Fig. No. 327

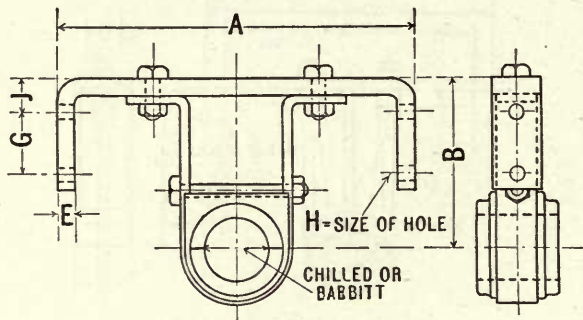


Table of Dimensions

Diameter of Conveyor Inches	Bearing Bore Inches	Bearing Length Inches	A Inches	B Inches	E Inches	G Inches	H Inches	J Inches
4	1	1½	5	2¾	¼	⅞	9/32	½
6	1½	2	7	3½	5/16	1⅛	11/32	5/8
8	1½	2	9	4¾	3/8	1¼	13/32	¾
9	1½	2	10	5½	3/8	1½	13/32	1
9	2	2	10	5½	½	1½	13/32	1
10	1½	2	11	5½	½	1¾	17/32	1⅛
10	2	2	11	5½	½	1¾	17/32	1⅛
12	2	2	13	6¼	½	2¼	17/32	1¼
12	2 7/16	3	13	6¼	5/8	2¼	17/32	1¼
12	3	3	13	6¼	5/8	2¼	17/32	1¼
14	2 7/16	3	15	7¼	5/8	2½	21/32	1⅝
16	2	2	17	9	¾	3	21/32	1½
16	3	3	17	9	¾	3	21/32	1½

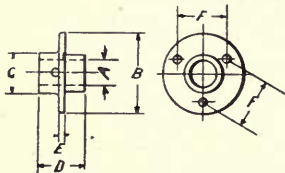


Fig. No. 331

Plain Bored Flange  
Bearings

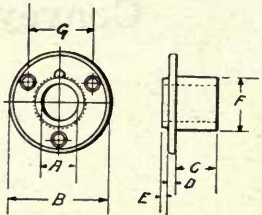


Fig. No. 332

Prices and Dimensions

Fig. No.	Diameter of Shaft Inches	Price	DIMENSIONS, INCHES				
			B	C	D	E	F
331	1	\$1.00	3 5/16	1 7/16	1 13/16	5/16	2 1/4
332	1 7/16	1.40	4 1/8	1 1/2	2 5/16	5/16	2 1/8

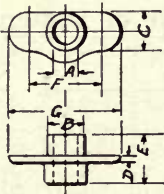


Fig. No. 333

Prices and Dimensions

Fig. No.	Diameter of Shaft Inches	Price	DIMENSIONS, INCHES				
			B	C	D	E	F
333	1 1/16	\$0.90	½	7/8	¼	2	3 5/16



## Cast Iron Box Ends for Wooden Conveyor Boxes

We recommend the use at all driving ends of Steel Conveyors of a cast iron box end, as shown in cuts on following pages. These box ends close up and strengthen the conveyor box and give a rigid bearing for the driving end. In most cases their use will dispense with the necessity of outside bearings. When the drive end is 12 inches or longer, use a box end, and for the outer end a pillow block or other suitable shaft support.

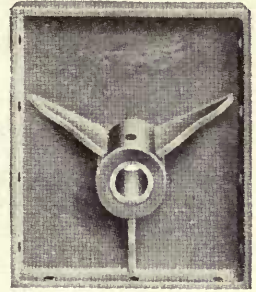


Fig. No. 334

### Prices and Dimensions

Diameter Conveyor Inches	Diam. Shaft Inches	Price Solid Pattern	Price Split Pattern	Split Pattern Removable Cap	Split Pattern Adjustable Bearing	Diameter Conveyor Inches	Diam. Shaft Inches	Price Solid Pattern	Price Split Pattern	Split Pattern Removable Cap	Split Pattern Adjustable Bearing
3	$\frac{3}{4}$	\$1.75				12	2	\$ 8.00	\$ 9.50	\$12.00	\$15.00
4	1	2.00	\$4.00	\$4.50		12	$2\frac{7}{16}$	9.00	11.00	13.50	20.00
5	1	2.75				12	3	10.00	12.00	15.00	23.00
6	$1\frac{1}{2}$	3.00	4.00	4.50	\$ 8.50	14	$2\frac{7}{16}$	11.50	13.00	16.50	25.00
8	$1\frac{1}{2}$	4.25	5.25	6.50	10.00	16	2	13.00	16.00	20.00	28.00
9	$1\frac{1}{2}$	4.50	5.50	6.75	10.00	16	3	14.00	17.00	21.00	30.00
9	2	5.00	6.50	7.50	11.00	18	3	17.00	21.00	25.00	35.00
10	$1\frac{1}{2}$	5.50	7.00	8.25	12.00	20	3	21.00	26.00	30.00	40.00
10	2	6.00	7.50	9.00	13.00						

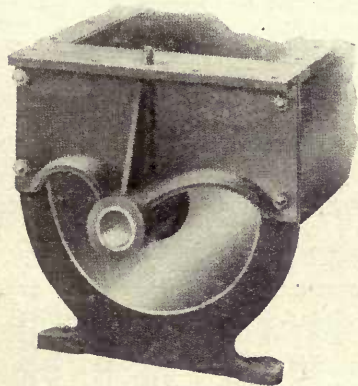


Fig. No. 335

### Discharge Box Ends for Conveyor Boxes

Where it is desired to deliver the material at the end of the conveyor box without cutting a delivery opening in the bottom of the box, we recommend the use of our special Box End for Conveyor Boxes, shown in the cut. Dimensions same as solid box ends.

### Prices and Dimensions

Diameter Conveyor Inches	Diameter Shaft Inches	Price	Diameter Conveyor Inches	Diameter Shaft Inches	Price
4	1	\$1.75	12	2	\$ 7.00
6	$1\frac{1}{2}$	2.75	12	$2\frac{7}{16}$	8.00
8	$1\frac{1}{2}$	3.80	12	3	9.00
9	$1\frac{1}{2}$	4.00	14	$2\frac{7}{16}$	10.00
9	2	4.50	16	2	11.50
10	$1\frac{1}{2}$	5.00	16	3	12.50
10	2	5.50	18	3	15.00

## Patent Delivery Gates for Either Wooden or Steel Boxes

The natural action of a conveyor is to carry more material on one side of the shaft than the other, unless the box is full. When run at high speed, the material will not deliver through ordinary openings in the bottom of the box without carrying over.

The Delivery Gate is self-contained, so that in attaching same to the wooden box no fitting is required except to properly fasten the castings to openings cut in the box. The gates reach above the center of the conveyor and are hinged, so when they are open, the fact that the conveyor carries on one side of the shaft does not interfere with the perfect discharge of the material, and this is true even though the conveyor is run at a high speed. We make the gates very much shorter than the ordinary slide openings and secure perfect delivery. Through the use of the knuckle joints and weighted levers, the gates are very easily operated, and by attaching cords to the ends of the levers, the gates can be opened or closed at any distance from the conveyor.

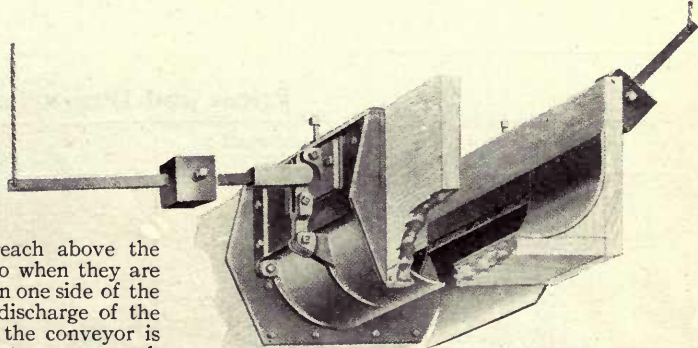


Fig. No. 336

### Price List

Diameter Conveyor Inches	Price	Diameter Conveyor Inches	Price	Diameter Conveyor Inches	Price
6	\$14.00	12	\$24.00	16	\$35.00
9	18.00	14	30.00	18	40.00

Cast Iron Bearing Ends for Steel Box

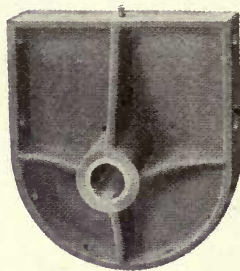


Fig. No. 337  
Inside Pattern

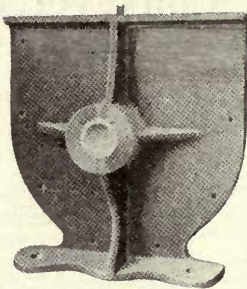
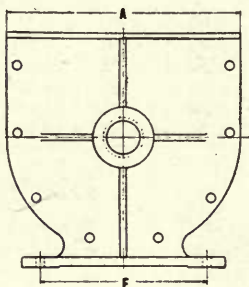
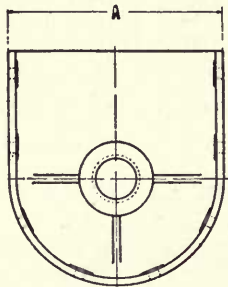


Fig. No. 338  
Outside Pattern



Dimensions of Cast Iron Box Ends for Steel Boxes

Diam. Conveyor Inches	A In.	B In.	C In.	D In.	E In.	A In.	B In.	C In.	D In.	E In.	F In.	G In.	H In.	J In.	K In.	L In.
4	5	3	2	3 5/8	2 1/2	8	3	1 7/8	3 5/8	4 5/8	3/4	1 3/4	3/8	5 3/4	7 1/4	1/2
6	7	3 1/2	2	4 1/2	3 1/2	9 3/4	3 1/2	1 1/2	4 1/2	5 5/8	1	2	3/8	8 1/8	10	1/2
8	9	4	2	5 7/8	4 1/2	12 1/2	4	1 1/2	5 7/8	7 7/8	1 1/2	2 1/2	1/2	8 3/8	11	5/8
9	10	4	2	6 1/8	5	13 1/2	4	1 5/8	6 1/8	7 7/8	1 1/2	2 3/4	1/2	9 3/8	12	5/8
10	11	4 1/2	2	6 3/8	5 1/2	14 1/2	4 1/2	1 3/4	6 3/8	8 7/8	1 3/4	3	1/2	9 1/2	12 3/4	5/8
12	13	5	2	7 3/4	6 1/2	17 1/4	5	2	7 3/4	9 5/8	1 5/8	2 5/8	5/8	12 1/4	15	3/4
14	15	5 1/2	2	9 1/4	7 1/2	19 1/4	5 1/2	2	9 1/4	10 7/8	1 5/8	2 5/8	5/8	13 1/2	16 1/2	3/4
16	17	6	2	10 5/8	8 1/2	21 1/4	6	2 1/2	10 5/8	12	2	3 1/4	5/8	14 7/8	18	3/4
18	19	6 1/2	2	12 1/8	9 1/2	23 1/2	6 1/2	2 1/2	12 1/8	13 3/8	2	3 1/2	5/8	16	19	3/4

Prices and Dimensions

Diameter Conveyor Inches	Diameter Shaft Inches	Price Solid Pattern	Price Split With Adjustable Bearings
4	1	\$ 3.00	
6	1 1/2	4.00	\$ 8.50
8	1 1/2	6.00	10.00
9	1 1/2	7.00	10.00
9	2	7.50	11.00
10	1 1/2	8.00	12.00
10	2	8.50	13.00
12	2	10.00	15.00
12	2 7/16	12.00	20.00
12	3	14.00	23.00
14	2 7/16	16.00	25.00
16	2	20.00	28.00
16	3	22.00	30.00
18	3	25.00	35.00
20	3	30.00	40.00



## Countershaft Box End for Conveyor

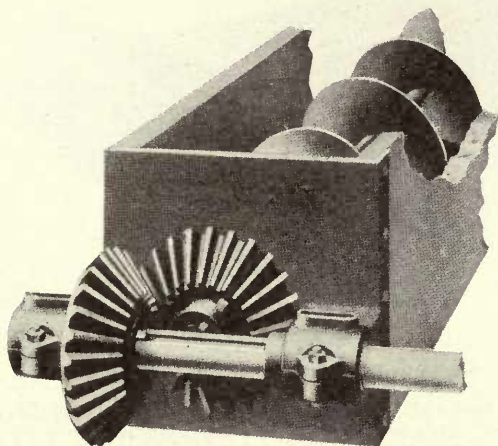


Fig. No. 339—For Wooden Box

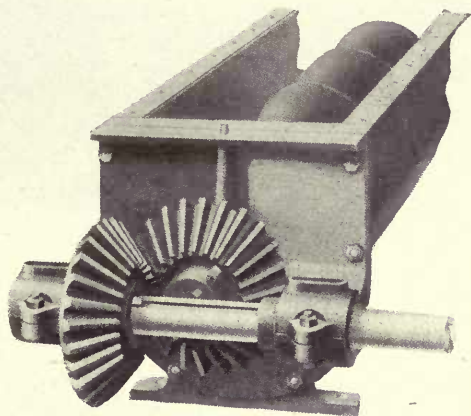


Fig. No. 340—For Steel Box

The bearings for the countershaft and the conveyor drive end are all a part of the same casting, making it unnecessary to provide special support for the countershaft bearings.

The design of the box end is such that the driving gear can be shifted to one side or the other of the driven gear, thus reversing direction of motion of the conveyor as desired.

When box ends for steel boxes already made are wanted, a template should be sent showing exact location and size of bolt holes.

### Prices and Dimensions

Size of Conveyor Inches	Price	Diameter Drive End Inches	Size of Conveyor Inches	Price	Diameter Drive End Inches
4	\$11.00	1	12	\$41.00	2 $\frac{7}{16}$
6	14.00	1 $\frac{1}{2}$	12	45.00	3
8	18.00	1 $\frac{1}{2}$	14	45.00	2
9	19.00	1 $\frac{1}{2}$	14	50.00	2 $\frac{7}{16}$
9	22.00	2	16	65.00	2
10	25.00	1 $\frac{1}{2}$	16	70.00	3
10	30.00	2	18	80.00	3
12	33.00	2			

Prices include the cast iron box end, necessary drive end projection for the conveyor, miter gears, and short countershaft projecting far enough to take sprocket wheel or pulley.

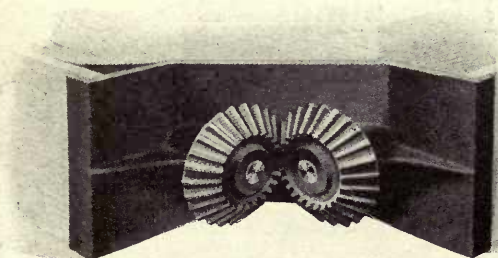


Fig. No. 341

By using the proper hand of Conveyor, material can be carried around a corner.

## The Monarch Miter Gear Bearing Ends for Right Angle Conveyors

### Price List

	Price
For 4-inch Conveyor.....	\$11.00
For 6-inch Conveyor.....	14.00
For 9-inch Conveyor.....	25.00
For 12-inch Conveyor.....	40.00

Prices of other sizes furnished on application.

# Improved Right-Angle Conveyor Drive

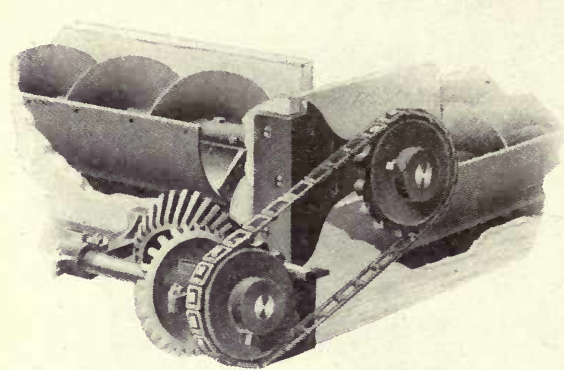


Fig. No. 342—For Wooden Box

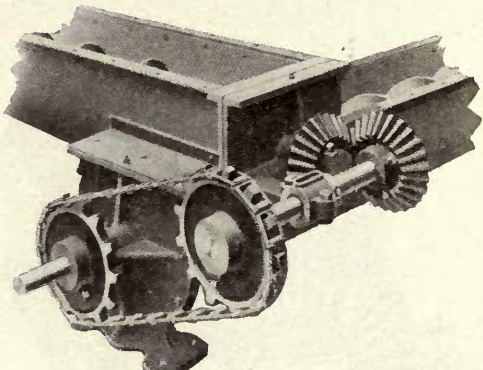


Fig. No. 343—For Steel Box

The above illustration shows an improved device for use with conveyors running at right angles. It allows the delivering conveyor to carry its full capacity, and drop the material into the receiving conveyor without any danger of clogging or choking up. The power to drive both conveyors may be applied to either of the shafts shown in illustration. We suggest that, in using this device, the delivering conveyor be placed a few inches above the box for the receiving conveyor. We furnish castings forming box ends and bearings as shown; miter gears, miter gear shaft sprocket wheels, chain, safety collar and driving ends of proper length ready to set up.

## Prices and Dimensions

Diameter Conveyor Inches	Price for Wood Box	Price Steel Box	Diameter Both Drive Ends Inches	Countershaft Diameter Inches
4	\$18.00	\$20.00	1	1
6	21.00	25.00	1 1/2	1 1/2
8	25.00	33.00	1 1/2	1 1/2
9	25.00	35.00	1 1/2	1 1/2
9	32.00	40.00	2	2
10	35.00	45.00	1 1/2	1 1/2
10	41.00	50.00	2	2
12	55.00	60.00	2	2
12	60.00	70.00	2 7/16	2
12	65.00	75.00	3	2
14	75.00	85.00	2	2
14	80.00	90.00	2 7/16	2
16	95.00	115.00	2	2 7/16
16	100.00	120.00	3	2 7/16

# Special Universal Couplings For Connecting Steel Conveyor—Nut Type

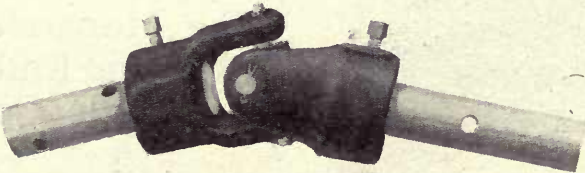


Fig. No. 344

We have designed the special universal coupling shown in the above illustration for use in coupling sections of steel conveyor, the construction of the coupling being such that it offers the least possible obstruction to the passage of the material. This coupling is especially useful where part of a line of conveyor is horizontal and part at an incline not exceeding 20 degrees.

## Price List

For Conveyor Diameter Inches	Price	For Conveyor Diameter Inches	Price
4	\$6.00	12	\$ 8.00
6 and 9	6.50	16	15.00



## Steel Box for Spiral Conveyor

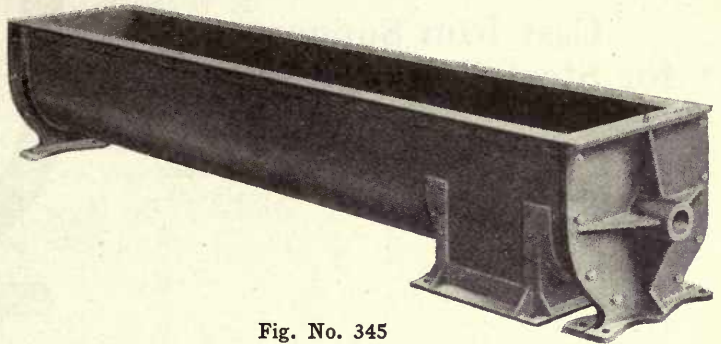
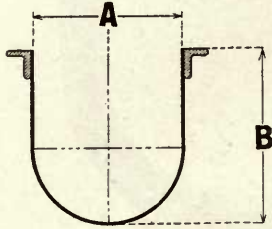
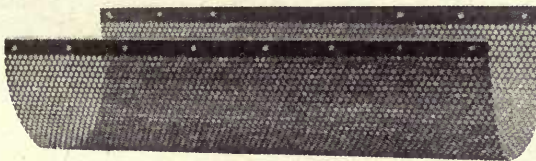


Fig. No. 345

### Prices and Dimensions

Diameter of Conveyor Inches	BOX		A Inches	B Inches	Size of Angle Iron Inches	Cover Gauge of Metal No.	Price Per Foot Box	Added Price Per Foot For Cover
	Gauge of Metal No.	Width of Sheet Inches						
4	18	15	5	6 1/4	1 x 1 x 1/4	20	\$1.75	\$0.40
6	16	20	7	8	1 1/4 x 1 1/4 x 3/8	18	2.00	.45
8	14	26	9	10 3/8	1 1/2 x 1 1/2 x 1/2	16	2.25	.50
9	14	28	10	11 1/8	1 1/2 x 1 1/2 x 1/2	16	2.50	.55
10	14	30	11	11 7/8	1 1/2 x 1 1/2 x 1/2	16	2.75	.60
12	12	36	13	14 1/4	2 x 2 x 3/4	16	3.50	.65
14	12	42	15	16 3/4	2 x 2 x 3/4	16	4.00	.70
16	12	48	17	19 1/8	2 x 2 x 3/4	16	4.50	.75
18	10	54	19	21 5/8	2 1/2 x 2 1/2 x 1/2	14	6.00	1.00



## Perforated Linings

Fig. No. 346 Prices and Dimensions

Diameter of Conveyor Inches	Price per Lineal Foot	Gauge of Steel	Width of Sheet Inches	Stand. Length of Sheet Inches	Diam. of Perfor'ns Inches	Diameter of Conveyor Inches	Price per Lineal Foot	Gauge of Steel	Width of Sheet Inches	Stand. Length of Sheet Inches	Diam. of Perfor'ns Inches
6	\$0.45	18	12	30	1/8	10	.75	18	20	30	1/8
6		18	12	30	1/8	10		18	20	30	1/8
6		18	12	30	1/8	12		18	24	30	1/8
6		18	12	30	1/8	12		18	24	30	1/8
9	.65	18	18	30	1/8	12	.85	18	24	30	1/8
9		18	18	30	1/8	12		18	24	30	1/8
9		18	18	30	1/8	12		18	24	30	1/8
9		18	18	30	1/8	12		18	24	30	1/8

## Standard Gauges and Widths of Conveyor Lining



Fig. No. 347 Prices and Dimensions

Diameter of Conveyor Inches	Price per Lineal Foot	Gauge of Steel	Width of Sheet Inches	Standard Length of Sheet Inches	Diameter of Conveyor Inches	Price per Lineal Foot	Gauge of Steel	Width of Sheet Inches	Standard Length of Sheet Inches
4	\$0.08	22	8 1/2	30	12	.20	20	20	30
6	.10	22	11 1/4	30	14	.34	18	24	30
8	.16	20	16	30	16	.36	18	27	30
9	.16	20	16	30	18	.49	18	36	30
10	.19	20	18	30					

# Cast Iron Supports for Steel Conveyor Boxes

These illustrations show some of the standard types of conveyor box supports, although other designs can be supplied to meet special conditions.

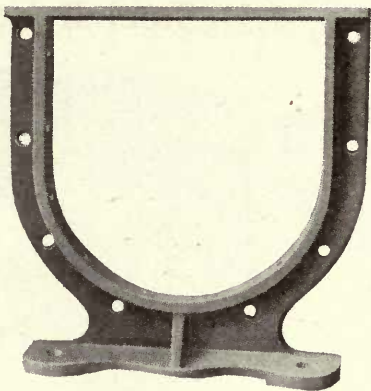


Fig. No. 348

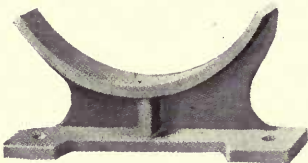


Fig. No. 349

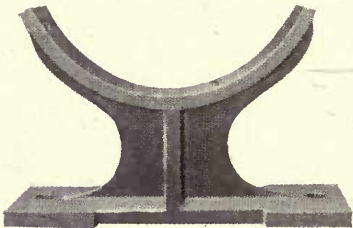


Fig. No. 350

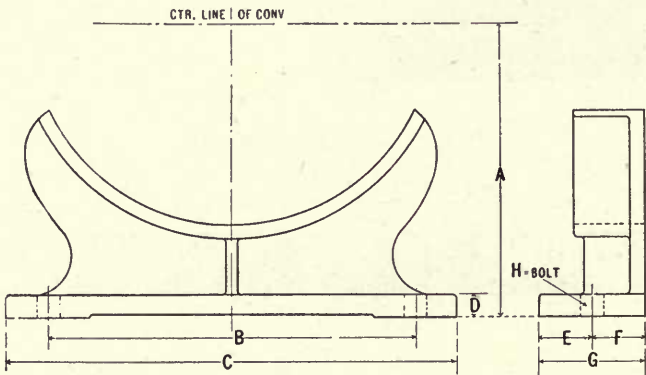


Fig. No. 349

## Prices and Dimensions

Diam. Conv'r Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches	H Inches	Cast Iron Flanges Without Feet	Cast Iron Flanges With Feet Fig. No. 348	Cast Iron Saddles Fig. Nos. 349 and 350
4	4 <sup>5</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>4</sub>	3 <sup>4</sup> / <sub>8</sub>	2	3 <sup>8</sup> / <sub>8</sub>	\$0.65	\$0.75	\$0.45
6	5 <sup>5</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>8</sub>	10	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>4</sub>	1	2 <sup>1</sup> / <sub>4</sub>	3 <sup>8</sup> / <sub>8</sub>	.90	1.15	.70
8	7 <sup>1</sup> / <sub>8</sub>	8 <sup>3</sup> / <sub>8</sub>	11	5 <sup>8</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	2 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	1.40	1.90	1.10
9	7 <sup>7</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>8</sub>	12	5 <sup>8</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	1.70	2.25	1.35
10	8 <sup>7</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>2</sub>	12 <sup>3</sup> / <sub>4</sub>	5 <sup>8</sup> / <sub>8</sub>	1	1 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	2.10	2.90	1.75
12	9 <sup>5</sup> / <sub>8</sub>	12 <sup>1</sup> / <sub>4</sub>	15	3 <sup>4</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	5 <sup>8</sup> / <sub>8</sub>	2.70	3.40	2.25
14	10 <sup>7</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub>	16 <sup>1</sup> / <sub>2</sub>	3 <sup>4</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	4	5 <sup>8</sup> / <sub>8</sub>	3.80	4.80	3.50
16	12	14 <sup>7</sup> / <sub>8</sub>	18	3 <sup>4</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	2	4 <sup>1</sup> / <sub>2</sub>	5 <sup>8</sup> / <sub>8</sub>	4.30	5.70	4.25
18	13 <sup>3</sup> / <sub>8</sub>	16	19	3 <sup>4</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	2	4 <sup>1</sup> / <sub>4</sub>	5 <sup>8</sup> / <sub>8</sub>	5.20	7.00	5.00



## Wood Boxes for Steel Conveyors

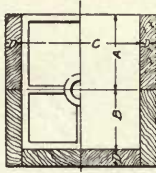


Fig. No. 351

### Prices and Dimensions

Size	DIMENSIONS, INCHES				PRICE PER FOOT	
	A	B	C	D	With Lid	Without Lid
3	2 3/4	2	4	7/8	\$0.70	\$0.60
4	3 1/2	2 1/2	5	7/8	.90	.75
5	4	3	6	7/8	1.10	.90
6	4 1/2	3 1/2	7	7/8	1.30	1.10
8	5 5/8	4	9	1 1/8	1.50	1.30
9	6 1/4	4 1/2	10	1 1/8	1.70	1.50
10	7	5	11	1 1/8	2.00	1.70
12	9	6 1/2	13	1 7/8	2.35	2.00
14	9 3/4	7 1/2	15	1 7/8	2.75	2.35
16	11	8 1/2	17	1 7/8	3.25	2.75
18	11	9 1/2	19	1 7/8	3.75	3.25

## Wood Conveyor Shafts



Fig. No. 352

### Prices and Dimensions

Size of Shaft Inches	Size of Flights Inches	Size of Box Inside Dim. Inches	Price per Foot Including Flights	Size of Shaft Inches	Size of Flights Inches	Size of Box Inside Dim. Inches	Price per Foot Including Flights
2 1/2	1 1/4 x 1 1/4	6 x 6	\$0.55	4 1/2	2 1/4 x 2 1/4	10 x 10	\$0.68
3 1/4	1 1/2 x 1 1/2	7 x 7	.58	5	2 1/2 x 2 1/2	11 x 11	.70
3 1/2	1 3/4 x 1 3/4	8 x 8	.60	5 1/2	2 3/4 x 2 3/4	12 x 12	.75
4	2 x 2	9 x 9	.65				

All prices without iron connections.

## Wood Conveyor Flights

### Prices and Dimensions

Size, Inches	Price per 100	Size, Inches	Price per 100	Size, Inches	Price per 100	Size, Inches	Price per 100
1 1/4 x 1 1/4	\$0.75	1 3/4 x 1 3/4	\$0.85	2 1/4 x 2 1/4	\$0.95	2 3/4 x 2 3/4	\$1.05
1 1/2 x 1 1/2	.80	2 x 2	.90	2 1/2 x 2 1/2	1.00		

## Gudgeons for Wood Conveyor

### Prices Including Bolts

Diameter of Plate Inches	Diameter of Journal Inches	LENGTH OF JOURNAL					
		2 Inches	4 Inches	6 Inches	8 Inches	10 Inches	12 Inches
3 1/4	1	\$0.80	\$1.00	\$1.20	\$1.40	\$1.60	\$1.80
3 3/8	1 1/4	.85	1.10	1.30	1.50	1.70	1.90
3 1/2	1 1/2	.90	1.15	1.40	1.60	1.80	1.90
3 3/8	1 1/4	1.00	1.25	1.50	1.75	1.90	2.00
4 1/2	1 1/2	.85	1.10	1.30	1.50	1.70	1.90
4 1/2	1 1/2	.90	1.15	1.40	1.60	1.80	1.90
4 1/2	1 1/2	1.00	1.25	1.50	1.75	1.90	2.00
4 1/2	1 1/2	1.10	1.40	1.60	1.90	2.00	2.10
5 3/4	1 1/2	1.10	1.40	1.60	1.90	2.00	2.10
5 3/4	1 1/2	1.20	1.50	1.70	2.00	2.10	2.20
5 3/4	1 1/2	1.30	1.60	1.80	2.25	2.50	2.70
5 3/4	2 1/8	1.80	2.00	2.20	2.40	2.60	3.00

## Coupling Gudgeons with Stands for Wood Conveyor

### Prices and Dimensions

Diameter of Plates Inches	Diameter of Journal Inches	Price	Diameter of Plates Inches	Diameter of Journal Inches	Price
3 3/8	1 1/4	\$2.00	4 1/2	1 1/2	\$2.80
3 3/8	1 1/2	2.40	5 3/4	1 1/2	3.00
3 3/8	1 1/2	2.50	5 3/4	1 1/2	3.25
4 1/2	1 1/2	2.25	5 3/4	1 1/2	3.40
4 1/2	1 1/2	2.60			

# Salem Steel Elevator Buckets

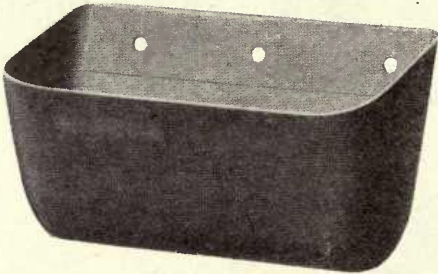


Fig. No. 353

## Prices and Dimensions

Capacity Bushels Per Hour	Size Inches	Mill and Elevator Products		Ear Corn and Heavy Substances		Ores, Coal, Broken Stone and Extra Heavy Substances			
		Gauge	Price	16 Gauge	14 Gauge	12 Gauge	10 Gauge	8 Gauge	6 Gauge
21	2 x 2	25	\$0.10						
28	2½ x 2¼	24	.10						
35	2½ x 2½	24	.10						
42	2¾ x 2½	24	.10						
59	3 x 2½	24	.10						
87	3 x 3	23	.10	\$0.29					
69	3½ x 2½	24	.10	.31					
102	3½ x 3	23	.10	.31					
116	4 x 3	23	.15	.35					
159	4 x 3½	22	.15	.38	\$0.41				
131	4½ x 3	23	.15	.39	.43				
179	4½ x 3½	22	.15	.40	.43				
199	5 x 3½	22	.19	.44	.47				
229	5 x 4	22	.19	.48	.51	\$0.71			
251	5½ x 4	21	.22	.49	.53	.73			
393	5½ x 4½	21	.35	.53	.57	.78			
274	6 x 4	21	.22	.50	.54	.75			
500	7 x 4½	20	.30	.56	.60	.83	\$1.03		
670	8 x 5	19	.38	.63	.68	.93	1.15	\$1.36	\$1.56
754	9 x 5	19	.40	.75	.81	1.12	1.38	1.63	1.88
973	10 x 5½	19	.48	.86	.93	1.28	1.58	1.87	2.15
1220	10 x 6	18	.55	.91	.98	1.36	1.67	1.98	2.28
1590	10 x 7	18	.75	1.16	1.25	1.73	2.13	2.52	2.90
1342	11 x 6	18	.63	.98	1.05	1.45	1.79	2.12	2.44
1749	11 x 7	18	.85	1.23	1.32	1.83	2.25	2.66	3.06
1464	12 x 6	18	.70	1.03	1.11	1.53	1.89	2.22	2.56
1908	12 x 7	18	.90	1.28	1.38	1.90	2.35	2.77	3.19
1586	13 x 6	18	.85	1.04	1.12	1.54	1.96	2.25	2.59
2067	13 x 7	18	.93	1.29	1.39	1.91	2.37	2.79	3.21
2226	14 x 7	18	.95	1.30	1.40	1.94	2.39	2.82	3.25
2385	15 x 7	18	1.23	1.33	1.43	1.97	2.44	2.88	3.31
2544	16 x 7	18	1.28	1.35	1.46	2.01	2.48	2.93	3.38
3184	16 x 8	18	1.40	1.60	1.73	2.38	2.94	3.47	4.00
2862	18 x 7	18	1.38	1.40	1.51	2.09	2.58	3.04	3.50
3582	18 x 8	18	1.50	1.65	1.78	2.46	3.03	3.57	4.13
3180	20 x 7	18	1.43	1.45	1.57	2.16	2.67	3.15	3.63
3980	20 x 8	18	1.65	1.70	1.84	2.53	3.13	3.69	4.25
4378	22 x 8	18	1.75	1.80	1.94	2.68	3.31	3.96	4.50
4776	24 x 8	18	1.85	1.90	2.05	2.83	3.50	4.12	4.75
5180	26 x 8	18	2.50	3.07	3.31	4.57	5.64	6.66	7.67
5565	28 x 8	18	2.60	3.10	3.34	4.62	5.70	6.71	7.75
5985	30 x 8	18	2.70	3.15	3.40	4.69	5.79	6.83	7.87



# Odd Sizes of Salem Buckets

## Prices and Dimensions

Size Inches	Gauge No. 25	Gauge No. 24	Gauge No. 22	Gauge No. 20	Gauge No. 19	Gauge No. 18	Gauge No. 16	Gauge No. 14	Gauge No. 12	Gauge No. 10	Gauge No. 8	Gauge No. 6
2½ x 2	\$0.10	----	----	----	----	\$0.18	----	----	----	----	----	----
3 x 2	.15	----	----	----	----	.20	----	----	----	----	----	----
3½ x 2	.15	----	----	----	----	.21	----	----	----	----	----	----
3 x 2¼	----	\$0.10	----	----	----	.20	----	----	----	----	----	----
3½ x 2¼	----	.10	----	----	----	.21	----	----	----	----	----	----
4 x 2¼	----	.15	----	----	----	.23	----	----	----	----	----	----
4½ x 2¼	----	.15	----	----	----	.25	----	----	----	----	----	----
5 x 2¼	----	.15	----	----	----	.30	----	----	----	----	----	----
2½ x 2½	----	.10	----	----	----	.20	----	----	----	----	----	----
4 x 2½	----	.15	----	----	----	.25	----	----	----	----	----	----
4½ x 2½	----	.16	----	----	----	.30	----	----	----	----	----	----
5 x 2½	----	.16	----	----	----	.34	----	----	----	----	----	----
5 x 3	----	.18	----	----	----	----	\$0.43	----	----	----	----	----
3½ x 3½	----	----	\$0.15	----	----	----	.36	\$0.39	----	----	----	----
5½ x 3½	----	----	.21	----	----	----	.45	.49	----	----	----	----
6 x 3½	----	----	.21	----	----	----	.48	.51	----	----	----	----
4 x 4	----	----	.22	----	----	----	.45	.49	\$0.67	----	----	----
4½ x 4	----	----	.23	----	----	----	.46	.50	.69	----	----	----
6½ x 4	----	----	.27	----	----	----	.51	.55	.76	----	----	----
7 x 4	----	----	.30	----	----	----	.53	.57	.78	----	----	----
7½ x 4	----	----	.33	----	----	----	.54	.58	.80	----	----	----
8 x 4	----	----	.35	----	----	----	.55	.59	.82	----	----	----
8½ x 4	----	----	.38	----	----	----	.63	.68	.93	----	----	----
9 x 4	----	----	.40	----	----	----	.68	.73	1.01	----	----	----
9½ x 4	----	----	.45	----	----	----	.70	.76	1.04	----	----	----
10 x 4	----	----	.46	----	----	----	.75	.81	1.12	----	----	----
11 x 4	----	----	.48	----	----	----	.80	.87	1.19	----	----	----
4½ x 4½	----	----	----	\$0.27	----	----	.50	.54	.75	\$0.92	----	----
5 x 4½	----	----	----	.30	----	----	.51	.55	.76	.94	----	----
5½ x 4½	----	----	----	.35	----	----	.53	.57	.78	.96	----	----
6 x 4½	----	----	----	.23	----	----	.54	.58	.80	.98	----	----
6½ x 4½	----	----	----	.30	----	----	.55	.59	.82	1.01	----	----
7½ x 4½	----	----	----	.36	----	----	.58	.62	.86	1.06	----	----
8 x 4½	----	----	----	.38	----	----	.59	.63	.87	1.08	----	----
8½ x 4½	----	----	----	.40	----	----	.66	.76	.98	1.21	----	----
9 x 4½	----	----	----	.45	----	----	.71	.77	1.06	1.31	----	----
9½ x 4½	----	----	----	.50	----	----	.74	.79	1.10	1.35	----	----
10 x 4½	----	----	----	.51	----	----	.79	.85	1.17	1.44	----	----
11 x 4½	----	----	----	.53	----	----	.84	.90	1.24	1.53	----	----
12 x 4½	----	----	----	.55	----	----	.89	.96	1.32	1.63	----	----
5 x 5	----	----	----	----	\$0.40	----	.53	.57	.78	.97	\$1.13	\$1.31
5½ x 5	----	----	----	----	.41	----	.54	.58	.80	.98	1.16	1.34
6 x 5	----	----	----	----	.43	----	.55	.59	.82	1.01	1.19	1.36
6½ x 5	----	----	----	----	.44	----	.59	.63	.87	1.08	1.27	1.48
7 x 5	----	----	----	----	.45	----	.60	.65	.89	1.10	1.30	1.50
7½ x 5	----	----	----	----	.46	----	.61	.66	.91	1.12	1.32	1.53
8½ x 5	----	----	----	----	.48	----	.70	.76	1.04	1.29	1.52	1.75
9½ x 5	----	----	----	----	.50	----	.78	.84	1.15	1.43	1.68	1.94
10 x 5	----	----	----	----	.55	----	.81	.88	1.21	1.49	1.76	2.03
11 x 5	----	----	----	----	.60	----	.88	.95	1.30	1.61	1.90	2.19
12 x 5	----	----	----	----	.65	----	.93	1.00	1.38	1.70	2.07	2.31
5½ x 5½	----	----	----	----	.45	----	.59	.63	.87	1.08	1.27	1.46
6 x 5½	----	----	----	----	.46	----	.60	.65	.89	1.10	1.30	1.50
6½ x 5½	----	----	----	----	.48	----	.64	.70	.95	1.17	1.38	1.59
7 x 5½	----	----	----	----	.49	----	.65	.70	.97	1.20	1.41	1.63
7½ x 5½	----	----	----	----	.50	----	.66	.71	.98	1.21	1.43	1.65
8 x 5½	----	----	----	----	.53	----	.68	.73	1.01	1.24	1.47	1.69
8½ x 5½	----	----	----	----	.55	----	.75	.81	1.12	1.38	1.63	1.88
9 x 5½	----	----	----	----	.48	----	.80	.87	1.19	1.47	1.74	2.00
9½ x 5½	----	----	----	----	.61	----	.83	.89	1.23	1.52	1.79	2.06
11 x 5½	----	----	----	----	.65	----	.93	1.00	1.36	1.70	2.01	2.31
12 x 5½	----	----	----	----	.70	----	.98	1.05	1.43	1.79	2.12	2.44
6 x 6	----	----	----	----	----	.60	.65	.70	.97	1.20	1.41	1.63
7 x 6	----	----	----	----	----	.63	.70	.76	1.04	1.29	1.52	1.75

Tin Mill Buckets

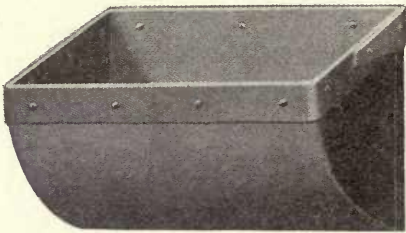


Fig. No. 354

These Buckets are guarded with band iron riveted to the body.

Prices, Dimensions, Capacities, Etc.

Capacity Bushels Per Hour	Size, Inches	Price	Capacity Bushels Per Hour	Size, Inches	Price
16	2 x2	\$0.10	92	4 x3	\$0.12
22	2 1/2x2 1/4	.10	127	4 x3 1/2	.13
28	2 1/2x2 1/2	.10	105	4 1/2x3	.14
34	2 3/4x2 1/2	.10	143	4 1/2x3 1/2	.14
47	3 x2 1/2	.10	160	5 x3 1/2	.16
70	3 x3	.10	183	5 x4	.16
55	3 1/2x2 1/2	.10	200	5 1/2x4	.17
82	3 1/2x3	.10	220	6 x4	.18

Minneapolis "V" Elevator Buckets  
Black and Galvanized Steel

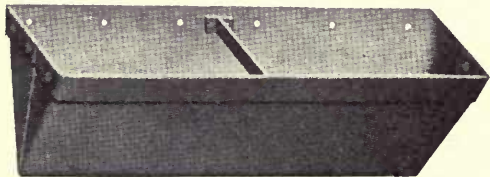
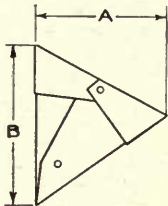


Fig. No. 355



Fig. No. 356



Price List with Wrought Iron Brace in Sizes 14 Inches and Larger

SIZE OF BUCKET, INCHES			Capacity Cu. In.	Number of Braces	Gauge of Steel	PRICE, EACH	
Length	Projection, A	Depth, B				Black	Galvanized
3	3	3 3/8	9	0	27	\$0.12	\$0.16
3 1/2	3	3 3/8	10	0	27	.14	.18
4	3	3 3/8	12	0	27	.17	.22
4	3 1/2	4 1/4	17	0	27	.18	.23
4 1/2	3	3 3/8	14	0	27	.18	.23
4 1/2	3 1/2	4 1/4	19	0	27	.20	.26
5	3 1/2	4 1/4	21	0	24	.21	.26
5	4	4 7/8	28	0	24	.23	.28
5 1/2	4	4 7/8	30	0	24	.24	.30
6	4	4 7/8	33	0	24	.26	.32
7	4 1/2	5 1/2	49	0	24	.32	.39
8	5	6 1/8	70	0	24	.38	.47
9	5	6 1/8	78	0	22	.41	.50
10	5 1/2	6 3/4	105	0	22	.45	.55
10	6	7 3/8	126	0	22	.48	.59
10	7	8 3/8	171	0	20	.60	.74
11	6	7 3/8	138	0	22	.50	.62
11	7	8 3/8	188	0	20	.66	.81
12	6	7 3/8	151	0	20	.54	.66
12	7	8 3/8	205	0	20	.72	.89
14	6	7 3/8	176	1	20	.63	.73
14	7	8 3/8	240	1	20	.81	1.00
16	6	7 3/8	201	1	20	.75	.92
16	7	8 3/8	274	1	18	.93	1.14
18	6	7 3/8	226	1	20	.90	1.11
18	7	8 3/8	308	1	18	.99	1.22
20	6	7 3/8	252	1	20	.98	1.21
20	7	8 3/8	343	1	18	1.05	1.29
22	7	8 3/8	377	1	18	1.11	1.36
24	7	8 3/8	411	1	18	1.17	1.44

A Bucket particularly adapted to high speeds, with perfect discharge.



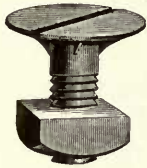


Fig. No. 357

## Elevator Cup Bolts

### Reliance Elevator Bolts

These bolts are manufactured of wrought iron. They have four ribs under the head, which take a firm hold on the belt, and prevent slipping when the nut is turned.



Fig. No. 358

#### Price per Box of One Hundred

Size Inches	Price	Size Inches	Price	Size Inches	Price	Size Inches	Price	Size Inches	Price	Size Inches	Price
$\frac{1}{2} \times \frac{1}{4}$	\$1.00	$\frac{5}{8} \times \frac{1}{4}$	\$1.05	$\frac{3}{4} \times \frac{1}{4}$	\$1.10	$\frac{7}{8} \times \frac{1}{4}$	\$1.15	$1 \times \frac{1}{4}$	\$1.20	$1 \frac{1}{4} \times \frac{1}{4}$	\$1.25

## Excelsior Elevator Bolts

Forged from the best Norway iron, with large flat heads, and used in large mills, elevators and other establishments where bolts are subjected to extraordinary strain.

#### Price Per Box of One Hundred

Size Inches	Price	Size Inches	Price	Size Inches	Price	Size Inches	Price
$\frac{3}{4} \times \frac{1}{4}$	\$2.20	$1 \times \frac{1}{4}$	\$2.30	$1 \frac{1}{2} \times \frac{1}{4}$	\$2.50	$1 \frac{1}{4} \times \frac{5}{16}$	\$3.20
$\frac{7}{8} \times \frac{1}{4}$	2.30	$1 \frac{1}{4} \times \frac{1}{4}$	2.40	$1 \times \frac{5}{16}$	3.00	$1 \frac{1}{2} \times \frac{5}{16}$	3.40

## Eclipse Elevator Bolts

Made of Norway iron and having a slotted head. Can be turned or held by use of an ordinary screw driver while nut is held with fingers or wrench.

#### Price Per Box of One Hundred

Size Inches	Price	Size Inches	Price	Size Inches	Price	Size Inches	Price
$\frac{1}{2} \times \frac{1}{4}$	\$1.00	$\frac{5}{8} \times \frac{1}{4}$	\$1.00	$\frac{3}{4} \times \frac{1}{4}$	\$1.00	$1 \times \frac{1}{4}$	\$1.25

## Clinch Bolts

For fastening small buckets to belts. They are less expensive and easier to put on and take off than rivets or bolts. The head of the clinch bolt sets up close to the belt, thus presenting a smooth surface to the pulley. We guarantee two of them to stand a strain of 500 pounds, which makes them amply strong for small buckets.

Price per box of 100, including burrs.....\$0.50

## Leather Washers for Elevator Bolts

Price per 100 for  $\frac{1}{4}$ -inch bolts, net .....\$0.16

Price per 100 for  $\frac{5}{16}$ -inch bolts, net..... .20

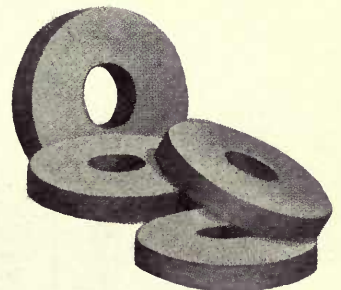


Fig. No. 359

## Socket Wrench for Elevator Bolts



Fig. No. 360

A handy tool which can be used in any ordinary brace to rapidly and securely fasten buckets on belts.  
Net price.....\$0.25

Solid Woven Cotton Belting

Price List

Width, Inches	2-Ply	3-Ply	4-Ply	5-Ply	6-Ply	8-Ply	10-Ply
1	\$0.04	\$0.06	\$0.09	\$0.15	\$0.20		
1¼	.045	.065	.10	.16	.22		
1½	.05	.075	.11	.18	.24		
1¾	.055	.085	.12	.19	.29		
2	.06	.095	.13	.21	.30	\$0.36	
2½	.075	.11	.15	.23	.32	.38	
3	.085	.13	.18	.26	.34	.41	
3½	.10	.15	.20	.29	.36	.45	
4	.115	.17	.23	.31	.38	.50	
4½	.13	.19	.26	.33	.41	.55	
5	.145	.21	.28	.36	.44	.58	\$0.80
5½	.16	.23	.30	.38	.47	.61	.85
6	.18	.25	.33	.41	.50	.65	.95
7	.21	.29	.38	.48	.58	.75	1.10
8	.23	.33	.44	.55	.65	.85	1.20
9	.26	.37	.50	.61	.73	1.00	1.40
10	.29	.42	.56	.69	.82	1.15	1.60
12	.35	.50	.66	.83	1.00	1.35	1.80
14	.43	.62	.78	.98	1.20	1.60	2.20
16	.49	.72	.90	1.15	1.40	1.95	2.45
18	.57	.82	1.00	1.28	1.55	2.15	2.70
20	.61	.90	1.15	1.45	1.75	2.35	2.95
22	.65	1.00	1.35	1.65	1.95	2.60	3.25
24	.69	1.10	1.55	1.85	2.16	2.85	3.60
26	.77	1.35	1.75	2.00	2.36	3.10	3.90
28	.85	1.50	1.90	2.15	2.60	3.35	4.20
30	.90	1.60	2.10	2.40	2.85	3.60	4.50
32	1.00	1.70	2.25	2.60	3.00	3.85	4.80
34	1.10	1.80	2.40	2.80	3.25	4.10	5.10
36	1.20	1.90	2.50	3.00	3.50	4.35	5.40
38	1.30	2.05	2.65	3.20	3.70	4.60	5.70
40	1.40	2.15	2.80	3.40	3.90	4.85	6.00
42	1.50	2.25	2.90	3.60	4.05	5.10	6.30
44	1.60	2.35	3.00	3.75	4.20	5.45	6.60
48	1.80	2.50	3.20	4.00	4.80	5.80	7.20

Rubber Belting

Price List

Width, Inches	2-Ply	3-Ply	4-Ply	5-Ply	6-Ply	7-Ply	8-Ply
1	\$0.09	\$0.11	\$0.13				
1¼	.11	.13	.16				
1½	.13	.15	.19	\$0.23			
1¾	.15	.17	.22	.27			
2	.18	.20	.25	.31	\$0.37		
2½	.22	.25	.31	.38	.46		
3	.26	.30	.37	.45	.55		
3½	.30	.35	.43	.53	.65		
4	.34	.40	.50	.61	.75	\$0.86	
4½	.38	.45	.55	.69	.84	.96	
5	.42	.50	.61	.76	.91	1.06	
6	.50	.60	.72	.89	1.08	1.25	\$1.44
7	.59	.70	.84	1.04	1.25	1.46	1.68
8	.67	.80	.96	1.19	1.44	1.68	1.92
9	.76	.90	1.07	1.34	1.60	1.88	2.16
10	.84	1.00	1.20	1.49	1.77	2.09	2.40
11	.92	1.10	1.32	1.63	1.96	2.29	2.62
12	1.00	1.20	1.43	1.78	2.15	2.50	2.85
13	1.10	1.30	1.56	1.95	2.34	2.73	3.12
14	1.19	1.40	1.69	2.11	2.54	2.96	3.39
15	1.28	1.52	1.83	2.28	2.74	3.19	3.65
16	1.37	1.65	1.96	2.44	2.94	3.42	3.92
18	1.55	1.87	2.22	2.77	3.33	3.88	4.44
20	1.74	2.09	2.49	3.10	3.73	4.35	4.97
22	1.94	2.33	2.77	3.47	4.16	4.85	5.54



## Wood Elevator Trunking

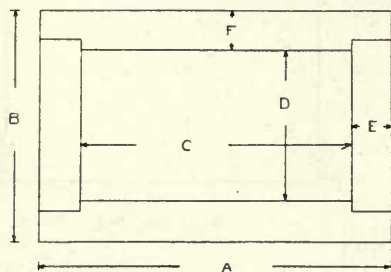


Fig. No. 360

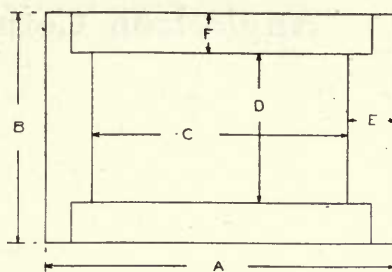


Fig. No. 361

### Prices, Dimensions, Etc.

Size of Buckets Inches	Price per Lin. Foot Both Legs	DIMENSIONS						Type of Construction	Size of Buckets Inches	Price per Lin. Foot Both Legs	DIMENSIONS						Type of Construction
		A In.	B In.	C In.	D In.	E In.	F In.				A In.	B In.	C In.	D In.	E In.	F In.	
2 x 2	\$0.38	4½	4½	3	3	¾	¾	Fig. 360	9 x 5	\$1.42	14½	9¾	11¾	8	1¾	¾	Fig. 361
2½ x 2½	.40	5	4¾	3½	3½	¾	¾	360	10 x 5½	1.53	15¾	10½	13	8½	1¾	¾	361
3 x 2½	.42	5	5	3½	3½	¾	¾	360	11 x 6	1.62	16¾	10¾	14	9	1¾	¾	361
3 x 3	.44	5½	5½	4	4	¾	¾	360	12 x 6	1.66	17¾	10¾	15	9	1¾	¾	361
3½ x 3	.46	6	5½	4½	4	¾	¾	360	13 x 6	1.71	18¾	10¾	16	9	1¾	¾	361
4 x 3	.48	6½	5½	5	4	¾	¾	360	14 x 7	1.88	21	12¾	18¾	11	1¾	¾	361
4½ x 3½	.52	7	6	5½	4½	¾	¾	360	16 x 7	1.98	23	12¾	20½	11	1¾	¾	361
5 x 4	.56	7¾	7	6	5½	¾	¾	360	18 x 7	2.07	25	12¾	22½	11	1¾	¾	361
5½ x 4	.58	8½	7	6½	5½	¾	¾	360	20 x 7	2.17	27	12¾	24½	11	1¾	¾	361
6 x 4	.61	9½	7	7½	5½	¾	¾	360	22 x 7	2.26	29	12¾	26½	11	1¾	¾	361
7 x 4½	.84	10¾	7½	9	5½	¾	¾	360	24 x 7	2.36	31	12¾	28½	11	1¾	¾	361
8 x 5	.92	12¾	8½	11	6¾	¾	¾	360									361

## Steel Elevator Leg with Flanged Corners

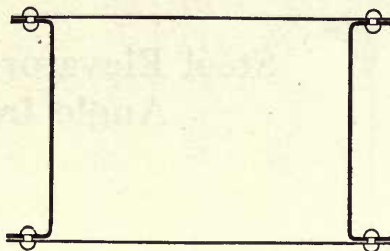


Fig. No. 362

### Prices and Dimensions

Size of Buckets Inches	PRICE PER LINEAL FOOT, BOTH LEGS									
	12 Gauge		14 Gauge		16 Gauge		18 Gauge		20 Gauge	
	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.
2 x 2	-----	-----	\$4.16	\$4.52	\$4.03	\$4.34	\$3.93	\$4.19	\$3.82	\$4.03
2½ x 2½	-----	-----	4.19	4.55	4.06	4.37	3.95	4.21	3.85	4.06
3 x 2½	-----	-----	4.21	4.58	4.08	4.37	3.98	4.24	3.87	4.06
3 x 3	-----	-----	4.21	4.68	4.08	4.45	3.98	4.29	3.87	4.11
3½ x 3	-----	-----	4.34	4.76	4.19	4.52	4.06	4.32	3.93	4.11
4 x 3	-----	-----	4.39	4.84	4.21	4.58	4.08	4.37	3.95	4.16
4½ x 3½	-----	-----	4.42	4.89	4.24	4.60	4.11	4.39	3.95	4.19
5 x 4	\$4.89	\$5.33	4.50	4.99	4.29	4.71	4.13	4.45		
5½ x 4	4.91	5.36	4.52	5.02	4.32	4.73	4.16	4.47		
6 x 4	4.97	5.43	4.55	5.07	4.34	4.76	4.19	4.50		
7 x 4½	5.75	6.55	5.28	5.88	5.04	5.51	4.86	5.23		
8 x 5	5.93	6.84	5.41	6.06	5.15	5.67	4.94	5.36		
9 x 5	6.01	6.99	5.46	6.14	5.20	5.75	4.97	5.43		
10 x 5½	6.08	7.07	5.51	6.21	5.25	5.80	5.02	5.46		
11 x 6	6.29	7.20	5.67	6.55	5.36	6.11	5.10	5.75		
12 x 6	6.34	7.51	5.72	6.66	5.41	6.16	5.15	5.80		
13 x 6	6.40	7.62	5.75	6.68	5.41	6.21	5.15	5.82		
14 x 7	7.18	8.42	6.47	7.38	6.11	6.84	5.82	6.40		
16 x 7	7.33	8.63	6.58	7.51	6.19	6.94	5.90	6.50		
18 x 7	8.16	9.59	7.33	8.37	6.94	7.75	6.60	7.25		
20 x 7	8.29	9.80	7.44	8.53	7.02	7.88	6.66	7.36		
22 x 7	8.40	10.09	7.51	8.81	7.10	8.16	6.73	7.64		
24 x 7	8.61	10.37	7.67	9.02	7.18	8.32	6.79	7.77		

Steel Elevator Leg with Four-Angle Iron Corners

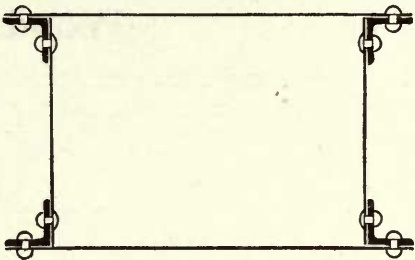


Fig. No. 363

Prices and Dimensions

Size of Buckets Inches	PRICE PER LINEAL FOOT, BOTH LEGS									
	12 Gauge		14 Gauge		16 Gauge		18 Gauge		20 Gauge	
	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.
2 x2	-----	-----	\$5.67	\$6.03	\$5.54	\$5.85	\$5.43	\$5.69	\$5.33	\$5.54
2 1/2 x2 1/4	-----	-----	5.69	6.06	5.56	5.88	5.46	5.72	5.36	5.56
2 3/4 x2 1/2	-----	-----	5.72	6.08	5.59	5.88	5.49	5.75	5.38	5.56
3 x3	-----	-----	5.72	6.19	5.59	5.95	5.49	5.80	5.38	5.62
3 1/2 x3	-----	-----	5.85	6.27	5.69	6.03	5.56	5.82	5.43	5.62
4 x3	-----	-----	5.90	6.34	5.72	6.08	5.59	5.88	5.46	5.67
4 1/2 x3 1/2	-----	-----	5.93	6.40	5.75	6.11	5.62	5.90	5.46	5.69
5 x4	\$6.40	\$6.84	6.01	6.50	5.80	6.21	5.64	5.95		
5 1/2 x4	6.42	6.86	6.03	6.53	5.82	6.24	5.67	5.98		
6 x4	6.47	6.94	6.06	6.58	5.85	6.27	5.69	6.01		
7 x4 1/2	7.41	8.22	6.94	7.54	6.71	7.18	6.53	6.89		
8 x5	7.59	8.50	7.07	7.72	6.81	7.33	6.60	7.02		
9 x5	7.67	8.66	7.12	7.80	6.86	7.41	6.63	7.10		
10 x5 1/2	7.75	8.74	7.18	7.88	6.92	7.46	6.68	7.12		
11 x6	7.96	8.87	7.33	8.22	7.02	7.77	6.76	7.41		
12 x6	8.01	9.18	7.38	8.32	7.07	7.83	6.81	7.46		
13 x6	8.06	9.28	7.41	8.35	7.07	7.88	6.81	7.49		
14 x7	8.97	10.22	8.27	9.18	7.90	8.63	7.62	8.19		
16 x7	9.13	10.43	8.37	9.31	7.98	8.74	7.70	8.29		
18 x7	10.11	11.54	9.28	10.32	8.89	9.70	8.55	9.20		
20 x7	10.24	11.75	9.39	10.48	8.97	9.83	8.61	9.31		
22 x7	10.35	12.04	9.46	10.76	9.05	10.11	8.68	9.59		
24 x7	10.56	12.32	9.62	10.97	9.13	10.27	8.74	9.72		

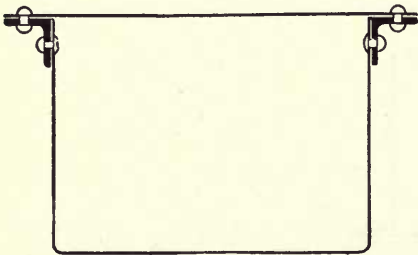


Fig. No. 364

Steel Elevator Leg with Two-Angle Iron Corners

Prices and Dimensions

Size of Buckets Inches	PRICE PER LINEAL FOOT, BOTH LEGS									
	12 Gauge		14 Gauge		16 Gauge		18 Gauge		20 Gauge	
	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.
2 x2	-----	-----	\$4.84	\$5.20	\$4.71	\$5.02	\$4.60	\$4.86	\$4.50	\$4.71
2 1/2 x2 1/4	-----	-----	4.86	5.23	4.73	5.04	4.63	4.89	4.52	4.73
2 3/4 x2 1/2	-----	-----	4.89	5.25	4.76	5.04	4.65	4.91	4.55	4.73
3 x3	-----	-----	4.89	5.36	4.76	5.12	4.65	4.97	4.55	4.78
3 1/2 x3	-----	-----	5.02	5.43	4.86	5.20	4.73	4.99	4.60	4.78
4 x3	-----	-----	5.07	5.51	4.89	5.25	4.76	5.04	4.63	4.84
4 1/2 x3 1/2	-----	-----	5.10	5.56	4.91	5.28	4.78	5.07	4.63	4.86
5 x4	\$5.56	\$6.01	5.17	5.67	4.97	5.38	4.81	5.12		
5 1/2 x4	5.59	6.03	5.20	5.69	4.99	5.41	4.84	5.15		
6 x4	5.64	6.11	5.23	5.75	5.02	5.43	4.86	5.17		
7 x4 1/2	6.47	7.28	6.01	6.60	5.77	6.24	5.59	5.95		
8 x5	6.66	7.57	6.14	6.79	5.88	6.40	5.67	6.08		
9 x5	6.73	7.72	6.19	6.86	5.93	6.47	5.69	6.16		
10 x5 1/2	6.81	7.80	6.24	6.94	5.98	6.53	5.75	6.19		
11 x6	7.02	7.93	6.40	7.28	6.08	6.84	5.82	6.47		
12 x6	7.07	8.24	6.45	7.38	6.14	6.89	5.88	6.53		
13 x6	7.12	8.35	6.47	7.41	6.14	6.94	5.88	6.55		
14 x7	7.96	9.20	7.25	8.16	6.89	7.62	6.60	7.18		
16 x7	8.11	9.41	7.36	8.29	6.97	7.72	6.68	7.28		
18 x7	9.00	10.43	8.16	9.20	7.77	8.58	7.44	8.09		
20 x7	9.13	10.63	8.27	9.36	7.85	8.71	7.49	8.19		
22 x7	9.23	10.92	8.35	9.65	7.93	9.00	7.57	8.48		
24 x7	9.44	11.21	8.50	9.85	8.01	9.15	7.62	8.61		



## Solid Steel Elevator Trunking

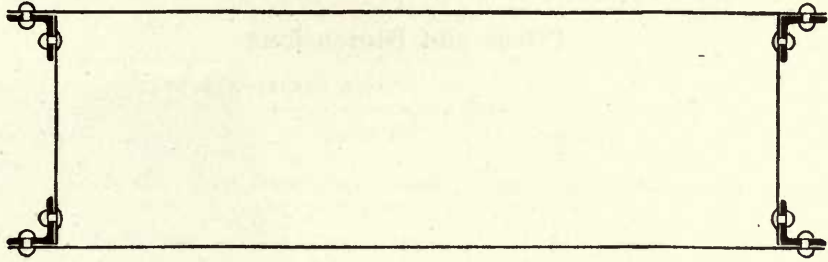


Fig. No. 365

## Prices and Dimensions

Size of Buckets Inches	Size of Pulley Inches	PRICE PER LINEAL FOOT									
		12 Gauge		14 Gauge		16 Gauge		18 Gauge		20 Gauge	
		Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.
2 x2	12x 2¾	----	----	\$3.33	\$3.80	\$3.17	\$3.59	\$3.04	\$3.38	\$2.91	\$3.20
2½x2¼	12x 3¼	----	----	3.41	3.90	3.20	3.64	3.07	3.43	2.94	3.22
2¾x2½	12x 3¼	----	----	3.41	3.90	3.20	3.64	3.07	3.43	2.94	3.22
3 x3	12x 3¾	----	----	3.43	3.95	3.25	3.67	3.09	3.46	2.94	3.25
3½x3	12x 4¼	----	----	3.43	3.98	3.25	3.72	3.12	3.48	2.96	3.28
4 x3	12x 4¾	----	----	3.46	4.00	3.28	3.74	3.12	3.51	2.96	3.28
2 x2	14x 2¾	----	----	3.43	3.95	3.25	3.67	3.09	3.46	2.94	3.25
2½x2¼	14x 3¼	----	----	3.43	3.98	3.25	3.72	3.12	3.48	2.96	3.28
2¾x2½	14x 3¼	----	----	3.43	3.98	3.25	3.72	3.12	3.48	2.96	3.28
3 x3	14x 3¾	----	----	3.51	4.06	3.30	3.80	3.15	3.56	2.99	3.33
3½x3	14x 4¼	----	----	3.51	4.06	3.30	3.80	3.15	3.56	2.99	3.33
4 x3	14x 4¾	----	----	3.51	4.06	3.30	3.80	3.15	3.56	2.99	3.33
4½x3½	14x 5¼	----	----	3.59	4.19	3.35	3.90	3.20	3.64	3.04	3.38
2¾x2½	16x 3¼	----	----	3.51	4.06	3.30	3.80	3.15	3.56	2.99	3.33
3 x3	16x 3¾	----	----	3.54	4.13	3.33	3.82	3.17	3.59	3.02	3.35
3½x3	16x 4¼	----	----	3.56	4.16	3.33	3.85	3.17	3.61	3.02	3.35
4 x3	16x 4¾	----	----	3.59	4.19	3.35	3.90	3.20	3.64	3.04	3.38
4½x3½	16x 5¼	----	----	3.64	4.29	3.41	3.95	3.22	3.69	3.07	3.43
5 x4	16x 5¾	\$4.19	\$5.07	3.72	4.39	3.46	4.06	3.28	3.77	----	----
5½x4	16x 6¼	4.19	5.10	3.72	4.42	3.48	4.06	3.28	3.77	----	----
6 x4	16x 7¼	4.24	5.15	3.74	4.45	3.51	4.11	3.30	3.82	----	----
3½x3	18x 4¼	----	----	3.61	4.24	3.38	3.93	3.22	3.67	3.04	3.41
4 x3	18x 4¾	----	----	3.64	4.29	3.41	3.95	3.22	3.69	3.04	3.43
4½x3½	18x 5¼	----	----	3.67	4.32	3.43	4.00	3.25	3.72	3.07	3.46
5 x4	18x 5¾	4.24	5.15	3.74	4.45	3.51	4.11	3.30	3.82	----	----
5½x4	18x 6¼	4.26	5.23	3.77	4.50	3.51	4.13	3.33	3.85	----	----
6 x4	18x 7¼	4.32	5.28	3.80	4.55	3.54	4.16	3.33	3.87	----	----
7 x4½	18x 8½	4.76	5.77	4.24	5.02	3.95	4.58	3.74	4.29	----	----
4 x3	20x 4¾	----	----	3.67	4.32	3.43	4.00	3.25	3.72	3.07	3.46
4½x3½	20x 5¼	----	----	3.74	4.45	3.51	4.11	3.30	3.82	3.09	3.51
5 x4	20x 5¾	4.34	5.33	3.82	4.58	3.56	4.21	3.35	3.90	----	----
5½x4	20x 6¼	4.34	5.33	3.82	4.58	3.56	4.21	3.35	3.90	----	----
6 x4	20x 7¼	4.39	5.41	3.87	4.65	3.59	4.21	3.38	3.93	----	----
7 x4½	20x 8½	4.81	5.88	4.26	5.07	4.00	4.68	3.77	4.34	----	----
8 x5	20x 9½	4.89	5.98	4.32	5.15	4.03	4.76	3.80	4.39	----	----
9 x5	20x10½	5.10	6.29	4.45	5.38	4.13	4.91	3.90	4.55	----	----
10 x5½	20x11½	5.17	6.40	4.52	5.46	4.19	4.99	3.93	4.60	----	----
11 x6	20x12½	5.28	6.58	4.60	5.59	4.26	5.10	3.98	4.68	----	----
12 x6	20x13½	5.30	6.60	4.60	5.62	4.26	5.12	4.00	4.71	----	----
13 x6	20x14½	5.33	6.66	4.63	5.67	4.29	5.15	4.00	4.73	----	----
5 x4	24x 5¾	4.45	5.51	3.90	4.71	3.64	4.32	3.41	3.98	----	----
5½x4	24x 6¼	4.50	5.56	3.93	4.76	3.64	4.34	3.43	4.00	----	----
6 x4	24x 7¼	4.52	5.62	3.95	4.78	3.67	4.39	3.43	4.03	----	----

# Solid Steel Elevator Trunking—Continued

## Prices and Dimensions

Size of Buckets Inches	Size of Pulley Inches	PRICE PER LINEAL FOOT							
		12 Gauge		14 Gauge		16 Gauge		18 Gauge	
		Black	Galvanized	Black	Galvanized	Black	Galvanized	Black	Galvanized
7x4½	24x 8½	\$4.97	\$6.11	\$4.34	\$5.25	\$4.08	\$4.81	\$3.85	\$4.47
8x5	24x 9½	5.04	6.16	4.42	5.30	4.13	4.86	3.87	4.52
9x5	24x10½	5.23	6.53	4.58	5.54	4.24	5.07	3.95	4.65
10x5½	24x11½	5.33	6.66	4.63	5.67	4.29	5.15	4.00	4.73
11x6	24x12½	5.38	6.76	4.68	5.72	4.32	5.20	4.03	4.78
12x6	24x13½	5.46	6.84	4.71	5.75	4.34	5.25	4.06	4.81
13x6	24x14½	5.51	6.92	4.76	5.85	4.39	5.30	4.08	4.86
8x5	30x 9½	5.28	6.58	4.60	5.59	4.26	5.10	3.98	4.68
9x5	30x10½	5.46	6.86	4.73	5.80	4.37	5.28	4.06	4.84
10x5½	30x11½	5.56	7.02	4.78	5.90	4.42	5.36	4.11	4.91
11x6	30x12½	5.62	7.10	4.86	5.98	4.45	5.41	4.13	4.94
12x6	30x13½	5.67	7.18	4.89	6.03	4.47	5.46	4.16	4.99
13x6	30x14½	5.72	7.28	4.91	6.11	4.52	5.51	4.19	5.04
9x5	36x10½	5.69	7.23	4.89	6.06	4.50	5.49	4.16	4.99
10x5½	36x11½	5.80	7.36	4.97	6.16	4.55	5.56	4.21	5.07
11x6	36x12½	5.85	7.46	4.99	6.24	4.58	5.62	4.24	5.12
12x6	36x13½	5.90	7.54	5.04	6.29	4.60	5.67	4.26	5.17
13x6	36x14½	5.95	7.62	5.07	6.37	4.65	5.72	4.29	5.20
14x7	36x17	6.45	8.16	5.54	6.86	5.07	6.19	4.71	5.64
9x5	42x10½	5.93	7.57	5.04	6.32	4.63	5.69	4.26	5.17
10x5½	42x11½	6.01	7.72	5.12	6.42	4.68	5.77	4.32	5.25
11x6	42x12½	6.08	7.80	5.17	6.50	4.71	5.82	4.34	5.28
12x6	42x13½	6.14	7.88	5.20	6.55	4.73	5.88	4.37	5.33
13x6	42x14½	6.19	7.98	5.25	6.60	4.78	5.93	4.39	5.38
14x7	42x17	6.66	8.53	5.69	7.12	5.20	6.42	4.81	5.82
16x7	42x19	6.71	8.68	5.75	7.25	5.23	6.53	4.86	5.90
9x5	48x10½	6.14	7.98	5.23	6.58	4.76	5.90	4.37	5.36
10x5½	48x11½	6.24	8.06	5.28	6.68	4.81	5.98	4.42	5.41
11x6	48x12½	6.29	8.16	5.33	6.76	4.84	6.06	4.45	5.46
12x6	48x13½	6.32	8.24	5.38	6.81	4.86	6.11	4.47	5.51
13x6	48x14½	6.34	8.32	5.38	6.84	4.91	6.14	4.50	5.54
14x7	48x17	6.89	8.87	5.85	7.36	5.33	6.63	4.91	6.01
16x7	48x19	6.99	9.05	5.90	7.49	5.38	6.73	4.97	6.08
18x7	48x21	7.44	9.52	6.34	7.96	5.82	7.18	5.38	6.53
9x5	54x10½	6.34	8.27	5.38	6.84	4.89	6.11	4.50	5.51
10x5½	54x11½	6.47	8.42	5.41	6.94	4.94	6.21	4.52	5.59
11x6	54x12½	6.53	8.50	5.49	6.99	4.97	6.27	4.55	5.64
12x6	54x13½	6.58	8.58	5.51	7.07	4.99	6.32	4.58	5.67
13x6	54x14½	6.63	8.68	5.54	7.12	5.02	6.37	4.60	5.72
14x7	54x17	7.10	9.23	6.01	7.62	5.46	6.84	5.02	6.16
16x7	54x19	7.20	9.39	6.08	7.75	5.49	6.94	5.07	6.27
18x7	54x21	7.64	9.88	6.55	8.22	5.93	7.38	5.49	6.68
20x7	54x23	7.75	9.96	6.58	8.27	5.98	7.44	5.51	6.73
12x6	60x13½	6.73	8.87	5.64	7.25	5.10	6.47	4.65	5.80
13x6	60x14½	6.84	8.97	5.69	7.36	5.12	6.53	4.71	5.85
14x7	60x17	7.36	9.57	6.19	7.88	5.59	7.07	5.12	6.34
16x7	60x19	7.41	9.70	6.24	7.98	5.64	7.12	5.15	6.40
18x7	60x21	7.90	10.19	6.68	8.45	6.01	7.57	5.59	6.84
20x7	60x23	7.96	10.32	6.71	8.53	6.14	7.64	5.62	6.89
22x7	60x25	8.01	10.43	6.76	8.61	6.14	7.72	5.67	6.97
16x7	72x19	7.72	10.40	6.53	8.48	5.90	7.54	5.38	6.73
20x7	72x23	8.37	11.02	7.07	9.05	6.34	8.06	5.82	7.25
24x7	72x27	8.40	11.26	7.12	9.23	6.45	8.22	5.88	7.36



## The Monarch Wood Elevator Heads

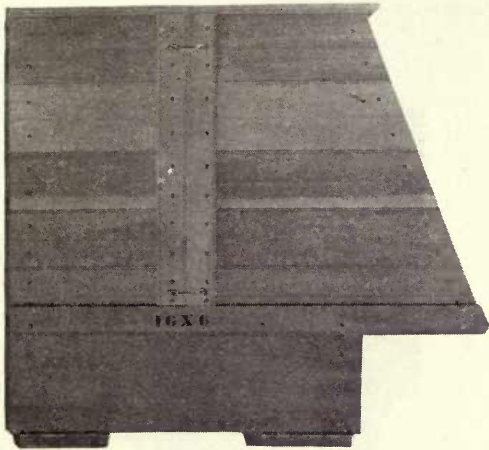


Fig. No. 366

Figure 367 shows our Standard Type Wood Elevator Head with stubs for splicing wood trunking. Refer to figure number in ordering.

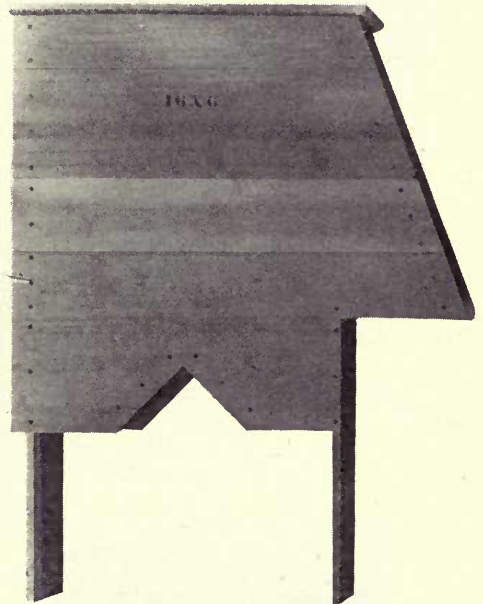


Fig. No. 367

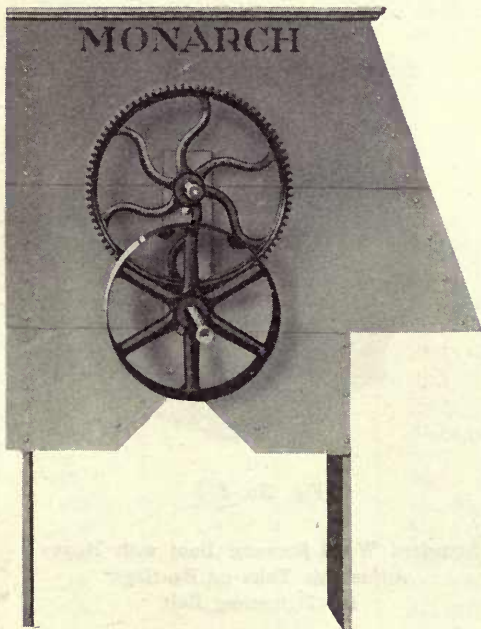


Fig. No. 368

Figure 368 illustrates Standard Wood Elevator Heads equipped with back gears to reduce the speed of elevator when the speed of countershaft is too great.

# The Monarch Wood Elevator Boots

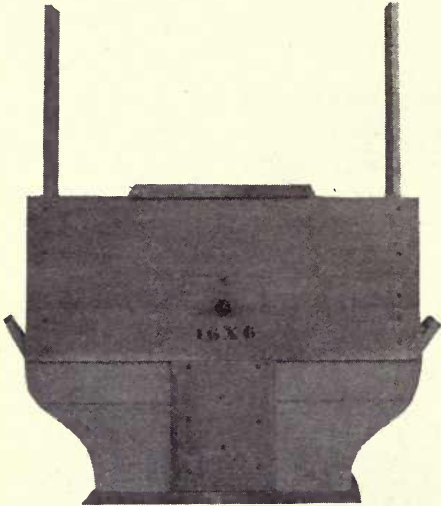


Fig. No. 369

Standard Wood Elevator Boot with Stubs  
for Attaching Trunking and  
Hard-Wood Bearings

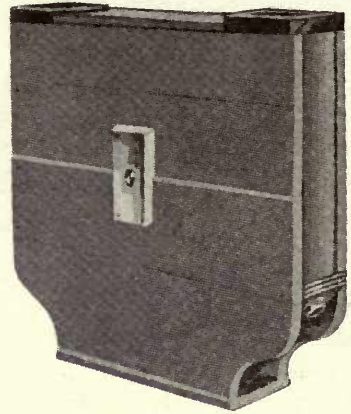


Fig. No. 370

Standard Wood Elevator Boot with Iron  
Cleats for Attaching Trunking  
and Hard-Wood Bearings

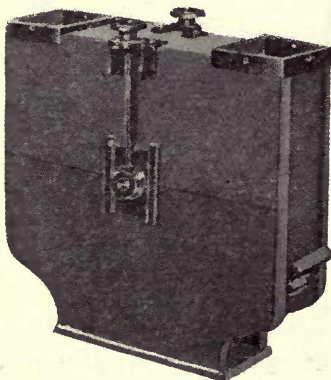


Fig. No. 371

Standard Wood Elevator Boot with Light  
Adjustable Take-up Bearings for  
Tightening Belt

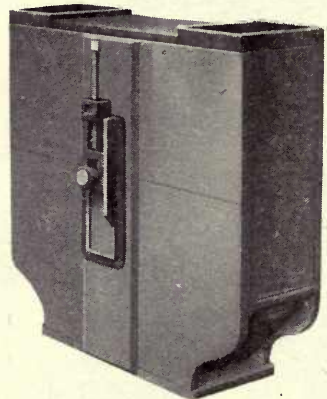


Fig. No. 372

Standard Wood Elevator Boot with Heavy  
Adjustable Take-up Bearings  
for Tightening Belt



## Wood Elevator Heads

## Prices, Dimensions, Etc.

No.	Size of Buckets Inches	Width of Belt Inches	Exact Size of Pulley Inches	Rev. per Minute	Belt Speed in Feet Per Minute	Capacity Bushels Per Hour	Price Without Pulley	Price Cast Iron Pulley
1202	2 x2	2½	12x 2¾	56	170	10	\$4.75	\$3.60
1202½	2½x2¼	3	12x 3¼	56	170	20	5.00	3.60
1202¾	2¾x2½	3	12x 3¼	56	170	24	5.10	3.60
1203	3 x3	3½	12x 3¾	56	170	32	5.30	4.05
1203½	3½x3	4	12x 4¼	56	170	36	5.50	4.05
1204	4 x3	4½	12x 4¾	56	170	42	5.75	4.55
1402	2 x2	2½	14x 2¾	50	180	11	5.00	4.05
1402½	2½x2¼	3	14x 3¼	50	180	22	5.20	4.05
1402¾	2¾x2½	3	14x 3¼	50	180	27	5.30	4.05
1403	3 x3	3½	14x 3¾	50	180	36	5.50	4.65
1403½	3½x3	4	14x 4¼	50	180	41	5.75	4.65
1404	4 x3	4½	14x 4¾	50	180	47	6.00	5.10
1404½	4½x3½	5	14x 5¼	50	180	75	6.25	5.10
1602¾	2¾x2½	3	16x 3¼	48	200	34	5.50	4.65
1603	3 x3	3½	16x 3¾	48	200	45	5.80	5.20
1603½	3½x3	4	16x 4¼	48	200	52	6.05	5.20
1604	4 x3	4½	16x 4¾	48	200	59	6.25	5.80
1604½	4½x3½	5	16x 5¼	48	200	94	6.55	5.80
1605	5 x4	5½	16x 5¾	48	200	129	6.80	6.50
1605½	5½x4	6	16x 6¼	48	200	142	7.00	6.50
1606	6 x4	7	16x 7¼	48	200	157	7.25	7.30
1803½	3½x3	4	18x 4¼	44	207	54	6.30	5.35
1804	4 x3	4½	18x 4¾	44	207	61	6.50	6.60
1804½	4½x3½	5	18x 5¼	44	207	97	6.80	6.60
1805	5 x4	5½	18x 5¾	44	207	134	7.05	7.40
1805½	5½x4	6	18x 6¼	44	207	148	7.25	7.40
1806	6 x4	7	18x 7¼	44	207	162	7.35	8.30
1807	7 x4½	8	18x 8¼	44	207	278	7.75	10.40
2004	4 x3	4½	20x 4¾	42	220	65	6.75	7.55
2004½	4½x3½	5	20x 5¼	42	220	103	7.00	7.55
2005	5 x4	5½	20x 5¾	42	220	142	7.30	8.50
2005½	5½x4	6	20x 6¼	42	220	157	7.50	8.50
2006	6 x4	7	20x 7¼	42	220	172	7.60	9.45
2007	7 x4½	8	20x 8¼	42	220	295	8.00	11.55
2008	8 x5	9	20x 9¼	42	220	417	8.25	12.70
2009	9 x5	10	20x10¼	42	220	476	8.50	15.60
2010	10 x5½	11	20x11¼	42	220	639	8.75	16.85
2011	11 x6	12	20x12¼	42	220	796	9.05	18.15
2012	12 x6	13	20x13¼	42	220	873	9.30	19.45
2013	13 x6	14	20x14¼	42	220	933	9.50	20.80
2405	5 x4	5½	24x 5¾	38	238	154	7.80	10.50
2405½	5½x4	6	24x 6¼	38	238	170	8.00	10.50
2406	6 x4	7	24x 7¼	28	238	187	8.10	11.65
2407	7 x4½	8	24x 8¼	38	238	320	8.50	14.00
2408	8 x5	9	24x 9¼	38	238	452	8.75	15.20
2409	9 x5	10	24x10¼	38	238	516	9.00	19.30
2410	10 x5½	11	24x11¼	38	238	692	9.25	20.85

## Wood Elevator Heads—Continued

Prices, Dimensions, Etc.

No.	Size of Buckets Inches	Width of Belt Inches	Exact Size of Pulley Inches	Rev. per Minute	Belt Speed in Feet Per Minute	Capacity Bushels Per Hour	Price Without Pulley	Price Cast Iron Pulley
2411	11 x6	12	24x12½	38	238	862	\$ 9.55	\$22.40
2412	12 x6	13	24x13½	38	238	945	9.80	24.00
2413	13 x6	14	24x14½	38	238	1010	10.00	25.60
3008	8 x5	9	30x 9½	38	314	662	19.00	20.35
3009	9 x5	10	30x10½	38	314	737	19.40	22.00
3010	10 x5½	11	30x11½	38	314	912	19.80	27.85
3011	11 x6	12	30x12½	38	314	1137	20.30	29.85
3012	12 x6	13	30x13½	38	314	1238	20.70	31.90
3013	13 x6	14	30x14½	38	314	1340	21.10	33.95
3609	9 x5	10	36x10½	38	358	851	24.50	28.30
3610	10 x5½	11	36x11½	38	358	1039	24.95	30.45
3611	11 x6	12	36x12½	38	358	1296	25.50	38.15
3612	12 x6	13	36x13½	38	358	1411	25.95	40.70
3613	13 x6	14	36x14½	38	358	1781	26.40	43.25
3614	14 x7	16	36x17	38	358	1922	27.40	48.45
4209	9 x5	10	42x10½	36	395	935	29.40	34.65
4210	10 x5½	11	42x11½	36	395	1133	29.90	37.10
4211	11 x6	12	42x12½	36	395	1412	30.55	46.60
4212	12 x6	13	42x13½	36	395	1540	31.05	49.50
4213	13 x6	14	42x14½	36	395	1669	31.55	52.45
4214	14 x7	16	42x17	36	395	2094	32.70	58.35
4216	16 x7	18	42x19	36	395	2280	33.70	64.35
4809	9 x5	10	48x10½	34	427	1007	42.40	41.60
4810	10 x5½	11	48x11½	34	427	1212	43.05	43.90
4811	11 x6	12	48x12½	34	427	1502	43.90	56.55
4812	12 x6	13	48x13½	34	427	1647	44.55	60.00
4813	13 x6	14	48x14½	34	427	1786	45.20	63.50
4814	14 x7	16	48x17	34	427	2241	46.70	70.55
4816	16 x7	18	48x19	34	427	2564	48.00	77.70
4818	18 x7	20	48x21	34	427	2735	49.30	84.95
5409	9 x5	10	54x10½	32	466	1068	48.75	59.65
5410	10 x5½	11	54x11½	32	466	1303	49.45	63.75
5411	11 x6	12	54x12½	32	466	1624	50.40	67.85
5412	12 x6	13	54x13½	32	466	1770	51.10	72.00
5413	13 x6	14	54x14½	32	466	1919	51.80	76.15
5414	14 x7	16	54x17	32	466	2408	53.45	84.55
5416	16 x7	18	54x19	32	466	2752	54.85	93.05
5418	18 x7	20	54x21	32	466	3100	56.25	101.65
5420	20 x7	22	54x23	32	466	3446	57.65	110.35
6012	12 x6	13	60x13½	32	502	2030	55.00	85.15
6013	13 x6	14	60x14½	32	502	2200	55.75	90.05
6014	14 x7	16	60x17	32	502	2760	57.50	100.00
6016	16 x7	18	60x19	32	502	3155	59.00	110.10
6018	18 x7	20	60x21	32	502	3555	60.50	120.35
6020	20 x7	22	60x23	32	502	3951	62.00	130.75
6022	22 x7	24	60x25	32	502	4241	63.50	143.00
7216	16 x7	18	72x19	30	565	3540	106.10	139.10
7220	20 x7	22	72x23	30	565	4429	110.10	165.15
7224	24 x7	26	72x27	30	565	5323	114.10	178.75



## Wood Elevator Boots and Elevators Complete

Prices for complete Elevators are based on using one Wood Elevator Head; one Wood Elevator Boot, Fig. No. 369; one Cast Iron Head Pulley; one Cast Iron Boot Pulley, with Mandrel; Belting, 6 inches and less, 3-ply Cotton; 7 to 10 inches inclusive, 4-ply Cotton; 11 to 14 inches inclusive, 4-ply Rubber; 16 inches and above, 5-ply Rubber; Salem Steel Buckets, Elevator Bolts and Poplar Elevator Trunking.

### Prices, Dimensions, Etc.

No.	Exact Size of Pulley Inches	Price Cast Iron Pulley	Elevator Boots Without Pulleys				Elevators Complete Without Trunking		Elevators Complete With Trunking	
			Figure No. 369	Figure No. 370	Figure No. 371	Figure No. 372	10 Feet Center to Center	Each Foot Additional	10 Feet Center to Center	Each Foot Addit'l
1202	12x 2 3/4	\$3.60	\$4.75	\$6.25	\$7.25	\$7.95	\$25.66	\$0.40	\$31.36	\$0.98
1202 1/2	12x 3 1/4	3.60	5.00	6.50	7.50	8.20	26.80	.42	32.80	1.02
1202 3/4	12x 3 3/4	3.60	5.10	6.60	7.60	8.30	27.12	.42	33.42	1.06
1203	12x 3 3/4	4.05	5.30	6.80	7.80	8.50	28.82	.46	35.42	1.12
1203 1/2	12x 4 1/4	4.05	5.50	7.00	8.00	8.70	29.80	.48	36.70	1.18
1204	12x 4 3/4	4.55	5.75	7.25	8.25	8.95	32.02	.56	39.22	1.28
1402	14x 2 3/4	4.05	5.00	6.50	7.50	9.00	27.18	.40	32.88	.98
1402 1/2	14x 3 1/4	4.05	5.20	6.70	7.70	9.20	28.18	.42	34.18	1.02
1402 3/4	14x 3 3/4	4.05	5.30	6.80	7.80	9.30	28.50	.42	34.80	1.06
1403	14x 3 3/4	4.65	5.50	7.00	8.00	9.50	30.44	.46	37.04	1.12
1403 1/2	14x 4 1/4	4.65	5.75	7.25	8.25	9.75	31.54	.48	38.44	1.18
1404	14x 4 3/4	5.10	6.00	7.50	8.50	10.00	33.74	.56	40.94	1.28
1404 1/2	14x 5 1/4	5.10	6.25	7.75	8.75	10.25	35.20	.62	43.00	1.40
1602 3/4	16x 3 1/4	4.65	5.50	7.00	8.00	9.50	30.24	.42	36.54	1.06
1603	16x 3 3/4	5.20	5.80	7.30	8.30	9.80	32.40	.46	39.00	1.12
1603 1/2	16x 4 1/4	5.20	6.05	7.55	8.55	10.05	33.54	.48	40.44	1.18
1604	16x 4 3/4	5.80	6.25	7.75	8.75	10.25	35.84	.56	43.04	1.28
1604 1/2	16x 5 1/4	5.80	6.55	8.05	9.05	10.55	37.46	.62	45.26	1.40
1605	16x 5 3/4	6.50	6.80	8.30	9.30	10.80	40.08	.70	48.48	1.54
1605 1/2	16x 6 1/4	6.50	7.00	8.50	9.50	11.00	41.24	.74	49.94	1.62
1606	16x 7 1/4	7.30	7.25	8.75	9.75	11.25	46.02	.96	55.32	1.90
1803 1/2	18x 4 1/4	5.35	6.30	7.80	8.80	10.30	34.62	.48	41.52	1.18
1804	18x 4 3/4	6.60	6.50	8.00	9.00	10.50	37.96	.56	45.16	1.28
1804 1/2	18x 5 1/4	6.60	6.80	8.30	9.30	10.80	39.58	.62	47.38	1.40
1805	18x 5 3/4	7.40	7.05	8.55	9.55	11.05	42.36	.70	50.76	1.54
1805 1/2	18x 6 1/4	7.40	7.25	8.75	9.75	11.25	43.54	.74	52.24	1.62
1806	18x 7 1/4	8.30	7.35	8.85	9.85	11.35	48.06	.96	57.36	1.90
1807	18x 8 1/2	10.40	7.75	9.25	10.25	11.75	54.74	1.18	67.34	2.44
2004	20x 4 3/4	7.55	6.75	8.25	9.25	10.75	40.28	.56	47.48	1.28
2004 1/2	20x 5 1/4	7.55	7.00	8.50	9.50	11.00	41.78	.62	49.58	1.40
2005	20x 5 3/4	8.50	7.30	8.80	9.80	11.30	44.98	.70	53.38	1.54
2005 1/2	20x 6 1/4	8.50	7.50	9.00	10.00	11.50	46.16	.74	54.86	1.62
2006	20x 7 1/4	9.45	7.60	9.10	10.10	11.60	50.80	.96	60.10	1.90
2007	20x 8 1/2	11.55	8.00	9.50	10.50	12.00	57.70	1.18	70.30	2.44
2008	20x 9 1/2	12.70	8.25	9.75	10.75	12.25	63.00	1.38	76.80	2.76
2009	20x10 1/2	15.60	8.50	10.00	-----	16.50	69.90	1.52	91.20	3.66
2010	20x11 1/2	16.85	8.75	10.25	-----	16.75	88.88	2.84	111.82	5.14
2011	20x12 1/2	18.15	9.05	10.55	-----	17.05	96.08	3.22	120.38	5.66
2012	20x13 1/2	19.45	9.30	11.30	-----	17.30	102.52	3.54	127.42	6.04
2013	20x14 1/2	20.80	9.50	11.50	-----	17.50	109.90	3.96	135.56	6.52

# Wood Elevator Boots and Elevators Complete—Continued

## Prices, Dimensions, Etc.

No.	Exact Size of Pulley Inches	Price Cast Iron Pulley	Elevator Boots without Pulleys				Elevators Complete without Trunking		Elevators Complete with Trunking	
			Figure No. 369	Figure No. 370	Figure No. 371	Figure No. 372	10 Feet Center to Center	Each Foot Addit'l	10 Feet Center to Center	Each Foot Addit'l
2405	24x 5 $\frac{3}{4}$	\$ 10.50	\$ 7.80	\$ 9.30	\$ 10.30	\$ 11.80	\$ 50.04	\$ .70	\$ 58.44	\$1.54
2405 $\frac{1}{2}$	24x 6 $\frac{1}{4}$	10.50	8.00	9.50	10.50	12.00	51.26	.74	59.96	1.62
2406	24x 7 $\frac{1}{4}$	11.65	8.10	9.60	10.60	12.10	56.40	.96	65.70	1.90
2407	24x 8 $\frac{1}{2}$	14.00	8.50	10.00	11.00	12.50	63.80	1.18	76.40	2.44
2408	24x 9 $\frac{1}{2}$	15.20	8.75	10.25	11.25	12.75	69.26	1.38	83.06	2.76
2409	24x10 $\frac{1}{2}$	19.30	9.00	10.50	-----	17.00	78.16	1.52	99.46	3.66
2410	24x11 $\frac{1}{2}$	20.85	9.25	10.75	-----	17.25	98.38	2.84	121.32	5.14
2411	24x12 $\frac{1}{2}$	22.40	9.55	11.55	-----	17.55	106.16	3.22	130.46	5.66
2412	24x13 $\frac{1}{2}$	24.00	9.80	11.80	-----	17.80	113.24	3.54	138.14	6.04
2413	24x14 $\frac{1}{2}$	25.60	10.00	12.00	-----	18.00	121.24	3.96	146.90	6.52
3008	30x 9 $\frac{1}{2}$	20.35	19.00	23.00	-----	27.00	109.16	1.38	122.96	2.76
3009	30x10 $\frac{1}{2}$	22.00	19.40	23.40	-----	27.40	114.66	1.52	135.96	3.66
3010	30x11 $\frac{1}{2}$	27.85	19.80	23.80	-----	27.80	143.18	2.84	166.12	5.14
3011	30x12 $\frac{1}{2}$	29.85	20.30	24.30	-----	28.30	152.56	3.22	176.86	5.66
3012	30x13 $\frac{1}{2}$	31.90	20.70	24.70	-----	28.70	161.00	3.54	185.90	6.04
3013	30x14 $\frac{1}{2}$	33.95	21.10	25.10	-----	29.10	170.60	3.96	196.26	6.52
3609	36x10 $\frac{1}{2}$	28.30	24.50	29.50	-----	32.50	141.04	1.52	162.34	3.66
3610	36x11 $\frac{1}{2}$	30.45	24.95	29.95	-----	32.95	164.74	2.84	187.68	5.14
3611	36x12 $\frac{1}{2}$	38.15	25.50	30.50	-----	33.50	183.60	3.22	207.90	5.66
3612	36x13 $\frac{1}{2}$	40.70	25.95	30.95	-----	33.95	193.18	3.54	218.08	6.04
3613	36x14 $\frac{1}{2}$	43.25	26.40	31.40	-----	34.40	204.00	3.96	229.66	6.52
3614	36x17	48.45	27.40	32.40	-----	35.40	234.56	5.30	262.76	8.12
4209	42x10 $\frac{1}{2}$	34.65	29.40	35.40	-----	39.40	166.86	1.52	118.16	3.66
4210	42x11 $\frac{1}{2}$	37.10	29.90	35.90	-----	39.90	192.18	2.84	215.12	5.14
4211	42x12 $\frac{1}{2}$	46.60	30.55	36.55	-----	40.55	214.42	3.22	238.72	5.66
4212	42x13 $\frac{1}{2}$	49.50	31.05	37.05	-----	41.05	224.96	3.54	249.86	6.04
4213	42x14 $\frac{1}{2}$	52.45	31.55	37.55	-----	41.55	236.80	3.96	262.46	6.52
4214	42x17	58.35	32.70	38.70	-----	42.70	269.94	5.30	298.14	8.12
4216	42x19	64.35	33.70	39.70	-----	43.70	296.02	6.28	325.72	9.26
4809	48x10 $\frac{1}{2}$	41.60	42.40	50.40	-----	52.40	218.26	1.52	239.56	3.66
4810	48x11 $\frac{1}{2}$	43.90	43.05	51.05	-----	53.05	245.00	2.84	267.94	5.14
4811	48x12 $\frac{1}{2}$	56.55	43.90	51.90	-----	53.90	273.28	3.22	297.58	5.66
4812	48x13 $\frac{1}{2}$	60.00	44.55	52.55	-----	54.55	285.36	3.54	310.26	6.04
4813	48x14 $\frac{1}{2}$	63.50	45.20	53.20	-----	55.20	298.94	3.96	324.60	6.52
4814	48x17	70.55	46.70	54.70	-----	56.70	336.08	5.30	364.28	8.12
4816	48x19	77.70	48.00	56.00	-----	58.00	365.82	6.28	395.52	9.26
4818	48x21	84.95	49.30	57.30	-----	59.30	391.72	6.94	422.78	10.04
5409	54x10 $\frac{1}{2}$	59.65	48.75	58.75	-----	58.75	267.26	1.52	288.56	3.66
5410	54x11 $\frac{1}{2}$	63.75	49.45	59.45	-----	59.45	298.00	2.84	320.94	5.14
5411	54x12 $\frac{1}{2}$	67.85	50.40	60.40	-----	60.40	313.12	3.22	337.42	5.74
5412	54x13 $\frac{1}{2}$	72.00	51.10	61.10	-----	61.10	326.74	3.54	351.64	6.04
5413	54x14 $\frac{1}{2}$	76.15	51.80	61.80	-----	61.80	341.76	3.96	367.40	6.52
5414	54x17	84.55	53.45	63.45	-----	63.45	382.54	5.30	410.74	8.12
5416	54x19	93.05	54.85	64.85	-----	64.85	415.38	6.28	445.08	9.26
5418	54x21	101.65	56.25	66.25	-----	66.25	444.20	6.94	475.24	10.06
5420	54x23	110.35	57.65	67.65	-----	67.65	476.10	7.82	508.64	11.10
6012	60x13 $\frac{1}{2}$	85.15	55.00	-----	-----	67.00	362.14	3.54	387.04	6.04
6013	60x14 $\frac{1}{2}$	90.05	55.75	-----	-----	67.75	378.80	3.96	404.44	6.52
6014	60x17	100.00	57.50	-----	-----	69.50	423.50	5.30	451.70	8.12
6016	60x19	110.10	59.00	-----	-----	71.00	459.88	6.28	489.58	9.26
6018	60x21	120.35	60.50	-----	-----	72.50	492.18	6.94	523.22	10.06
6020	60x23	130.75	62.00	-----	-----	74.00	527.74	7.82	560.28	11.10
6022	60x25	143.00	63.50	-----	-----	75.50	569.80	8.94	603.70	12.34
7216	72x19	139.10	106.10	-----	-----	118.10	656.10	6.28	685.80	9.26
7220	72x23	165.15	110.10	-----	-----	122.10	737.72	7.82	770.26	11.10
7224	72x27	178.75	114.10	-----	-----	126.10	806.76	9.84	842.16	13.38



## Steel Elevator Boots and Heads

### Dust Tight

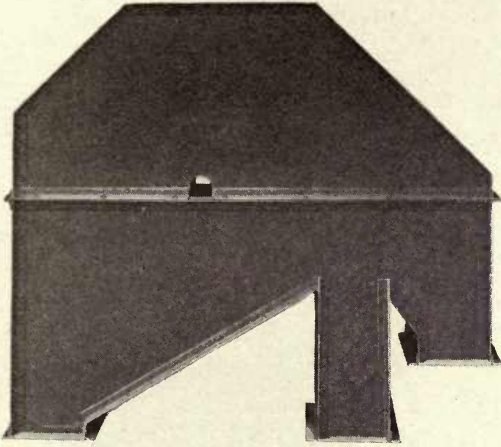


Fig. No. 373

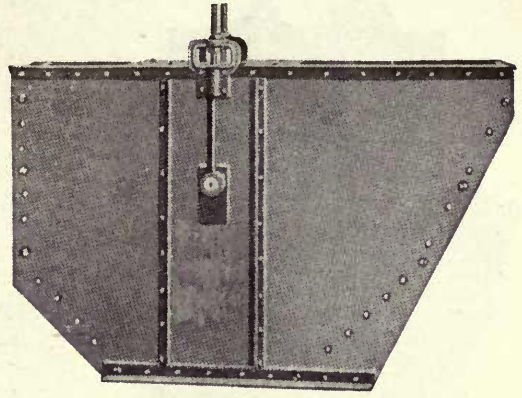


Fig. No. 374

Heads and Boots are made for wood or steel legging. Each boot is fitted with take-ups, mandrel and cast iron pulley. Heads without pulley.

### Prices, Dimensions, Etc.

No.	Size of Buckets Inches	Width of Belt Inches	Exact Size of Pulley Inches	PRICE, EACH			
				Boot With Pulley		Head Without Pulley	
				Black	Galvanized	Black	Galvanized
2004	4 x 3	4 1/2	20 x 4 1/4	\$24.25	\$26.25	\$24.30	\$26.70
2004 1/2	4 1/2 x 3 1/2	5	20 x 5 1/4	25.30	27.40	25.20	27.70
2005	5 x 4	5 1/2	20 x 5 3/4	26.50	28.70	26.10	28.70
2005 1/2	5 1/2 x 4	6	20 x 6 1/4	27.40	29.70	27.00	29.70
2006	6 x 4	7	20 x 7 1/4	28.20	30.50	27.40	30.10
2007	7 x 4 1/2	8	20 x 8 1/4	30.00	32.40	28.80	31.60
2008	8 x 5	9	20 x 9 1/4	31.35	33.90	29.70	32.70
2009	9 x 5	10	20 x 10 1/4	32.70	35.20	30.60	33.60
2010	10 x 5 1/2	11	20 x 11 1/4	34.05	36.70	31.50	34.65
2011	11 x 6	12	20 x 12 1/4	35.65	38.50	32.55	35.80
2012	12 x 6	13	20 x 13 1/4	37.00	39.80	33.50	36.85
2013	13 x 6	14	20 x 14 1/4	38.20	41.00	34.20	37.60
2405	5 x 4	5 1/2	24 x 5 3/4	28.90	31.30	28.10	30.90
2405 1/2	5 1/2 x 4	6	24 x 6 1/4	30.00	32.40	28.80	31.60
2406	6 x 4	7	24 x 7 1/4	31.00	33.50	29.15	32.10
2407	7 x 4 1/2	8	24 x 8 1/4	32.90	35.50	30.60	33.60
2408	8 x 5	9	24 x 9 1/4	34.50	37.10	31.50	34.65
2409	9 x 5	10	24 x 10 1/4	35.90	38.60	32.40	35.65
2410	10 x 5 1/2	11	24 x 11 1/4	37.50	40.20	33.30	36.60
2411	11 x 6	12	24 x 12 1/4	39.00	41.90	34.40	37.80
2412	12 x 6	13	24 x 13 1/4	40.60	43.60	35.40	38.90
2413	13 x 6	14	24 x 14 1/4	42.00	45.00	36.00	39.60

## Large Steel Elevator Heads

### Prices, Dimensions, Etc.

No.	Size of Buckets Inches	Width of Belt Inches	Exact Size of Pulley Inches	PRICE WITHOUT PULLEY		No.	Size of Buckets Inches	Width of Belt Inches	Exact Size of Pulley Inches	PRICE WITHOUT PULLEY	
				Black	Galv.					Black	Galv.
4809	9x5	10	48x10 1/2	\$106.00	\$112.35	6012	12x6	13	60x13 1/2	\$137.50	\$145.25
4810	10x5 1/2	11	48x11 1/2	107.65	114.10	6013	13x6	14	60x14 1/2	139.40	147.75
4811	11x6	12	48x12 1/2	109.75	116.35	6014	14x7	16	60x17	143.75	152.40
4812	12x6	13	48x13 1/2	111.40	118.30	6016	16x7	18	60x19	147.50	156.35
4813	13x6	14	48x14 1/2	113.00	119.80	6018	18x7	20	60x21	151.25	160.30
4814	14x7	16	48x17	116.75	123.75	6020	20x7	22	60x23	155.00	164.30
4816	16x7	18	48x19	120.00	127.20	6022	22x7	24	60x25	158.75	168.30
4818	18x7	20	48x21	122.90	130.30						
5409	9x5	10	54x10 1/2	121.90	129.25	7213	13x6	14	72x14 1/2	255.00	270.00
5410	10x5 1/2	11	54x11 1/2	123.60	131.00	7214	14x7	16	72x17	260.00	275.00
5411	11x6	12	54x12 1/2	126.10	133.65	7216	16x7	18	72x19	265.00	280.00
5412	12x6	13	54x13 1/2	127.75	135.40	7218	18x7	20	72x21	270.00	285.00
5413	13x6	14	54x14 1/2	129.50	137.30	7220	20x7	22	72x23	275.00	290.00
5414	14x7	16	54x17	133.60	141.60	7222	22x7	24	72x25	280.00	295.00
5416	16x7	18	54x19	137.10	145.35	7224	24x7	26	72x27	285.00	300.00
5418	18x7	20	54x21	140.60	149.00						
5420	20x7	22	54x23	144.10	152.75						

## Cast Iron Adjustable Elevator Boot

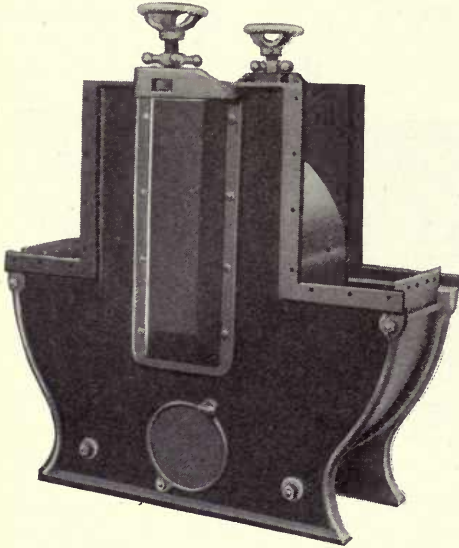


Fig. No. 375

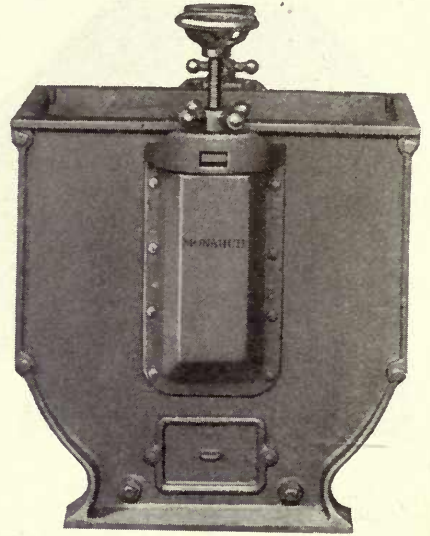


Fig. No. 376

These Boots are made from cast iron, fitted with take-up boxes, mandrel and pulley. Sides and ends are provided with hand holes to facilitate cleaning.

### Price List

#### For Wood Trunking

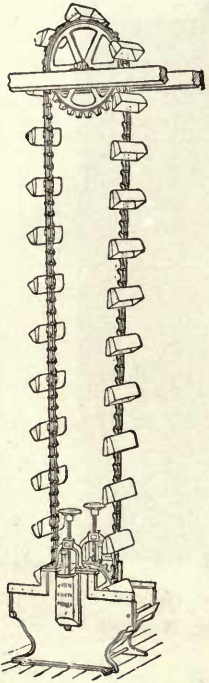
#### For Steel Trunking

No. of Boot	Size of Pulley Inches	Size of Bucket Inches	Diam. of Shaft Inches	Price, Each	No. of Boot	Size of Pulley Inches	Size of Bucket Inches	Diam. of Shaft Inches	Price, Each
A- 43	14 x 4½	4 x 3	1½	\$ 32.00	A-143	14 x 4½	4 x 3	1½	\$ 34.00
A- 43½	14 x 5	4½ x 3½	1½	33.00	A-143½	14 x 5	4½ x 3½	1½	35.00
B- 54	14 x 5½	5 x 4	1½	35.00	B-154	14 x 5½	5 x 4	1½	37.00
B- 64	14 x 6½	6 x 4	1½	40.00	B-164	14 x 6½	6 x 4	1½	42.00
B- 74½	14 x 8½	7 x 4½	1½	45.00	B-174½	14 x 8½	7 x 4½	1½	47.00
C- 85	16 x 9½	8 x 5	1½	48.00	C- 185	16 x 9½	8 x 5	1½	51.50
D- 95	16 x 10½	9 x 5	1½	50.00	D- 195	16 x 10½	9 x 5	1½	53.50
D-105½	16 x 11½	10 x 5½	1½	52.00	D-1105½	16 x 11½	10 x 5½	1½	55.50
E-116	18 x 12½	11 x 6	1½	60.00	E-1116	18 x 12½	11 x 6	1½	64.00
E-126	18 x 13½	12 x 6	1½	62.00	E-1126	18 x 13½	12 x 6	1½	66.00
E-136	18 x 14½	13 x 6	1½	64.00	E-1136	18 x 14½	13 x 6	1½	68.00
F-147	20 x 17	14 x 7	2½	73.00	F-1147	20 x 17	14 x 7	2½	77.00
*F-147½	20 x 17	14 x 7½	2½	75.00	F-1147½	20 x 17	14 x 7½	2½	80.00
F-167	20 x 19	16 x 7	2½	90.00	F-1167	20 x 19	16 x 7	2½	95.00
F-187	20 x 21	18 x 7	2½	92.00	F-1187	20 x 21	18 x 7	2½	97.00
F-207	20 x 23	20 x 7	2½	98.00	F-1207	20 x 23	20 x 7	2½	103.00
G-187	24 x 21	18 x 7	2½	100.00	G-1187	24 x 21	18 x 7	2½	105.00
G-207	24 x 23	20 x 7	2½	104.00	G-1207	24 x 23	20 x 7	2½	109.00
G-227	24 x 25	22 x 7	2½	110.00	G-1227	24 x 25	22 x 7	2½	115.00
G-247	24 x 27	24 x 7	2½	120.00	G-1247	24 x 27	24 x 7	2½	125.00

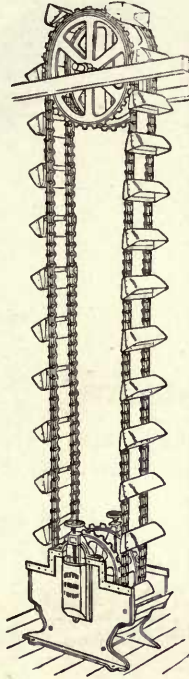
\* This size for ear corn.



## All Metal Elevators



**Fig. No. 377**



**Fig. No. 378**

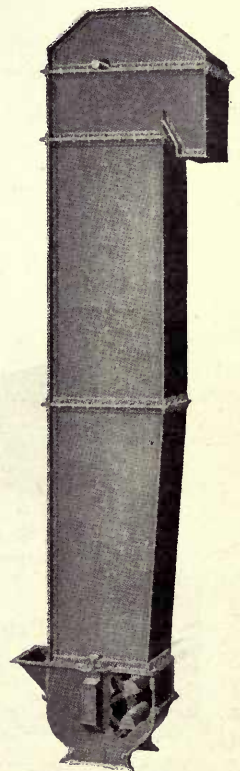
**All-Metal Elevators Without Legging**

We here illustrate our All-Metal Elevators without legging. While the illustrations show sprockets and chains, if desired will furnish belting and pulleys instead. Prices will be quoted on application. When asking for prices give extreme height, size of cups and figure number.

Illustration showing All-Metal Elevators with single and double legging. Prices for complete elevator quoted on application. We are in position to furnish promptly all-steel heads and either cast iron or steel boots and any gage of metal legging.



**Fig. No. 379**



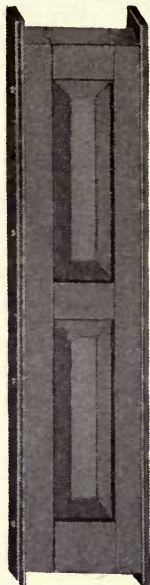
**Fig. No. 380**

**All-Metal Elevators With Legging**

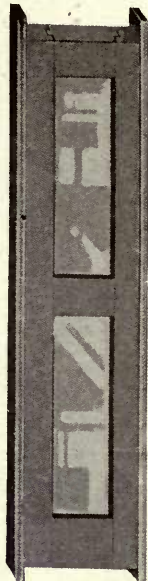
Elevator Doors



Plain  
Fig. No. 381



Paneled  
Fig. No. 382



Glass  
Fig. No. 383

Price Each

Size, Inches	Plain	Paneled	Glass Panel
5½ to 7½	\$0.70	\$1.25	\$1.35
8 to 9½	.80	1.35	1.55
10½ to 12½	.90	1.55	1.75
13½ to 15½	1.00	1.70	2.00

Hand Hole Covers



Fig. No. 384  
Pear-Shaped Swing Cover



Fig. No. 385  
Round Cover With Porcelain Knob

Price List

3	inches diameter, each	\$0.10
3½	" " " "	.11
4	" " " "	.12
4½	" " " "	.13
5	" " " "	.14
5½	" " " "	.15
6	" " " "	.16

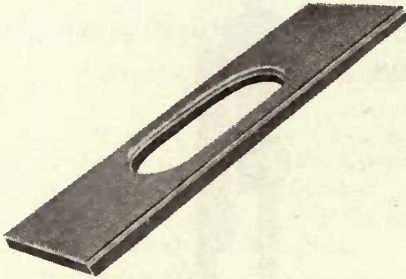
Price List

3½	inches diameter, per dozen	\$1.20
4	" " " "	1.40
4½	" " " "	1.60
5	" " " "	1.80
5½	" " " "	2.00



## Spouting Windows

Used at the bottom of spouts to enable the miller to see the stock as it passes through. The opening in the board is covered with glass.



**Fig. No. 386**  
Spouting Window

### Price List

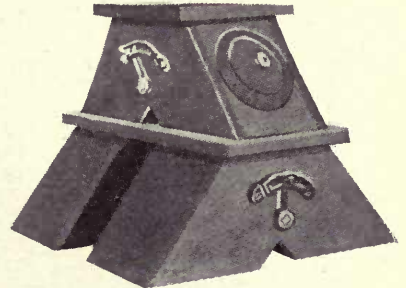
Window For Use With Spouting Number	Price Each	Window For Use With Spouting Number	Price Each
1	\$0.85	4	\$1.00
2	.90	5	1.10
3	.95		

## Double Spout Valves

Generally used on the top of Roller Mills for dividing the stream and spreading it to both sides of the machine.

### Price List

Double Valve For Use With Spouting Number	Price Each	Double Valve For Use With Spouting Number	Price Each
1	\$6.00	4	\$6.70
2	6.20	5	7.00
3	6.40		



**Fig. No. 387**  
Valve for Top of Roller Mill

## Single Spout Valves

Used in any part of a mill for dividing a stream.

### Price List

Single Valve For Use With Spouting Number	Price Each	Single Valve For Use With Spouting Number	Price Each
1	\$3.00	4	\$3.35
2	3.10	5	3.50
3	3.20		



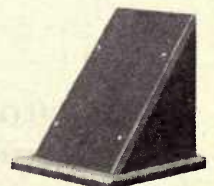
**Fig. No. 388**  
Valve for Dividing Stream

## Spout Pockets

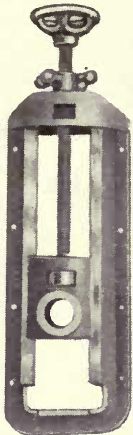
Used for letting stock into spouting.

### Price List

For Spouting Number	Price Each	For Spouting Number	Price Each
1	\$1.40	4	\$1.70
2	1.50	5	1.85
3	1.60		



**Fig. No. 389**  
Pocket



### Elevator Boot Take-Up Boxes

Heavy and Light  
Patterns



Fig. No. 395  
Elevator Boot Take-Up Box—Heavy Pattern

Fig. No. 395-A  
Elevator Boot Take-Up Box—Light Pattern

Price List

Diameter of Shaft Inches	Number of Inches Adjustment	Price
$1\frac{7}{16}$	8	\$ 8.00
$1\frac{11}{16}$	12	10.00
$1\frac{13}{16}$	12	11.00
$2\frac{3}{16}$	12	12.00
$2\frac{7}{16}$	20	15.00
$2\frac{11}{16}$	24	18.00

Price List

Diameter of Shaft Inches	Price
$1\frac{7}{16}$	\$4.00
$1\frac{11}{16}$	5.00
$1\frac{13}{16}$	5.50
$2\frac{3}{16}$	6.00
$2\frac{7}{16}$	7.50
$2\frac{11}{16}$	9.00

### Elevator Boot Bearings



Fig. No. 396  
Plain Bearing

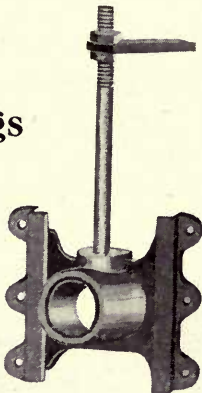


Fig. No. 397  
Adjustable Bearing

Price List

Diameter of Shaft, Inches	Price, Each
$\frac{11}{16}$	\$0.75
$\frac{13}{16}$	.80
$1\frac{1}{16}$	.85
$1\frac{1}{8}$	.90
$1\frac{1}{4}$	1.00
$1\frac{1}{2}$	1.20

Price List

Diameter of Shaft, Inches	Price, Each
$\frac{11}{16}$	\$1.50
$\frac{13}{16}$	1.60
$1\frac{1}{16}$	1.70
$1\frac{1}{8}$	1.80
$1\frac{1}{4}$	2.00
$1\frac{1}{2}$	2.40

### Elevator Boot Mandrels



Fig. No. 398

For Elevator Boot Pulleys, 8½ inches wide and less, each.....\$2.00  
For Elevator Boot Pulleys, 14½ inches wide and less, each.....2.50



## Internal Spur Gears for Elevators

The gears listed below are standard patterns and are carried in stock.

Internal spur gears are used to reduce the speed or back gear the elevator line shaft when it is desired to run the elevator countershaft in the same direction.

At the bottom of this page we also list standard spur gears for use in connection with elevators.

Prices will be furnished on application for drop hangers and post hangers with double bearings to suit the gears listed on this page.

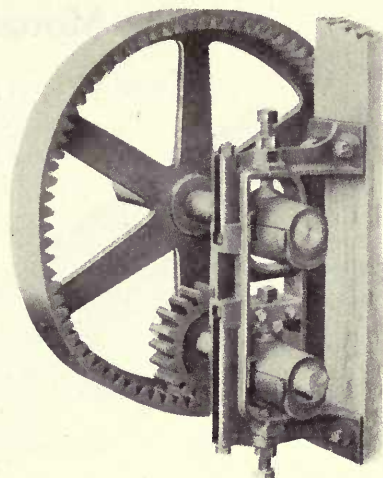


Fig. No. 399

### Prices, Dimensions, Etc.

No. of Teeth	Price	Pitch Inches	Face Inches	Pitch Diameter Inches	Proportion 1 to —
75	\$28.00	1 $\frac{1}{4}$	2 $\frac{1}{2}$	30	3.00
25	8.00	1 $\frac{1}{4}$	2 $\frac{1}{2}$	9 $\frac{3}{4}$	
75	28.00	1 $\frac{1}{4}$	2 $\frac{1}{2}$	30	4.16
18	4.40	1 $\frac{1}{4}$	2 $\frac{1}{2}$	7 $\frac{1}{4}$	
75	28.00	1 $\frac{1}{4}$	2 $\frac{1}{2}$	30	5.35
14	4.00	1 $\frac{1}{4}$	2 $\frac{1}{2}$	5 $\frac{1}{2}$	
75	28.00	1 $\frac{1}{4}$	2 $\frac{1}{2}$	30	6.81
11	3.00	1 $\frac{1}{4}$	2 $\frac{1}{2}$	4 $\frac{3}{8}$	
89	32.00	1 $\frac{1}{4}$	3 $\frac{1}{2}$	35 $\frac{1}{2}$	2.96
30	9.00	1 $\frac{1}{4}$	3 $\frac{1}{2}$	11 $\frac{3}{4}$	
89	32.00	1 $\frac{1}{4}$	3 $\frac{1}{2}$	35 $\frac{1}{2}$	3.56
25	8.50	1 $\frac{1}{4}$	3 $\frac{1}{2}$	9 $\frac{1}{4}$	
89	32.00	1 $\frac{1}{4}$	3 $\frac{1}{2}$	35 $\frac{1}{2}$	4.68
19	6.00	1 $\frac{1}{4}$	3 $\frac{1}{2}$	7 $\frac{1}{2}$	

## Standard Spur Gears for Elevators

### Prices, Dimensions, Etc.

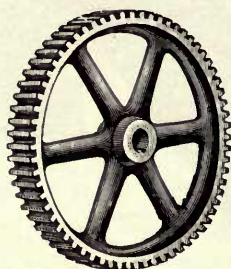


Fig. No. 400

Pattern No.	Price	No. of Teeth	Pitch Diameter Inches	Width of Face Inches	Pitch Inches
4314	\$1.00	13	2 $\frac{9}{16}$	$\frac{3}{4}$	$\frac{5}{8}$
4296	3.00	85	16 $\frac{3}{4}$	$\frac{3}{4}$	$\frac{5}{8}$
4305	1.50	15	3 $\frac{1}{16}$	1 $\frac{1}{2}$	$\frac{3}{4}$
4301	2.00	19	4 $\frac{5}{8}$	1 $\frac{1}{2}$	$\frac{3}{4}$
4303	2.50	25	6 $\frac{1}{16}$	1 $\frac{1}{2}$	$\frac{3}{4}$
4281	6.00	77	18 $\frac{5}{8}$	1 $\frac{1}{2}$	$\frac{3}{4}$
4294	2.75	11	4 $\frac{3}{8}$	2 $\frac{1}{2}$	1 $\frac{1}{4}$
4293	3.00	14	5 $\frac{5}{8}$	2 $\frac{1}{2}$	1 $\frac{1}{4}$
4288	3.50	18	7 $\frac{3}{8}$	2 $\frac{1}{2}$	1 $\frac{1}{4}$
4277	9.00	55	22 $\frac{3}{16}$	2 $\frac{1}{2}$	1 $\frac{1}{4}$
4289	3.50	19	7 $\frac{3}{4}$	3	1 $\frac{1}{4}$
4287	4.50	25	10 $\frac{3}{8}$	3	1 $\frac{1}{4}$
4278	16.00	75	30 $\frac{3}{8}$	3	1 $\frac{1}{4}$

## The Monarch Standard Chain Drag

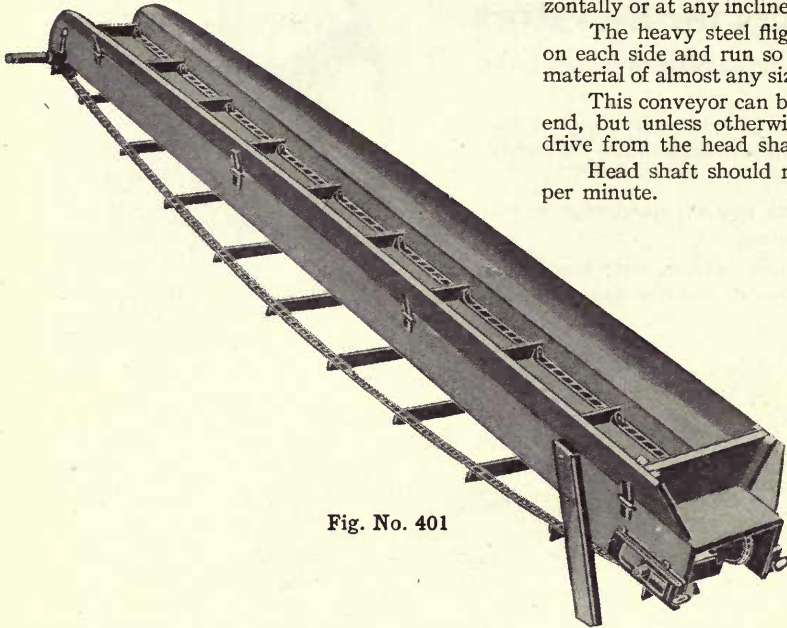


Fig. No. 401

### Price List

Twelve feet of Standard Drag complete with box 13 inches wide inside, head shaft extended 6 inches on each side, not including sprocket or pulley.....	\$50.00
Each additional foot.....	3.00

### Special Chain Drags, Elevators, Etc.

On receipt of specifications we are prepared to supply special Feeders, Drags and Conveyors of any capacity and for handling any kind of material.

## The Monarch Drag Elevator with Two Sacking Spouts

This Elevator is designed for use with feed grinders of all kinds. It is made of poplar lumber put together with screws and has wood cleats attached to cotton belt.

Price.....\$25.00



Fig. No. 402



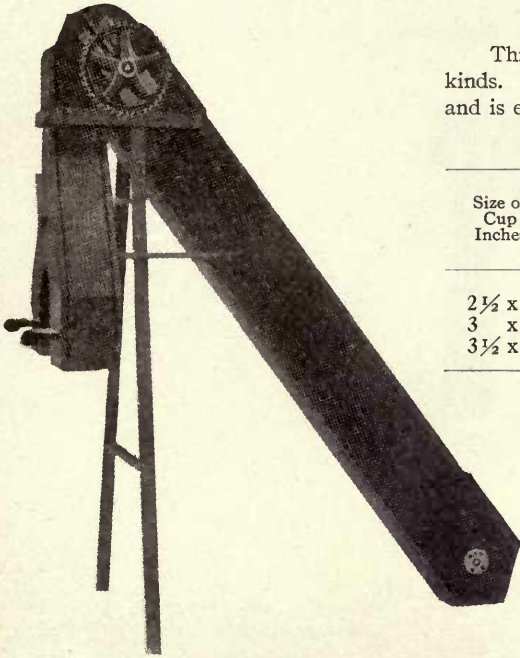


Fig. No. 403

## Sacking Elevator

This Elevator is designed for use with feed grinders of all kinds. It is made of poplar lumber put together with screws and is equipped with steel cups attached to cotton belt.

### Prices, Dimensions, Etc.

Size of Cup Inches	Price	Height Over all	Distance From Floor to Bottom of Spouts	Speed of Head Pulley R.P.M.
2½ x 2	\$30.00	7' 0"	3' 2"	70
3 x 3	35.00	7' 2"	3' 2"	65
3½ x 3	40.00	7' 2"	3' 2"	60

## The Monarch Elevator and Two-Sack Bagger

This Elevator is designed for use with our Vertical Burr Mills, is made of standard elevator construction and is driven the proper direction so that the discharge of mill will not choke the elevator. When ordering state size of mill it is to be connected to.

### Prices, Dimensions, Etc.

Size No.	Price	Size of Cups Inches	Center to Center of Cups In.	Width of Belt In.	Size of Pulleys Inches	Speed R.P.M.	Cap. in Bu. per Hr.	Out-side Length	Height Over all
1	\$35.00	4 x 3½	12	4½	14x4½	50	65	2' 11"	8' ½"
2	40.00	4½x3½	12	5	14x5	50	100	3' 0"	8' 1"
3	45.00	5½x4	12	6	14x6	48	175	3' 2"	8' 1"

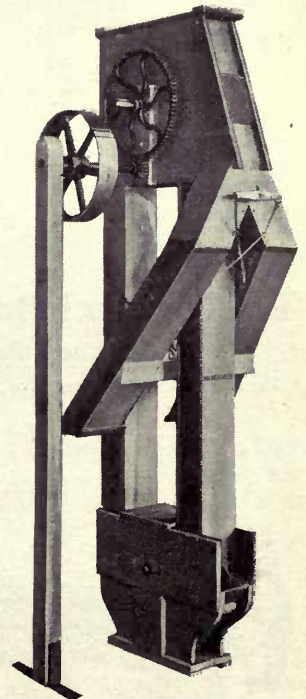
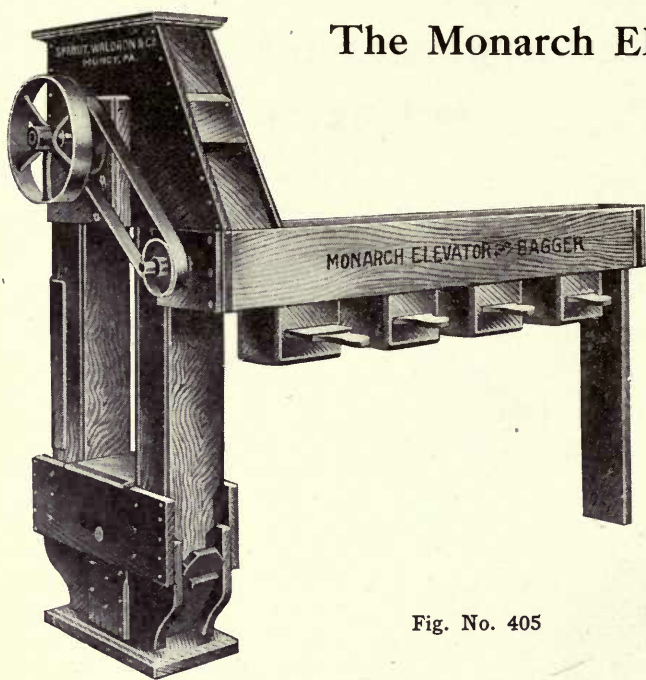


Fig. No. 404



The Monarch Elevator and Bagger

Convenient for elevating and bagging feed. The cut shows places for four bags. The time-saving qualities of the device will strongly appeal to you.

Fig. No. 405

Prices, Dimensions, Etc.

No.	PRICE COMPLETE		SIZE OF CUPS		Center to Center of Cups Inches	Width of Belt Inches	Size of Pulleys Inches	Rev. per Minute	Capacity in Bu.	Outside Length	Distance Center of Head to Center of Boot Feet	Height Over all of Elevator
	Belt	Gear	Width	Pro-jection								
1	\$40.00	\$50.00	4	3	14	4 1/2	14x4	40	65	8' 0"	4	6' 1"
	44.00	54.00									6	8' 1"
	50.00	60.00									8	10' 1"
	56.00	66.00									10	12' 1"
	62.00	72.00									12	14' 1"
2	42.00	52.00	4	3 1/2	12	4 1/2	16x4 1/2	45	95	8' 6"	4	6' 4"
	46.00	56.00									6	8' 4"
	52.00	62.00									8	10' 4"
	58.00	68.00									10	12' 4"
	64.00	74.00									12	14' 4"
3	50.00	60.00	5 1/2	4	12	5	16x6	50	175	9' 10"	4	6' 4"
	54.00	64.00									6	8' 4"
	60.00	70.00									8	10' 4"
	76.00	86.00									10	12' 4"
	82.00	92.00									12	14' 4"

The Monarch Bagger Box  
With Wood Spouts

Price complete with conveyor, pulley and  
4 spouts.....\$20.00  
Price complete with conveyor, pulley and  
6 spouts..... 24.00

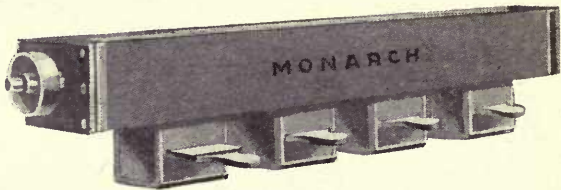


Fig. No. 406

The Monarch Bagger Box  
With Metal Spouts

Bagger was designed for feed plants and will be furnished with either wood or metal conveyor, as desired.

Prices will be furnished on application for larger and special sizes.

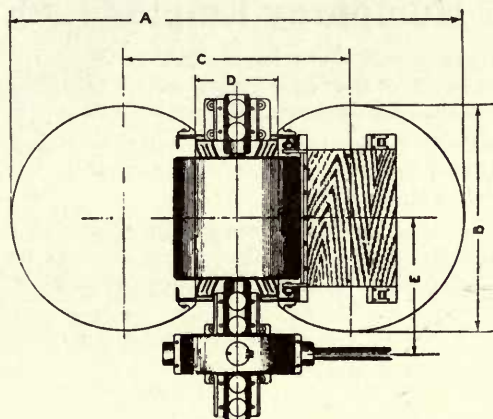
Price with steel conveyor and 4 spouts..\$26.00.



Fig. No. 407



# The Monarch Employees Elevator



Floor Plan

This Elevator is constructed of steel and iron, in the most approved and scientific manner, is perfectly safe and can be used for carrying both passengers and small articles of freight, up and down, from floor to floor.

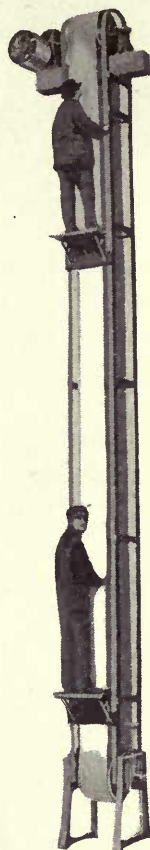


Fig. No. 409

## Prices, Weights, Volumes, Etc.

WITH BELT						WITHOUT BELT					
No.	PRICE		Weight 50-Foot Elevator Pounds	BOXED FOR EXPORT		No.	PRICE		Weight 50-Foot Elevator Pounds	BOXED FOR EXPORT	
	Elevator Complete 50 Feet High	Per Foot More or Less Than 50 Feet		Cubic Feet 50-Foot Elevator	Weight 50-Foot Elevator Pounds		Elevator Complete 50 Feet High	Per Foot More or Less Than 50 Feet		Cubic Feet 50-Foot Elevator	Weight 50-Foot Elevator Pounds
100	\$450.00	\$4.00	2650	170	3350	101	\$350.00	\$2.00	2530	165	3160
102	500.00	4.00	2650	170	3350	103	400.00	2.00	2530	165	3160
104	850.00	8.00	4400	255	5200	105	700.00	4.00	4200	245	4850
106	1000.00	10.00	4900	260	5700	107	800.00	5.00	4650	250	5400

## Dimensions, Etc.

No.	Diam. of Head and Foot Pulleys Inches	Width and Ply of Rubber Belt	PRINCIPAL DIMENSIONS					REV. PER MINUTE			Size of Tight and Loose Pulleys Inches	Diam. of Worm Shaft In.	Drive Pulley Width Str't Face In.
			A	B	C	D In.	E In.	Travel of Platform Belt in Feet per Minute					
								50 Feet	60 Feet	70 Feet			
100-101	20	12''-4	5' 8''	2' 6''	3' 2''	14½	22	250	300	350	14x5	1 11⁄16	10
102-103	20	12''-4	5' 8''	2' 6''	3' 2''	14½	22	250	300	350	14x5	1 11⁄16	10
104-105	20	16''-5	6' 0''	2' 10''	3' 2''	14½	22	380	460	530	14x5	1 13⁄16	10
106-107	20	20''-5	6' 4''	3' 2''	3' 2''	14½	22	380	460	530	14x5	1 13⁄16	10

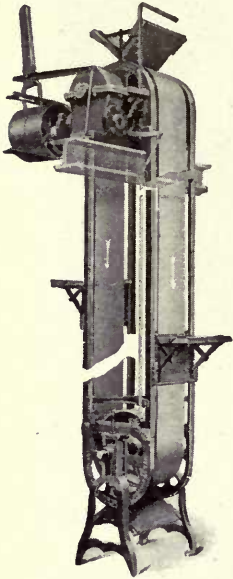


Fig. No. 410

## The Humphrey Employees Elevator

This Elevator is very simple in construction, is especially designed for and adapted to the needs of flouring mills and will be found extremely valuable in saving time, maintaining efficiency and lowering operating expenses.

It is constantly in operation while the mill is running, is equally useful for going up or down, can be stopped or started instantly by the passenger and requires a small amount of power.

Materials entering into the construction are of the best obtainable, lubrication is scientifically and economically accomplished and the patent lock stop device is a positive means of security in case of emergency.

### Prices

#### Wood and Iron Construction

50 feet of Elevator without Belt.....	\$200.00
Different Heights, per foot more or less.....	1.00
Bronze Gear and Steel Chased Worm for Tall Elevators.....	18.00

#### Improved Steel and Iron Construction

50 Feet of Elevator Without Belt.....	\$400.00
Different Heights, per foot more or less.....	2.00

Measurement for calculating price should be taken from bottom of legs to top of top pulley.

For 12-inch, 4-ply rubber belt, see Monarch Belting Lists.

## Safety Man-Lift or One-Passenger Hand Power Elevator

This Elevator is especially adapted for elevators or mills for conveying persons from one floor to another. It has counterbalancing weights and is fitted with ball bearings, which makes it very sensitive to the slightest pull, either up or down after stepping on the foot lever. It is provided with safety catch that will prevent its falling in case of accident. We furnish car 28 x 30 inches, also guides, ropes, sheave and weights.

Full instructions for installing and operating will be sent with each elevator.

### Price List

Complete 50-foot lift between floors.....	\$100.00
More or less lift, per foot.....	.50

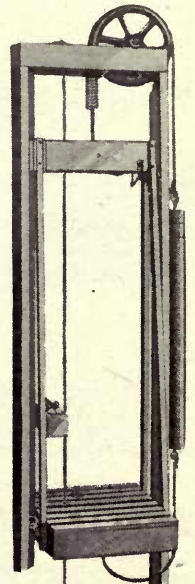


Fig. No. 411



## Cast Iron Turn Heads



Fig. No. 412

Cast Iron Turn Head Without Hopper



Fig. No. 413

Cast Iron Turn Head With Hopper

It will be noticed from the illustration of turn-head spout that the elbow fits over the hopper bottom loosely and is supported by the rod independently of the hopper bottom. This prevents binding in case of unequal settling of the building.

The entire spout is made of cast iron and is very durable.

### Price List

Diameter.....	4 in.	6 in.	8 in.	10 in.	12 in.
Price Without Hopper.....	\$5.00	\$7.00	\$ 8.50	\$13.00	\$18.00
Price With Round or Sq. Hop...	6.50	9.00	10.50	15.00	20.00

## Indicator Rods

For small spouts and ordinary work we furnish 1-inch pipe.

For medium-sized spouts and heavier work, 1¼-inch pipe should be used.

### Price List

	Price
1 -inch, per foot, 1⅝-inch outside diameter.....	\$0.12
1¼-inch, per foot, 1⅞-inch outside diameter.....	.16

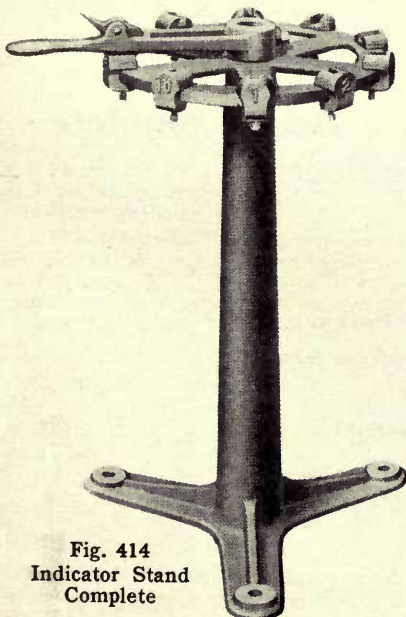


Fig. 414

Indicator Stand Complete

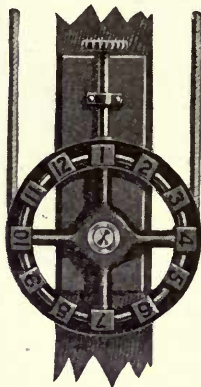
## Indicator Stands and Rings for Revolving Spouts

Our indicator stands are of a neat and strong design, as shown. The handle is bored to receive the indicator rod, which is held firmly by a set screw. When ordering, please state size of indicator rod.

### Price List

	Price
Indicator Stand complete, including 10 numbers, as shown.....	\$10.00
Indicator Ring complete, including 10 numbers, as shown.....	4.00

Indicator Wheels



This style of Indicator can be used with elevator legs of almost any height, and makes a very satisfactory and positive device for this purpose. The usual outfit sent includes the following:

- One 18-inch grooved indicator wheel, with eight numbers.
  - One 12-inch grooved wheel, 1 1/8-inch bore, for indicator rod.
  - One lever to operate indicator wheel.
  - One idler bracket, with two 6-inch idler sheaves for wire rope.
  - One indicator stub rod to connect with turn head, 1 1/4-inch diameter, 6-feet long.
  - One step box casting to receive lower end of indicator stub rod.
  - Two turnbuckles for 1/4-inch wire rope to take up slack.
- For price of turn head refer to page 341.

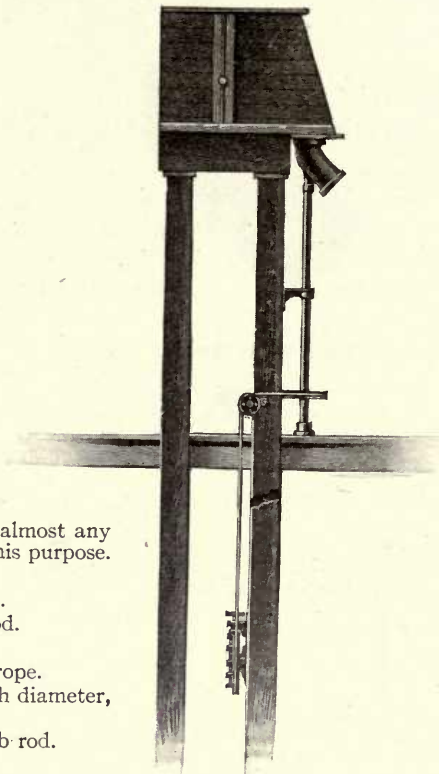


Fig. No. 415

Price List

	Price
Above outfit complete as listed.....	\$20.00
Wire rope, 1/4-inch diameter, per foot.....	.10

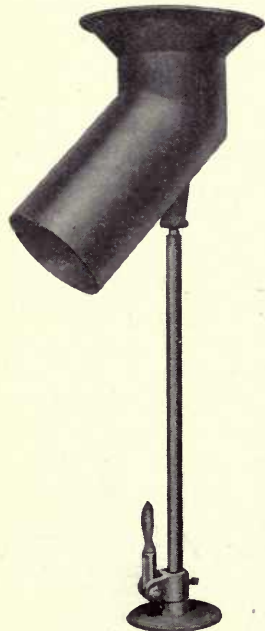


Fig. No. 416

The Monarch Turn Head Complete with Indicator

Illustration shows Monarch Turn Head with rod, step and indicator dial.  
For prices of turn head and rod, refer to page 341.

Price of Indicator Dial and Step as shown here, per set.....\$3.00



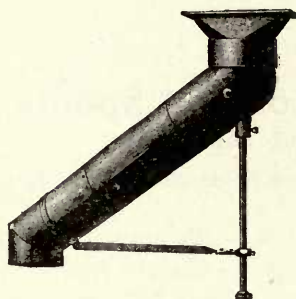


Fig. No. 417  
All Steel Hopper and Elbow

Fig. No. 418—Hopper and  
Elbow is Made of Cast Iron

## Distributing Spouts for Elevator Heads

The hopper fits loosely in the revolving spout and allows the spout to turn freely; the hopper is fastened to the discharge spout from elevator head and the spout is supported by the bracket and indicator stand, with which it is connected by a continuation of the rod. As the hopper and spout are separate, any settling of the building is easily adjusted.

### Prices and Dimensions

Diameter of Spout Inside Inches	Center of Rod to Center of Discharge Inches	Top of Hopper to Bottom of Spout Inches	Price Fig. No. 417	Price Fig. No. 418
6½	30	33	\$ 9.00	\$12.00
9	36	41¼	12.00	16.00
12	42	47½	16.00	20.00
14	48	54¾	-----	33.00

## Hall Signaling Grain Distributor

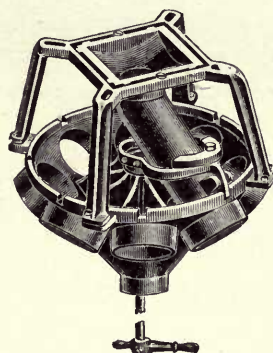


Fig. No. 419

The use of this device renders impossible the mixing of grain in the various bins at the point of distribution in the elevator cupola, either from inaccurate locking or the filling of bins. It occupies less room than other devices, and where it is installed the operator is not required to visit the cupola for the purpose of properly distributing the grain. It is locked and unlocked entirely from the lower floor, and cannot be locked out of connection with the bin.

**The Automatic "Signal."** When the bin becomes full, or a spout gets clogged, and the grain backs up in the tube to the spout, it cannot back up any higher because it instantly and automatically "signals" the operator on the lower floor that the bin is full. The operator then shuts off the inflowing grain until the signaling ceases, and then turns his spout, now empty, to another bin without mixing any of the grain.

### Price List

For Cups 10 x 6 Inches and Smaller			For Cups Larger than 10 x 6 Inches			For Filling Garners or Scales in Large Elevators		
1907 No.	No. of Ducts	Prices	1907 No.	No. of Ducts	Prices	1907 No.	No. of Ducts	Prices
68	8	\$55.00	78	8	\$60.00	916	1	\$ 25.00
610	10	60.00	710	10	65.00	122	2	95.00
612	12	65.00	712	12	70.00	123	3	100.00
615	15	75.00	715	15	80.00			

These prices include hopper, spout, frame, frame bolts, distributing case, overflow funnel, lever, dial board, cast elbow for overflow spout, and a set of numbered bin cards.

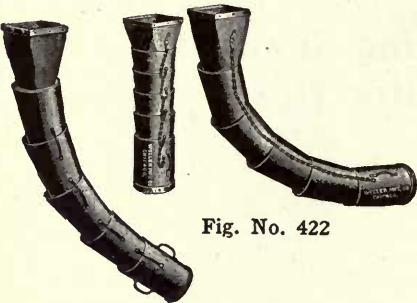


Fig. No. 422

Flexible Car Loading Spouts  
Standard and Telescope

Figure No. 420 illustrates the Standard Flexible Spout with swivel joint.

Figure No. 422 illustrates the flexible spout of the telescope type.

Fig. No. 420

Price List Either Style

Diameter Inches	HOPPER SIZE, INSIDE		Length Feet	GAUGE OF STEEL			
	Square Side Inches	Round Diameter Inches		No. 18	No. 16	No. 14	No. 12
6	8	7	5	\$ 8.50	\$10.00	\$12.00	\$17.00
6	8	7	6	10.20	12.00	15.60	20.40
6	8	7	8	13.60	16.00	20.80	27.20
8	10	9	6	10.50	12.00	16.00	21.00
8	10	9	8	14.00	16.00	21.35	28.00
8	10	9	10	17.50	20.00	26.70	35.00
10	12	11	6	12.00	15.00	18.00	23.00
10	12	11	7	-----	15.00	19.00	25.00
10	12	11	8	-----	17.15	21.75	28.55
10	12	11	10	-----	21.45	27.20	35.70
12	14	13	8	18.50	20.00	25.00	30.00
12	14	13	10	-----	-----	31.30	37.50

In ordering give the size of the down spouts to which the above are to be fitted.  
We furnish the above spouts in any length, diameter or gauge of steel, but list only the standard sizes.

Cast Iron Bagging  
Spout Ends

Price, each ----- \$3.00

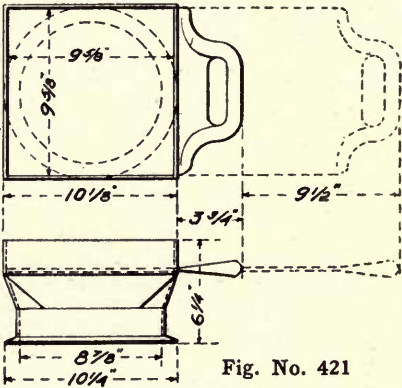


Fig. No. 421

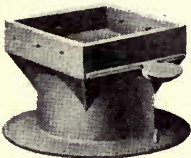


Fig. No. 423  
Bag Spout

Iron Hopper and Bag Spouts

Hopper spouts are provided with slide, clamp and removable ring to which can be attached a pipe or metal spout for filling bins.



Fig. No. 424  
Hopper Discharge Spout

Price List

Diameter, Inches -----	5	7 1/2
Hopper Spout only, with slide, Fig. No. 424, each -----	\$2.25	\$3.00
Iron Bag Spout, with bag clamp or pin, Fig. No. 423, each -----	2.50	3.00



# Wood Spouting

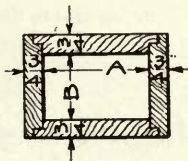


Fig. No. 425

Unless otherwise specified, we furnish spouting made of the best seasoned poplar lumber surfaced and sand papered on all sides, accurately machined, ready to put together.

## Dimensions and Prices

Size No.	Dimension at A, Inches	Dimension at B, Inches	Price per Foot
1	5	2½	\$0.17
2	5½	2¾	.18
3	6	3¼	.20
4	6½	3¾	.22
5	7	4¼	.23

# Round Metal Spouting

## Pipe with Lock Seam and Slip Joints



Fig. No. 426

## Price List

Gauge	PRICE PER FOOT											
	2½ Inches Diameter		3 Inches Diameter		3½ Inches Diameter		4 Inches Diameter		4½ Inches Diameter		5 Inches Diameter	
	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.
30	\$0.31	\$0.34	\$0.31	\$0.34	\$0.31	\$0.36	\$0.39	\$0.44	\$0.42	\$0.44	\$0.47	\$0.49
28	.31	.34	.31	.36	.31	.36	.42	.44	.42	.47	.47	.52
26	.31	.36	.34	.36	.34	.36	.42	.47	.42	.47	.47	.55
24	.34	.36	.34	.39	.34	.39	.44	.49	.44	.49	.49	.55
22	.34	.39	.36	.42	.36	.42	.44	.52	.47	.52	.52	.60
20	.36	.39	.36	.42	.36	.44	.47	.52	.49	.55	.55	.62
18	.36	.44	.39	.47	.39	.47	.49	.57	.49	.60	.57	.68
16	.39	.47	.42	.49	.42	.52	.52	.62	.57	.65	.62	.73

## Price List

Gauge	PRICE PER FOOT													
	6 Inches Diameter		7 Inches Diameter		8 Inches Diameter		9 Inches Diameter		10 Inches Diameter		11 Inches Diameter		12 Inches Diameter	
	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.	Black	Galv.
30	\$0.47	\$0.52	\$0.52	\$0.57	\$0.52	\$0.60	\$0.60	\$0.65	\$0.60	\$0.68	\$0.68	\$0.78	\$0.68	\$0.78
28	.47	.55	.55	.60	.55	.62	.60	.70	.62	.70	.70	.81	.70	.83
26	.49	.55	.55	.62	.55	.65	.62	.73	.62	.73	.73	.83	.73	.86
24	.52	.57	.57	.65	.57	.68	.65	.75	.68	.78	.75	.88	.78	.91
22	.55	.62	.60	.70	.62	.73	.70	.81	.70	.83	.81	.96	.83	.99
20	.55	.65	.62	.73	.62	.78	.73	.86	.73	.88	.83	1.01	.86	1.04
18	.60	.73	.68	.81	.70	.86	.78	.94	.81	.99	.91	1.12	.94	1.17
16	.65	.78	.73	.88	.75	.94	.86	1.04	.88	1.09	.99	1.25	1.04	1.30

**Spout Paper**

Compressed boards. Made expressly for lining spouts in flour mills. Warranted not to corrode or rust.  
 Size of board, 24 x 32 inches.  
 Price, each.....\$0.25

**Sheet Steel**  
**Price List**

Gauge	Size of Sheets Inches	Weight in Pounds Per Sheet	Price Per Sheet
14	30 x 96	68.4	\$8.75
16	30 x 96	53.6	7.50
18	30 x 96	40.4	6.25
20	30 x 96	31.8	5.00
24	30 x 96	20.4	2.50
26	30 x 96	16.4	1.85

**Sheet Tin**  
**Price List**

Grade	Size of Sheet Inches	Price Per Sheet	Grade	Size of Sheet Inches	Price Per Sheet
XX	28 x 20	\$0.50	IC	28 x 20	\$0.36
IX	28 x 20	.40	IX	14 x 20	.20

**Galvanized Iron Pipe for Exhaust Systems**  
**Prices, Dimensions, Etc.**

Diam. of Pipe Inches	Area Sq. In.	Gauge No.	Weight, Lbs.		PRICE		Diam. of Pipe Inches	Area Sq. In.	Gauge No.	Weight, Lbs.		PRICE	
			Pipe	Elbow	Pipe Per Foot	Elbow				Pipe	Elbow	Pipe Per Foot	Elbow
3	7.1	28	.7	.4	\$0.20	\$1.00	28	615.8	22	11.4	64.1	\$2.28	\$17.00
4	12.6	28	1.1	.9	.30	1.36	29	660.1	22	11.8	68.6	2.36	17.84
5	19.6	28	1.2	1.2	.34	1.40	30	706.9	22	12.2	73.4	2.44	18.72
6	28.3	28	1.4	1.7	.36	1.44	32	804.2	22	13.0	83.4	2.60	20.54
7	38.5	28	1.7	2.3	.39	1.52	34	907.9	22	13.9	94.3	2.78	22.16
8	50.3	28	1.9	2.9	.46	1.76	36	1017.9	20	17.2	124.4	3.44	28.00
9	63.6	26	2.4	4.3	.54	2.32	38	1134.1	20	18.2	139.4	3.64	30.00
10	78.5	26	2.7	5.3	.64	3.04	40	1256.6	20	19.1	152.2	3.82	32.00
11	95.0	26	2.9	6.4	.74	3.20	42	1385.4	20	20.1	168.6	4.02	34.00
12	113.1	26	3.2	7.6	.78	3.60	44	1520.5	20	21.0	185.0	4.20	37.00
13	132.7	26	3.4	9.0	.82	3.86	46	1661.9	20	22.0	202.2	4.40	40.44
14	153.9	26	3.7	10.4	.90	4.48	48	1809.6	18	29.8	286.6	5.96	57.32
15	176.7	25	4.5	13.5	.94	4.80	50	1963.5	18	31.0	309.9	6.08	61.98
16	201.1	25	4.7	15.1	.98	5.20	52	2123.7	18	32.2	335.1	6.44	67.02
17	227.0	25	5.0	17.0	1.04	5.48	54	2290.2	18	33.6	363.4	6.72	72.68
18	254.5	25	5.3	19.1	1.12	6.16	56	2463.0	18	34.9	390.7	6.98	78.14
19	283.5	25	5.6	21.4	1.24	7.32	58	2642.1	18	36.1	418.8	7.22	83.76
20	314.2	25	6.0	24.0	1.32	7.60	60	2825.4	18	37.4	448.6	7.48	89.72
21	346.4	24	7.0	29.6	1.40	8.88	62	3019.1	16	47.5	589.0	9.50	117.80
22	380.1	24	7.3	32.3	1.48	9.53	64	3217.0	16	49.1	628.5	9.82	125.70
23	415.5	24	7.7	35.6	1.54	10.22	66	3421.2	16	50.5	666.6	10.10	133.32
24	452.4	24	8.0	38.6	1.60	11.20	68	3631.7	16	52.1	708.6	10.42	141.72
25	490.9	24	8.3	41.7	1.68	11.68	70	3848.5	16	53.6	750.4	10.72	150.08
26	530.9	24	8.7	45.1	1.74	12.40	72	4071.5	16	55.1	793.0	11.02	158.60
27	572.6	22	10.9	59.1	2.18	15.96							

If made of black iron, 10 per cent less than the above prices.



## Steel Tanks for Elevator Boots



Fig. No. 427

We give below a list of our standard water-tight Iron Tanks, but are prepared to furnish them in any size, shape or gauge of metal.

### Price List

No.	Length at Top Inches	Length at Bottom Inches	Width Inches	Height Inches	THICKNESS OF STEEL					
					No. 16 Gauge	No. 14 Gauge	No. 12 Gauge	No. 10 Gauge	$\frac{3}{16}$ in.	$\frac{1}{4}$ in.
1	48	36	30	24	\$12.60	\$14.40	\$17.60	\$21.32		
2	48	36	30	30	13.35	15.24	20.00	24.72		
3	60	46	36	30	17.50	20.50	26.25	31.00	\$41.00	
4	60	46	36	36	19.46	23.00	29.86	34.94	50.00	
5	72	50	40	36	24.00	26.40	34.20	42.15	54.92	
6	84	60	40	36	-----	30.00	39.00	46.00	60.00	\$ 32.00
7	90	70	44	40	-----	34.00	49.50	50.00	65.00	87.00
8	90	70	44	48	-----	-----	54.00	60.00	82.00	112.00
9	96	76	48	48	-----	-----	55.00	66.00	87.00	117.00
10	96	76	48	54	-----	-----	60.00	70.00	92.00	124.00
11	108	86	48	54	-----	-----	-----	80.00	103.00	135.00
12	108	86	48	60	-----	-----	-----	84.00	110.00	149.00
13	108	86	54	60	-----	-----	-----	90.00	117.00	160.00
14	120	96	54	60	-----	-----	-----	100.00	126.00	176.00
15	120	96	60	60	-----	-----	-----	105.00	134.00	188.00

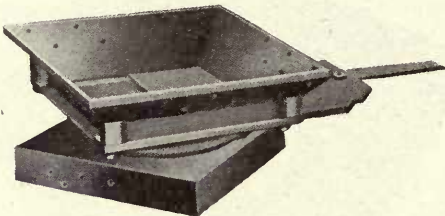
## Galvanized Iron Grain Tempering and Flour and Feed Packer Bins

### Prices, Dimensions, Etc.

Diameter Bin Inches	GRAIN BINS				PACKER BINS				Weight Pounds Per Foot
	Prices		Capacity, Bushels		Prices		Capacity, Barrels		
	5 Feet High or Less	Each Additional Foot	5 Feet High	Each Additional Foot	5 Feet High or Less	Each Additional Foot	5 Feet High	Each Additional Foot	
20	\$16.00	\$1.32	7.44	1.75	\$12.80	\$1.32	1.75	.35	9
22	18.00	1.48	8.97	2.11	14.40	1.48	2.08	.42	12
24	20.00	1.60	10.46	2.51	16.00	1.60	2.37	.50	15
27	25.00	2.18	13.00	3.18	20.00	2.18	2.86	.64	18
30	30.00	2.44	15.72	3.93	24.00	2.44	3.38	.79	21
36	37.50	3.44	21.22	5.66	30.00	3.44	4.48	1.13	27
42	45.00	4.02	27.00	7.70	36.00	4.02	5.43	1.54	33
48	60.00	5.96	33.50	10.05	48.00	5.96	6.00	2.01	40
54	75.00	6.72	40.28	12.72	60.00	6.72	6.69	2.55	48
60	90.00	7.48	47.25	15.75	72.00	7.48	7.30	3.14	56
72	120.00	11.02	56.55	22.62	96.00	11.02	8.00	4.53	70

Bins made of black iron, 10 per cent less than the above prices.

**Hopper Bottoms**  
**With Revolving Heads for Attaching Wooden Spouts**



**Fig. No. 428**  
**Cast Iron With Heavy Sheet Steel Slides**

**Price List**

Size, Inches.....	10	12	14	16	18	24
Price.....	\$13.00	\$15.00	\$18.00	\$22.00	\$24.00	\$46.00

**Bin Bottoms**



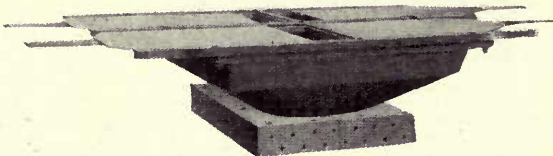
**Fig. No. 429**

Price list includes slide, but not the wooden spout. Wooden spouts furnished as per separate price list.

**Price List**

Size, Inches.....	6	8	10	12	14	16	18	24
Price.....	\$5.25	\$6.00	\$8.00	\$12.00	\$14.00	\$16.00	\$18.00	\$28.00

**Four-Way Bin Bottom**



**Fig. No. 430**

This Bin Bottom is designed for use where a large bin has been subdivided into two or four small bins and all of them are to be connected with one spout. The illustration shows a four-way bin bottom, but it can be arranged for a two-way bin bottom at the same price.

Price list includes steel slides with links, and clip plates for attaching wood spouts.

**Price List**

Diameter of Discharge Inches	Gauge of Metal in Slide	Price
12	10	\$20.00
14	10	30.00



## Feed Gates for Elevator Legs

We have patterns for both the Ratchet and Lever and Rack-and-Pinion Feed Gates for Elevator Legs. The former are generally used where gates of large capacity are required.

### Price List

#### Ratchet and Lever with Slides and Guides, Complete

Size of Gates Inches	Price
16 x 20	\$ 8.00
20 x 26	9.00
24 x 30	10.00

#### Rack and Pinion with Slides and Guides, Complete

Size of Gates Inches	Price
10 x 14	\$5.00
16 x 20	6.00
20 x 26	7.00

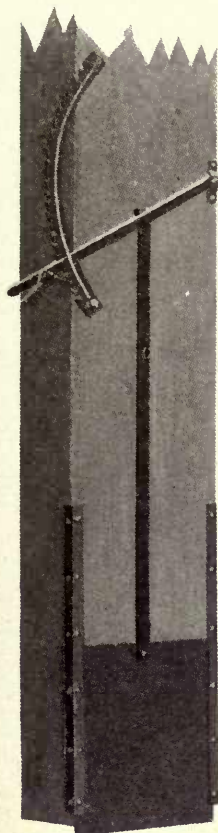


Fig. No. 431  
Ratchet and Lever

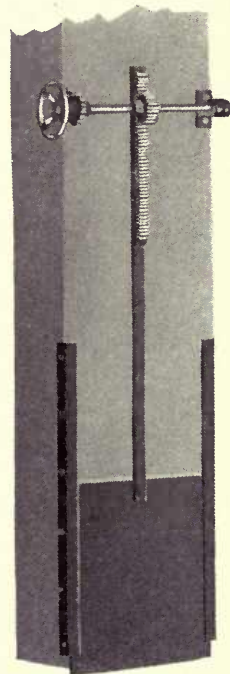


Fig. No. 432  
Rack and Pinion

## Adjustable Bin Gates



Fig. No. 433  
Adjustable Bin Gate

### Price List

Size, Inches	Price
12 x 14	\$2.50
14 x 16	3.00
16 x 18	3.50
18 x 20	4.00
20 x 22	4.50
22 x 24	5.00



Fig. No. 434  
Adjustable Bin Gate with Spout

### Price List

Size, Inches	Price
12 x 14	\$ 5.00
14 x 16	6.00
16 x 18	7.50
18 x 20	10.00
20 x 22	12.50
22 x 24	15.00

Troughing Belt Conveyor Rolls

Fig. No. 435

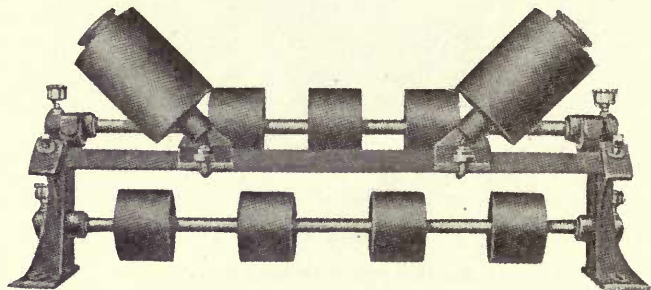
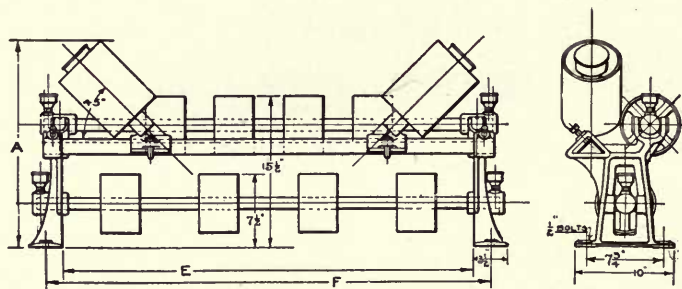


Fig. No. 435

Trunnion Support



Price List and Dimensions

Width of Belt Inches	DIMENSIONS, INCHES			PRICE, EACH			
	A	E	F	With Return Roll	Without Return Roll	Rolls Only	
						Carrier	Return
12	19 3/4	17 3/4	21 1/4	\$17.50	\$13.70	\$1.50	\$2.30
14	19 3/4	19 3/4	23 1/4	19.50	14.60	2.40	3.25
16	19 3/4	21 3/4	25 1/4	19.60	14.70	2.45	3.30
18	19 3/4	23 3/4	27 1/4	19.70	14.80	2.50	3.35
20	19 3/4	25 3/4	29 1/4	20.70	15.70	3.40	3.40
22	19 3/4	27 3/4	31 1/4	20.90	15.90	3.45	3.45
24	21 1/4	29 3/4	33 1/4	21.30	16.20	3.50	3.50
26	21 1/4	31 3/4	35 1/4	21.50	16.30	3.55	3.55
28	21 1/4	33 3/4	37 1/4	22.50	16.40	3.60	4.45
30	21 1/4	35 3/4	39 1/4	22.60	16.50	3.70	4.50
36	21 1/4	41 3/4	45 1/4	23.90	17.70	4.70	4.70
42	21 1/4	47 3/4	51 1/4	26.20	18.90	5.65	5.65
48	21 1/4	53 3/4	57 1/4	28.30	20.00	6.70	6.70

Stands, each, right or left, with upper and lower bearings-----\$4.00

Stands, each, right or left, with upper bearing only-----3.00

For Flat Belt Rolls and separate Return Rolls, see later pages.



# Troughing Belt Conveyor Rolls

Fig. No. 436

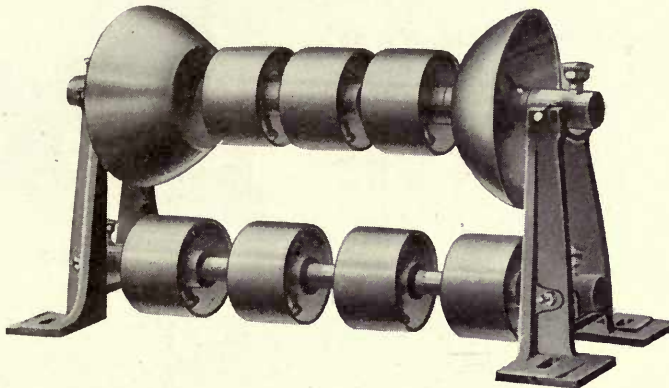
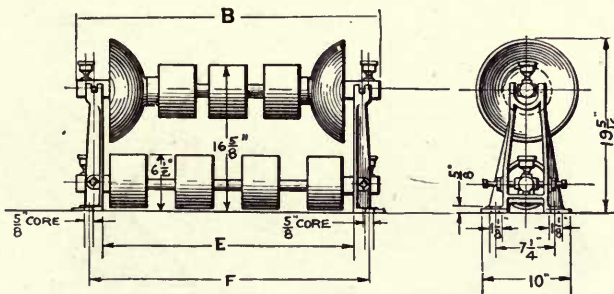


Fig. No. 436  
Trunnions Above—Set Screws Below



Price List and Dimensions

Width of Belt Inches	DIMENSIONS, INCHES			PRICE, EACH			
	B	E	F	With Return Roll	Without Return Roll	Rolls Only	
						Carrier With Bells	Return
12	21 $\frac{3}{4}$	16	19 $\frac{1}{4}$	\$13.45	\$ 9.60	\$5.45	\$2.30
14	23 $\frac{3}{4}$	18	21 $\frac{1}{4}$	14.40	9.60	5.60	3.25
16	25 $\frac{3}{4}$	20	23 $\frac{1}{4}$	14.50	9.70	5.70	3.30
18	27 $\frac{3}{4}$	22	25 $\frac{1}{4}$	15.50	10.65	6.20	3.35
20	29 $\frac{3}{4}$	24	27 $\frac{1}{4}$	15.60	10.70	6.30	3.40
22	31 $\frac{3}{4}$	26	29 $\frac{1}{4}$	15.75	10.75	6.40	3.45
24	33 $\frac{3}{4}$	28	31 $\frac{1}{4}$	16.70	11.65	7.40	3.50
26	36 $\frac{3}{4}$	31	34 $\frac{1}{4}$	16.80	11.70	7.70	3.55
28	38 $\frac{3}{4}$	33	36 $\frac{1}{4}$	17.80	11.75	7.90	4.45
30	40 $\frac{3}{4}$	35	38 $\frac{1}{4}$	17.95	11.85	8.10	4.50
36	46 $\frac{3}{4}$	41	44 $\frac{1}{4}$	19.15	12.90	9.40	4.70
42	52 $\frac{3}{4}$	47	50 $\frac{1}{4}$	21.50	13.95	10.75	5.65
48	58 $\frac{3}{4}$	53	56 $\frac{1}{4}$	23.40	23.40	12.36	6.70

Stands, each, with upper and lower bearings.....\$3.60

Stands, each, with upper bearing only.....2.60

Bells, each.....3.25

For Flat Belt Rolls and separate Return Rolls, see later pages.

Troughing Belt Conveyor Rolls

Fig. Nos. 437 and 438

Prices and Dimensions for Fig. No. 437

Width of Belt Inches	DIMENSIONS, INCHES		PRICE, COMPLETE	
	A	C	With Return Roll	Without Return Roll
12	9¾	15½	\$15.15	\$10.10
14	9¾	17½	16.65	10.50
16	10	19½	17.15	11.05
18	10½	21½	17.60	11.50

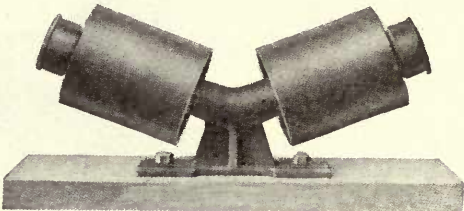


Fig. No. 437

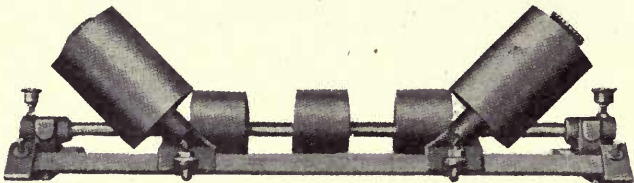
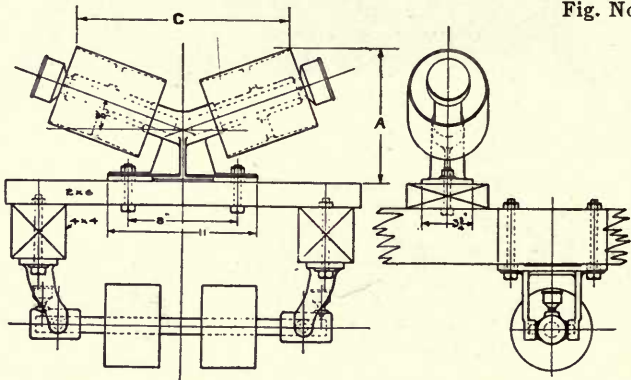
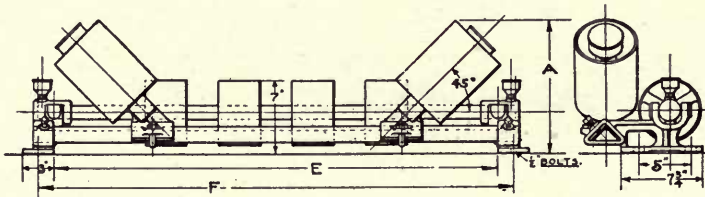


Fig. No. 438—Trunnion Support



Prices and Dimensions for Fig. No. 438

Width of Belt Inches	DIMENSIONS, INCHES			PRICE, EACH		Width of Belt Inches	DIMENSIONS, INCHES			PRICE, EACH	
	A	E	F	Complete	Carrier Roll Only		A	E	F	Complete	Carrier Roll Only
12	11½	11½	15	\$13.10	\$1.50	26	13	25½	29	\$15.70	\$3.55
14	11½	13½	17	14.00	2.40	28	13	27½	31	15.80	3.60
16	11½	15½	19	14.10	2.45	30	13	29½	33	15.90	3.70
18	11½	17½	21	14.20	2.50	36	13	35½	39	17.00	4.70
20	11½	19½	23	15.20	3.40	42	13	41½	45	19.20	5.65
22	11½	21½	25	15.30	3.45	48	13	47½	51	19.30	6.70
24	13	23½	27	15.60	3.50						

Stands, each, right or left, with bearing.....\$2.50

NOTE. Troughing Rolls can be set at 30° angle when desired, at same prices. Height to top of carrier roll then becomes 7¾ inches and height (A) to top of troughing rolls becomes 10½ inches for 12 to 22-inch belts and 11½ inches for belts 24 inches and wider.



**Plain Troughing Rolls**  
For Use with Fig. Nos. 441 or 442 Flat Belt Rolls

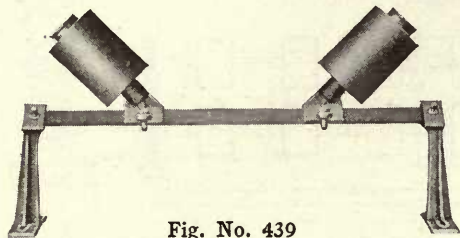
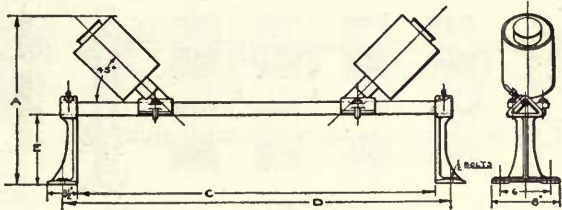


Fig. No. 439



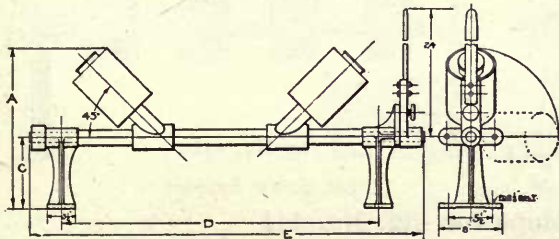
Stands furnished in two heights (E), 8 and 9 1/4 inches. Stands may be omitted and clips used in securing cross bar.

**Prices and Dimensions**

Width of Belt Inches	DIMENSIONS, INCHES						PRICE, COMPLETE		
	A			C		D	With Clips	With 8-Inch Stands	With 9 1/4-Inch Stands
	With Clip	8-In. Stand	9 1/4-In. St'd	8-In. Stand	9 1/4-In. St'd				
12	10 1/2	18 1/2	19 3/4	17 3/4	19 3/4	21 1/4	\$8.65	\$9.70	\$10.05
14	10 1/2	18 1/2	19 3/4	19 3/4	21 3/4	23 1/4	8.70	9.75	10.10
16	10 1/2	18 1/2	19 3/4	21 3/4	23 3/4	25 1/4	8.75	9.80	10.15
18	10 1/2	18 1/2	19 3/4	23 3/4	25 3/4	27 1/4	8.80	9.85	10.20
20	10 1/2	18 1/2	19 3/4	25 3/4	27 3/4	29 1/4	8.85	9.90	10.25
22	10 1/2	18 1/2	19 3/4	27 3/4	29 3/4	31 1/4	8.90	9.95	10.30
24	12	20	21 1/4	29 3/4	31 3/4	33 1/4	9.30	10.40	10.75
26	12	20	21 1/4	31 3/4	33 3/4	35 1/4	9.35	10.45	10.80
28	12	20	21 1/4	33 3/4	35 3/4	37 1/4	9.40	10.50	10.85
30	12	20	21 1/4	35 3/4	37 3/4	39 1/4	9.45	10.55	10.90
36	12	20	21 1/4	41 3/4	43 3/4	45 1/4	9.50	10.60	10.95
42	12	20	21 1/4	47 3/4	49 3/4	51 1/4	9.55	10.65	11.00
48	12	20	21 1/4	53 3/4	55 3/4	57 1/4	9.60	10.70	11.05

Clips, each	.....	\$0.40
Stands, 8-inch, each	.....	.90
Stands, 9 1/4-inch, each	.....	1.10

**Dump Troughing Rolls**  
For Use with Fig. Nos. 441 or 442 Flat Belt Rolls



For use with Fig. Nos. 441 or 442 Flat Belt Rolls, Height C=10 1/4 inches.

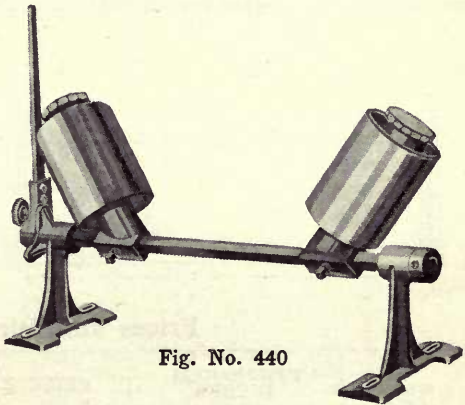


Fig. No. 440

**Prices and Dimensions**

Width of Belt Inches	DIMENSIONS, INCHES				PRICE, COMPLETE		Width of Belt Inches	DIMENSIONS, INCHES				PRICE, COMPLETE	
	A		D	E	C = 9 In.	C = 10 1/4 In.		A		D	E	C = 9 In.	C = 10 1/4 In.
	C = 9 In.	C = 10 1/4 In.						C = 9 In.	C = 10 1/4 In.				
12	18 1/2	19 3/4	21 1/4	30 3/4	\$18.70	\$19.10	26	20	21 1/4	35 1/4	44 3/4	\$19.85	\$20.25
14	18 1/2	19 3/4	23 1/4	32 3/4	18.75	19.15	28	20	21 1/4	37 1/4	46 3/4	19.90	20.30
16	18 1/2	19 3/4	25 1/4	34 3/4	18.80	19.20	30	20	21 1/4	39 1/4	48 3/4	19.95	20.35
18	18 1/2	19 3/4	27 1/4	36 3/4	18.85	19.25	36	20	21 1/4	45 1/4	54 3/4	20.00	20.40
20	18 1/2	19 3/4	29 1/4	38 3/4	18.90	19.30	42	20	21 1/4	51 1/4	60 3/4	20.05	20.45
22	18 1/2	19 3/4	31 1/4	40 3/4	18.95	19.35	48	20	21 1/4	57 1/4	66 3/4	20.10	20.50
24	20	21 1/4	33 1/4	42 3/4	19.80	20.20							

Flat Belt Conveyor Rolls

Fig. Nos. 441 and 442

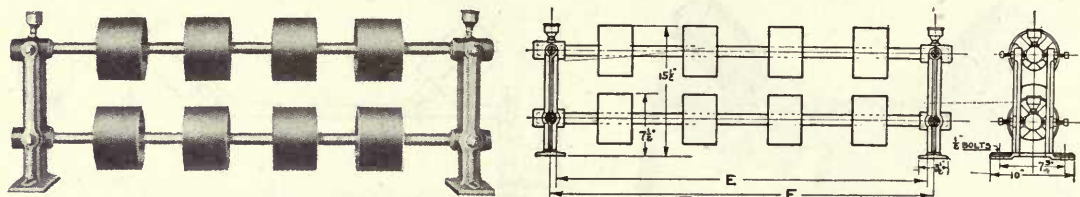


Fig. No. 441

Prices and Dimensions for Fig. No. 441

Width of Belt Inches	DIMENSIONS, INCHES		PRICE, EACH		
	E	F	With Return Roll	Without Return Roll	Either Roll Only
12	19 3/4	21 1/4	\$10.50	\$6.65	\$2.30
14	21 3/4	23 1/4	12.50	7.60	3.25
16	23 3/4	25 1/4	12.60	7.65	3.30
18	25 3/4	27 1/4	12.65	7.70	3.35
20	27 3/4	29 1/4	12.75	7.75	3.40
22	29 3/4	31 1/4	12.90	7.80	3.45
24	31 3/4	33 1/4	12.95	7.85	3.50
26	33 3/4	35 1/4	13.10	7.90	3.55
28	35 3/4	37 1/4	15.00	8.85	4.45
30	37 3/4	39 1/4	15.05	8.90	4.50
36	43 3/4	45 1/4	15.35	9.05	4.70
42	49 3/4	51 1/4	17.40	10.05	5.65
48	55 3/4	57 1/4	19.60	11.15	6.70

Stands, each, with upper and lower bearings-----\$3.90

Stands, each, with upper bearing only-----2.70

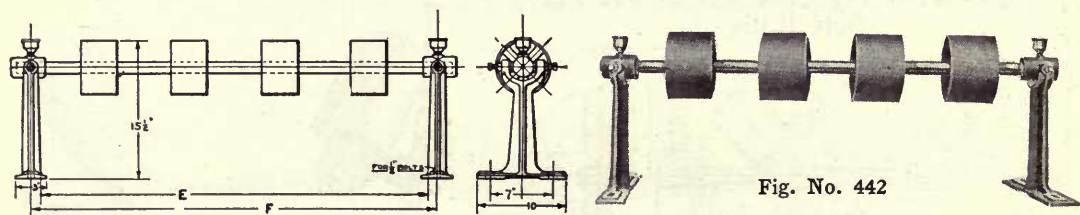


Fig. No. 442

Set Screw Support

Prices and Dimensions for Fig. No. 442

Width of Belt Inches	DIMENSIONS INCHES		PRICE, EACH		Width of Belt Inches	DIMENSIONS INCHES		PRICE, EACH	
	E	F	Complete	Roll Only		E	F	Complete	Roll Only
12	19 3/4	21 1/4	\$6.50	\$2.30	26	33 3/4	35 1/4	\$7.75	\$3.55
14	21 3/4	23 1/4	7.40	3.25	28	35 3/4	37 1/4	8.70	4.45
16	23 3/4	25 1/4	7.45	3.30	30	37 3/4	39 1/4	8.80	4.50
18	25 3/4	27 1/4	7.50	3.35	36	43 3/4	45 1/4	8.90	4.70
20	27 3/4	29 1/4	7.55	3.40	42	49 3/4	51 1/4	9.95	5.65
22	29 3/4	31 1/4	7.60	3.45	48	55 3/4	57 1/4	11.00	6.70
24	31 3/4	33 1/4	7.65	3.50					

Stands, each, with bearing-----\$2.95



Return Belt Conveyor Rolls

Fig. Nos. 443 and 444

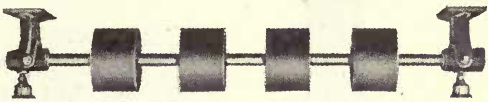
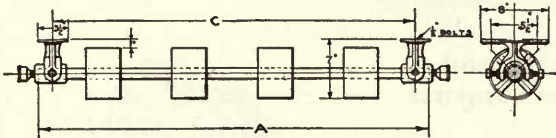


Fig. No. 443—Set Screw Support, Reversible, to Hang or Stand

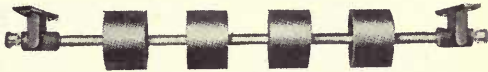
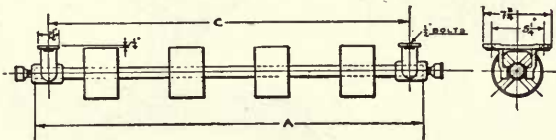


Fig. No. 444 Trunnion Support Hanger

Prices and Dimensions for Nos. 443 and 444

Width of Belt Inches	DIMENSIONS, INCHES				PRICE, EACH		
	Fig. No. 443		Fig. No. 444		Figure No. 443	Figure No. 444	Roll Only Either Style
	A	C	A	C			
12	21½	18¼	24¼	21	\$5.60	\$5.00	\$2.30
14	23½	20¼	26¼	23	6.60	6.00	3.25
16	25½	22¼	28¼	25	6.65	6.05	3.30
18	27½	24¼	30¼	27	6.70	6.10	3.35
20	29½	26¼	32¼	29	6.75	6.15	3.40
22	31½	28¼	34¼	31	6.80	6.20	3.45
24	33½	30¼	36¼	33	6.85	6.25	3.50
26	35½	32¼	38¼	35	6.90	6.30	3.55
28	37½	34¼	40¼	37	7.85	7.25	4.45
30	39½	36¼	42¼	39	7.90	7.30	4.50
36	45½	42¼	48¼	45	8.05	7.45	4.70
42	51½	48¼	54¼	51	9.15	8.50	5.65
48	57½	54¼	60¼	57	10.20	9.60	6.70

Stands, each, with bearing, Fig. No. 443	.....\$2.20
Stands, each, with bearing, Fig. No. 444	..... 1.80

Steel and Wood Belt Conveyor Rolls



Fig. No. 445

Prices and Dimensions

Width of Belt Inches	Length of Roll Inches	STEEL ROLLS				WOOD ROLLS			
		Nominal Diameter, Inches				Nominal Diameter, Inches			
		3	4	5	6	3	4	5	6
12	14	\$3.75	\$4.20	\$5.60	\$6.90	\$1.60	\$1.80	\$2.30	\$2.60
14	16	4.00	4.50	6.00	7.35	1.75	1.95	2.50	2.85
16	18	4.20	4.80	6.50	7.80	1.90	2.15	2.75	3.15
18	20	4.45	5.15	6.80	8.30	2.10	2.35	3.00	3.45
20	22	4.75	5.40	7.20	8.75	2.35	2.60	3.30	3.75
22	24	4.95	5.75	7.60	9.20	2.60	2.80	3.60	4.05
24	26	5.20	6.05	8.00	9.70	2.85	3.05	3.95	4.40
26	28	5.45	6.35	8.40	10.15	3.10	3.30	4.30	4.80
28	30	5.75	6.65	8.80	10.60	3.35	3.55	4.70	5.20
30	32	6.00	6.95	9.20	11.10	3.60	3.80	5.05	5.60
36	38	6.45	7.60	11.20	12.75	3.90	4.25	5.50	6.20

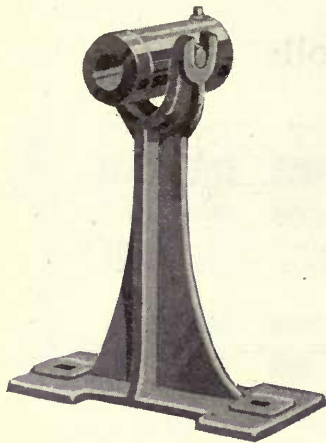


Fig. No. 446

# Single Bearing Belt Conveyor Roll Stands

Trunnion and  
Set Screw Supports

Plain Oiling  
Bearings

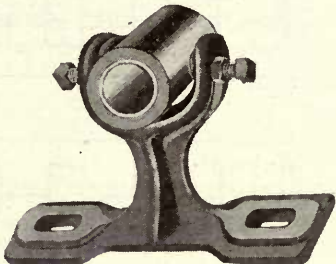


Fig. No. 447

## Prices and Dimensions

Height Base to Center of Bearing Inches	FOOT BOLTS		PRICE, EACH	
	Number	Diameter, Inches	Trunnion Support	Set Screw Support
2	2	1/2	\$0.75	-----
3	2	1/2	.80	\$0.85
4	2	1/2	.85	.90
5	2	1/2	.90	.95
6	2	1/2	.95	1.00
9	2	1/2	1.05	1.15
12	2	1/2	1.15	1.30
14	2	1/2	1.25	1.45

May be furnished with self-oiling bearings if desired, at extra prices.

# Tripper Stops



Fig. No. 448

Clamp firmly onto rails of all usual sections. Price, each-----\$5.00



Fig. No. 449

# Guide Sheaves for Conveyor Belts

Where belt conveyors are of great length, guide sheaves are used to overcome any tendency of the belt to run out of a straight track. Guides should be placed eight to ten feet from head and tail ends of conveyor and then at intervals of twenty-five to fifty feet.



Fig. No. 450

## Price List

Height to Center of Guide Inches	Adjustable	Plain, Straight or Offset
4	-----	\$2.25
6	-----	2.75
9	-----	3.00
12	\$5.25	3.30
14	5.50	3.60
16	6.00	3.90
18	6.50	4.20
20	7.00	4.50
22	7.50	4.80



# Steel Frame Self-Propelling Two-Pulley Tripper

Fig. No. 451

Light and Heavy Types

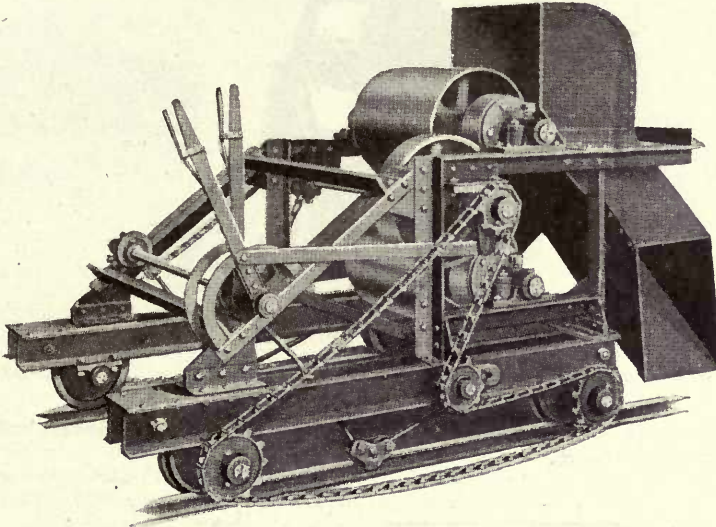
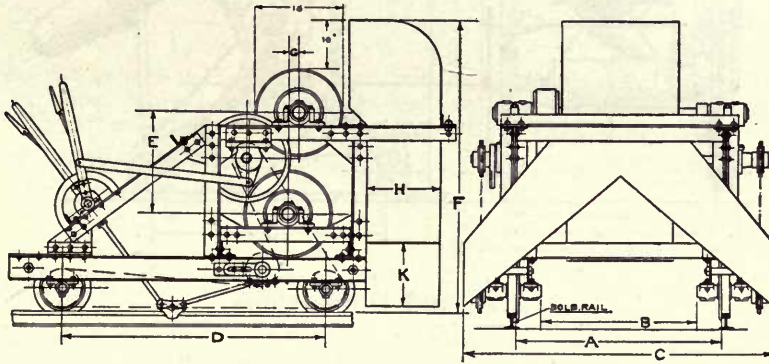


Fig. No. 451



## Prices and Dimensions

Width of Belt Inches	Track Gauge Inches A	DIMENSIONS, INCHES								PRICE, EACH	
		B	C	D	E	F	G	H	K	Light	Heavy
										For Grain	For Coal Stone, Etc.
18	43½	33	62	54	20¾	60	2	15	13	\$496.00	\$516.00
20	45½	35	64	54	20¾	60	2	15	13	506.00	526.00
22	47½	37	66	54	20¾	60	2	15	13	516.00	536.00
24	49½	39	68	54	20¾	60	2	18	16	526.00	546.00
26	51½	41	70	60	20¾	61	2	18	16	541.00	561.00
28	53½	43	72	60	20¾	61	2	18	16	556.00	576.00
30	55½	44	75	60	20¾	61	2	20	18	576.00	596.00
36	61½	50	81	66	20¾	62	2	20	18	636.00	656.00
42	67½	55	88	72	20¾	62	2	24	22	696.00	716.00
48	73½	61	94	78	20¾	62	2	24	22	756.00	776.00

# A-Frame Two-Pulley Trippers

## Self-Propelling, Hand-Propelling and Plain

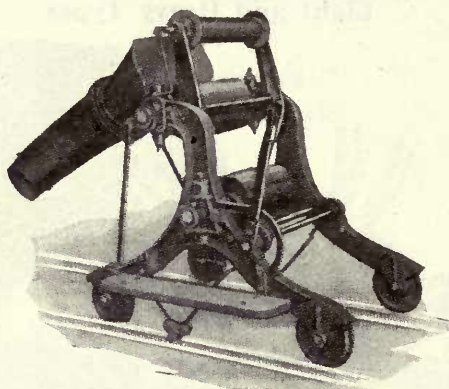
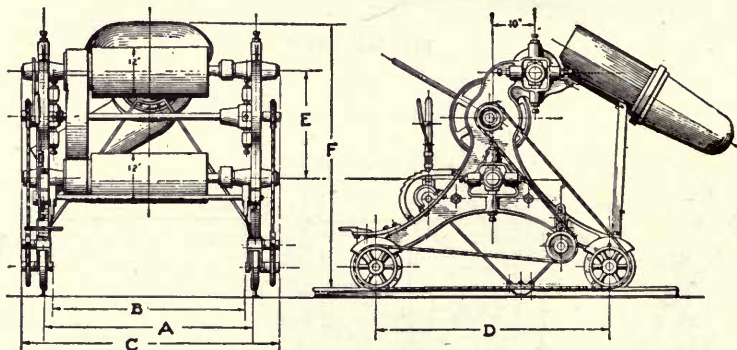


Fig. No. 452—Hand-Propelling

Fig. No. 452 illustrates Tripper of the hand-propelling type. This design is also built in the plain and self-propelling type, per list below.



### Prices and Dimensions

Width of Belt Inches	Track Gauge Inches A	DIMENSIONS, INCHES					PRICE, EACH			
		B	C	D	E	F	Self-Propelling		Plain Swivel Spout	Hand Propelling Swivel Spout
							Swivel Spout	Two-Way Spout		
18	36	32½	48	50	19	56	\$392.00	\$432.00	\$229.00	\$254.00
20	38	35½	50	50	19	56	398.00	438.00	235.00	260.00
22	40	37½	52	50	19	56	404.00	444.00	241.00	266.00
24	42	39½	54	50	19	56	410.00	450.00	247.00	272.00
26	50	48½	63	56⅜	25	62	416.00	456.00	253.00	278.00
28	52	50½	65	56⅜	25	62	422.00	462.00	259.00	284.00
30	54	52½	67	56⅜	25	62	430.00	470.00	267.00	292.00
36	60	58½	73	56⅜	25	62	454.00	494.00	291.00	316.00
42	70	68½	83	56⅜	25	62	512.00	552.00	339.00	364.00
48	72	70½	85	56⅜	25	62	536.00	576.00	363.00	388.00



## Clark Automatic Power Shovel

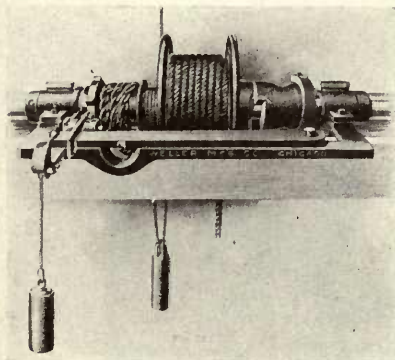
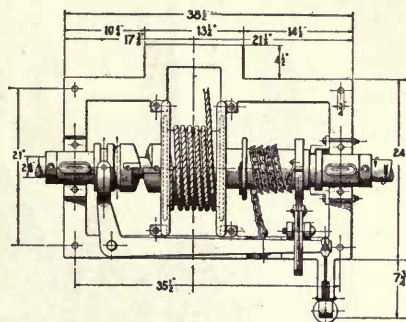


Fig. No. 455



Dimensions of Clark Automatic Power Shovel

The above illustration shows one of our Single Clark Automatic Power Shovels. They are generally used in pairs, both being placed on the same shaft, side by side. They are perfectly automatic in action and may be adjusted to throw in or out of gear at any desired point. A double shovel operated by two men will unload a car in about five minutes and a single machine with one man in about fifteen minutes.

### Price List

Single Shovel.....	\$100.00
Double Shovel.....	200.00

The above price list includes the following fixtures with each single shovel: One scoop, 35 feet of rope, scoop chain, two horizontal sheaves, one swivel sheave and shaft with sufficient projection to receive driving pulley. An extra charge is made for the driving pulley, the amount depending upon the size required.

We manufacture Ship Shovels, also the necessary Steel Scoops, Clamps, Chains, etc. Prices quoted on application.

## Directions for Setting Up Clark Power Shovel

The frame of shovel should rest on 4 x 8 timbers, supported from the floor or suspended from the ceiling at any height desired. The shovel should be bolted to the frame.

After securing one end of the shovel rope to scoop chains, place the scoop in car door at the point where it should stop when bringing the load to the hopper. Lead the other end of the rope through the sheaves to the drum; lap all the loose rope around the drum and fasten to the link which is screwed to the drum.

Wind the chain around the smaller drum and fasten the end to hook in clutch lever. Particular attention and care should be taken to wind it so that when hooked to the lever the lead of chain is from the lower side of drum, **not from upper**. Attach the larger weight to the other hook and lever, placing the rope over small sheave in shovel frame.

In this position the rope will be on the drum, the chain wound around the smaller drum and hooked to lever (thus keeping the clutch out of gear), and the scoop at the car door. Attach one end of the counter-weight rope to the link on small spool from the side **opposite** to that on which the scoop rope leads to the large drum (so that as one winds the other unwinds). The other end of counter-weight rope is attached to any convenient place on which the weight with small sheave runs. The counter-weight should hang sufficiently low so that when the rope is all off the large drum, the counter-weight will be at its highest point.

As a new shovel rope stretches badly, thus leaving the scoop too far back in the car, it will be necessary to unscrew the link connection from the drum when the rope is all off and lap it sufficiently around it to take up the stretch and screw the link in another hole.

There is an oil hole at each end of spool. Keep well lubricated.

To throw the clutch into gear, the shoveler when putting the scoop into the grain should give it a sharp throw, thus giving slack to the rope which allows the counter-weight to reverse the drum, thus throwing the clutch into gear.

# Improved Design Automatic Power Grain Shovel

## Shovels Made Both Right and Left-Hand

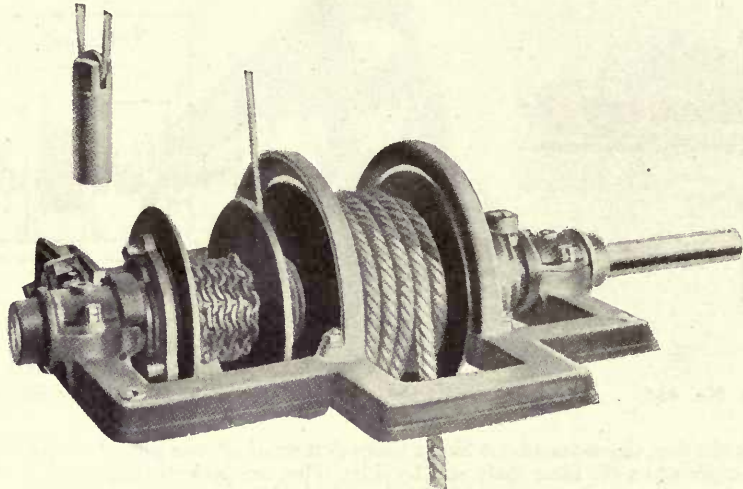
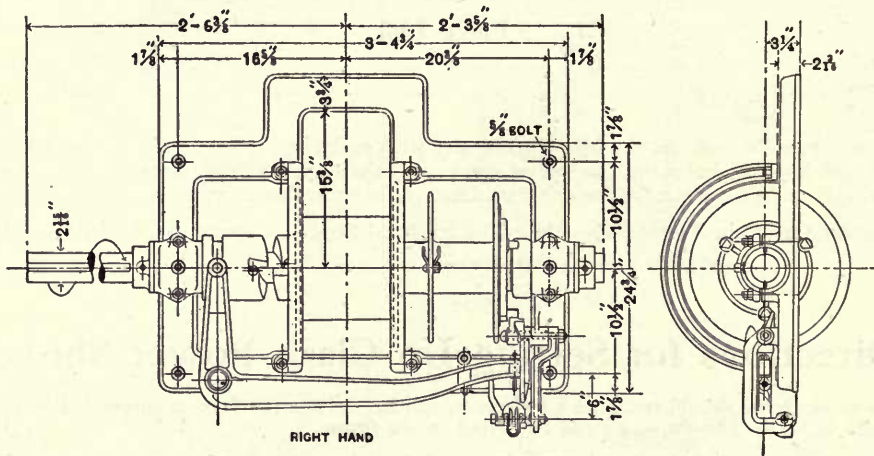


Fig. No. 456—Right-Hand Shovel



Dimensions—Single Power Grain Shovel

The design of this shovel mechanism is heavier, stronger and the details of construction better than the older patterns. The winding drum is larger. Those portions of the mechanism subject to shock or unusual wear are of steel, and the frame is of what is known as box cross section. The operation of the mechanism is as follows: The large rope on the middle drum is led by sheaves to the shovel in the car. The drum being loose on the shaft the shovel is drawn back into the car where desired and slack is given the rope. This allows the small weighted rope to reverse the motion of the drum, tripping a catch and throwing the jaw clutch into mesh. The drum then winds up the rope until the shovel reaches the car door and discharges its load, at which time the chain shown in the cut being wound up pulls the jaw clutch out of mesh, throwing the shovel out of gear. The mechanism is then ready to repeat the operation. Speed of shovel, 65 R. P. M. The spool or drum should run easily on shaft, and all moving parts kept well lubricated. The machine is made right and left-hand, a right-hand and left-hand machine operated on one shaft making a double shovel. Where a single shovel is wanted, it is generally not important whether right or left-hand is installed.

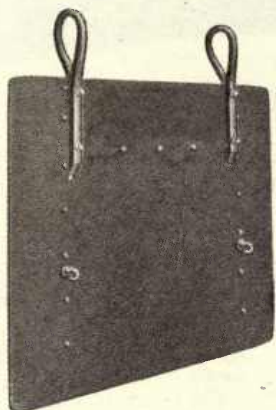
### Price List

Single Shovel.....	\$100.00
Double Shovel.....	200.00

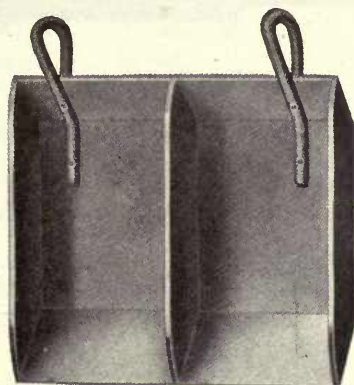
The fittings regularly furnished with a single power shovel include the mechanism, iron frame, 5-foot shaft, weights, one floor sheave, two car door sheaves, and one wooden shovel, but does not include the driving pulley nor the ropes. With a double shovel the length of the shaft is increased and twice the fittings specified above are included.



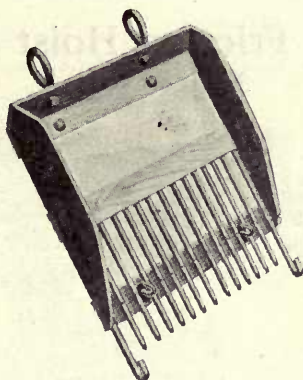
## Scoops for Power Shovels



**Fig. No. 457**  
**Steel Scoop for Power Grain Shovels**



**Fig. No. 458**  
**Wooden Scoop for Power Grain Shovels**



**Fig. No. 459**  
**Scoop for Ear Corn**

Steel Scoops are used in connection with Power Shovels for handling material other than grain, chiefly coal, sand, gravel, etc. Our Scoops are made to withstand the rough usage to which they are subjected. Made in various sizes and gauges of steel.

### Price List

	Price
Wooden Shovels, each.....	\$ 6.70
Scoops for Ear Corn, each.....	25.00
Steel Scoops, each.....	6.80

The Monarch Drum Hoist



Fig. No. 460—Drum



Fig. No. 461—Tightener

This Hoist is of simple construction, easy to install and operate, and can be given any desired speed. For prices of bearings, pulleys, etc., refer to power transmission section of this catalog.

Prices and Dimensions

Diameter of Drum Inches	Length of Drum Between Flanges	Price of Drum	Price of Tightener
6	2' 0"	\$14.00	\$10.00
6	4' 0"	15.00	10.00
6	6' 0"	16.00	10.00
8	2' 0"	17.00	10.00
8	4' 0"	19.00	10.00
8	6' 0"	21.00	10.00

Friction Hoist  
Hanger Type

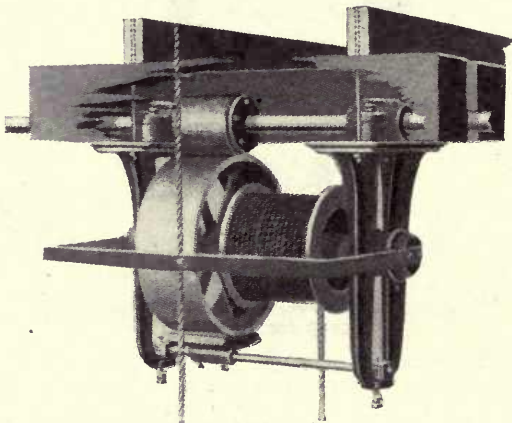


Fig. No. 462

The drum shaft is raised by the lever, bringing the iron and paper frictions into contact for hoisting. When the lever is released the iron friction rests on the brake shoe, thus holding the load.

Prices, Dimensions, Etc.

No. of Hoist	Price	For Load in Pounds	H. P. Required	Size Drive Pulley Inches	Speed Drive Pulley Revolutions	Size Winding Drum Inches	Estimated Shipping Weight Pounds
1	\$200.00	200- 500	2½	24 x 4	99	12 x 12	1350
2	260.00	500-1000	4½	30 x 5	99	12 x 12	2050
3	320.00	1000-1500	6½	36 x 6	78	15 x 15	2875



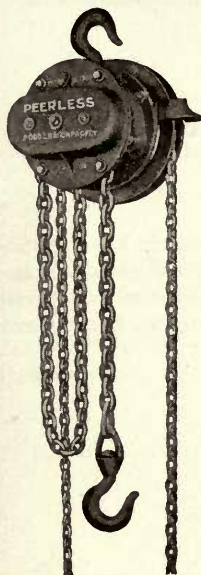


Fig. No. 463

Spur Geared—Single Chain

## Peerless Hoist

8000 to 40,000-pound hoists have lower sheave.

For quick lifting the 1000 and 2000 sizes can be equipped with special gearing. They handle light loads at double speed.

### Prices, Capacities, Etc.

Capacity Pounds	Regular Lift Feet	Price	Extra Lift Price Per Foot	Weight of Hoist Pounds
500	8	\$ 48.00	\$1.36	48
1000	8	56.00	1.44	52
2000	8	72.00	1.52	80
3000	8	96.00	1.60	112
4000	9	112.00	1.68	151
6000	10	144.00	2.00	226
8000	10	176.00	2.56	227
10000	12	224.00	3.20	320
12000	12	264.00	3.20	335
16000	12	320.00	4.40	415
20000	12	384.00	5.12	496
30000	12	544.00	7.36	1000
40000	12	680.00	10.24	1229

## Differential Hoist

We can furnish these blocks to hoist any length.

### Prices, Capacities, Etc.

Capacity Pounds	Regular Lift Feet	Price	Extra Lift Price Per Foot	Weight of Hoist Pounds
500	6	\$28.80	\$4.48	22
1000	7	33.60	4.48	31
2000	8	44.80	4.80	50
3000	8½	57.60	5.12	80
4000	9	72.00	5.44	130
6000	10	96.00	6.40	178



Fig. No. 464

## Improved Screw Hoist

30,000 and 40,000-pound hoists are fitted with lower sheave.

### Prices, Capacities, Etc.

Capacity Pounds	Regular Lift Feet	Price	Extra Lift Price Per Foot	Weight of Hoist Pounds
500	8	\$ 36.00	\$1.60	41
1000	8	40.00	1.92	68
2000	8	48.00	2.40	75
3000	8	64.00	2.80	106
4000	9	80.00	3.20	160
6000	10	120.00	3.52	247
8000	10	152.00	3.84	325
10000	12	224.00	4.80	483
12000	12	288.00	6.00	555
16000	12	336.00	6.40	735
20000	12	440.00	6.80	785
30000	12	544.00	9.60	1179
40000	12	880.00	13.60	2370

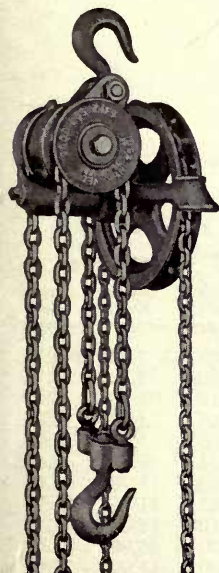


Fig. No. 465  
Double Chain

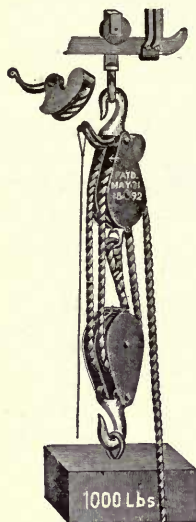


Fig. No. 466

# Improved American "Safety" Manila Rope Hoist

Nos. 1 to 6 consist of two double blocks. Nos. 7 to 10 consist of two triple blocks. This is a cheap and effective hoist and can be used to advantage for light, occasional lifting. Prices do not include Manila rope, which will be furnished as per our price list. Prices of overhead tracks, hangers and trolleys, quoted on receipt of specifications.

## Prices, Capacities, Etc.

No.	Sizes of Rope, Inches			One Man Can Lift Pounds	Weight Pounds	Capacity Pounds	Price	No.	Sizes of Rope, Inches			One Man Can Lift Pounds	Weight Pounds	Capacity Pounds	Price
1	1/4	5/16	3/8	300	2 1/4	600	\$ 2.50	6	7/8	1	1 1/8	650	50	6000	\$15.00
2	3/8	7/16	1/2	400	5 1/2	1000	4.00	7	1/2	9/16	5/8	1000	17 1/2	1700	11.00
3	1/2	9/16	5/8	500	11 1/2	1500	6.00	8	5/8	1 1/16	3/4	1100	30	3000	14.00
4	5/8	1 1/16	3/4	600	20	2800	9.00	9	3/4	1 1/8	7/8	1100	51	6000	18.50
5	3/4	1 1/8	7/8	650	35	4000	12.00	10	7/8	1	1 1/8	1100	75	8000	22.00

# Steel Tackle Blocks



Fig. No. 467

Prices on all sizes of wood or steel shell snatch blocks furnished on application.

## Prices, Dimensions, Etc.

Dimensions			Iron Bushed			Improved Roller Bushed			Phosphor Bronze or Metaline Bushed Self Lubricating		
Diameter Sheaves Inches	Diameter Rope Inches	Length Shell Inches	Single Each	Double Each	Triple Each	Single Each	Double Each	Triple Each	Single Each	Double Each	Triple Each
2 1/4	1/2	4	\$0.90	\$ 1.75	\$ 2.50	\$ 1.40	\$ 2.60	\$ 3.75	\$ 1.65	\$ 3.25	\$ 4.75
3	5/8	5	1.00	1.90	2.75	1.50	2.90	4.25	1.80	3.50	5.15
3 1/2	3/4	6	1.25	2.25	3.25	1.75	3.25	4.75	2.10	4.00	5.80
4 1/4	7/8	7	1.50	2.70	4.00	2.10	3.85	5.80	2.45	4.60	6.85
4 3/4	1	8	1.85	3.20	4.75	2.55	4.60	6.85	2.90	5.30	7.90
5 1/2	1 1/8	9	2.40	4.00	5.50	3.20	5.60	7.90	3.55	6.30	9.00
6 1/4	1 1/4	10	3.10	5.10	7.00	4.05	7.00	9.85	4.40	7.70	11.00
8	1 1/2	12	5.00	8.25	11.75	6.00	10.35	14.90	6.45	11.15	16.00
9 1/2	1 3/4	14	7.50	11.75	16.50	8.75	14.25	20.25	9.10	15.00	21.30
11	2	16	13.00	21.00	32.00	14.00	24.00	35.00	15.00	25.00	38.00
12	2 1/4	18	22.00	35.00	50.00	---	---	---	25.00	41.00	59.00
14	2 1/2	20	30.00	50.00	65.00	---	---	---	34.00	58.00	77.00



## The Monarch Bag Truck

This cut represents our Bag Truck, which is made from the very best material. It weighs but 20 pounds, and will carry 500 pounds.

Every miller, farmer and warehouseman should have one or more of these trucks.

Price, each.....\$5.00

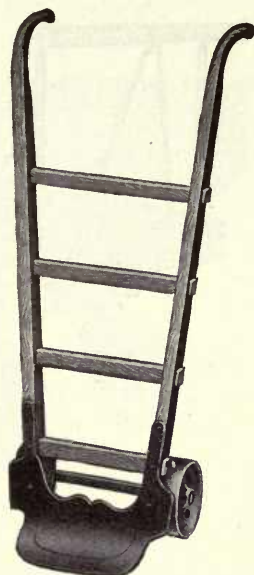


Fig. No. 468

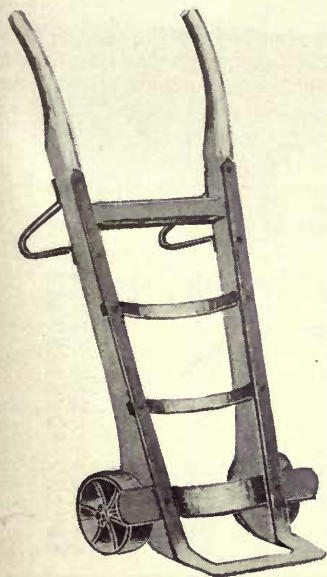


Fig. No. 469

## The Monarch Barrel Truck

With Bent Iron Crossbars  
and Steel Nose

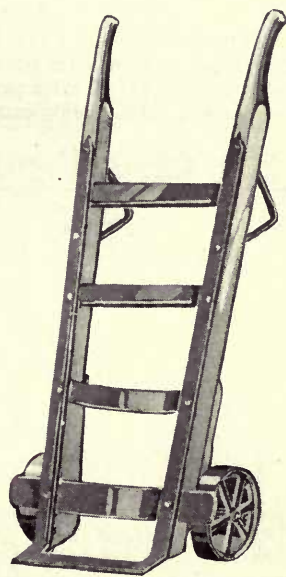


Fig. No. 470

### Sizes, Prices, Etc.

Size No.	Length of Handles Inches	Width at Nose Inches	Width at Upper Bar Inches	Diameter of Wheels Inches	Weight Pounds	Price with Rubbered Wheels	Price with Iron Wheels
1	49	11½	18	6	40	\$15.00	\$ 8.50
2	54	13½	21	7½	54	19.00	11.00
3	58	14½	22	9½	71	25.00	13.50
4	62	15½	22	10½	116	34.00	16.50
5	63	18	22	10½	130	38.00	20.00
6	60	16	21	10½	90	28.00	18.00

These trucks are firmly bolted together and have forged axles with turned bearings.  
Furnished with fibre wheels if desired at extra price.

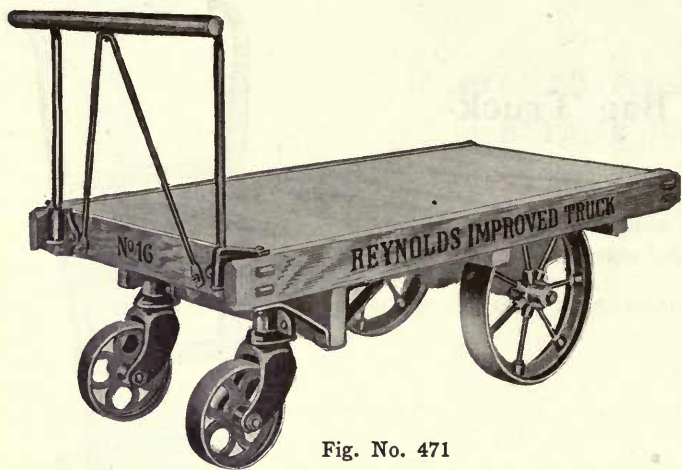


Fig. No. 471

# The Monarch Truck

## With Ball Bearing Casters

This truck will be found especially adapted to the wants of merchants, millers, and warehouse men. Jobbers in almost any line will find by its use a great saving of time and expense. We make them to fit elevators or scales, and thus do away with transferring from truck to elevator or scales, and vice versa. Nicely oiled and varnished.

### Face of Wheels and Casters

Trucks numbered 0 to 8 inclusive have casters with 1¼-inch tread, wheels 2-inch tread. Trucks numbered 9 to 23 inclusive, have casters with 1½-inch tread, wheels 2¼-inch tread. Trucks numbered 9 to 23 inclusive, with extra heavy casters with 2½-inch tread, wheels 3½-inch tread, are \$2.00 extra per truck advance on prices below.

### Rubber Tired Wheels

Trucks numbered 0 to 8 inclusive, with grooved wheels and casters with round rubber tires sprung into groove, price, \$8.00 extra per truck. Trucks numbered 0 to 8 inclusive, with patent rubber tired wheels and casters, price, \$12.00 extra per truck. Trucks numbered 9 to 23 inclusive, with patent rubber tired wheels and casters, price, \$24.00 extra per truck.

### Sizes, Prices, Etc.

Size No.	Size of Platform in Feet	Diameter of Wheels Inches	Diameter of Casters Inches	Height to Top of Platform Inches	Capacity in Pounds	Weight Pounds	Price Each
0	2 x 3	12	6	14	1200	125	\$24.00
1	2 x 4	12	6	14	1200	152	25.00
3	2 ½ x 4	12	6	14	1200	172	26.10
4	2 x 5	12	6	14	1200	161	26.10
5	3 x 4	12	6	14	1200	173	27.00
6	2 ½ x 5	12	6	14	1200	175	27.00
8	3 x 5	12	6	14	1200	192	29.25
9	2 x 4	18	9	19	3000	217	30.00
11	2 ½ x 4	18	9	19	3000	229	31.50
13	2 ½ x 4 ½	18	9	19	3000	237	32.25
15	3 x 4	18	9	19	3000	246	33.00
16	2 ½ x 5	18	9	19	3000	243	33.00
18	2 x 5	18	9	19	3000	230	32.25
19	2 x 6	18	9	19	3000	240	33.00
20	2 ½ x 6	18	9	19	3000	255	34.50
21	3 x 5	18	9	19	3000	255	35.25
22	3 x 6	18	9	19	3000	270	36.00
23	3 x 8	18	9	19	3000	310	40.00

Above sizes of Trucks kept in stock. Any size made to order.

# The Monarch General Utility Truck

### Sizes, Prices, Etc.

Number	1	2	3	4
Size of Base, Inches	24 x 40	26 x 40	26 x 42	27 x 42
Diameter of Wheels, In.	7	7	7	7
Price	\$15.00	\$15.00	\$15.00	\$15.00

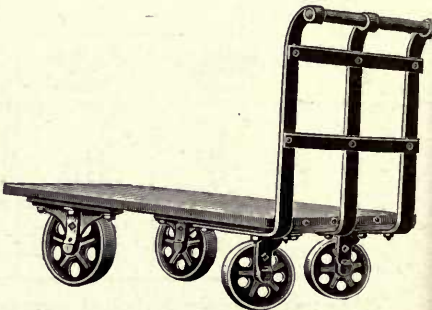


Fig. No. 472



## The Monarch Hopper for Grain Scales

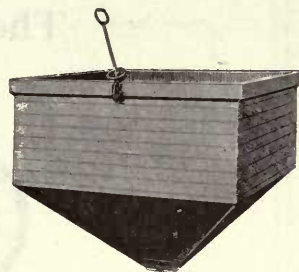


Fig. No. 473

### Prices and Capacities

Capacity Bushels	Price	Capacity Bushels	Price	Capacity Bushels	Price	Capacity Bushels	Price
30	\$42.00	125	\$ 98.00	400	\$221.00	800	\$350.00
40	56.00	150	120.00	500	263.00	900	392.00
60	70.00	200	148.00	600	294.00	1000	434.00
100	84.00	300	182.00	700	319.00		



Fig. No. 474

## The Monarch Grain Hopper on Trucks

### Prices, Dimensions and Capacities

Capacity Bushels	Height	Length	Width	Price
30	3' 7"	5' 2½"	3' 9"	\$60.00
40	4' 4"	5' 2½"	3' 9"	70.00
60	5' 6"	5' 2½"	3' 9"	85.00

## The Monarch Flour Wagon

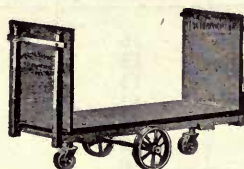


Fig. No. 475

Capacity 600 to 1000 pounds of flour in sacks. Price, \$33.00.

# The Monarch Garden Barrow

## With Steel Wheel

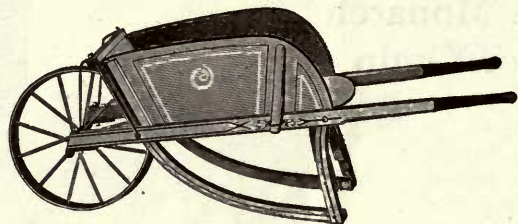


Fig. No. 476

The Monarch Barrow has been on the market so many years, and is so well and favorably known, that many imitations have been made. None of the imitators have succeeded in producing so strong a barrow.

### No. 1 S. W.—Large Size

Inside measurement of box, 32 inches long, 22 inches wide at wheel end, 27 inches wide at handle end, 12 inches deep. Has a 20-inch wheel. Nicely painted and striped. Bottoms matched and glued. Weight, 48 pounds each. Price each, \$7.00.

### No. 2 S. W.—Medium Size

Inside measurement of box, 30 inches long, 19 inches wide at wheel end, 24 inches wide at handle end, 12 inches deep. Has a 20-inch wheel. Nicely painted, blue, green or red, or oiled and varnished and striped. When ordering state which color is preferred. Bottoms matched and glued. Weight, 44 pounds each. Price each, \$6.00.

### No. 3 S. W.—Small Size

Inside measurement of box, 28 inches long, 17 inches wide at wheel end, 22 inches wide at handle end, 11 inches deep. Has an 18-inch wheel. Bottom matched and glued. Painted green or red, striped and varnished. Weight, 40 pounds each. Price each, \$5.00.

For barrows with wood wheels, deduct \$0.50 each.

# The Monarch Tubular Steel Barrow



Fig. No. 477

The tray is pressed from one piece of steel without seams or rivets. The edges of the trays are flanged and turned over a  $\frac{1}{16}$ -inch steel rod. This rod prevents the tray from breaking at the edge and makes it very much stronger. These barrows are made to dump forward, and are so constructed that at the dumping point they will not run back on the operator. They are well bolted and braced, and made of the best material, and painted.

The wheel revolves on a heavy bolt which also passes through the handles and so materially strengthens the barrow.

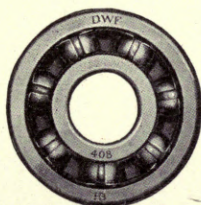
### Sizes, Prices, Etc.

No.	Size of Tray on Top Inches	Diameter of Wheel Inches	Gauge of Steel in Tray	Capacity Cubic Feet	Weight Pounds	Price Each
A-02	29 x 32	17	16	3	60	\$11.00
A- 2	29 x 32	17	15	3	70	12.00
A-13	29 x 32	17	13	3	75	13.00
A-14	29 x 32	17	12	3	90	15.00
A-15	29 x 36	17	14	4½	86	15.00
A-16	29 x 36	17	12	4½	95	18.00
A-17	29 x 36	17	10	4½	105	20.00
A-18	33 x 42	17	14	6	100	20.00
A-18½	33 x 42	17	16	6	90	19.00
A-19	40 x 49	17	16	8	100	24.00



# MONARCH

## Power Transmission Appliances



*Section H, No. 115*

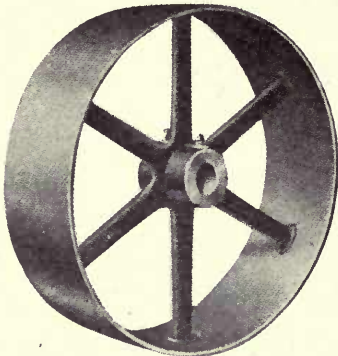
Established 1866

**SPROUT, WALDRON & CO.**

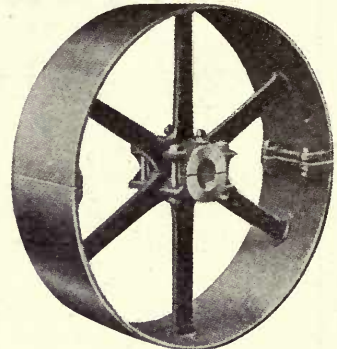
Mill Builders and Mill Furnishers

MUNCY, PA., U. S. A.

## The Monarch Machine Moulded Cast Iron Pulleys



Style No. 100  
Single Arm Solid Pulley



Style No. 101  
Single Arm Split Pulley

Our Pulleys are machine moulded, bored and turned in the lathe, carefully balanced; are made either straight or crowning face, and are provided with set screws or key seat as desired.

The tight and loose Pulleys should have crowning faces, and the driving Pulleys for shifting belts should have straight faces.

To save time, in ordering please give full particulars, stating diameter, width and kind of face, single or double belt, bore, set screw or key seat, and, if anything special is desired, as tight and loose, flanged or split, thus:

One 20-inch diameter, 4-inch straight face, single belt "Split" Pulley,  $1\frac{7}{16}$ -inch bore, key seat; or,

One 20-inch diameter, 4-inch crowning face, double belt Pulley,  $1\frac{7}{16}$ -inch bore, set screws; or,

One pair 20-inch diameter, 4-inch crowning face, single belt Pulleys,  $1\frac{7}{16}$ -inch bore. Tight and Loose.

When orders are received and no descriptions given, crowning face, single belt Pulleys will be furnished. Prices for special sizes not mentioned in the list will be quoted upon application.



## Cast Iron Solid Single Belt Pulleys

### Price List

Diameter Inches	FACE IN INCHES										Largest Bore Regular Price Inches
	3	4	5	6	7	8	9	10	11	12	
6	\$2.20	\$2.50	\$2.85	\$3.20	\$3.60	\$4.05	-----	-----	-----	-----	1 1/4
7	2.40	2.75	3.10	3.50	3.95	4.40	-----	-----	-----	-----	1 1/2
8	2.65	3.00	3.40	3.80	4.25	4.75	-----	-----	-----	-----	1 3/4
9	2.90	3.25	3.65	4.10	4.60	5.10	-----	-----	-----	-----	1 3/4
10	3.10	3.50	3.95	4.40	4.90	5.45	-----	-----	-----	-----	2 1/4
11	3.30	3.75	4.20	4.70	5.25	5.85	-----	-----	-----	-----	2 1/4
12	3.60	4.05	4.55	5.10	5.70	6.30	-----	-----	-----	-----	2 1/4
13	3.65	4.35	4.90	5.50	6.10	6.75	\$ 7.45	-----	-----	-----	2 1/4
14	4.05	4.65	5.10	5.75	6.45	7.20	7.95	-----	-----	-----	2 1/4
15	4.35	4.85	5.65	6.10	6.85	7.70	8.60	-----	-----	-----	2 1/4
16	4.65	5.20	5.80	6.50	7.30	8.20	9.20	-----	-----	-----	2 1/4
17	4.90	5.50	6.25	7.00	7.85	8.75	9.75	-----	-----	-----	2 1/4
18	5.20	5.85	6.60	7.40	8.30	9.30	10.40	-----	-----	-----	2 1/4
19	5.45	6.25	7.05	7.90	8.85	9.85	10.95	-----	-----	-----	2 1/4
20	5.75	6.65	7.55	8.50	9.45	10.45	11.55	\$12.70	-----	-----	2 1/4
21	6.05	7.00	8.00	9.00	10.00	11.00	12.10	13.25	-----	-----	3 1/4
22	6.35	7.40	8.45	9.50	10.55	11.55	12.65	13.85	-----	-----	3 1/4
23	6.70	7.80	8.90	10.00	11.10	12.15	13.30	14.45	-----	-----	3 1/4
24	7.05	8.20	9.35	10.50	11.65	12.80	14.00	15.20	-----	-----	3 1/4
25	7.40	8.60	9.80	11.00	12.20	13.40	14.65	15.90	-----	-----	3 1/4
26	7.75	9.00	10.25	11.50	12.75	14.05	15.35	16.70	-----	-----	3 1/4
27	8.15	9.50	10.80	12.10	13.45	14.80	16.20	17.65	\$19.15	-----	3 1/4
28	8.55	9.95	11.35	12.75	14.15	15.55	17.00	18.50	20.10	-----	3 1/4
29	9.00	10.50	12.00	13.45	14.90	16.35	17.95	19.45	21.05	-----	3 1/4
30	9.40	10.90	12.45	14.00	15.85	17.15	18.75	20.35	22.00	-----	3 1/4
31	9.85	11.40	12.95	14.55	16.15	17.80	19.50	21.25	23.00	-----	3 1/4
32	10.30	11.90	13.55	15.20	16.90	18.60	20.35	22.15	24.00	-----	3 1/4
33	10.80	12.40	14.10	15.85	17.65	19.45	21.30	23.15	25.05	-----	3 1/4
34	11.35	12.95	14.70	16.50	18.40	20.30	22.20	24.15	26.10	-----	3 1/4
35	11.85	13.50	15.30	17.15	19.10	21.20	23.10	25.15	27.20	-----	3 1/4
36	12.40	14.20	16.05	18.00	20.05	22.10	24.15	26.20	28.30	\$30.45	3 1/2
38	-----	15.65	17.70	19.80	21.95	24.10	26.25	28.40	30.60	32.85	3 1/2
40	-----	16.75	18.95	21.15	23.40	25.70	28.00	30.30	32.60	34.95	3 1/2
42	-----	17.90	20.20	22.60	25.00	27.40	29.80	32.20	34.65	37.10	3 1/2
44	-----	19.30	21.75	24.20	26.70	29.25	31.80	34.30	36.80	39.30	4 1/4
46	-----	20.80	23.35	25.95	28.55	31.20	33.85	36.50	39.15	41.60	4 1/4
48	-----	22.40	25.05	27.75	30.45	33.20	35.95	38.75	41.60	43.90	4 1/4

## Cast Iron Split Single Belt Pulleys

### Price List

Diameter Inches	FACE IN INCHES										Largest Bore Regular Price Inches
	3	4	5	6	7	8	9	10	11	12	
6	\$3.70	\$4.00	\$4.60	\$4.95	\$5.60	\$6.05	-----	-----	-----	-----	1 1/4
7	3.90	4.25	4.85	5.25	5.95	6.40	-----	-----	-----	-----	1 1/2
8	4.25	4.60	5.30	5.70	6.45	6.95	-----	-----	-----	-----	1 3/4
9	4.50	4.85	5.55	6.00	6.80	7.30	-----	-----	-----	-----	1 3/4
10	4.80	5.20	6.00	6.45	7.30	7.85	-----	-----	-----	-----	2 1/4
11	5.00	5.45	6.25	6.75	7.65	8.25	-----	-----	-----	-----	2 1/4
12	5.40	5.85	6.75	7.30	8.30	8.90	-----	-----	-----	-----	2 1/4
13	5.70	6.15	7.10	7.70	8.70	9.35	\$10.50	-----	-----	-----	2 1/4
14	6.00	6.60	7.50	8.15	9.30	9.95	11.30	-----	-----	-----	2 1/4
15	6.30	6.80	8.05	8.50	9.70	10.05	11.95	-----	-----	-----	2 1/4
16	6.75	7.30	8.40	9.10	10.40	11.30	12.85	-----	-----	-----	2 1/4
17	7.00	7.60	8.85	9.60	10.95	11.95	13.40	-----	-----	-----	2 1/4
18	7.45	8.05	9.40	10.20	11.70	12.65	14.35	-----	-----	-----	2 1/4
19	7.70	8.50	9.85	10.70	12.20	13.20	14.90	-----	-----	-----	2 1/4
20	8.20	9.10	10.60	11.55	13.10	14.10	15.85	\$17.00	-----	-----	2 1/4
21	8.50	9.45	11.05	12.05	13.65	14.65	16.40	17.55	-----	-----	3 1/4
22	9.00	10.05	11.75	12.80	14.50	15.50	17.30	18.50	-----	-----	3 1/4
23	9.35	10.45	12.20	13.30	15.05	16.10	17.95	19.10	-----	-----	3 1/4
24	9.85	11.00	12.90	14.05	15.90	17.05	19.00	20.20	-----	-----	3 1/4
25	10.20	11.40	13.35	14.55	16.45	17.65	19.65	20.90	-----	-----	3 1/4
26	10.75	12.00	14.10	15.35	17.35	18.65	20.75	22.10	-----	-----	3 1/4
27	11.15	12.50	14.65	15.95	18.05	19.40	21.60	23.05	\$25.35	-----	3 1/4
28	11.80	13.20	15.50	16.90	19.10	20.50	22.80	24.30	26.75	-----	3 1/4
29	12.25	13.75	16.15	17.60	19.85	21.30	24.75	25.25	27.70	-----	3 1/4
30	12.90	14.40	16.90	18.45	21.15	22.45	24.95	26.55	29.10	-----	3 1/4
31	13.35	14.90	17.40	19.00	21.45	23.10	25.70	27.45	30.10	-----	3 1/4
32	14.10	15.70	18.35	20.00	22.60	24.30	27.00	28.80	31.60	-----	3 1/4
33	14.60	16.20	18.90	20.65	23.25	26.10	27.95	29.80	32.65	-----	3 1/4
34	15.45	17.05	19.85	21.65	24.50	26.40	29.30	31.25	34.20	-----	3 1/4
35	15.95	17.60	20.45	22.30	25.20	27.30	30.20	32.25	35.30	-----	3 1/4
36	16.80	18.60	21.55	23.50	26.55	28.60	31.70	33.75	36.90	\$39.05	3 1/2
38	-----	20.40	23.65	25.70	28.90	31.05	34.30	36.45	39.75	42.00	3 1/2
40	-----	21.85	25.25	27.45	30.80	33.10	36.55	38.85	42.30	44.65	3 1/2
42	-----	23.35	26.90	29.30	32.85	35.25	38.85	41.25	44.90	47.35	3 1/2
44	-----	25.15	28.90	31.35	35.05	37.60	41.40	43.90	47.65	50.15	4 1/4
46	-----	27.05	30.95	33.55	37.40	40.05	44.00	46.65	50.60	53.05	4 1/4
48	-----	29.05	33.10	35.80	39.80	42.55	46.65	49.45	53.65	55.95	4 1/4

Cast Iron Solid Double Belt Pulleys  
Price List

Diameter Inches	FACE IN INCHES															Largest bore, reg. price, in.
	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	
6	\$2.50	\$2.80	\$3.15	\$ 3.60	\$ 4.10	\$ 4.55	\$ 5.05	\$ 5.55	\$ 6.55	-----	-----	-----	-----	-----	-----	1 1/2"
7	2.70	3.05	3.50	3.95	4.40	4.90	5.35	5.85	6.85	-----	-----	-----	-----	-----	-----	1 1/2"
8	2.90	3.35	3.80	4.25	4.75	5.25	5.80	6.35	7.60	-----	-----	-----	-----	-----	-----	1 1/2"
9	3.20	3.65	4.15	4.65	5.20	5.75	6.30	6.90	8.15	-----	-----	-----	-----	-----	-----	1 1/2"
10	3.45	3.95	4.45	5.00	5.55	6.15	6.80	7.50	8.95	-----	-----	-----	-----	-----	-----	2"
11	3.70	4.25	4.80	5.40	6.00	6.65	7.30	8.00	9.55	-----	-----	-----	-----	-----	-----	2"
12	3.95	4.55	5.15	5.80	6.45	7.15	7.85	8.60	10.15	\$11.75	-----	-----	-----	-----	-----	2"
13	4.20	4.85	5.50	6.20	6.90	7.65	8.40	9.20	10.85	12.60	-----	-----	-----	-----	-----	2 1/2"
14	4.50	5.20	5.95	6.70	7.50	8.30	9.10	9.95	11.70	13.50	-----	-----	-----	-----	-----	2 1/2"
15	4.80	5.55	6.35	7.15	8.00	8.85	9.75	10.65	12.55	14.50	-----	-----	-----	-----	-----	2 1/2"
16	5.10	5.80	6.60	7.45	8.50	9.20	10.10	11.05	13.00	15.00	\$17.20	-----	-----	-----	-----	2 1/2"
17	5.40	6.25	7.10	8.00	8.90	9.85	10.80	11.80	13.85	16.00	18.25	-----	-----	-----	-----	2 1/2"
18	5.70	6.65	7.60	8.55	9.55	10.55	11.60	12.65	14.85	17.05	19.45	-----	-----	-----	-----	2 1/2"
19	6.05	7.05	8.10	9.15	10.25	11.35	12.40	13.55	15.90	18.35	20.90	\$23.55	-----	-----	-----	2 1/2"
20	6.40	7.45	8.55	9.65	10.80	11.95	13.15	14.35	16.85	19.45	22.15	24.95	-----	-----	-----	2 1/2"
21	6.75	7.85	9.00	10.15	11.35	12.55	13.80	15.05	17.65	20.35	23.15	26.05	-----	-----	-----	3"
22	7.10	8.30	9.50	10.75	12.00	13.30	14.60	15.95	18.70	21.55	24.50	27.55	\$30.70	-----	-----	3"
23	7.50	8.75	10.05	11.35	12.70	14.05	15.45	16.85	19.75	22.75	25.85	29.05	32.35	-----	-----	3"
24	7.90	9.25	10.60	12.00	13.40	14.85	16.30	17.80	20.85	24.00	27.25	30.60	34.05	-----	-----	3"
25	8.35	9.75	11.20	12.65	14.15	15.65	17.20	18.75	21.95	25.25	28.65	32.15	35.75	\$39.45	-----	3"
26	8.80	10.30	11.80	13.35	14.90	16.50	18.10	19.75	23.10	26.55	30.10	33.75	37.50	41.35	-----	3"
27	9.30	10.85	12.45	14.05	15.70	17.35	19.05	20.75	24.25	27.85	31.55	35.35	39.25	43.25	-----	3"
28	9.80	11.45	13.10	14.80	16.50	18.25	20.00	21.80	25.45	29.20	33.05	36.90	40.95	45.10	-----	3"
29	10.30	12.00	13.75	15.50	17.30	19.10	20.95	22.80	26.60	30.50	34.50	38.60	42.80	47.10	-----	3"
30	10.85	12.65	14.45	16.30	18.15	20.05	21.95	23.90	27.85	31.90	36.00	40.25	44.60	49.05	-----	3"
31	11.40	13.25	15.15	17.05	19.00	20.95	22.95	24.95	29.05	33.25	37.55	41.95	46.45	51.10	-----	3"
32	11.95	13.90	15.85	17.85	19.85	21.90	23.95	26.05	30.30	34.70	39.20	43.80	48.50	53.30	-----	3"
33	12.50	14.50	16.55	18.60	20.70	22.80	24.95	27.10	31.55	36.10	40.75	45.50	50.35	55.30	\$60.35	3 1/2"
34	13.10	15.20	17.30	19.45	21.60	23.80	26.05	28.30	32.90	37.60	42.40	47.30	52.30	57.40	62.65	3 1/2"
35	13.70	15.90	18.10	20.35	22.60	24.90	27.20	29.55	34.30	39.15	44.10	49.15	54.30	59.60	65.00	3 1/2"
36	14.30	16.55	18.85	21.15	23.50	25.85	28.25	30.70	35.65	40.70	45.85	51.10	56.45	61.90	67.40	3 1/2"
38	-----	18.00	20.50	23.00	25.55	28.10	30.70	33.30	38.60	44.00	49.50	55.10	60.80	66.55	72.35	3 1/2"
40	-----	19.50	22.15	24.80	27.45	30.10	32.80	35.50	40.95	46.45	52.05	57.75	63.60	69.55	75.55	3 1/2"
42	-----	21.05	23.85	26.65	29.45	32.25	35.10	37.95	43.70	49.50	55.40	61.35	67.35	73.35	79.40	3 1/2"
44	-----	22.65	25.65	28.65	31.65	34.65	37.70	40.75	46.85	53.05	59.25	65.55	71.80	78.25	84.75	3 1/2"
46	-----	24.35	27.50	30.65	33.85	37.05	40.25	43.45	49.95	56.50	63.10	69.80	76.55	83.40	90.30	3 1/2"
48	-----	26.10	29.40	32.75	36.10	39.45	42.85	46.25	53.10	60.00	67.00	74.10	81.30	88.60	95.95	3 1/2"
50	-----	27.90	31.40	34.90	38.40	41.95	45.50	49.10	56.35	63.70	71.15	78.70	86.35	94.15	102.05	3 1/2"
52	-----	29.80	33.50	37.25	41.00	44.75	48.55	52.35	60.05	67.85	75.75	83.75	91.85	100.00	108.20	3 1/2"
54	-----	31.75	35.65	39.60	43.55	47.55	51.55	55.60	63.75	72.00	80.35	88.80	97.35	106.00	114.70	3 1/2"
56	-----	33.80	37.90	42.05	46.20	50.40	54.65	58.95	67.50	76.25	85.10	94.05	103.10	112.25	121.45	3 1/2"
58	-----	35.95	40.25	44.60	49.00	53.45	57.95	62.45	71.55	80.75	90.05	99.45	108.95	118.60	128.45	3 1/2"
60	-----	38.20	42.65	47.25	51.85	56.50	61.20	65.90	75.45	85.15	95.00	105.05	115.20	125.55	136.00	3 1/2"
62	-----	40.50	45.15	49.85	54.60	59.40	64.25	69.15	79.10	89.25	99.60	110.15	120.90	131.85	142.95	3 1/2"
64	-----	-----	-----	52.65	57.50	62.40	67.35	72.35	82.50	92.85	103.40	114.15	125.10	136.30	147.90	3 1/2"
66	-----	-----	-----	55.55	60.50	65.50	70.55	75.65	86.00	96.55	107.30	118.25	129.45	141.05	152.95	3 1/2"
68	-----	-----	-----	58.55	63.60	68.70	73.85	79.05	89.60	100.35	111.30	122.50	133.95	145.75	157.95	3 1/2"
70	-----	-----	-----	61.50	66.70	71.95	77.85	82.65	93.60	104.75	116.10	127.75	139.75	152.15	164.90	3 1/2"
72	-----	-----	-----	64.55	69.90	75.30	80.75	86.25	97.40	108.85	120.65	132.85	145.45	158.45	171.95	3 1/2"
74	-----	-----	-----	-----	-----	78.75	84.35	90.05	101.60	113.50	125.80	138.50	151.60	165.20	179.20	3 1/2"
76	-----	-----	-----	-----	-----	82.30	88.05	93.90	105.90	118.30	131.10	144.30	158.00	172.10	186.60	3 1/2"
78	-----	-----	-----	-----	-----	85.95	91.90	97.95	110.40	123.30	136.60	150.40	164.60	179.20	194.20	3 1/2"
80	-----	-----	-----	-----	-----	89.70	95.90	102.20	115.15	128.55	142.35	156.60	171.30	186.40	202.10	3 1/2"
82	-----	-----	-----	-----	-----	93.55	100.00	106.55	120.00	133.90	148.30	163.15	178.45	194.25	210.40	3 1/2"
84	-----	-----	-----	-----	-----	97.50	104.20	111.00	124.95	139.40	154.35	169.80	185.75	202.20	219.00	3 1/2"
86	-----	-----	-----	-----	-----	101.55	108.50	115.60	130.15	145.20	160.75	176.80	193.35	210.35	227.80	3 1/2"
88	-----	-----	-----	-----	-----	105.70	112.95	120.30	135.45	151.05	167.20	183.80	200.95	218.55	236.70	3 1/2"
90	-----	-----	-----	-----	-----	109.95	117.55	125.25	141.00	157.20	173.90	191.05	208.70	227.00	245.70	3 1/2"
92	-----	-----	-----	-----	-----	114.30	122.30	130.35	146.70	163.65	181.00	198.70	216.90	235.60	254.80	3 1/2"
94	-----	-----	-----	-----	-----	118.75	127.10	135.50	152.60	170.10	188.00	206.40	225.20	244.40	264.00	3 1/2"
96	-----	-----	-----	-----	-----	123.30	132.05	140.85	158.70	176.80	195.30	214.20	233.50	253.20	273.30	3 1/2"
98	-----	-----	-----	-----	-----	127.95	137.10	146.30	164.95	183.85	203.00	222.35	242.05	262.15	282.70	3 1/2"
100	-----	-----	-----	-----	-----	131.45	140.80	150.20	169.25	188.55	208.10	227.80	247.80	268.15	288.70	3 1/2"
102	-----	-----	-----	-----	-----	134.95	144.50	154.10	173.45	193.05	212.90	233.05	253.40	273.95	294.70	3 1/2"
104	-----	-----	-----	-----	-----	138.45	148.20	158.00	177.75	197.70	217.85	238.20	258.80	279.65	300.70	3 1/2"
106	-----	-----	-----	-----	-----	142.60	152.55	162.55	182.80	203.30	224.05	245.10	266.40	287.85	309.70	3 1/2"
108	-----	-----	-----	-----	-----	147.60	157.75	167.95	188.60	209.55	230.80	252.35	274.70	296.40	318.80	3 1/2"
110	-----	-----	-----	-----	-----	152.70	163.05	173.45	194.55	215.95	237.70	259.80	282.20	304.95	328.00	3 1/2"
112	-----	-----	-----	-----	-----	157.90	168.50	179.20	200.85	222.85	245.15	267.70	290.60	313.80	337.30	3 1/2"
114	-----	-----	-----	-----	-----	163.20	174.05	185.00	207.15	229.65	252.45	275.50	298.90	322.60	346.70	3 1/2"
116	-----	-----	-----	-----	-----	168.60	179.70	190.90	213.55	236.55	259.85	283.50	307.45	331.65	356.20	3 1/2"
118	-----	-----	-----	-----	-----	174.10	185.50	196.95	220.05	243.50	267.20	291.30	315.80	340.60	365.80	3 1/2"
120	-----	-----	-----	-----	-----	179.80	191.40	203.05	226.60	250.45	274.65	299.25	324.25	349.65	375.50	3 1/2"



# Cast Iron Split Double Belt Pulleys

## Price List

Diameter Inches	FACE IN INCHES															Largest bore, reg. price, in.
	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	
6	\$4.00	\$4.30	\$4.90	\$5.35	\$6.10	\$6.55	\$7.35	\$7.85	\$9.15	-----	-----	-----	-----	-----	-----	1 1/4"
7	4.20	4.55	5.25	5.70	6.40	6.90	7.65	8.15	9.50	-----	-----	-----	-----	-----	-----	1 1/4"
8	4.50	4.95	5.70	6.15	6.95	7.45	8.35	8.90	10.50	-----	-----	-----	-----	-----	-----	1 1/4"
9	4.80	5.25	6.05	6.55	7.40	7.95	8.85	9.45	11.05	-----	-----	-----	-----	-----	-----	1 1/4"
10	5.15	5.65	6.50	7.05	7.95	8.55	9.60	10.30	12.15	-----	-----	-----	-----	-----	-----	2 1/4"
11	5.40	5.95	6.85	7.65	8.40	9.05	10.10	10.80	12.75	-----	-----	-----	-----	-----	-----	2 1/4"
12	5.75	6.40	7.35	8.00	9.05	9.75	10.90	11.65	13.65	\$15.75	-----	-----	-----	-----	-----	2 1/4"
13	6.00	6.65	7.70	8.40	9.50	10.25	11.45	12.25	14.35	16.60	-----	-----	-----	-----	-----	2 1/4"
14	6.45	7.15	8.35	9.10	10.35	11.15	12.45	13.30	15.55	17.90	-----	-----	-----	-----	-----	2 1/4"
15	6.75	7.50	8.75	9.55	10.85	11.70	13.10	14.00	16.40	18.90	-----	-----	-----	-----	-----	2 1/4"
16	7.20	7.90	9.20	10.05	11.60	12.30	13.75	14.70	17.20	19.80	\$22.65	-----	-----	-----	-----	2 1/4"
17	7.50	8.35	9.70	10.60	12.00	12.95	14.45	15.50	18.05	20.80	23.65	-----	-----	-----	-----	2 1/4"
18	7.95	8.90	10.40	11.35	12.90	13.90	15.55	16.60	19.40	22.25	25.30	-----	-----	-----	-----	2 1/4"
19	8.30	9.30	10.95	11.95	13.60	14.70	16.35	17.50	20.45	23.55	26.75	\$30.10	-----	-----	-----	2 1/4"
20	8.85	9.90	11.60	12.70	14.45	15.60	17.45	18.65	21.80	25.10	28.50	32.05	-----	-----	-----	2 1/4"
21	9.20	10.30	12.05	13.20	15.00	16.20	18.10	19.35	22.60	26.00	29.50	33.15	-----	-----	-----	3 1/4"
22	9.75	10.95	12.80	14.05	15.95	17.25	19.25	20.60	24.05	27.65	31.35	35.20	\$39.15	-----	-----	3 1/4"
23	10.15	11.40	13.35	14.65	16.65	18.00	20.10	21.50	25.10	28.85	32.70	36.70	40.80	-----	-----	3 1/4"
24	10.70	12.05	14.15	15.55	17.65	19.10	21.30	22.80	26.60	30.55	34.60	38.80	43.10	-----	-----	3 1/4"
25	11.15	12.55	14.75	16.20	18.40	19.90	22.20	23.75	27.70	31.80	36.00	40.35	44.80	\$49.40	-----	3 1/4"
26	11.80	13.30	15.65	17.20	19.50	21.10	23.50	25.15	29.30	33.60	38.00	42.55	47.20	52.00	-----	3 1/4"
27	12.30	13.85	16.30	17.90	20.30	21.95	24.45	26.15	30.45	34.90	39.45	44.15	48.95	53.90	-----	3 1/4"
28	13.05	14.65	17.25	18.95	21.45	23.20	25.80	27.60	32.10	36.75	41.50	46.30	51.30	56.45	-----	3 1/4"
29	13.55	15.25	17.90	19.65	22.25	24.05	26.75	28.60	33.25	38.05	42.95	48.00	53.15	58.45	-----	3 1/4"
30	14.35	16.15	18.90	20.75	23.45	25.35	28.15	30.10	34.95	39.95	45.00	50.25	55.60	61.10	-----	3 1/4"
31	14.90	16.75	19.60	21.50	24.30	26.25	29.15	31.15	36.15	41.30	46.55	51.95	57.45	63.15	-----	3 1/4"
32	15.75	17.70	20.65	22.65	25.55	27.60	30.60	32.70	37.90	43.30	48.80	54.45	60.20	66.10	-----	3 1/4"
33	16.30	18.30	21.35	23.40	26.30	29.45	31.60	33.75	39.20	44.70	50.35	56.15	62.05	68.10	\$74.25	3 1/4"
34	17.20	19.30	22.45	24.60	27.70	29.90	33.15	35.40	41.00	46.75	52.60	58.60	64.70	70.95	77.35	3 1/4"
35	17.80	20.00	23.25	25.50	28.70	31.00	34.30	36.65	42.40	48.30	54.30	60.55	66.70	73.15	79.70	3 1/4"
36	18.70	20.95	24.40	26.65	30.00	32.35	35.80	38.25	44.25	50.40	56.65	63.05	69.55	76.20	82.90	3 1/4"
38	-----	22.75	26.45	28.90	32.50	35.05	38.75	41.35	47.75	54.30	60.95	67.75	74.65	81.65	88.70	3 1/4"
40	-----	24.60	28.45	31.10	34.85	37.50	41.35	44.05	50.65	57.35	64.15	71.10	78.10	85.25	92.55	3 1/4"
42	-----	26.50	30.55	33.35	37.30	40.10	44.15	47.00	53.95	60.70	68.15	75.40	82.70	90.05	97.45	3 1/4"
44	-----	28.50	32.80	35.80	40.00	43.00	47.30	50.30	57.40	64.90	72.70	80.35	87.95	95.80	103.70	4 1/4"
46	-----	30.60	35.10	38.25	42.70	45.90	50.40	53.60	61.40	69.00	77.25	87.75	93.50	101.80	110.15	4 1/4"
48	-----	32.75	37.45	40.80	45.45	48.80	53.55	57.95	65.15	73.15	81.85	90.40	99.05	107.85	116.70	4 1/4"
50	-----	35.00	39.95	43.45	48.30	51.85	56.80	60.40	69.05	77.55	86.75	95.80	104.95	116.30	123.75	4 1/4"
52	-----	37.35	42.55	46.30	51.45	55.20	60.45	64.25	73.40	82.40	92.10	101.65	111.30	121.05	130.85	4 1/4"
54	-----	39.75	45.20	49.15	54.55	58.55	64.05	68.10	77.75	87.25	97.45	107.50	117.65	127.95	138.30	4 1/4"
56	-----	42.30	48.00	52.15	57.80	62.00	67.80	72.10	82.20	92.25	103.00	113.60	124.30	135.15	146.05	4 1/4"
58	-----	44.95	50.90	55.25	61.20	65.65	71.75	76.25	86.95	97.50	108.75	119.85	131.05	142.45	154.05	4 1/4"
60	-----	47.70	53.85	58.45	64.65	69.30	75.65	80.35	91.55	102.65	114.50	126.30	138.20	150.35	162.60	4 1/4"
62	-----	50.55	56.95	61.65	68.05	72.85	79.40	84.30	95.95	107.55	119.95	132.30	144.85	157.65	170.60	4 1/4"
64	-----	-----	-----	65.05	71.60	76.50	83.20	88.20	100.10	111.95	124.60	137.20	150.00	163.10	176.60	5 1/4"
66	-----	-----	-----	68.55	75.25	80.25	87.10	92.20	104.35	116.45	129.35	142.20	155.30	168.85	182.70	5 1/4"
68	-----	-----	-----	72.20	79.05	84.15	91.15	96.35	108.75	121.10	134.25	147.40	160.80	174.60	188.80	5 1/4"
70	-----	-----	-----	75.80	82.85	88.10	95.30	100.70	113.55	126.35	139.95	153.60	167.60	182.05	196.85	5 1/4"
72	-----	-----	79.50	86.75	92.15	99.55	105.05	118.15	131.30	145.40	159.65	174.30	189.40	205.00	-----	5 1/4"
74	-----	-----	-----	-----	96.35	103.95	109.65	123.20	136.81	151.50	166.30	181.50	197.25	213.40	-----	5 1/4"
76	-----	-----	-----	-----	100.65	108.45	114.30	128.35	142.55	157.75	173.10	188.95	205.25	221.95	-----	5 1/4"
78	-----	-----	-----	-----	105.05	113.10	119.15	133.70	148.45	164.20	180.20	196.60	213.45	230.70	-----	5 1/4"
80	-----	-----	-----	-----	109.60	117.95	124.25	139.35	154.65	170.95	187.45	204.40	221.80	239.80	-----	5 1/4"
82	-----	-----	-----	-----	114.25	122.90	129.45	145.10	160.95	177.90	195.05	212.65	230.80	249.30	-----	5 1/4"
84	-----	-----	-----	-----	119.00	127.95	134.75	150.95	167.40	184.95	202.75	221.05	239.90	259.10	-----	5 1/4"
86	-----	-----	-----	-----	123.90	133.15	140.25	157.10	174.20	192.40	210.85	229.80	249.25	269.15	-----	5 1/4"
88	-----	-----	-----	-----	128.90	138.50	145.85	163.35	181.05	199.90	218.95	238.55	258.65	279.30	-----	5 1/4"
90	-----	-----	-----	-----	134.00	144.00	151.75	169.85	188.20	207.65	227.30	247.45	268.30	289.55	-----	5 1/4"
92	-----	-----	-----	-----	139.25	149.70	157.75	176.55	195.70	215.85	236.10	256.85	278.15	299.95	-----	5 1/4"
94	-----	-----	-----	-----	144.60	155.45	163.85	183.45	203.20	223.95	244.95	266.35	288.20	310.45	-----	5 1/4"
96	-----	-----	-----	-----	150.05	161.35	170.15	190.55	210.95	232.35	253.90	275.85	298.25	321.05	-----	5 1/4"
98	-----	-----	-----	-----	155.65	167.40	176.60	197.85	219.10	241.20	263.25	285.65	308.50	331.80	-----	5 1/4"
100	-----	-----	-----	-----	160.10	172.10	181.50	203.20	224.90	247.45	269.90	292.65	315.80	339.15	-----	5 1/4"
102	-----	-----	-----	-----	164.55	176.80	186.40	208.45	230.50	253.40	276.35	299.50	322.90	346.50	-----	5 1/4"
104	-----	-----	-----	-----	169.05	181.55	191.35	213.85	236.30	259.55	282.75	306.20	329.95	353.90	-----	5 1/4"
106	-----	-----	-----	-----	174.20	186.95	196.95	220.00	243.05	266.95	290.90	315.10	339.50	364.30	-----	5 1/4"
108	-----	-----	-----	-----	180.20	193.20	203.40	226.90	250.45	274.90	299.40	324.70	349.40	374.80	-----	5 1/4"
110	-----	-----	-----	-----	186.35	199.60	210.00	234.00	258.05	283.05	308.15	333.55	359.35	385.45	-----	5 1/4"
112	-----	-----	-----	-----	192.60	206.15	216.85	241.45	266.15	291.75	317.35	343.30	369.60	396.20	-----	5 1/4"
114	-----	-----	-----	-----	198.95	212.80	223.75	248.90	274.15	300.30	326.45	352.95	379.80	407.05	-----	5 1/4"
116	-----	-----	-----	-----	205.45	219.60	230.80	256.50	282.30	309.00	335.80	362.90	390.30	418.05	-----	5 1/4"
118	-----	-----	-----	-----	212.05	226.55	238.00	264.20	292.25	317.65	344.95	372.65	400.70	429.15	-----	5 1/4"
120	-----	-----	-----	-----	218.85	233.60	245.25	271.95	298.70	326.40	354.25	382.50	411.20	440.35	-----	5 1/4"

Cast Iron Solid Double Arm Double Belt Pulleys

Diameter Inches	FACE IN INCHES											Largest bore, regular price, inches
	20	22	24	26	28	30	32	34	36	38	40	
20	\$ 31.60	\$ 34.35	\$ 37.15	\$ 40.00	\$ 42.90	-----	-----	-----	-----	-----	-----	2 1 <sup>1</sup> / <sub>16</sub>
21	33.10	35.95	38.85	41.90	44.90	-----	-----	-----	-----	-----	-----	2 3 <sup>1</sup> / <sub>16</sub>
22	35.10	38.05	41.15	44.25	47.40	\$ 50.60	-----	-----	-----	-----	-----	3 1 <sup>1</sup> / <sub>16</sub>
23	37.10	40.25	43.45	46.70	50.00	53.35	-----	-----	-----	-----	-----	3 3 <sup>1</sup> / <sub>16</sub>
24	39.20	42.45	45.85	49.30	52.80	56.35	-----	-----	-----	-----	-----	3 5 <sup>1</sup> / <sub>16</sub>
25	41.25	44.75	48.30	51.90	55.55	59.25	-----	-----	-----	-----	-----	3 7 <sup>1</sup> / <sub>16</sub>
26	43.45	47.10	50.80	54.55	58.35	62.20	-----	-----	-----	-----	-----	3 9 <sup>1</sup> / <sub>16</sub>
27	45.65	49.50	53.35	57.30	61.20	65.20	-----	-----	-----	-----	-----	3 11 <sup>1</sup> / <sub>16</sub>
28	47.95	51.90	56.00	60.05	64.25	68.45	\$ 72.70	-----	-----	-----	-----	3 13 <sup>1</sup> / <sub>16</sub>
29	50.15	54.35	58.50	62.80	67.10	71.45	75.85	-----	-----	-----	-----	3 15 <sup>1</sup> / <sub>16</sub>
30	52.60	56.85	61.25	65.65	70.15	74.70	79.25	\$ 83.90	-----	-----	-----	3 17 <sup>1</sup> / <sub>16</sub>
31	54.90	59.40	63.90	68.55	73.15	77.85	82.60	87.40	-----	-----	-----	3 19 <sup>1</sup> / <sub>16</sub>
32	57.30	62.05	66.65	71.50	76.35	81.25	86.20	91.20	-----	-----	-----	3 21 <sup>1</sup> / <sub>16</sub>
33	59.60	64.45	69.40	74.35	79.40	84.45	89.55	94.70	-----	-----	-----	3 23 <sup>1</sup> / <sub>16</sub>
34	62.25	67.30	72.40	77.55	82.70	87.90	93.15	98.45	\$103.85	-----	-----	3 25 <sup>1</sup> / <sub>16</sub>
35	65.00	70.20	75.45	80.75	86.15	91.55	97.00	102.50	108.10	-----	-----	3 27 <sup>1</sup> / <sub>16</sub>
36	67.55	72.95	78.45	83.95	89.55	95.15	100.80	106.50	112.30	-----	-----	3 29 <sup>1</sup> / <sub>16</sub>
38	73.25	79.10	84.90	90.85	96.80	102.80	108.85	114.95	121.10	\$127.35	-----	3 31 <sup>1</sup> / <sub>16</sub>
40	78.10	84.05	90.10	96.15	102.20	108.30	114.45	120.65	126.90	133.25	-----	3 33 <sup>1</sup> / <sub>16</sub>
42	83.50	89.75	96.15	102.50	108.90	115.30	121.75	128.25	134.80	141.45	\$148.15	3 35 <sup>1</sup> / <sub>16</sub>
44	89.65	96.35	103.05	109.90	116.70	123.50	130.35	137.20	144.10	151.00	157.95	4 1 <sup>1</sup> / <sub>16</sub>
46	95.60	102.75	109.90	117.05	124.30	131.45	138.65	145.85	153.05	160.25	167.40	4 3 <sup>1</sup> / <sub>16</sub>
48	101.75	109.25	116.80	124.40	132.00	139.65	147.35	155.15	163.00	170.90	178.85	4 5 <sup>1</sup> / <sub>16</sub>
50	-----	115.95	123.95	132.00	140.15	148.35	156.60	164.85	173.15	181.50	189.95	4 7 <sup>1</sup> / <sub>16</sub>
52	-----	123.65	132.10	140.75	149.25	157.85	166.55	175.35	184.20	193.10	202.05	4 9 <sup>1</sup> / <sub>16</sub>
54	-----	131.25	140.25	149.25	158.40	167.60	176.85	186.10	195.40	204.75	214.15	4 11 <sup>1</sup> / <sub>16</sub>
56	-----	139.15	148.50	158.05	167.75	177.45	187.20	197.00	206.85	216.80	226.80	4 13 <sup>1</sup> / <sub>16</sub>
58	-----	147.40	157.40	167.55	177.65	187.80	198.00	208.25	218.60	229.10	239.70	4 15 <sup>1</sup> / <sub>16</sub>
60	-----	155.45	166.00	176.65	187.35	198.15	209.05	220.00	231.05	242.20	253.45	4 17 <sup>1</sup> / <sub>16</sub>
62	-----	163.00	174.00	185.15	196.35	207.70	219.15	230.70	242.35	254.10	266.00	5 1 <sup>1</sup> / <sub>16</sub>
64	-----	170.30	181.50	192.85	204.25	215.80	227.45	239.20	251.05	263.00	275.20	5 3 <sup>1</sup> / <sub>16</sub>
66	-----	177.75	189.20	200.75	212.40	224.15	236.00	248.00	260.15	272.40	284.80	5 5 <sup>1</sup> / <sub>16</sub>
68	-----	185.45	197.10	208.80	220.75	232.80	244.95	257.20	269.60	282.10	294.70	5 7 <sup>1</sup> / <sub>16</sub>
70	-----	193.80	205.90	218.15	230.45	242.90	255.50	268.25	281.15	294.20	307.45	5 9 <sup>1</sup> / <sub>16</sub>
72	-----	201.95	214.30	226.80	239.45	252.35	265.45	278.75	292.25	306.00	320.00	5 11 <sup>1</sup> / <sub>16</sub>
74	-----	-----	223.50	236.50	249.70	263.10	276.70	290.50	304.60	318.95	333.50	5 13 <sup>1</sup> / <sub>16</sub>
76	-----	-----	233.00	246.50	260.25	274.20	288.40	302.85	317.55	332.50	347.60	5 15 <sup>1</sup> / <sub>16</sub>
78	-----	-----	242.90	256.95	271.25	285.80	300.60	315.60	330.85	346.35	362.10	5 17 <sup>1</sup> / <sub>16</sub>
80	-----	-----	253.35	267.95	282.80	297.85	313.15	328.70	344.50	360.55	376.85	5 19 <sup>1</sup> / <sub>16</sub>
82	-----	-----	264.00	279.20	294.60	310.35	326.30	342.50	358.95	375.65	392.60	5 21 <sup>1</sup> / <sub>16</sub>
84	-----	-----	274.90	290.60	306.70	323.05	339.65	356.50	373.60	391.00	408.65	5 23 <sup>1</sup> / <sub>16</sub>
86	-----	-----	286.35	302.70	319.45	336.45	353.70	371.20	388.95	407.00	425.35	5 25 <sup>1</sup> / <sub>16</sub>
88	-----	-----	298.00	315.05	332.30	349.85	367.70	385.85	404.30	423.05	442.10	5 27 <sup>1</sup> / <sub>16</sub>
90	-----	-----	310.20	327.90	345.85	364.05	382.50	401.20	420.20	439.50	459.75	5 29 <sup>1</sup> / <sub>16</sub>
92	-----	-----	322.85	341.65	360.05	378.95	398.10	417.50	437.15	457.20	477.20	5 31 <sup>1</sup> / <sub>16</sub>
94	-----	-----	335.70	354.85	374.20	393.80	413.65	433.70	454.05	474.65	495.45	5 33 <sup>1</sup> / <sub>16</sub>
96	-----	-----	349.15	368.95	388.95	409.10	429.50	450.20	471.15	492.35	513.70	5 35 <sup>1</sup> / <sub>16</sub>
98	-----	-----	-----	383.55	404.45	425.45	446.45	467.65	489.05	510.65	532.50	5 37 <sup>1</sup> / <sub>16</sub>
100	-----	-----	-----	393.60	414.80	436.10	457.50	479.10	500.90	522.90	545.15	5 39 <sup>1</sup> / <sub>16</sub>
102	-----	-----	-----	403.05	424.70	446.45	468.30	490.30	512.50	534.90	557.50	5 41 <sup>1</sup> / <sub>16</sub>
104	-----	-----	-----	412.95	434.95	457.05	479.25	501.60	524.05	546.60	569.35	5 43 <sup>1</sup> / <sub>16</sub>
106	-----	-----	-----	424.60	447.25	470.05	492.90	516.00	539.20	562.55	586.10	5 45 <sup>1</sup> / <sub>16</sub>
108	-----	-----	-----	437.90	461.00	484.35	507.75	531.40	555.15	579.15	604.35	5 47 <sup>1</sup> / <sub>16</sub>
110	-----	-----	-----	451.45	475.10	498.95	522.95	547.15	571.55	596.10	620.95	5 49 <sup>1</sup> / <sub>16</sub>
112	-----	-----	-----	465.95	490.25	514.70	539.35	564.10	588.95	614.00	641.50	5 51 <sup>1</sup> / <sub>16</sub>
114	-----	-----	-----	480.35	505.25	530.20	555.40	580.70	606.10	631.75	657.60	5 53 <sup>1</sup> / <sub>16</sub>
116	-----	-----	-----	495.00	520.40	545.95	571.65	597.65	623.70	650.00	676.40	5 55 <sup>1</sup> / <sub>16</sub>
118	-----	-----	-----	509.85	535.70	561.65	587.85	614.25	640.85	667.70	694.75	5 57 <sup>1</sup> / <sub>16</sub>
120	-----	-----	-----	524.70	551.00	577.50	604.25	631.20	658.35	686.60	713.35	5 59 <sup>1</sup> / <sub>16</sub>



## Cast Iron Split Double Arm Double Belt Pulleys

Diameter Inches	FACE IN INCHES											Largest bore, regular price, inches
	20	22	24	26	28	30	32	34	36	38	40	
20	\$ 39.45	\$43.00	\$ 46.60	\$ 50.30	\$ 54.05	-----	-----	-----	-----	-----	-----	2 1 <sup>5</sup> / <sub>16</sub>
21	40.95	44.60	48.30	42.20	56.05	-----	-----	-----	-----	-----	-----	3 1 <sup>5</sup> / <sub>16</sub>
22	43.40	47.35	51.30	55.30	59.35	\$ 63.50	-----	-----	-----	-----	-----	3 1 <sup>7</sup> / <sub>16</sub>
23	45.55	49.55	53.60	57.75	61.95	66.25	-----	-----	-----	-----	-----	3 1 <sup>9</sup> / <sub>16</sub>
24	48.25	52.40	56.70	61.10	65.55	70.10	-----	-----	-----	-----	-----	3 1 <sup>11</sup> / <sub>16</sub>
25	50.30	54.70	59.15	63.70	68.30	73.00	-----	-----	-----	-----	-----	3 1 <sup>13</sup> / <sub>16</sub>
26	53.15	57.75	62.40	67.15	71.95	76.85	-----	-----	-----	-----	-----	3 1 <sup>15</sup> / <sub>16</sub>
27	55.35	60.15	64.95	69.90	74.80	79.85	-----	-----	-----	-----	-----	3 1 <sup>17</sup> / <sub>16</sub>
28	57.90	63.25	68.35	73.45	78.70	84.00	\$ 89.35	-----	-----	-----	-----	3 1 <sup>19</sup> / <sub>16</sub>
29	60.50	65.70	70.85	76.20	81.55	87.00	91.50	-----	-----	-----	-----	3 1 <sup>21</sup> / <sub>16</sub>
30	63.60	68.90	74.35	79.85	85.45	91.15	96.85	\$102.70	-----	-----	-----	3 1 <sup>23</sup> / <sub>16</sub>
31	65.90	71.45	77.00	82.75	88.45	94.30	100.20	106.20	-----	-----	-----	3 1 <sup>25</sup> / <sub>16</sub>
32	69.00	74.85	80.55	86.55	92.45	98.65	104.80	111.05	-----	-----	-----	3 1 <sup>27</sup> / <sub>16</sub>
33	71.30	77.25	83.30	89.40	95.60	101.85	108.15	114.55	-----	-----	-----	3 1 <sup>29</sup> / <sub>16</sub>
34	74.65	80.85	87.10	93.45	99.80	106.25	112.75	119.35	\$126.05	-----	-----	3 1 <sup>31</sup> / <sub>16</sub>
35	77.40	83.75	90.15	96.65	103.25	109.90	116.60	123.40	130.30	-----	-----	3 1 <sup>33</sup> / <sub>16</sub>
36	80.65	87.25	93.95	100.70	107.55	114.45	121.40	128.45	135.60	-----	-----	3 1 <sup>35</sup> / <sub>16</sub>
38	87.05	94.20	101.25	108.50	115.75	123.10	130.50	138.00	145.55	\$153.15	-----	3 1 <sup>37</sup> / <sub>16</sub>
40	92.70	99.95	107.30	114.70	122.10	129.60	137.15	144.80	152.50	160.25	-----	3 1 <sup>39</sup> / <sub>16</sub>
42	98.85	106.45	114.20	121.95	129.75	137.60	145.50	153.50	161.55	169.65	\$178.00	3 1 <sup>41</sup> / <sub>16</sub>
44	105.80	113.90	122.00	130.30	138.55	146.85	155.20	163.60	171.05	180.45	189.10	4 1 <sup>7</sup> / <sub>16</sub>
46	112.55	121.15	129.75	138.40	147.15	155.85	164.60	173.40	182.20	190.95	199.85	4 1 <sup>9</sup> / <sub>16</sub>
48	119.50	128.50	137.45	146.70	155.85	165.10	174.40	183.85	193.35	202.85	212.60	4 1 <sup>11</sup> / <sub>16</sub>
50	-----	137.10	145.65	155.30	165.05	174.90	184.80	194.75	204.75	214.75	225.05	4 1 <sup>13</sup> / <sub>16</sub>
52	-----	144.70	154.75	165.00	175.20	185.50	195.90	206.45	217.05	227.65	238.50	4 1 <sup>15</sup> / <sub>16</sub>
54	-----	153.20	163.85	174.55	185.40	196.35	207.35	218.40	229.50	240.60	251.95	4 1 <sup>17</sup> / <sub>16</sub>
56	-----	162.05	173.10	184.40	195.85	207.35	218.90	230.55	242.25	254.00	266.00	4 1 <sup>19</sup> / <sub>16</sub>
58	-----	171.25	183.00	194.95	206.85	218.85	230.90	243.05	255.30	267.65	280.30	4 1 <sup>21</sup> / <sub>16</sub>
60	-----	180.25	192.60	205.10	217.65	230.35	243.15	256.05	269.05	282.10	295.45	4 1 <sup>23</sup> / <sub>16</sub>
62	-----	188.50	201.65	214.70	227.80	241.10	254.50	268.05	281.70	295.40	309.45	5 1 <sup>7</sup> / <sub>16</sub>
64	-----	197.10	210.20	223.50	236.85	250.40	264.05	277.80	291.75	305.70	320.10	5 1 <sup>9</sup> / <sub>16</sub>
66	-----	205.55	218.95	232.50	246.15	259.95	273.85	287.95	302.20	316.50	331.15	5 1 <sup>11</sup> / <sub>16</sub>
68	-----	214.30	227.95	241.70	255.70	269.85	284.10	298.50	313.05	327.65	342.55	5 1 <sup>13</sup> / <sub>16</sub>
70	-----	223.70	237.85	252.20	266.60	281.20	295.95	310.90	326.00	341.20	356.80	5 1 <sup>15</sup> / <sub>16</sub>
72	-----	232.90	247.35	262.00	276.80	291.90	307.20	322.75	338.50	354.45	370.85	5 1 <sup>17</sup> / <sub>16</sub>
74	-----	-----	257.70	272.90	288.30	303.95	319.80	335.90	352.30	368.90	385.90	5 1 <sup>19</sup> / <sub>16</sub>
76	-----	-----	268.35	284.10	300.10	316.35	332.85	349.65	366.70	383.95	401.55	5 1 <sup>21</sup> / <sub>16</sub>
78	-----	-----	279.40	295.75	312.35	329.25	346.40	363.80	381.45	399.30	417.60	5 1 <sup>23</sup> / <sub>16</sub>
80	-----	-----	291.05	307.00	325.20	342.65	360.35	378.35	396.60	415.05	433.95	5 1 <sup>25</sup> / <sub>16</sub>
82	-----	-----	302.90	320.50	338.30	356.50	374.90	393.60	412.55	431.70	451.30	5 1 <sup>27</sup> / <sub>16</sub>
84	-----	-----	315.00	333.15	351.70	370.55	389.65	409.05	428.70	448.60	468.95	5 1 <sup>29</sup> / <sub>16</sub>
86	-----	-----	327.70	346.55	365.80	385.35	405.15	425.25	445.60	466.20	487.30	5 1 <sup>31</sup> / <sub>16</sub>
88	-----	-----	340.60	360.20	380.00	400.15	420.60	441.40	462.50	483.85	505.70	5 1 <sup>33</sup> / <sub>16</sub>
90	-----	-----	354.05	374.35	394.90	415.75	436.85	458.25	479.95	501.90	525.00	5 1 <sup>35</sup> / <sub>16</sub>
92	-----	-----	368.00	389.45	410.50	432.10	453.95	476.10	498.50	521.25	544.25	5 1 <sup>37</sup> / <sub>16</sub>
94	-----	-----	382.15	404.00	426.05	448.40	471.00	493.85	517.00	540.35	564.10	5 1 <sup>39</sup> / <sub>16</sub>
96	-----	-----	396.90	419.45	442.20	465.15	488.35	511.90	535.70	559.70	584.05	5 1 <sup>41</sup> / <sub>16</sub>
98	-----	-----	-----	435.45	459.15	483.00	506.85	530.95	555.25	579.70	604.60	5 1 <sup>43</sup> / <sub>16</sub>
100	-----	-----	-----	446.90	470.95	495.15	519.45	544.00	568.75	593.65	619.00	5 1 <sup>45</sup> / <sub>16</sub>
102	-----	-----	-----	457.75	482.30	507.00	531.80	556.80	582.00	607.35	633.10	5 1 <sup>47</sup> / <sub>16</sub>
104	-----	-----	-----	469.10	494.05	519.15	544.35	569.75	595.25	620.80	646.75	5 1 <sup>49</sup> / <sub>16</sub>
106	-----	-----	-----	482.20	507.85	533.70	559.60	585.80	612.10	638.50	665.30	5 1 <sup>51</sup> / <sub>16</sub>
108	-----	-----	-----	496.95	523.10	549.55	576.05	602.85	629.75	656.85	685.35	5 1 <sup>53</sup> / <sub>16</sub>
110	-----	-----	-----	512.00	538.75	565.75	592.90	620.30	637.90	675.60	703.80	5 1 <sup>55</sup> / <sub>16</sub>
112	-----	-----	-----	528.00	555.45	583.10	610.95	640.65	668.80	697.10	726.20	5 1 <sup>57</sup> / <sub>16</sub>
114	-----	-----	-----	543.90	572.00	600.20	628.65	657.25	685.95	714.85	744.15	5 1 <sup>59</sup> / <sub>16</sub>
116	-----	-----	-----	560.10	588.75	617.60	646.60	675.95	705.35	734.95	764.85	5 1 <sup>61</sup> / <sub>16</sub>
118	-----	-----	-----	576.50	605.65	634.95	664.50	694.30	724.30	754.50	785.10	5 1 <sup>63</sup> / <sub>16</sub>
120	-----	-----	-----	592.90	622.00	652.45	682.60	713.00	743.60	775.25	805.60	5 1 <sup>65</sup> / <sub>16</sub>

Pulley Plates or Flanges

Bored and Fitted; with Hubs Set Screwed

List Prices

Size of Shaft Inches	Diameter of Flange Inches	Price per Pair	Size of Shaft Inches	Diameter of Flange Inches	Price per Pair
1	5	\$2.50	2 $\frac{1}{8}$	14	\$ 7.50
1 $\frac{1}{4}$	5	2.50	3 $\frac{3}{16}$	14	9.00
1 $\frac{7}{16}$	6	2.80	3 $\frac{7}{16}$	16	11.00
1 $\frac{9}{16}$	7	3.00	3 $\frac{11}{16}$	18	13.00
1 $\frac{11}{16}$	8	3.10	3 $\frac{13}{16}$	20	15.50
1 $\frac{13}{16}$	10	3.60	4 $\frac{3}{16}$	20	18.50
2 $\frac{3}{16}$	10	4.20	4 $\frac{7}{16}$	24	22.00
2 $\frac{7}{16}$	12	5.00	4 $\frac{11}{16}$	26	28.00
2 $\frac{11}{16}$	12	6.00			

Key-Seating Pulleys, Rope Sheaves and Gears

Also Keys and Fitting Same to Shafts

List Prices

Size of Shaft Inches	Face of Pulley	3 to 6 Inches	7 to 9 Inches	10 to 12 Inches	13 to 16 Inches	17 to 20 Inches	21 to 24 Inches	25 to 30 Inches	31 to 36 Inches
1 $\frac{3}{16}$ to 1 $\frac{13}{16}$	Key-seating Pulley.....	\$0.50	\$0.60	\$0.75					
	Price of Key.....	.20	.30	.35					
	Fitting.....	1.75	1.75	1.75					
2 $\frac{3}{16}$ to 2 $\frac{7}{16}$	Key-seating Pulley.....	.60	.75	.80	\$1.00	\$1.25			
	Price of Key.....	.30	.35	.40	.50	.60			
	Fitting.....	1.75	1.85	2.00	2.25	2.40			
2 $\frac{11}{16}$ to 2 $\frac{13}{16}$	Key-seating Pulley.....	.75	.85	1.25	1.75	2.35	\$3.00	\$3.75	\$4.15
	Price of Key.....	.33	.40	.50	.60	.70	1.00	1.20	1.40
	Fitting.....	1.85	2.00	2.20	2.40	2.70	3.00	3.50	4.00
3 $\frac{3}{16}$ to 3 $\frac{7}{16}$	Key-seating Pulley.....	.85	.95	1.30	1.80	2.45	3.10	3.80	4.25
	Price of Key.....	.50	.60	.70	.85	1.00	1.20	1.40	1.70
	Fitting.....	1.95	2.10	2.30	2.50	2.90	3.20	3.70	4.25
3 $\frac{11}{16}$	Key-seating Pulley.....	1.00	1.20	1.50	2.00	2.70	3.35	4.00	4.75
	Price of Key.....	.67	.77	.87	.97	1.10	1.27	1.50	1.90
	Fitting.....	2.00	2.20	2.40	2.70	3.15	3.85	4.50	5.00
4 $\frac{7}{16}$	Key-seating Pulley.....	1.30	1.65	2.00	2.50	3.00	3.50	4.20	5.00
	Price of Key.....	.73	.83	.93	1.05	1.20	1.35	1.65	2.00
	Fitting.....	2.35	2.70	3.00	3.35	4.20	5.00	5.85	6.70
4 $\frac{11}{16}$	Key-seating Pulley.....	1.50	1.95	2.35	3.00	3.70	4.35	5.00	5.85
	Price of Key.....	.83	.93	1.05	1.20	1.35	1.50	1.70	2.00
	Fitting.....	3.00	3.35	3.85	4.35	5.00	5.85	6.70	7.50



## Tight and Loose Pulleys

### Additional Price to be Added to List Price Per Pair

Diameter Inches	FACE						
	3 and 4 Inches	5 and 6 Inches	7 and 8 Inches	9 and 10 Inches	11 and 12 Inches	13 and 14 Inches	15 and 16 Inches
6 to 9	\$1.30	\$2.00	\$3.00	\$4.50			
10 to 15	1.50	2.30	3.40	5.00	\$ 7.00		
16 to 20	2.10	2.90	4.00	5.50	7.50		
21 to 30	3.30	4.10	5.20	6.80	9.10	\$12.50	
31 to 42	4.50	5.50	6.90	9.00	12.10	16.50	\$23.00
43 to 60	6.00	7.40	9.30	12.00	15.80	21.00	29.00

If loose pulley has climbing flange, double the above list.

For largest bores at regular prices, see standard pulley list.

If furnished with iron or bronze bushings, an extra charge will be made.

The above prices do not include oil or grease cups.

## Double Flange Pulleys

### Additional Price to be Added to List Price

Diameter Inches	Price	Diameter Inches	Price	Diameter Inches	Price
6 and 7	\$2.40	34 and 35	\$20.05	76 and 78	\$ 73.75
8 and 9	3.10	36 and 37	21.95	80 and 82	79.30
10 and 11	3.90	38 and 39	24.10	84 and 86	84.75
12 and 13	4.70	40 and 41	26.35	88 and 90	90.10
14 and 15	5.65	42 and 43	28.75	92 and 94	95.40
16 and 17	6.60	44 and 45	31.30	96 and 98	100.85
18 and 19	7.60	46 and 47	33.85	100 and 102	106.00
20 and 21	8.80	48 and 50	37.60	104 and 106	111.80
22 and 23	10.15	52 and 54	42.25	108 and 110	117.15
24 and 25	11.50	56 and 58	47.20	112 and 114	122.35
26 and 27	13.05	60 and 62	52.25	116 and 118	127.35
28 and 29	14.70	64 and 66	57.50	120	132.05
30 and 31	16.40	68 and 70	62.85		
32 and 33	18.20	72 and 74	68.30		

Pulleys with one flange only, one-half that given above.

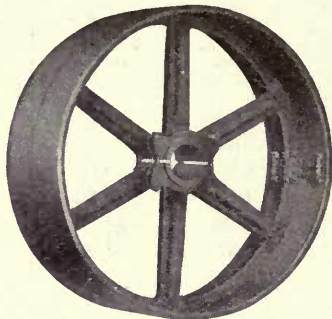
Pulleys with three flanges, one-half more than given above.

## Additional Prices for Bores Larger Than Maximum as Specified in Standard List

Use Double Belt List

Diameter Inches	
6 to 15	Add 10% for each additional $\frac{1}{4}$ inch or fractional part thereof
16 to 30	Add 10% for each additional $\frac{1}{2}$ inch or fractional part thereof
31 to 60	Add 5% for each additional $\frac{1}{2}$ inch or fractional part thereof

All Wrought Steel Split Pulleys  
Six Arm Pulleys



Style No. 102  
Design Used Sizes 6" to 24" (Patented)  
(Narrow Faces Above 16")



Style No. 103  
Design Used Sizes 16" to 24" (Patented)  
(Wide Faces)  
Same Design All Faces 25" to 42" (Patented)

Furnished With Either Straight or Crowning Face

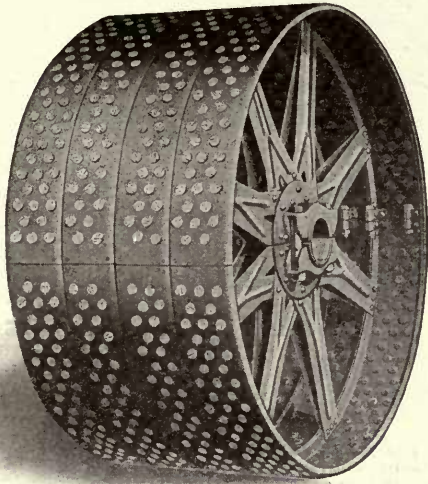
Price List

Diameter Inches	FACE IN INCHES													
	2	3	4	5	6	8	10	12	14	16	18	20	22	24
6	\$3.15	\$3.30	\$ 3.45	\$ 3.75	\$ 4.05									
7	3.22	3.38	3.60	3.90	4.20									
8	3.30	3.45	3.75	4.05	4.35	\$ 4.95	\$ 5.60							
9	3.38	3.60	3.90	4.20	4.50	5.10	5.75							
10	3.45	3.75	4.05	4.35	4.65	5.25	5.90	\$ 6.45						
11	3.65	3.90	4.20	4.50	4.80	5.40	6.00	6.90						
12	3.90	4.20	4.63	4.80	5.33	5.78	6.45	7.65						
13	4.05	4.35	4.80	5.20	5.62	6.43	7.20	8.40						
14	4.20	4.50	5.20	5.65	6.15	7.05	8.03	9.00						
15	4.35	4.65	5.45	5.80	6.55	7.65	8.80	9.75						
16	4.50	4.95	5.75	6.10	6.90	8.25	9.45	10.50						
17	----	5.25	6.00	6.50	7.28	8.78	10.05	11.25						
18	----	5.55	6.38	7.00	7.65	9.30	10.65	12.00						
19	----	5.80	6.75	7.50	8.25	10.13	11.25	12.90						
20	----	6.00	7.50	8.10	9.00	10.73	12.00	14.25						
21	----	6.25	8.00	8.90	9.60	11.25	12.98	15.60	\$18.00	\$20.55				
22	----	6.50	8.55	9.50	10.28	12.00	14.10	16.80	19.50	21.30				
23	----	7.00	8.70	9.90	10.58	12.60	14.75	18.00	21.00	24.30				
24	----	7.50	8.90	10.00	10.95	13.20	15.68	19.05	22.65	26.25	\$29.92	\$34.50		
25	----	----	9.20	----	11.45	13.80	16.40	20.20	24.50	29.25	35.05	39.50		
26	----	----	9.55	----	11.95	14.40	17.10	21.30	26.25	31.20	36.15	41.40		
28	----	----	10.80	----	12.90	15.45	18.15	22.90	28.50	34.50	40.35	46.35		
30	----	----	12.00	----	14.10	17.25	19.90	24.75	31.50	38.10	45.00	49.50	\$55.50	\$61.50
32	----	----	13.20	----	15.45	19.35	22.50	26.86	34.15	41.65	48.37	54.37	60.37	66.37
34	----	----	14.40	----	17.25	21.75	25.50	30.00	36.75	45.00	51.75	57.45	63.75	69.75
36	----	----	15.90	----	19.50	24.00	28.65	33.75	39.75	48.60	55.50	61.50	67.50	73.50



# All Wrought Steel Pulleys with Cork Inserts

Patented



For hard drives and excessive loads, where a slipping belt makes trouble, the use of a pulley equipped with Cork Inserts will generally change the whole situation. Extensive tests made at the Lowell Textile School show conclusively that a greatly increased efficiency is obtained where Cork Inserts are used. The corks wear indefinitely and are practically unaffected by dust, oil or water.

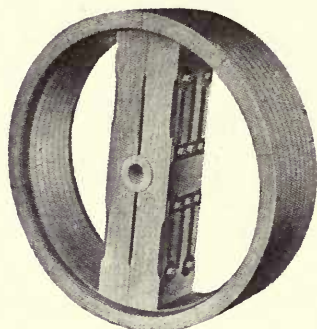
We are able to supply on short notice any standard size of American Pulley, above 5 inches diameter, equipped with Cork Inserts.

Style No. 104

Net Extra Price

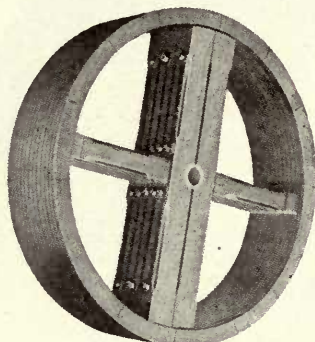
Diameter Inches	FACE IN INCHES													
	2	3	4	5	6	8	10	12	14	16	18	20	22	24
6	\$0.26	\$0.39	\$0.52	\$0.65	\$0.79									
7	.31	.46	.61	.76	.92									
8	.35	.52	.70	.87	1.05	\$1.40	\$1.75							
9	.39	.59	.78	.98	1.18	1.57	1.96							
10	.44	.65	.87	1.09	1.31	1.75	2.18	\$2.62						
11	.48	.72	.96	1.20	1.44	1.92	2.40	2.88						
12	.52	.78	1.05	1.31	1.57	2.09	2.62	3.14						
13	.57	.85	1.13	1.42	1.70	2.27	2.83	3.40						
14	.61	.92	1.22	1.53	1.83	2.44	3.05	3.66						
15	.65	.98	1.31	1.63	1.96	2.61	3.27	3.92						
16	.70	1.05	1.40	1.74	2.09	2.79	3.48	4.18						
17	----	1.11	1.48	1.85	2.22	2.97	3.71	4.45						
18	----	1.18	1.57	1.96	2.35	3.14	3.92	4.71						
19	----	1.24	1.66	2.07	2.49	3.32	4.14	4.97						
20	----	1.31	1.74	2.18	2.62	3.49	4.36	5.23						
21	----	1.37	1.83	2.29	2.75	3.66	4.58	5.50	\$ 6.40	\$ 7.32				
22	----	1.44	1.92	2.40	2.88	3.84	4.80	5.75	6.71	7.67				
23	----	1.51	2.01	2.51	3.01	4.01	5.01	6.02	7.02	8.03				
24	----	1.57	2.09	2.62	3.14	4.19	5.23	6.28	7.32	8.37	\$ 9.42	\$10.50		
25	----	----	2.18	----	3.27	4.36	5.45	6.54	7.62	8.72	9.80	10.90		
26	----	----	2.27	----	3.40	4.54	5.67	6.80	7.93	9.07	10.20	11.30		
28	----	----	2.44	----	3.66	4.88	6.10	7.32	8.54	9.77	11.00	12.20		
30	----	----	2.62	----	3.92	5.23	6.54	7.84	9.15	10.50	11.80	13.10	\$14.40	\$15.70
32	----	----	2.79	----	4.18	5.58	6.97	8.36	9.76	11.20	12.60	14.00	15.30	16.70
34	----	----	2.96	----	4.44	5.93	7.41	8.89	10.40	11.90	13.30	14.80	16.30	17.80
36	----	----	3.14	----	4.71	6.28	7.85	9.42	11.00	12.60	14.10	15.70	17.30	18.90

## The Monarch Wood Split Pulleys



Style No. 107

Construction of Pulleys up to and including 36-inch diameter, all faces.



Style No. 108

Pulleys 37 to 83 inches in diameter are constructed in this manner; 84-inch diameter, and larger, are built with such additional arms as the diameter of the pulley makes necessary.

### Construction

Style No. 107 and 108 Pulleys are constructed throughout of the best materials obtainable. We carry an immense stock of lumber carefully selected and all of it is thoroughly air dried for many months and then carefully kiln dried.

The rims are built of sections **nailed and glued**. It is worthy of mention that the **glue** we use is of superior quality and is prepared for use in the most careful manner, for unquestionably, the gluing of a wood pulley is one if not the most important functions of its manufacture.

The arms are built of white oak, sections placed edgewise to the strain, and these sections increase with the width of face so that the width of spoke is always in proportion to the width of face. This method of spoke construction gives these pulleys ample rim support as well as ample compression on the shaft.

The spokes are built into the rim and there firmly secured in such a manner that the strain of compression is equalized upon an extended portion of the rim.

In clamping the pulley upon the shaft we use heavier iron plates, together with hexagon nuts and bolts of larger size, and in greater number, than any other maker. This insures the user against possible slipping on the shaft, no matter how severe the work the pulley may be called on to perform.

These pulleys are finished throughout with pure orange shellac, unquestionably the best material known for the purpose.

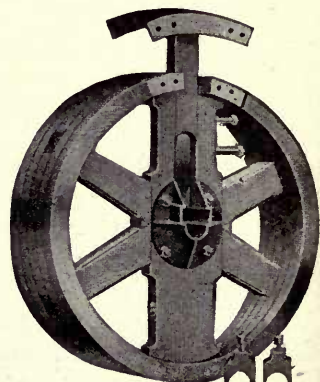
List prices on page 381.

## Wood Pulleys with Iron Hub

Made Split or Solid

We carry a large stock of these pulleys and are prepared to make immediate shipment of all orders. Pulleys are 70% lighter than iron and transmit 60% more power. The rims are made of poplar which will transmit 25% more power than any other wood.

List prices on page 381.



Style No. 105



# The Monarch Wood Split Pulleys

## Price List

Diameter Inches	FACE IN INCHES												
	3	4	5	6	8	10	12	14	16	18	20	22	24
4	\$2.80	\$2.90	\$3.10	\$3.30	\$3.70	\$4.10	\$4.50						
5	2.85	2.95	3.20	3.40	3.85	4.30	4.75						
6	2.90	3.00	3.25	3.50	4.00	4.50	5.00						
7	2.95	3.05	3.35	3.60	4.15	4.70	5.25	\$5.80					
8	3.00	3.10	3.40	3.70	4.30	4.90	5.50	6.10					
9	3.10	3.25	3.60	3.90	4.55	5.20	5.85	6.50					
10	3.25	3.40	3.75	4.10	4.80	5.50	6.20	6.90	\$7.60				
11	3.50	3.70	4.10	4.50	5.30	6.10	6.90	7.70	8.50				
12	3.75	4.00	4.45	4.90	5.80	6.70	7.60	8.50	9.40	\$10.30			
13		4.30	4.80	5.30	6.30	7.30	8.30	9.30	10.30	11.30			
14		4.60	5.15	5.70	6.80	7.90	9.00	10.10	11.20	12.30	\$13.40		
15		4.90	5.50	6.10	7.30	8.50	9.70	10.90	12.10	13.30	14.50		
16		5.20	5.85	6.50	7.80	9.10	10.40	11.70	13.00	14.30	15.60	\$16.90	
17		5.50	6.20	6.90	8.30	9.70	11.10	12.50	13.90	15.30	16.70	18.10	
18		5.80	6.55	7.30	8.80	10.30	11.80	13.30	14.80	16.30	17.80	19.30	\$20.80
19		6.10	6.90	7.70	9.30	10.90	12.50	14.10	15.70	17.30	18.90	20.50	22.10
20		6.40	7.25	8.10	9.80	11.50	13.20	14.90	16.60	18.30	20.00	21.70	23.40
22		7.00	7.95	8.90	10.80	12.70	14.60	16.50	18.40	20.30	22.20	24.10	26.00
24		7.70	8.80	9.90	12.10	14.30	16.50	18.70	20.90	23.10	25.30	27.50	29.70
26		8.40	9.65	10.90	13.40	15.90	18.40	20.90	23.40	25.90	28.40	30.90	33.40
28		9.10	10.50	11.90	14.70	17.50	20.30	23.10	25.90	28.70	31.50	34.30	37.10
30		9.80	11.35	12.90	16.00	19.10	22.20	25.30	28.40	31.50	34.60	37.70	40.80
32		10.50	12.20	13.90	17.30	20.70	24.10	27.50	30.90	34.30	37.70	41.10	44.50
34		11.30	13.15	15.00	18.70	22.40	26.20	29.80	33.50	37.20	40.90	44.60	48.30
36		12.10	14.10	16.10	20.10	24.10	28.10	32.10	36.10	40.10	44.10	48.10	52.10
38				17.20	21.50	25.80	30.10	34.40	38.70	43.00	47.30	51.60	55.90
40				18.30	22.90	27.50	32.10	36.70	41.30	45.90	50.50	55.10	59.70
42				19.60	24.60	29.60	34.60	39.60	44.60	49.60	54.60	59.60	64.60
44				20.90	26.30	31.70	37.10	42.50	47.90	53.30	58.70	64.10	69.50
46				22.30	28.10	33.90	39.70	45.50	51.30	57.10	62.90	68.70	74.50
48				23.80	30.00	36.20	42.40	48.60	54.80	61.00	67.20	73.40	79.60
50				25.40	32.00	38.60	45.20	51.80	58.40	65.00	71.60	78.20	84.80
52				27.10	34.10	41.10	48.10	55.10	62.10	69.10	76.10	83.10	90.10
54				28.90	36.30	43.70	51.10	58.50	65.90	73.30	80.70	88.10	95.50
56				30.80	38.60	46.40	54.20	62.00	69.80	77.60	85.40	93.20	101.00
58				32.80	41.00	49.20	57.40	65.60	73.80	82.00	90.20	98.40	106.60
60				34.90	43.50	52.10	60.70	69.30	77.90	86.50	95.10	103.70	112.30
62				37.10	46.10	55.10	64.10	73.10	82.10	91.10	100.10	109.10	118.10
64				39.40	48.80	58.20	67.60	77.00	86.40	95.80	105.20	114.60	124.00
66				41.90	51.80	61.70	71.60	81.50	91.40	101.30	111.20	121.10	131.00
68				44.50	54.90	65.30	75.70	86.10	96.50	106.90	117.30	127.70	138.10
70				47.20	58.10	69.00	79.90	90.80	101.70	112.60	123.50	134.40	145.30
72				50.00	61.40	72.80	84.20	95.60	107.00	118.40	129.80	141.20	152.60
78					71.90	84.80	97.70	110.60	123.50	136.40	149.30	162.20	175.10
84					83.30	97.70	112.10	126.50	140.90	155.30	169.70	184.10	198.50
90					95.60	111.50	127.40	143.30	159.20	175.10	191.00	206.90	222.80
96					100.00	126.50	144.00	161.50	179.00	196.50	214.00	231.50	249.00
102					123.70	143.00	162.30	181.60	200.90	220.20	239.50	258.80	278.10
108					139.30	160.40	181.50	202.60	223.70	244.80	265.90	287.00	308.10
114					155.80	178.70	201.60	224.50	247.40	270.30	293.20	316.10	339.00
120					173.20	197.90	222.60	247.30	272.00	296.70	321.40	346.10	370.80

### Special Bores

For boring pulleys to fit shaft when bore is less than standard, or for boring pulleys larger than standard but smaller than bores shown in the following table, add 10 per cent to regular list.

### Prices for Extra Large Bores

	Add to List 15%	Add to List 20%	Add to List 25%	Add to List 35%	Add to List 50%	Add to List 65%
Under 12 inches diameter.....	3 <sup>7</sup> / <sub>8</sub> to 4 in.	4 <sup>1</sup> / <sub>8</sub> to 5 in.	5 <sup>1</sup> / <sub>8</sub> to 6 in.			
From 12 to 48 inches diameter.....	4 <sup>1</sup> / <sub>8</sub> to 4 <sup>1</sup> / <sub>2</sub> in.	4 <sup>1</sup> / <sub>8</sub> to 6 in.	6 <sup>1</sup> / <sub>8</sub> to 7 <sup>1</sup> / <sub>2</sub> in.	7 <sup>1</sup> / <sub>8</sub> to 10 in.		
From 49 to 72 inches diameter.....	5 <sup>1</sup> / <sub>8</sub> to 6 in.	6 <sup>1</sup> / <sub>8</sub> to 7 <sup>1</sup> / <sub>2</sub> in.	7 <sup>1</sup> / <sub>8</sub> to 9 <sup>1</sup> / <sub>2</sub> in.	9 <sup>1</sup> / <sub>8</sub> to 12 in.		
From 73 to 96 inches diameter.....	7 <sup>1</sup> / <sub>8</sub> to 8 in.	8 <sup>1</sup> / <sub>8</sub> to 10 in.	10 <sup>1</sup> / <sub>8</sub> to 12 in.	12 <sup>1</sup> / <sub>8</sub> to 15 in.	12 <sup>1</sup> / <sub>8</sub> to 15 in.	15 <sup>1</sup> / <sub>8</sub> to 18 in.
From 97 to 120 inches diameter.....	9 <sup>1</sup> / <sub>8</sub> to 10 in.	10 <sup>1</sup> / <sub>8</sub> to 12 <sup>1</sup> / <sub>2</sub> in.	12 <sup>1</sup> / <sub>8</sub> to 15 in.	15 <sup>1</sup> / <sub>8</sub> to 18 in.	18 <sup>1</sup> / <sub>8</sub> to 21 in.	21 <sup>1</sup> / <sub>8</sub> to 25 in.

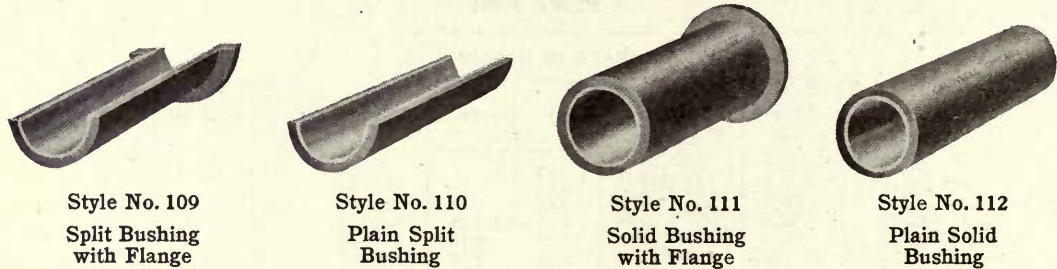
For bores in excess of above limits, net prices will be made on application.

### Bore of Standard Pulleys

3 inches diameter.....	1 <sup>1</sup> / <sub>2</sub> inches
4 to 7 inches diameter, inclusive.....	2 <sup>1</sup> / <sub>2</sub> inches
8 to 72 inches diameter, inclusive.....	3 <sup>1</sup> / <sub>2</sub> inches

If desired, 6 and 7-inch diameter pulleys can be bored 3 <sup>1</sup>/<sub>2</sub> inches. 50-inch diameter and larger can be bored 4 <sup>1</sup>/<sub>2</sub> inches and unished with interchangeable bushings.

Bushings for Pulleys, Sheaves, Gears, Etc.



Brass Bushings  
Dimensions and Prices

Size of Shaft, Inches-----	1 <sup>3</sup> / <sub>16</sub> to 1 <sup>1</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>16</sub> to 1 <sup>1</sup> / <sub>2</sub>	1 <sup>11</sup> / <sub>16</sub> to 1 <sup>3</sup> / <sub>4</sub>	1 <sup>15</sup> / <sub>16</sub> to 2	2 <sup>3</sup> / <sub>16</sub> to 2 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>16</sub> to 2 <sup>1</sup> / <sub>2</sub>	2 <sup>11</sup> / <sub>16</sub> to 2 <sup>3</sup> / <sub>4</sub>	2 <sup>15</sup> / <sub>16</sub> to 3	3 <sup>3</sup> / <sub>16</sub> to 3 <sup>1</sup> / <sub>4</sub>
Price per Inch, in Length----	\$1.20	\$1.25	\$1.30	\$1.40	\$1.50	\$1.60	\$1.70	\$1.80	\$1.90
Size of Shaft, Inches-----	3 <sup>7</sup> / <sub>16</sub> to 3 <sup>1</sup> / <sub>2</sub>	3 <sup>11</sup> / <sub>16</sub> to 3 <sup>3</sup> / <sub>4</sub>	3 <sup>15</sup> / <sub>16</sub> to 4	4 <sup>7</sup> / <sub>16</sub> to 4 <sup>1</sup> / <sub>2</sub>	4 <sup>11</sup> / <sub>16</sub> to 5	5 <sup>7</sup> / <sub>16</sub> to 5 <sup>1</sup> / <sub>2</sub>	5 <sup>11</sup> / <sub>16</sub> to 6	6 <sup>7</sup> / <sub>16</sub> to 6 <sup>1</sup> / <sub>2</sub>	6 <sup>11</sup> / <sub>16</sub> to 7
Price per Inch, in Length----	\$2.00	\$2.25	\$2.50	\$3.00	\$3.50	\$4.00	\$4.50	\$5.00	\$6.00

Fractions of an inch charged full inch.

Babbitt and Cast Iron Bushings  
Dimensions and Prices

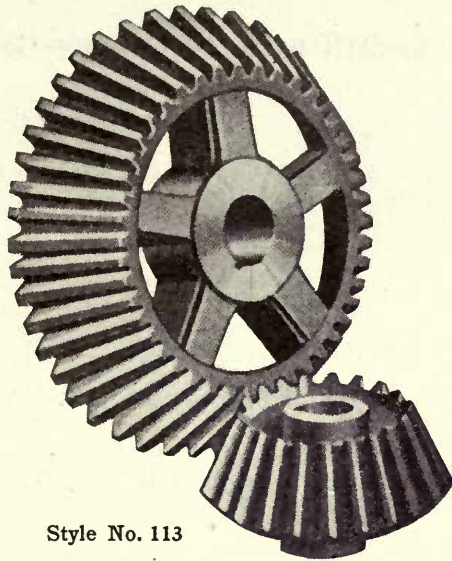
Inside Diameter Inches	Outside Diameter Inches	Cast Iron Per Inch	Babbitt Metal Per Inch
1 <sup>3</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>16</sub>	\$0.55	\$0.90
1 <sup>7</sup> / <sub>16</sub>	1 <sup>15</sup> / <sub>16</sub>	.60	1.00
1 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>16</sub>	.65	1.10
1 <sup>15</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>16</sub>	.70	1.20
2 <sup>3</sup> / <sub>16</sub>	2 <sup>11</sup> / <sub>16</sub>	.75	1.30
2 <sup>7</sup> / <sub>16</sub>	2 <sup>15</sup> / <sub>16</sub>	.85	1.45
2 <sup>11</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	.95	1.55
2 <sup>15</sup> / <sub>16</sub>	3 <sup>7</sup> / <sub>16</sub>	1.05	1.70
3 <sup>3</sup> / <sub>16</sub>	3 <sup>11</sup> / <sub>16</sub>	1.15	1.85
3 <sup>7</sup> / <sub>16</sub>	3 <sup>15</sup> / <sub>16</sub>	1.25	2.00
3 <sup>11</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>16</sub>	1.35	2.25
3 <sup>15</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>16</sub>	1.50	2.50
4 <sup>3</sup> / <sub>16</sub>	4 <sup>15</sup> / <sub>16</sub>	-----	2.85
4 <sup>7</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>16</sub>	-----	3.20
4 <sup>15</sup> / <sub>16</sub>	5 <sup>11</sup> / <sub>16</sub>	-----	3.60

Prices listed are for plain solid bearings. For split bushings add 25%. For bushings with flange add for width of flange, per inch, 25%.

Wood Bushings

Bushings 10 inches or less in length-----	\$0.50
Bushings over 10 inches in length, per inch-----	.05
Applying to diameters from 1 <sup>1</sup> / <sub>2</sub> to 3 <sup>3</sup> / <sub>16</sub> inches.	





Style No. 113

## Bevel Gears and Pinions

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Proportion	Weight Pounds	H. P. at 100 Rev.	Price
$\frac{1}{2}$	50004	5.50	28	$\frac{7}{8}$	$1\frac{3}{8}$	$1\frac{7}{8}$	1.75	5	.48	\$1.40
	50004 $\frac{1}{2}$	2.62	16	$\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	to 1	2	.25	1.00
	50001	5.75	36	$1\frac{1}{8}$	$2\frac{1}{8}$	$2\frac{1}{8}$	to 1	2	.72	1.80
	50001 $\frac{1}{2}$	2.87	18	$1\frac{1}{8}$	$1\frac{3}{8}$	$2\frac{3}{8}$	to 1	2	.36	1.00
	50002	8.62	55	$\frac{7}{8}$	$1\frac{3}{8}$	$1\frac{3}{8}$	2.62	5	.41	2.75
	50002 $\frac{1}{2}$	3.37	21	$\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	to 1	2	.27	1.05
	5017	7.61	48	$\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	3.00	4	.54	2.40
	5018	2.50	16	$\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	to 1	$1\frac{1}{2}$	.24	1.00
	5019	9.20	57	1	$1\frac{1}{2}$	$1\frac{3}{8}$	3.00	7	.70	2.85
	5020	3.05	19	1	1	$1\frac{3}{8}$	to 1	$2\frac{1}{2}$	.40	1.00
	0029	3.50	28	$\frac{3}{4}$	-----	-----	1.28	-----	-----	3.00
	0028	4.50	36	$\frac{3}{4}$	-----	-----	-----	-----	-----	-----
	0131	3.50	21	$1\frac{3}{8}$	-----	-----	1.90	5	-----	5.50
	0130	6.66	40	$1\frac{3}{8}$	-----	-----	to 1	$2\frac{1}{2}$	-----	-----
$\frac{3}{5}$	5165	19.68	104	$1\frac{1}{4}$	$\frac{3}{4}$	$1\frac{3}{8}$	8.00	26	1.90	7.30
	5166	2.50	13	$1\frac{1}{4}$	$\frac{3}{4}$	2	to 1	$2\frac{1}{2}$	.20	1.00
$\frac{5}{8}$	5181	11.54	58	$2\frac{1}{4}$	$1\frac{1}{8}$	$2\frac{5}{8}$	1.02	20	2.22	4.65
	5182	11.34	57	$2\frac{1}{4}$	$1\frac{1}{8}$	$2\frac{5}{8}$	to 1	19	2.18	4.60
	5189	6.00	30	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	2.00	10	.86	2.40
	5190	3.00	15	$1\frac{1}{8}$	$1\frac{3}{8}$	$2\frac{1}{8}$	to 1	4	.60	1.20
	50006	8.50	44	$1\frac{1}{8}$	$1\frac{3}{8}$	2	2.00	8	1.05	3.55
	50006 $\frac{1}{2}$	4.25	22	$1\frac{1}{8}$	1	2	to 1	6	.73	1.80
	5003	11.75	60	$1\frac{1}{8}$	$1\frac{3}{8}$	2	1.20	12	1.49	5.40
	5004	9.87	50	$1\frac{1}{8}$	1	2	to 1	10	1.31	4.00
	5177	7.96	40	$1\frac{1}{8}$	$1\frac{3}{8}$	$1\frac{1}{8}$	2.50	$8\frac{1}{2}$	1.02	3.20
	5178	3.20	16	$1\frac{1}{8}$	$1\frac{1}{8}$	$2\frac{1}{8}$	to 1	$4\frac{1}{2}$	.65	1.30
	50008	6.37	32	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	2.99	8	.94	2.60
	50008 $\frac{1}{2}$	2.19	11	$1\frac{1}{8}$	$\frac{3}{8}$	$1\frac{1}{8}$	to 1	2	.50	1.00
	5175	12.00	60	$1\frac{1}{8}$	$1\frac{3}{8}$	$1\frac{1}{8}$	4.00	16	1.28	4.80
	5176	3.03	15	$1\frac{1}{8}$	$1\frac{1}{8}$	$2\frac{1}{8}$	to 1	4	.60	1.20
	0018	3.60	18	$1\frac{1}{8}$	-----	-----	2.22	$3\frac{1}{2}$	-----	5.00
	0019	8.00	40	$1\frac{1}{2}$	-----	-----	to 1	7	-----	-----
	0000	4.00	20	2	-----	-----	3.95	10	-----	12.65
	0000	15.80	79	2	-----	-----	to 1	32	-----	-----
$\frac{11}{16}$	0002	4.59	21	$1\frac{1}{2}$	-----	-----	3.00	8	-----	7.50
	0001	13.78	63	$1\frac{1}{2}$	-----	-----	to 1	18	-----	7.50
	50009	16.50	78	2	$2\frac{1}{2}$	$2\frac{1}{2}$	5.20	30	1.72	7.80
	50009 $\frac{1}{2}$	3.25	15	2	$\frac{5}{8}$	$2\frac{1}{2}$	to 1	5	.76	1.50
$\frac{3}{4}$	5029	12.25	51	$2\frac{1}{4}$	$1\frac{1}{8}$	$2\frac{3}{8}$	1.34	21	2.66	5.10
	5030	8.12	38	$2\frac{1}{4}$	$1\frac{1}{8}$	$2\frac{3}{8}$	to 1	15	2.10	3.80
	50014	14.12	60	$1\frac{1}{8}$	$1\frac{3}{8}$	$2\frac{3}{8}$	1.36	26	2.48	6.00
	50014 $\frac{1}{2}$	10.50	44	$1\frac{1}{8}$	$1\frac{3}{8}$	$2\frac{3}{8}$	to 1	19	2.04	4.40
	50011	4.75	20	$1\frac{1}{8}$	$1\frac{1}{8}$	2	1.43	5	1.05	2.00
	50011 $\frac{1}{2}$	3.37	14	$1\frac{1}{8}$	$\frac{3}{4}$	2	to 1	3	.80	1.40
	50016	14.87	62	$1\frac{1}{8}$	$1\frac{3}{8}$	$2\frac{3}{8}$	1.55	22	2.31	6.20
	50016 $\frac{1}{2}$	9.62	40	$1\frac{1}{8}$	$\frac{7}{8}$	$2\frac{3}{8}$	to 1	14	2.00	4.00
	5033	9.60	40	$1\frac{1}{8}$	$1\frac{3}{8}$	$2\frac{3}{8}$	1.82	12	1.90	4.00
	5034	5.25	22	$1\frac{1}{8}$	$1\frac{1}{8}$	$2\frac{3}{8}$	to 1	9	1.23	2.20
	50020	4.81	20	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	2.00	5	.88	2.00
	50020 $\frac{1}{2}$	2.44	10	$1\frac{1}{8}$	$\frac{1}{2}$	$1\frac{1}{8}$	to 1	3	.30	1.00
	5013	9.50	40	$1\frac{1}{8}$	2	$2\frac{3}{8}$	2.00	16	1.84	4.00
	5014	4.75	20	$1\frac{1}{8}$	$1\frac{1}{8}$	$2\frac{3}{8}$	to 1	8	1.23	2.00
	50013	12.75	52	$1\frac{3}{8}$	2	$2\frac{3}{8}$	2.00	21	2.08	5.20
	50013 $\frac{1}{2}$	6.37	26	$1\frac{3}{8}$	$1\frac{1}{8}$	3	to 1	10	1.40	2.60
$\frac{1}{2}$	50019	6.00	25	$1\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{1}{8}$	2.87	12	1.37	\$ 2.50
	50019 $\frac{1}{2}$	2.87	12	$1\frac{1}{2}$	$2\frac{1}{8}$	$1\frac{1}{8}$	to 1	2	.50	1.20
	50018	6.62	28	$1\frac{1}{2}$	2	$1\frac{1}{8}$	2.33	10	1.40	2.80
	50018 $\frac{1}{2}$	2.87	12	$1\frac{1}{2}$	$2\frac{1}{8}$	$1\frac{1}{8}$	to 1	3	.50	1.20
	5167	24.83	104	$1\frac{1}{2}$	$2\frac{1}{4}$	$2\frac{1}{8}$	8.00	40	2.99	10.40
	5168	3.13	13	$1\frac{1}{2}$	$1\frac{1}{8}$	3	to 1	4	.70	1.30
$\frac{13}{16}$	50022	9.00	36	$1\frac{3}{8}$	2	2	3.00	10	1.56	4.50
	50022 $\frac{1}{2}$	3.00	12	$1\frac{3}{8}$	$\frac{3}{8}$	$1\frac{3}{8}$	to 1	3	.50	1.50
	50023	12.37	48	$1\frac{3}{8}$	$2\frac{1}{8}$	$2\frac{1}{8}$	3.00	18	2.25	6.00
	50023 $\frac{1}{2}$	4.12	16	$1\frac{3}{8}$	$\frac{3}{8}$	2	to 1	5	1.10	2.00
$\frac{7}{8}$	5025	11.20	40	$2\frac{1}{4}$	$1\frac{3}{8}$	3	1.33	18	3.10	5.00
	5026	8.40	30	$2\frac{1}{4}$	$1\frac{3}{8}$	3	to 1	14	2.56	3.75
	5161	12.30	44	$2\frac{1}{4}$	2	2	2.00	18	2.90	5.50
	5162	6.14	22	2	$1\frac{1}{2}$	$2\frac{3}{4}$	to 1	9	2.00	2.75
	5163	12.24	44	$1\frac{1}{2}$	$1\frac{1}{2}$	2	2.45	20	2.08	5.50
	5164	5.10	18	$1\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{3}{4}$	to 1	10	1.23	2.25
	50030	8.37	30	$1\frac{1}{8}$	$1\frac{1}{8}$	$2\frac{3}{4}$	2.50	15	2.01	3.75
	50030 $\frac{1}{2}$	3.87	12	$1\frac{1}{8}$	$2\frac{1}{8}$	$2\frac{3}{4}$	to 1	5	1.54	1.50
	50025	11.25	40	$2\frac{1}{4}$	2	3	2.50	20	3.16	5.00
	50025 $\frac{1}{2}$	4.50	16	$2\frac{1}{4}$	$\frac{1}{2}$	$2\frac{1}{2}$	to 1	7	1.84	2.00
	5187	15.03	54	$2\frac{1}{4}$	$4\frac{7}{8}$	3	2.84	25	3.78	6.75
	5188	5.31	19	$2\frac{1}{4}$	$\frac{3}{8}$	$3\frac{1}{4}$	to 1	12	1.84	2.40
	5159	15.06	54	$1\frac{3}{4}$	$2\frac{1}{4}$	3	3.00	28	3.02	6.75
	5160	5.02	18	$1\frac{3}{4}$	$2\frac{1}{4}$	3	to 1	8	1.44	2.25
	50027	14.50	52	2	$2\frac{1}{2}$	$2\frac{3}{4}$	3.71	30	3.08	6.50
	50027 $\frac{1}{2}$	3.87	14	2	$\frac{5}{8}$	$2\frac{3}{4}$	to 1	5	1.66	1.75
	50026	18.00	65	2	$2\frac{1}{2}$	$2\frac{3}{4}$	5.91	35	3.85	8.15
	50026 $\frac{1}{2}$	3.06	11	2	$\frac{5}{8}$	$2\frac{1}{2}$	to 1	4	1.40	1.40
1	50043	13.75	43	$2\frac{1}{2}$	$1\frac{7}{8}$	$3\frac{1}{2}$	1.16	31	4.40	6.45
	50043 $\frac{1}{2}$	11.75	37	$2\frac{1}{2}$	$1\frac{5}{8}$	$3\frac{1}{2}$	to 1	27	3.95	5.55
	5001	17.25	54	$2\frac{1}{2}$	$1\frac{7}{8}$	$4\frac{3}{8}$	1.17	56	8.80	10.80
	5002	14.62	46	4	$1\frac{5}{8}$	$4\frac{3}{8}$	to 1	46	7.04	9.20
	5039	14.07	44	$2\frac{1}{2}$	$1\frac{3}{8}$	$3\frac{1}{4}$	1.22	42	4.50	6.60
	5040	11.51	36	$2\frac{1}{2}$	$1\frac{3}{8}$	$3\frac{1}{4}$	to 1	32	3.60	5.40
	5041	15.32	48	$2\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{3}{4}$	1.33	50	4.45	7.20
	5042	11.47	36	$2\frac{1}{2}$	$1\frac{1}{8}$	$2\frac{3}{4}$	to 1	34	3.55	5.40
	5011	11.87	38	$2\frac{1}{2}$	$2\frac{1}{8}$	$2\frac{3}{4}$	1.34	22	3.71	5.70
	5012	8.75	25	$2\frac{1}{2}$	$1\frac{1}{8}$	$2\frac{3}{4}$	to 1	18	3.15	3.75
	50034	16.00	50	$2\frac{1}{2}$	$2\frac{1}{8}$	$3\frac{1}{2}$	1.35	37	4.95	7.50
	50034 $\frac{1}{2}$	11.75	37	$2\frac{1}{2}$	$1\frac{3}{8}$	$3\frac{1}{2}$	to 1	27	3.95	5.55
	5183	11.49	36	3	$1\frac{1}{2}$	$2\frac{7}{8}$	1.38	30	5.74	5.40
	5184	8.30	26	3	$1\frac{7}{8}$	4	to 1	20	3.69	3.90
	5007	15.87	50	$2\frac{3}{4}$	2	$3\frac{1}{4}$	1.43	28	5.45	7.50
	5008	11.12	35	$2\frac{3}{4}$	$1\frac{1}{8}$	$3\frac{1}{4}$	to 1	24	4.35	5.25
	50033	12.12	38	2	2	3	1.52	22	3.30	5.70
	50033 $\frac{1}{2}$	8.00	25	2	$1\frac{3}{8}$	3	to 1	12	2.60	3.75
	5043	17.23	54	$2\frac{1}{2}$	$2\frac{1}{8}$	$3\frac{1}{2}$	1.80	48	5.25	8.10
	5044	9.60	30	$2\frac{1}{2}$	1	$3\frac{1}{4}$	to 1	20	3.50	4.50
	50041	9.00	28	2	$1\frac{3}{4}$	$2\frac{3}{4}$	2.00	18	2.80	4.20
	50041 $\frac{1}{2}$	4.50	14	2	$\frac{7}{8}$	$2\frac{1}{2}$	to 1	5	1.87	2.10
	5015	17.50	56	2	$2\frac{1}{8}$	$2\frac{1}{2}$	2.00	34	4.20	8.40
	5016	8.12	28	2	$1\frac{1}{8}$	$1\frac{1}{4}$	to 1	20	2.60	4.20
	50044	17.75	56	$2\frac{1}{2}$	$2\frac{1}{8}$	$3\frac{1}{2}$	2.00	44	5.50	

## Bevel Gears and Pinions—Continued

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Proportion	Weight Pounds	H. P. at 100 Rev.	Price
1	50201	9.56	30	2	2 1/4	2 1/4	2.50	18	2.80	\$ 4.50
	50201 1/2	3.75	12	2	2 1/4	2 1/4	1.75	9	1.75	1.80
	5047	16.00	50	2 1/2	2 1/2	2 1/2	2.50	52	4.95	7.50
	5048	6.40	20	2 1/2	1 1/2	3 1/2	2.50	16	3.05	3.00
	5040	19.06	60	2 1/2	2 1/2	3 1/2	2.50	50	5.75	9.00
	50040 1/2	7.62	24	2 1/2	2 1/2	3 1/2	2.77	21	3.16	5.40
	50042	11.50	36	2 1/2	2 1/2	3 1/2	3.00	20	3.16	5.40
	50042 1/2	4.12	13	2	2 1/2	3 1/2	1.60	7	1.70	1.95
	50045	11.50	36	2	2 1/2	3 1/2	3.00	20	3.16	5.40
	5021	3.87	12	2	2 1/2	3 1/2	1.60	7	1.70	1.80
	5021 1/2	17.10	54	2 1/2	2 1/2	3 1/2	3.00	50	4.45	8.10
	5022	5.75	18	2 1/2	1 1/2	3 1/2	3.00	10	2.48	2.70
	50036	24.00	75	2 1/2	2 1/2	3 1/2	3.00	65	6.62	11.25
	50036 1/2	8.00	25	2 1/2	2 1/2	3 1/2	3.00	19	3.05	3.75
	50202	18.12	57	2 1/2	2 1/2	3 1/2	3.00	50	5.52	8.55
	50202 1/2	6.06	19	2 1/2	2 1/2	3 1/2	3.33	20	2.34	2.85
	5049	22.25	70	2 1/2	2 1/2	3 1/2	3.33	72	6.25	10.50
	5050	6.72	21	2 1/2	2 1/2	3 1/2	3.33	14	2.80	3.15
	50037	18.12	57	2 1/2	2 1/2	3 1/2	3.33	40	4.97	8.55
	50037 1/2	5.37	17	2 1/2	2 1/2	3 1/2	3.33	14	2.11	2.55
	50035	24.25	76	2 1/2	2 1/2	3 1/2	4.00	70	7.20	11.40
	50035 1/2	6.06	19	2 1/2	2 1/2	3 1/2	4.00	16	2.34	2.85
	50039	21.00	66	2 1/2	2 1/2	3 1/2	4.40	60	6.08	9.90
	50039 1/2	4.87	15	2 1/2	2 1/2	3 1/2	4.40	14	2.29	2.25
	5055	25.78	81	2 1/2	2 1/2	3 1/2	5.06	88	7.20	12.15
	5056	5.02	16	2 1/2	2 1/2	3 1/2	5.06	14	2.20	2.40
	5173	33.02	104	1 1/4	1 1/4	2 1/2	8.00	70	5.98	15.60
	5174	4.17	13	1 1/4	1 1/4	2 1/2	8.00	8	1.64	1.95
	50203	28.00	88	2 1/2	2 1/2	3 1/2	8.00	80	7.80	13.20
	50203 1/2	3.50	11	2 1/2	2 1/2	3 1/2	8.00	5	2.15	1.65
	0007	4.45	14	2	1	3	2.07	17	—	6.60
	0008	9.00	20	2	1	3	5.00	16	—	—
	0009	19.09	12	2 1/2	—	—	5.00	16	—	14.20
	0010	3.82	60	2 1/2	—	—	5.00	50	—	—
1 1/16	50046	15.00	45	2 1/2	2 1/2	3 1/2	3.00	38	5.35	9.00
	50046 1/2	5.00	15	2 1/2	2 1/2	3 1/2	3.00	8	2.43	3.00
1 1/8	50053	20.75	58	3	2 1/4	4	1.45	64	8.16	11.60
	50053 1/2	14.33	40	3	1 1/2	4	1.96	42	5.91	8.00
	50216	21.12	59	3 1/4	2 1/2	4	1.96	63	6.07	11.80
	50216 1/2	10.25	30	2 1/4	1	2 1/2	2.80	28	3.50	6.00
	50051	27.25	76	2 1/4	2 1/2	3 1/2	2.00	75	7.75	15.20
	50051 1/2	13.62	38	2 1/4	1 1/2	3	2.50	40	4.40	7.60
	50049	14.37	40	2 1/4	1 1/2	3	2.50	35	4.62	8.00
	50049 1/2	5.75	16	2 1/4	1 1/2	3	2.50	12	2.14	3.20
	50056	13.62	38	2 1/4	2 1/2	3 1/2	3.80	25	4.22	7.60
	50056 1/2	3.75	10	2 1/4	2 1/2	3 1/2	3.80	5	2.05	2.60
	50052	29.75	83	2 1/4	3 1/4	3 1/2	4.37	120	9.12	16.60
	50052 1/2	6.87	19	2 1/4	3 1/4	3 1/2	4.37	17	2.42	3.80
	50057	18.62	52	2 1/4	3	3 1/2	4.73	53	5.40	10.40
	50057 1/2	4.00	11	2 1/4	3	3 1/2	4.73	5	2.34	2.20
	50217	32.25	90	3	3 1/2	4 1/2	5.00	152	11.49	18.00
	50217 1/2	6.43	18	3	1	4 1/2	5.00	20	4.10	3.60
	0043	7.16	20	2	—	—	1.50	10	—	7.50
	0043	10.74	30	2	—	—	1.50	25	—	—
	0019	7.16	20	2 1/2	—	—	1.50	12	—	7.75
	0019	10.74	30	2 1/2	—	—	1.50	28	—	—
1 3/16	0014	7.24	19	3	—	—	2.57	22	—	16.90
	0013	18.29	48	3	—	—	2.57	75	—	—
1 1/4	50070	25.50	64	3	2 1/2	4	1.06	101	10.80	16.00
	50070 1/2	23.87	60	3	2	4	1.06	87	9.94	15.00
	50066	20.75	52	3	2 1/4	4	1.21	83	9.11	13.00
	50066 1/2	17.12	43	3	1 1/2	4	1.62	74	7.43	10.75
	50065	20.75	52	3	2 1/2	4	1.33	71	9.11	13.00
	50065 1/2	15.00	39	3	1 1/2	4	1.53	60	9.75	9.75
	5169	10.93	28	3	1 1/2	3 1/2	1.33	38	5.63	7.00
	5170	8.21	21	3	1 1/2	3 1/2	1.33	30	5.00	5.25
	5005	15.75	40	3 1/4	2 1/2	3 1/2	1.33	60	9.11	10.00
	5006	11.75	30	3 1/4	1 1/2	3 1/2	1.44	42	7.27	7.50
	50060	14.25	36	3	2 1/4	4	1.44	47	6.40	9.00
	50060 1/2	10.00	25	3	1 1/2	4	1.60	28	5.25	6.25
	5037	19.11	48	3	2 1/4	4	1.60	70	8.25	12.00
	50068	11.96	30	3	1 1/2	4	1.65	40	5.93	7.50
	50063	20.25	51	3	2 1/4	4	1.65	70	9.20	12.75
	50063 1/2	12.33	31	3	1 1/2	4	1.65	40	6.15	7.75
	50071	24.75	62	3	2 1/2	4 1/2	1.68	95	9.94	15.50
	50071 1/2	14.75	37	3	1 1/2	4 1/2	1.68	45	6.75	9.75
	50067	22.00	55	3	2 1/2	3 1/2	1.83	85	9.38	13.75
	50067 1/2	12.00	30	3	1 1/2	3 1/2	1.83	50	5.93	7.50
	50059	11.12	28	3 1/4	2 1/2	3 1/2	2.00	25	5.37	3.50
	5191	18.33	46	2 1/4	1 1/2	3 1/2	2.00	68	8.00	11.50
	5192	9.18	23	3	2 1/2	3 1/2	2.00	38	5.00	5.65
	5059	22.40	56	3	2	4	2.00	108	9.11	14.00
	5060	11.20	28	3	1 1/4	4	2.05	38	6.32	7.00
	50064	17.87	45	3	2 1/4	4	2.05	55	7.43	11.25
	50064 1/2	8.75	22	3	1 1/4	4 1/2	2.05	26	4.88	5.50
1 1/2	50075	13.12	33	2 1/2	2 1/2	3 1/2	2.06	35	5.45	\$ 8.25
	50075 1/2	6.37	16	2 1/2	2 1/2	3 1/2	2.06	17	3.78	4.00
	50069	24.75	62	3 1/4	2 1/2	3 1/2	2.07	100	9.94	15.50
	50069 1/2	12.00	30	3 1/4	1 1/2	3 1/2	2.11	41	5.93	7.50
	50058	15.12	38	3 1/4	2 1/2	3 1/2	2.11	50	7.60	9.50
	50058 1/2	7.19	18	3 1/4	2 1/2	3 1/2	2.40	16	4.61	4.50
	50061	19.12	48	3 1/2	2 1/2	3 1/2	2.40	70	11.05	12.00
	50061 1/2	8.00	20	3 1/2	1 1/2	3 1/2	2.50	35	6.50	5.00
	5061	24.00	60	3 1/2	2 1/2	3 1/2	2.50	102	9.94	15.00
	5062	9.60	24	3 1/2	1 1/2	3 1/2	3.00	38	5.27	6.00
	50068	21.50	54	3 1/2	2 1/2	3 1/2	3.00	87	9.11	13.50
	50068 1/2	7.12	18	3 1/2	1 1/2	3 1/2	3.00	20	4.61	4.50
	50063	21.50	54	3 1/2	2 1/2	3 1/2	3.55	80	9.11	13.50
	5064	7.20	18	3 1/2	1 1/2	3 1/2	3.55	24	4.70	4.50
	50065	31.00	78	3 1/2	2 1/2	3 1/2	3.90	120	12.82	19.50
	5066	8.75	22	3 1/2	2 1/2	3 1/2	3.90	28	4.88	5.50
	5067	29.32	74	3 1/2	2 1/2	3 1/2	3.90	120	12.23	18.50
	5068	7.60	19	3 1/2	2 1/2	3 1/2	4.50	24	4.61	4.75
	5035	35.92	90	3 1/2	2 1/2	3 1/2	4.50	160	13.43	22.50
	5036	8.00	20	3 1/2	1 1/2	3 1/2	5.00	28	5.25	5.00
	50073	23.87	60	2 1/2	2 1/2	3 1/2	4.61	72	7.95	15.00
	50073 1/2	5.19	13	2 1/2	2 1/2	3 1/2	5.00	12	2.81	3.25
	50074	33.37	84	2 1/2	2 1/2	3 1/2	5.60	120	11.97	21.00
	50074 1/2	6.00	15	2 1/2	2 1/2	3 1/2	5.60	20	4.29	3.75
	50072	49.37	124	4	5	5 1/2	8.86	278	22.50	31.00
	50072 1/2	5.62	14	4	5	5 1/2	8.86	25	6.30	3.50
	50224	48.00	120	4	4 1/2	4 1/2	12.00	345	22.00	30.00
	50224 1/2	4.00	10	4	4 1/2	4 1/2	12.00	10	4.69	2.50
	0003	7.95	20	4	—	—	2.40	40	—	17.50
	0004	19.09	48	4	—	—	2.40	115	—	—
	0015	8.75	22	3	—	—	2.04	30	—	16.75
	0015	17.90	45	3	—	—	2.04	40	—	—
	0005	5.96	60	3	—	—	4.00	30	—	19.90
	0006	23.86	15	3	—	—	4.00	80	—	—
1 3/8	5031	26.19	60	4	2 1/2	4 1/2	1.50	120	15.13	18.00
	5032	17.43	40	4	1 1/2	4 1/2	1.50	75	11.00	12.00
	5027	24.87	57	4	3 1/4	4 1/2	3.00	110	14.58	17.10
	5028	8.31	19	4	2 1/2	5 1/2	3.00	40	7.15	5.70
1 1/2	5069	15.30	32	4	2 1/2	5	1.07	80	11	



## Bevel Gears and Pinions—Continued

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Proportion	Weight Pounds	H. P. at 100 Rev.	Price
<b>1 <math>\frac{3}{8}</math></b>	50095 $\frac{1}{2}$	24.87	48	5	2 $\frac{3}{4}$	6	1.02 to 1	178	21.20	\$33.60
	50095 $\frac{1}{2}$	24.37	47	5	2 $\frac{3}{4}$	6	to 1	172	20.80	32.90
<b>1 <math>\frac{1}{2}</math></b>	50107 $\frac{1}{2}$	25.12	45	4	2 $\frac{3}{4}$	5	1.18 to 1	160	20.16	31.50
	50107 $\frac{1}{2}$	21.12	38	4	2 $\frac{3}{4}$	5	to 1	130	17.01	26.60
	50104 $\frac{1}{2}$	30.50	55	4	3	5	1.25 to 1	217	22.82	38.50
	50104 $\frac{1}{2}$	24.50	44	4	2 $\frac{1}{2}$	5	to 1	135	18.55	30.80
	50097 $\frac{1}{2}$	20.00	36	4	3	5	1.33 to 1	110	16.50	25.20
	50097 $\frac{1}{2}$	15.00	27	4	2	5	to 1	79	12.60	18.90
	50099 $\frac{1}{2}$	23.37	42	4	3 $\frac{1}{2}$	5	1.50 to 1	140	18.55	29.40
	50099 $\frac{1}{2}$	15.62	28	4	2 $\frac{1}{2}$	5	to 1	82	13.86	19.60
	50101 $\frac{1}{2}$	25.12	45	5	2 $\frac{1}{2}$	6 $\frac{1}{4}$	1.50 to 1	200	25.92	31.50
	50101 $\frac{1}{2}$	16.75	30	5	2	6	to 1	100	17.82	21.00
	5093 $\frac{1}{2}$	36.78	66	5	4 $\frac{1}{2}$	5 $\frac{1}{2}$	1.65 to 1	308	33.66	46.20
	5094 $\frac{1}{2}$	22.30	40	5	1 $\frac{1}{2}$	5	to 1	196	21.87	28.00
	50257 $\frac{1}{2}$	28.37	51	5	3 $\frac{1}{2}$	5	1.70 to 1	210	27.90	35.70
	50257 $\frac{1}{2}$	16.75	30	5	1 $\frac{1}{2}$	6	to 1	115	17.82	21.00
	50100 $\frac{1}{2}$	24.00	43	4	3 $\frac{1}{2}$	5	1.79 to 1	133	18.55	30.10
	50100 $\frac{1}{2}$	13.37	24	4	1 $\frac{1}{2}$	5	to 1	80	12.32	16.80
	50108 $\frac{1}{2}$	30.62	55	4	1 $\frac{1}{2}$	5	1.90 to 1	218	22.82	38.50
	50108 $\frac{1}{2}$	16.12	29	4	1 $\frac{1}{2}$	5	to 1	96	13.86	20.30
	50259 $\frac{1}{2}$	24.50	44	5	4 $\frac{1}{2}$	6 $\frac{1}{4}$	1.91 to 1	186	25.92	30.80
	50259 $\frac{1}{2}$	12.75	23	5	1 $\frac{1}{2}$	6 $\frac{1}{2}$	to 1	78	15.84	16.10
	50098 $\frac{1}{2}$	22.25	40	4	3 $\frac{1}{2}$	5	2.00 to 1	120	17.01	28.00
	50098 $\frac{1}{2}$	11.12	20	4	1 $\frac{1}{2}$	4 $\frac{1}{2}$	to 1	60	11.06	14.00
	50110 $\frac{1}{2}$	24.50	44	4 $\frac{1}{2}$	4 $\frac{1}{2}$	5 $\frac{1}{2}$	2.00 to 1	170	23.04	30.80
	50110 $\frac{1}{2}$	12.25	22	4 $\frac{1}{2}$	1 $\frac{1}{2}$	5 $\frac{1}{2}$	to 1	80	12.64	15.40
	5095 $\frac{1}{2}$	35.67	64	5	4	5 $\frac{1}{2}$	2.00 to 1	280	33.66	44.80
	5096 $\frac{1}{2}$	17.85	32	5	1 $\frac{1}{2}$	5 $\frac{1}{2}$	to 1	172	19.89	22.40
	50109 $\frac{1}{2}$	31.25	56	4 $\frac{1}{2}$	4 $\frac{1}{2}$	5 $\frac{1}{2}$	2.00 to 1	250	26.08	39.20
	50109 $\frac{1}{2}$	15.62	28	4 $\frac{1}{2}$	1 $\frac{1}{2}$	5 $\frac{1}{2}$	to 1	95	15.84	19.60
	50262 $\frac{1}{2}$	25.00	45	4 $\frac{1}{2}$	4 $\frac{1}{2}$	6	2.25 to 1	175	25.92	31.50
	50262 $\frac{1}{2}$	11.12	20	4 $\frac{1}{2}$	2	5 $\frac{1}{2}$	to 1	80	14.22	14.00
	5097 $\frac{1}{2}$	28.98	52	5	4 $\frac{1}{2}$	5 $\frac{1}{2}$	2.36 to 1	236	27.90	36.40
	5098 $\frac{1}{2}$	12.30	22	5	1 $\frac{1}{2}$	5 $\frac{1}{2}$	to 1	102	14.22	15.40
	50102 $\frac{1}{2}$	28.00	50	5	4 $\frac{1}{2}$	6	2.38 to 1	210	27.50	35.00
	50102 $\frac{1}{2}$	11.75	21	5	1 $\frac{1}{2}$	6	to 1	65	14.10	14.70
	50105 $\frac{1}{2}$	49.00	88	5	4 $\frac{1}{2}$	6 $\frac{1}{4}$	2.38 to 1	470	40.50	61.60
	50105 $\frac{1}{2}$	20.62	37	5	1 $\frac{1}{2}$	6	to 1	200	21.87	25.90
	50260 $\frac{1}{2}$	24.00	43	4 $\frac{1}{2}$	3 $\frac{1}{2}$	5 $\frac{1}{2}$	2.53 to 1	170	21.20	30.10
	50260 $\frac{1}{2}$	9.50	17	4 $\frac{1}{2}$	2 $\frac{1}{2}$	6 $\frac{1}{2}$	to 1	70	11.20	11.90
	50103 $\frac{1}{2}$	28.37	51	5	4 $\frac{1}{2}$	6	2.68 to 1	205	27.90	35.70
	50103 $\frac{1}{2}$	10.62	19	5	1 $\frac{1}{2}$	6	to 1	80	12.69	13.30
	5099 $\frac{1}{2}$	37.89	68	5	4 $\frac{1}{2}$	5 $\frac{1}{2}$	2.83 to 1	330	35.10	47.60
	5100 $\frac{1}{2}$	13.44	24	5	1	5 $\frac{1}{2}$	to 1	116	15.84	16.80
	50264 $\frac{1}{2}$	26.75	48	4	3 $\frac{1}{2}$	5 $\frac{1}{2}$	3.00 to 1	165	21.70	33.60
	50264 $\frac{1}{2}$	8.87	16	4	1 $\frac{1}{2}$	5	to 1	68	9.80	11.20
	50258 $\frac{1}{2}$	31.75	57	5	5 $\frac{1}{2}$	6 $\frac{1}{2}$	3.00 to 1	220	30.78	39.90
	50258 $\frac{1}{2}$	10.62	19	5	1	5 $\frac{1}{2}$	to 1	64	12.69	13.30
	5101 $\frac{1}{2}$	40.12	72	5	5 $\frac{1}{2}$	5 $\frac{1}{2}$	3.27 to 1	380	36.54	50.40
	5102 $\frac{1}{2}$	12.30	22	5	1 $\frac{1}{2}$	5 $\frac{1}{2}$	to 1	116	14.22	15.40
	50261 $\frac{1}{2}$	36.00	65	6	3	5	4.33 to 1	380	41.14	45.50
	50261 $\frac{1}{2}$	8.00	15	6	3 $\frac{1}{2}$	7	to 1	50	14.30	10.50
	5023 $\frac{1}{2}$	50.35	90	6	6 $\frac{1}{2}$	7	6.00 to 1	398	51.04	63.00
	5024 $\frac{1}{2}$	8.40	15	6	2 $\frac{1}{2}$	8	to 1	88	15.40	10.50
	5023 $\frac{1}{2}$	50.35	90	6	6 $\frac{1}{2}$	7	5.00 to 1	398	51.04	63.00
	5024 $\frac{1}{2}$	10.15	18	6	2 $\frac{1}{2}$	8	to 1	110	17.38	12.60
	50112 $\frac{1}{2}$	55.62	100	5	6 $\frac{1}{2}$	6 $\frac{1}{2}$	6.66 to 1	500	44.37	70.00
	50112 $\frac{1}{2}$	8.37	15	5	1	5 $\frac{1}{2}$	to 1	70	12.60	10.50
<b>1 <math>\frac{4}{5}</math></b>	0003 $\frac{1}{2}$	15.42	27	4	-----	-----	2.11 to 1	86	---	---
	0004 $\frac{1}{2}$	32.57	57	4	-----	-----	to 1	270	---	38.90
<b>1 <math>\frac{7}{8}</math></b>	50111 $\frac{1}{2}$	44.75	75	5	6	6	5.00 to 1	416	41.88	67.50
	50111 $\frac{1}{2}$	9.00	15	5	1	6	to 1	75	13.13	13.50
<b>2</b>	50115 $\frac{1}{2}$	22.00	36	5	3 $\frac{1}{2}$	6	1.24 to 1	185	24.20	32.40
	50115 $\frac{1}{2}$	18.50	29	5	2 $\frac{1}{2}$	6	to 1	135	22.00	26.10
	5107 $\frac{1}{2}$	29.31	46	6	3 $\frac{1}{2}$	7	1.28 to 1	262	38.20	41.40
	5108 $\frac{1}{2}$	22.94	36	6	2 $\frac{1}{2}$	7	to 1	200	28.60	32.40
	50119 $\frac{1}{2}$	33.12	52	6	4	7	1.30 to 1	335	42.92	46.80
	50119 $\frac{1}{2}$	25.50	40	6	2 $\frac{1}{2}$	7	to 1	240	34.32	36.00
	50128 $\frac{1}{2}$	25.50	40	5	3 $\frac{1}{2}$	6 $\frac{1}{2}$	1.33 to 1	200	28.60	36.00
	50128 $\frac{1}{2}$	19.12	30	5	2 $\frac{1}{2}$	6 $\frac{1}{2}$	to 1	140	22.06	27.00
	50122 $\frac{1}{2}$	40.12	63	5 $\frac{1}{2}$	4 $\frac{1}{2}$	6 $\frac{1}{2}$	1.40 to 1	435	44.63	56.70
	50122 $\frac{1}{2}$	28.62	45	5 $\frac{1}{2}$	2 $\frac{1}{2}$	6 $\frac{1}{2}$	to 1	294	35.86	40.50
	50118 $\frac{1}{2}$	31.87	50	5	4	6 $\frac{1}{2}$	1.43 to 1	300	34.20	45.00
	50118 $\frac{1}{2}$	22.25	35	5	2	6 $\frac{1}{2}$	to 1	188	26.50	31.50
	50113 $\frac{1}{2}$	16.00	25	4	3 $\frac{1}{2}$	4	1.56 to 1	90	15.84	22.50
	50113 $\frac{1}{2}$	10.25	16	4	1 $\frac{1}{2}$	4	to 1	40	12.00	14.40
	50116 $\frac{1}{2}$	25.50	40	5	4	6	1.60 to 1	200	28.60	36.00
	50116 $\frac{1}{2}$	16.00	25	5	1 $\frac{1}{2}$	6	to 1	120	21.78	22.50
	50114 $\frac{1}{2}$	21.00	33	5	4	6	1.65 to 1	150	24.30	30.70
	50114 $\frac{1}{2}$	12.75	20	5	1 $\frac{1}{2}$	6	to 1	76	16.50	18.00
	50124 $\frac{1}{2}$	44.00	69	6	4 $\frac{1}{2}$	7	1.72 to 1	520	50.45	62.10
	50124 $\frac{1}{2}$	25.50	40	6	2	7	to 1	260	34.32	36.00
	50132 $\frac{1}{2}$	15.28	24	4	1 $\frac{1}{2}$	2 $\frac{1}{2}$	2.00 to 1	85	15.84	21.60
	50132 $\frac{1}{2}$	7.62	12	4	3	6 $\frac{1}{2}$	to 1	35	9.84	10.80
	50123 $\frac{1}{2}$	42.00	66	6	5	7	2.00 to 1	490	48.60	59.40
	50123 $\frac{1}{2}$	21.00	33	6	1 $\frac{1}{2}$	7 $\frac{1}{2}$	to 1	220	29.16	30.70
<b>2</b>	50131 $\frac{1}{2}$	21.75	34	5	2 $\frac{3}{4}$	5	2.12 to 1	150	24.30	\$30.60
	50131 $\frac{1}{2}$	10.25	16	5	1	5	to 1	60	14.10	14.40
	50120 $\frac{1}{2}$	35.00	55	6	5 $\frac{1}{4}$	7 $\frac{1}{4}$	2.20 to 1	380	42.96	49.50
	50120 $\frac{1}{2}$	16.00	25	6	1 $\frac{1}{4}$	7	to 1	141	23.76	22.50
	50121 $\frac{1}{2}$	30.75	56	5	4 $\frac{3}{4}$	6 $\frac{1}{4}$	2.24 to 1	318	37.40	50.40
	50121 $\frac{1}{2}$	16.00	25	5	1 $\frac{1}{2}$	6	to 1	127	21.78	22.50
	5115 $\frac{1}{2}$	40.76	64	6	5 $\frac{1}{2}$	7	2.46 to 1	420	48.60	57.60
	5116 $\frac{1}{2}$	16.59	26	6	1 $\frac{1}{2}$	7	to 1	152	23.88	23.40
	50126 $\frac{1}{2}$	60.50	95	6	6	7 $\frac{1}{2}$	2.64 to 1	800	62.40	85.50
	50126 $\frac{1}{2}$	22.87	36	6	1 $\frac{1}{2}$	7	to 1	250	30.00	32.40
	50133 $\frac{1}{2}$	18.00	29	4	3 $\frac{1}{4}$	4 $\frac{1}{4}$	2.90 to 1	100	17.68	26.10
	50133 $\frac{1}{2}$	6.37	10	4	1	4 $\frac{1}{4}$	to 1	55	9.60	9.00
	50117 $\frac{1}{2}$	26.75	42	5	1	6 $\frac{1}{2}$	3.00 to 1	240	29.00	37.80
	50117 $\frac{1}{2}$	8.87	14	5	1	5 $\frac{1}{2}$	to 1	40	14.00	12.60
	5117 $\frac{1}{2}$	42.03	66	6	5 $\frac{1}{2}$	6 $\frac{1}{2}$	3.00 to 1	445	48.72	59.40
	5118 $\frac{1}{2}$	14.05	22	6	1 $\frac{1}{2}$	6 $\frac{1}{2}$	to 1	140	21.12	19.80
	50130 $\frac{1}{2}$	44.00	69	6	6	7 $\frac{1}{2}$	3.00 to 1	520	50.40	62.10
	50130 $\frac{1}{2}$	14.62	23	6	1 $\frac{1}{4}$	7	to 1	130	21.50	20.70
	50125 $\frac{1}{2}$	48.50	76	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	4.00 to 1	535	49.50	

## Cast Iron Mitre Gears



Style No. 114

Style No. 114

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Weight Pounds	H. P. at 100 Rev.	Price
7 16 1/2	00134	5.01	36	1	---	---	5	---	\$2.05
	40001	2.37	15	3/4	1 1/2	1 1/2	1 1/2	.08	1.00
	40002	3.00	18	1 1/2	1 1/2	1 1/2	2	.18	1.00
	40003	3.50	22	3/4	1 1/2	1 1/2	2 1/2	.18	1.10
	4063	4.48	28	1	1 1/4	1 3/4	4	.25	1.40
5/8	40004	3.62	18	1 1/4	1 1/2	2 1/4	3	.44	1.26
	4061	5.87	29	1 1/4	1 1/4	1 1/2	5	.52	2.03
	4001	8.60	44	1 1/2	1 3/4	1 5/8	8	.68	3.08
	4065	10.21	51	1 5/8	2	4 1/4	10	1.14	3.57
	4062	11.15	56	1 3/4	1 1/4	2 1/2	12	1.50	3.92
3/4	40005	4.50	18	1 1/2	1 5/8	2 3/8	6	.50	1.80
	4011	6.67	28	1 3/4	1 1/2	2 3/8	5	.92	2.80
	4010	7.60	32	1 3/4	1 1/4	2 3/8	7	1.20	3.20
	40009	8.00	33	1 3/4	1 1/4	2 3/8	12	1.25	3.30
	40011	10.00	42	1 3/4	1 5/8	2 3/8	18	1.37	4.20
	40013	12.50	52	1 3/4	1 3/4	2 3/8	27	1.57	5.20
	4013	12.94	54	1 3/4	2 1/4	2 3/8	19	1.73	5.40
	0001	3.37	18	1	---	---	4	---	1.65
	0002	6.92	29	1	---	---	8	---	2.00
	0003	6.92	29	1 1/2	---	---	8 1/2	---	3.00
	7/8	4002	9.50	34	1 3/4	1 1/4	2 1/2	12	1.60
40017		11.75	42	2	2 1/4	3 1/2	26	2.07	5.30
4006		12.00	43	2 1/4	1 1/2	2 3/4	25	2.41	5.30
4012		12.00	43	2 1/4	1 1/4	2 3/4	20	2.41	5.30
15 16		40006	5.81	18	1 1/2	1 3/4	2 3/8	8	1.14
	40020	6.00	20	1 1/2	1 3/4	2 3/4	9	1.41	2.50
	40027	4.87	15	1 1/2	1 3/4	1 5/8	5	1.05	2.25
1	40021	6.00	19	1 5/8	1 3/4	2 5/8	10	1.52	2.85
	40022	6.37	20	2 1/2	1 1/2	2 5/8	17	2.29	3.00
	4064	7.68	24	3	1 1/4	3 3/8	13	2.75	3.60
	40025	10.25	32	2	1 3/4	3	25	2.40	4.80

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Weight Pounds	H. P. at 100 Rev.	Price	
1	4015	10.52	33	2 1/2	1 1/4	3	20	2.90	\$ 4.95	
	4003	11.75	37	2	1 1/2	2 1/2	20	2.40	5.55	
	40024	11.75	37	2 1/2	1 1/2	3 1/2	30	3.00	5.55	
	4004	11.75	37	2 3/4	1 1/2	3 1/2	26	3.30	5.55	
	4005	11.75	37	3 3/8	1 1/2	3 1/2	32	4.04	5.85	
	4017	15.93	50	2 1/2	1 1/4	3 3/8	36	3.46	7.50	
	40026	19.12	60	2 1/2	1 3/4	3 1/2	50	3.83	9.00	
	0004	7.00	22	2 1/2	---	---	13	---	3.30	
	0005	8.59	27	2 1/2	---	---	13	---	3.40	
	0006	12.41	39	2 1/2	---	---	36	---	5.80	
1 1/8	40033	9.62	24	2 1/2	1 1/2	2 3/4	25	2.94	4.80	
	40032	18.25	51	2 1/2	1 5/8	3 3/4	47	5.12	10.20	
	40034	20.00	56	2 1/2	1 3/4	3 3/4	55	5.46	11.20	
1 1/4	40036	7.25	18	2 1/4	1 1/2	2 1/2	12	2.29	4.50	
	40037	8.00	20	2 1/2	1 1/2	3	20	2.56	5.00	
	40038	10.75	27	2 1/2	1 1/2	3 1/4	30	3.33	6.75	
	4018	10.77	27	3	1 1/4	3 1/2	20	4.00	6.75	
	4020	14.34	36	3	1 3/4	3 3/4	33	4.40	9.00	
	40040	16.00	40	2 1/2	1 3/4	3 1/2	50	4.13	10.00	
	4007	16.87	43	3 3/8	1 3/4	3 3/4	44	7.50	10.75	
	4008	17.75	45	3	2 5/8	5 1/4	40	7.20	11.25	
	40043	24.00	60	3 3/4	2 1/4	4 1/4	109	11.00	15.00	
	1 1/2	40054	7.75	16	2 1/2	1 5/8	3 1/2	25	2.50	6.40
40053		9.25	18	3	1 3/4	3 1/2	30	3.50	7.20	
40045		9.37	19	3	1 1/4	3 1/2	30	4.00	7.60	
40048		9.50	20	3 3/8	1 3/4	4	36	4.70	8.00	
40046		13.37	28	3	2	4	44	6.50	11.20	
4014		14.83	31	4	2	4 5/8	58	9.00	12.40	
40047		15.25	32	4	2	2 3/4	67	10.00	12.80	
4025		17.24	36	4	2	4 1/2	60	10.60	14.40	
40049		18.12	38	3 3/8	2 1/4	4 1/2	83	11.00	15.20	
40051		18.12	38	3	2	4 1/2	72	10.20	15.20	
1 5/8	40050	21.50	45	4	2 1/2	5	105	14.00	18.00	
	4009	23.75	50	5	2 5/8	5 1/2	154	20.00	20.00	
	40052	27.25	57	5 3/8	2 5/8	5 1/2	192	19.00	22.80	
	40055	20.50	40	3	2 1/4	4	96	13.50	22.00	
	1 3/4	40056	11.75	21	4	2 1/2	4 1/2	75	9.00	14.70
		40057	18.37	33	4 1/2	2 1/2	5 1/2	100	15.00	23.10
		4028	18.41	33	5	2 1/2	6	114	17.00	23.10
		4029	22.86	41	5	2 3/4	6	150	19.70	28.70
		40059	24.50	44	4 1/2	2 3/4	5 5/8	181	18.90	30.80
	40060	30.62	55	5	2 3/4	6	260	28.00	38.50	
2	40086	10.25	16	4	2 1/2	5	75	7.90	14.40	
	40061	19.12	30	5	2 3/4	6	141	20.00	27.00	
	40065	20.50	32	4 1/2	2 5/8	5 1/2	140	20.00	28.80	
	40085	21.62	34	4 1/2	2 3/4	5 3/4	150	21.00	30.60	
	40062	24.12	38	5	2 5/8	6	196	27.00	34.20	
	4033	24.22	38	6	3	7	204	31.00	34.20	
	40064	28.00	44	5	3 1/4	6 1/2	260	29.00	39.60	
	4036	30.58	48	6	3 3/8	7	300	37.00	43.20	
	2 1/4	40068	23.62	33	5 1/2	3	6	217	34.00	41.25
		40066	27.25	38	5 1/2	3	6 1/2	276	39.00	47.50
40067		60.60	92	6	4	8	945	70.13	115.00	
2 1/2	40069	35.75	45	7	3 3/4	8 1/2	550	68.00	67.50	
	3 1/2	40076	55.75	50	10	5 1/2	12	1836	200.00	175.00

## Mitre Mortise Gears and Pinions

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Weight Pounds	H. P. at 100 Rev.	Price	Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Weight Pounds	H. P. at 100 Rev.	Price
1 1/2	80001	15.25	32	3 1/2	3 3/4	5 1/2	66	10.92	\$32.00	1 3/4	8017	26.76	48	5	3 3/4	6 1/4	322	26.55	\$60.00
	80001 1/2	15.25	32	3 1/2	2 3/4	4 1/2	46	10.92	25.60		8018	26.76	48	5	2 3/4	5 3/4	208	26.55	48.00
	8003	18.20	38	3 3/4	3 5/8	5 1/2	153	9.90	38.00										
	8004	18.20	38	3	2 3/4	4 1/2	78	9.90	30.40										
1 5/8	80002	16.50	32	4	3	5 3/4	80	12.87	40.00	2	80005	20.37	32	4 1/2	4	6 1/2	140	21.87	48.00
	80002 1/2	16.50	32	4	2 1/4	5	70	12.87	32.00		80005 1/2	20.37	32	4 1/2	2 1/2	5 1/2	110	21.87	38.40
1 3/4											80066	23.00	36	6	4 1/2	9	240	31.80	54.00
											80066 1/2	23.00	36	6	3	7 1/2	225	31.80	43.20
	8001	16.20	29	4	3 1/2	5 3/4	180	13.86	36.25	8011	26.75	42	6	4 1/2	7 1/2	335	35.40	63.00	
	8002	16.20	29	4	2 3/4	4 7/8	120	13.86	29.00	8012	26.75	42	6	3 5/8	6 3/4	210	35.40	50.40	
	80004	24.50	44	4 1/2	3 3/4	6 3/8	150	24.30	55.00	8005	29.94	47	7	3 3/4	7 1/2	400	45.64	70.50	
	80004 1/2	24.50	44	4 1/2	2 3/4	5 1/2	135	24.30	44.00	8006	29.94	47	7	2 5/8	7 1/2	270	45.64	56.40	

NOTE. The first wheel of each pair is the mortise wheel.



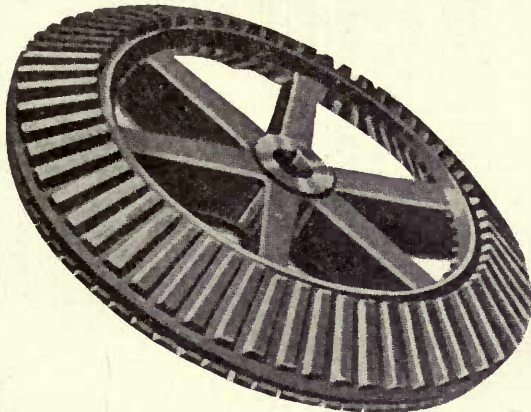
## Mitre Mortise Gears and Pinions—Continued

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Weight Pounds	H. P. at 100 Rev.	Price
2	80006	30.50	48	6	4	7 1/4	266	39.84	72.00
	80006 1/2	30.50	48	6	3 1/2	7 1/4	264	39.84	57.60
	8019	34.40	54	6	4 1/4	7 1/4	520	42.96	81.00
	8020	34.40	54	6	3 3/8	7 1/4	300	42.96	64.80
2 1/4	8023	22.96	32	7	4 1/4	8 1/4	360	40.00	56.00
	8024	22.96	32	7	2 5/8	7 1/4	250	40.00	43.20
	80007	27.25	38	7	5	9 3/4	345	49.60	66.50
	80007 1/2	27.25	38	7	3 3/8	8 1/4	260	49.60	51.30
	8007	35.75	50	5	4 3/4	6 1/4	450	43.68	87.50
	8008	35.75	50	5	4 3/8	6 1/4	320	43.68	67.50

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Weight Pounds	H. P. at 100 Rev.	Price
2 1/4	8009	36.00	50	8	4 1/4	8	600	65.70	\$100.00
	8010	36.00	50	8	3 1/8	7 3/8	400	65.70	80.50
2 1/2	80009	38.25	48	8	5	8 1/4	550	75.60	108.00
	80009 1/2	38.25	48	8	3 3/4	8 1/4	485	75.60	86.40
3	80011	28.62	30	8	6	11 1/4	395	75.60	90.00
	80011 1/2	28.62	30	8	3 3/4	9	347	75.60	82.00
	80012	34.67	36	8	6 1/4	11 1/4	610	85.92	122.00
	80012 1/2	34.67	36	8	4 1/4	9 1/2	540	85.92	108.00

NOTE. The first wheel of each pair is the mortise wheel.

## Bevel Mortise Gears and Pinions



Style No. 115

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Proportion	Weight Pounds	H. P. at 100 Rev.	Price
1	9146	15.29	48	3	2	3 3/8	1.02	122	4.4	\$40.00
	9147	14.98	47	3	1 1/8	3 3/8	to 1	46	4.08	32.90
1 1/2	9156	18.20	38	4	2 7/8	5 5/8	1.03	185	9.72	38.00
	9157	17.75	37	4	2	4 1/2	1.01	90	9.30	29.60
1 1/2	9049	18.16	38	4	2 7/8	5 3/8	1.26	182	9.70	38.00
	9050	14.40	30	4	1 7/8	4 3/4	1.01	80	8.22	24.00
1 1/2	9011	20.12	42	4	4	5 1/8	1.36	194	10.50	42.00
	9012	14.75	31	4	2	4 7/8	1.01	75	8.50	24.80
1 1/2	9051	23.00	48	4	3 3/4	5	1.50	224	11.28	48.00
	9052	15.35	32	4	1 5/8	4 3/4	1.01	74	8.94	25.60
1 1/2	9053	28.75	60	4	3 3/4	5 3/8	1.77	297	13.60	60.00
	9054	16.30	34	4	1 1/2	5	1.01	80	9.10	27.20
1 1/2	9018	24.37	51	4 1/4	4 1/2	5 3/8	1.96	236	12.68	51.00
	9019	12.50	26	4 1/4	1 3/4	5 3/4	1.01	60	8.84	20.80
1 1/2	90003	19.00	40	4 1/4	4 1/2	5 3/8	2.00	80	8.48	40.00
	90003 1/2	9.50	20	4 1/4	1	4	1.01	35	5.46	16.00
1 1/2	9055	30.25	63	4	4 1/2	5 3/8	2.25	280	13.80	63.00
	9056	13.44	28	4	1 1/4	4 7/8	1.01	66	8.16	22.40
1 1/2	9057	31.04	65	4	4 3/8	5	2.50	304	13.92	65.00
	9058	12.48	26	4	1 1/4	5 3/4	1.01	66	7.50	20.80
1 1/2	9026	28.50	59	5	5 3/4	5 3/8	2.57	328	16.65	59.00
	9027	11.00	23	5	1 1/2	5 3/4	1.01	65	10.20	18.40
1 1/2	90002	19.12	40	4	4 1/2	5 3/8	2.66	85	9.96	40.00
	90002 1/2	7.12	15	4	3 1/4	4 3/4	1.01	30	5.14	12.00
1 1/2	9061	34.32	72	4	4 3/4	5 3/8	3.00	322	15.06	70.00
	9062	11.50	24	4	4 3/8	7 1/8	1.01	64	7.14	19.20
1 1/2	9047	43.00	90	4 1/4	5	5 3/4	3.75	410	23.99	90.00
	9048	11.50	24	4 1/4	1	5 3/4	1.01	70	8.09	19.20
1 1/2	90001	30.50	64	4 1/4	5	6 3/8	4.00	150	15.64	64.00
	90001 1/2	7.62	16	4 1/4	3/4	5	1.01	40	6.12	12.80
1 5/8	90005	18.62	36	4	3 1/4	5 1/2	1.20	95	10.53	40.50
	90005 1/2	15.50	30	4	1 3/4	5	1.01	65	9.10	27.00

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Proportion	Weight Pounds	H. P. at 100 Rev.	Price
1 5/8	90014	22.25	40	4	3 3/4	6	1.33	125	12.60	50.00
	90014 1/2	16.75	30	4	3	5 1/8	1.01	70	10.43	30.00
1 5/8	9045	26.75	48	5	4	6	1.33	286	18.90	60.00
	9046	20.12	36	5	2	5 3/8	1.01	120	15.75	36.00
1 5/8	9045	26.75	48	5	4	6	1.45	286	18.90	60.00
	9143	18.40	33	5	2 1/8	6	1.01	115	15.58	33.00
1 5/8	90055	29.00	52	5	5 1/2	7 1/4	1.48	230	20.52	65.00
	90055 1/2	19.50	35	5	2	6 1/4	1.01	115	14.85	35.00
1 5/8	9065	28.64	51	5	4 1/4	6	1.50	262	19.80	63.75
	9066	19.00	34	5	1 3/4	5 3/8	1.01	120	14.70	34.00
1 5/8	90069	20.25	36	4	4 3/8	5 3/8	1.71	120	12.25	45.00
	90069 1/2	11.75	21	4	1 1/2	5	1.01	40	8.33	21.00
1 5/8	9033	25.12	45	5	4 1/4	6	1.80	286	18.18	56.25
	9034	14.00	25	5	1 1/2	5 3/8	1.01	96	12.24	25.00
1 5/8	90008	24.50	44	4	4 1/2	6 3/4	1.91	185	17.55	55.00
	90008 1/2	12.75	23	5	1 1/4	6	1.01	75	11.25	23.00
1 5/8	90016	30.00	54	5	5	6 1/2	2.00	190	20.52	67.50
	90016 1/2	15.00	27	5	1 1/4	6	1.01	65	12.78	27.00
1 5/8	9022	32.25	58	4 1/2	6	6 1/4	2.00	356	19.12	72.50
	9023	16.12	29	4 1/2	2 1/4	6 1/8	1.01	96	12.02	29.00
1 5/8	90007	24.50	44	4 1/2	5 3/8	6 3/8	2.00	130	15.52	55.00
	90007 1/2	12.25	22	4 1/2	1 3/8	5 1/2	1.01	50	10.00	22.00
1 5/8	90012	30.62	55	5	5 1/2	7	2.20	250	20.43	68.75
	90012 1/2	14.00	25	5	1 1/2	6	1.01	76	12.24	25.00
1 5/8	90010	28.00	50	5	5 1/2	7	2.38	215	19.44	62.50
	90010 1/2	11.75	21	5	1	5 1/2	1.01	60	10.71	21.00
1 5/8	9069	34.54	62	5	4 3/8	5 3/4	2.58	395	22.50	79.50
	9070	13.44	24	5	1 1/8	5 3/4	1.01	90	12.24	24.00
1 5/8	90068	30.31	58	5	6 1/8	7	2.76	348	20.52	72.50
	90068 1/2	11.62	21	5	1 1/4	5 1/2	1.01	62	10.50	21.00
1 5/8	90013	40.00	72	5	6 3/4	7	4.00	330	24.57	90.00
	90013 1/2	10.00	18	5	7/8	5 3/4	1.01	70	9.27	18.00
1 5/8	90070	38.87	70	5	6 1/4	6 1/2	5.00	380	24.00	87.50
	90070 1/2	7.81	14	5	4 1/4	8 3/8	1.01	40	7.60	14.00
1 5/8	90067	40.12	72	5	7 3/8	7 1/2	6.00	400	24.30	90.00
	90067 1/2	6.75	12	5	3/4	5 1/2	1.01	50	7.00	12.00
2	90084	35.75	56	5 1/2	3 3/8	6 1/2	1.01	310	28.05	84.00
	90084 1/2	32.75	51	5 1/2	3	6 1/4	1.01	240	26.29	61.20
2	90021	30.62	48	6	4	8 1/4	1.02	290	27.84	72.00
	90021 1/2	30.00	47	6	3	7	1.01	260	27.32	56.00

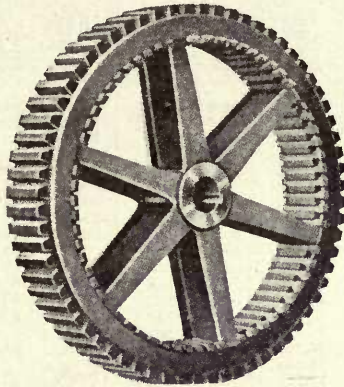


## Bevel Mortise Gears and Pinions—Continued

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Backing	Length of Hub Inches	Proportion	Weight Pounds	H. P. at 100 Rev.	Price
2	90019	25.50	40	6	4 1/4	8	1.08	200	24.24	\$60.00
	90019 1/2	23.50	37	6	2 3/4	7	to 1	166	22.56	44.40
	90077	30.72	48	6	4 3/8	8	to 1	109	448	72.00
	90078	28.04	44	6	4 1/2	7	to 1	250	25.92	52.80
	9005	30.00	47	7	4 1/4	7 1/4	to 1	240	31.78	82.25
	9006	24.75	39	7	2 1/2	6 1/4	to 1	240	27.16	58.50
	90079	26.75	42	6	6 1/2	7 1/4	to 1	160	25.92	63.00
	90079 1/2	21.62	34	6	2 1/4	7 1/4	to 1	170	21.60	40.80
	9079	30.58	48	6	4 1/4	6 3/4	to 1	126	38.70	72.00
	9080	24.32	38	6	2 3/8	6 3/4	to 1	210	23.04	45.60
	90018	25.50	40	5	4 3/4	7	to 1	190	20.20	60.00
	90018 1/2	19.12	30	5	2	6	to 1	108	17.00	36.00
	90080	30.62	48	6	4 1/2	8	to 1	141	445	72.84
	90080 1/2	21.62	34	6	2 3/8	7	to 1	170	21.60	40.80
	90022	34.50	54	6	5 1/2	7 1/2	to 1	150	35.00	81.00
	90022 1/2	23.00	36	6	2 1/2	7 1/2	to 1	163	22.56	43.60
	9014	29.87	47	5	4 3/4	6 5/8	to 1	151	34	22.80
	9015	19.62	31	5	2 1/2	6 1/2	to 1	140	17.00	37.20
	90026	48.37	76	6	5 1/2	7 1/2	to 1	165	500	37.68
	90026 1/2	29.25	46	6	2 1/2	7 1/2	to 1	240	27.24	55.20
	90024	30.62	48	6	5 3/8	8	to 1	171	254	72.00
	90024 1/2	17.87	28	6	1 3/4	7	to 1	112	19.44	33.60
	90027	36.25	57	6	5 3/4	7 1/2	to 1	178	370	85.50
	90027 1/2	20.37	32	6	2 1/2	7 1/2	to 1	170	21.00	38.40
	9081	22.80	36	6	4 5/8	7	to 1	180	300	22.56
	9082	12.78	20	6	1 3/8	6 3/8	to 1	105	14.28	24.00
	90023	48.50	76	6	6 1/2	8	to 1	195	560	37.68
	90023 1/2	25.00	39	6	1 3/4	7	to 1	210	24.24	46.80
	9020	29.90	47	6	4 7/8	7	to 1	196	360	70.50
	9021	15.34	24	6	1 1/8	7	to 1	120	17.88	28.80
	90081	39.50	62	5	6 1/2	7 1/2	to 1	200	350	93.00
	90081 1/2	19.75	31	5	1 1/2	6	to 1	100	17.00	37.20
	90020	30.50	48	6	5 3/8	7 1/2	to 1	209	255	72.84
	90020 1/2	14.62	23	6	1 1/4	7	to 1	100	16.32	27.60
	9083	34.39	54	6	5 3/8	6 3/4	to 1	216	450	30.12
	9084	15.96	25	6	1 1/2	6 1/4	to 1	110	17.88	30.00
	90017	35.12	55	6	6 1/2	8 1/2	to 1	220	356	30.60
	90017 1/2	16.00	25	6	1 3/4	7 1/4	to 1	150	17.88	30.00
	90054	35.62	56	5	6 1/4	7 1/4	to 1	233	325	26.20
	90054 1/2	15.25	24	5	1 1/2	6	to 1	96	14.90	28.80
	9039	33.12	52	6	5 7/8	7 3/8	to 1	236	435	29.04
	9040	14.00	22	6	1 1/8	7	to 1	93	16.32	26.40
	90052	31.87	50	6	6 1/2	8	to 1	238	290	28.68
	90052 1/2	13.37	21	6	1 1/4	7	to 1	90	16.00	25.20
	9037	38.10	60	6	6 5/8	7 1/2	to 1	250	555	32.40
	9085	15.25	24	6	1 1/2	7	to 1	132	16.80	28.80
	9085 1/2	42.00	66	6	7 1/8	8	to 1	275	580	34.20
	9086	15.32	24	6	1 1/8	7	to 1	125	16.80	28.80
	90025	42.00	66	6	6 1/4	7 1/4	to 1	275	403	34.20
	90025 1/2	15.25	24	6	1 1/4	7 1/4	to 1	107	16.80	28.80
	9030	48.25	76	4 1/2	7 1/8	6 1/2	to 1	280	610	28.26
	9031	17.25	27	4 1/2	1 7/8	6 1/2	to 1	124	13.41	32.40
	9087	45.85	72	6	7 1/8	7 1/4	to 1	300	625	36.00
	9088	15.32	24	6	1 3/8	7 1/4	to 1	135	16.80	28.80
	9030	48.25	76	4 1/2	7 1/8	6 1/2	to 1	304	600	28.26
	9032	15.88	25	4 1/2	1 3/4	6	to 1	120	16.00	30.00
	9035	41.50	65	6	6 7/8	7 1/2	to 1	325	585	34.20
	9036	12.75	20	6	1 1/8	6 1/2	to 1	110	15.60	24.00
	90053	35.62	56	4 1/2	6 1/2	6 1/2	to 1	350	275	23.58
	90053 1/2	11.50	18	4 1/2	1 5/8	5 1/2	to 1	50	10.71	21.60
	90082	41.37	65	6	6 5/8	7 1/4	to 1	406	456	34.20
	90082 1/2	10.25	16	6	1	6 1/2	to 1	80	13.20	19.20
	90083	54.87	86	6	8 3/4	9 1/4	to 1	651	550	41.40
	90083 1/2	8.25	13	6	1	6 1/4	to 1	40	12.00	15.60
2 1/4	90031	35.75	50	8	5 1/2	11 1/2	to 1	102	475	47.16
	90031 1/2	35.00	49	8	3 3/4	9 1/2	to 1	500	45.00	56.15
	90030	30.00	42	8	4 3/4	8 1/2	to 1	114	275	30.78
	90030 1/2	26.50	37	6	2 3/4	7	to 1	206	28.35	49.95
	90051	38.75	54	6	6	9 1/2	to 1	120	550	36.86
	90051 1/2	32.25	45	6	2 3/4	7 1/4	to 1	320	32.47	60.75
	9007	36.00	50	5	5 1/4	6 1/2	to 1	128	450	28.82
	9008	27.88	39	5	2 3/4	5 1/2	to 1	220	23.76	52.55
	9009	48.00	67	8	5 1/2	7 1/2	to 1	131	678	56.52
	9010	36.48	51	8	2 3/8	7 1/2	to 1	425	47.16	68.85
	90057	43.00	60	7	6	9 1/2	to 1	143	625	47.04
	90057 1/2	30.12	42	7	2 3/4	8 1/4	to 1	370	36.48	56.70
	9007	36.00	50	5	5 1/4	6 1/2	to 1	147	450	28.82
	9013	24.25	34	5	3 3/4	6	to 1	208	21.00	45.90
	9041	34.37	48	7	5 1/2	8	to 1	150	525	40.16
	9042	23.00	32	7	2 1/2	8	to 1	210	30.08	43.20
	9016	48.00	67	7	6 1/2	7 1/2	to 1	160	870	50.24
	9017	30.00	42	7	3	7 1/2	to 1	312	36.00	56.70
	90041	43.00	60	7	6 1/2	8 1/2	to 1	176	592	47.04
	90041 1/2	24.37	34	7	2 1/2	8 1/2	to 1	282	31.20	45.90
	9095	38.70	54	7	5 1/4	7 1/2	to 1	180	575	43.68
	9096	21.53	30	7	1 1/8	7 1/4	to 1	200	28.00	40.50
	90034	60.00	84	7	7	9	to 1	200	1250	58.08
	90034 1/2	30.00	42	7	2	8 1/4	to 1	390	36.00	56.70
	90035	48.75	68	8	7	9 1/4	to 1	200	70	56.52
	90035 1/2	24.37	34	8	2	9 1/2	to 1	265	35.10	45.90
2 1/2	9024	43.00	60	8	7 1/2	9	to 1	200	54.92	105.00
	9025	21.50	30	8	1 1/2	8	to 1	270	32.40	40.50
	9043	32.94	46	7	5 1/2	8	to 1	208	495	38.24
	9044	15.84	24	7	1 3/4	8	to 1	150	23.84	29.70
	90029 1/2	38.87	54	7	6 3/4	8 3/4	to 1	225	500	43.68
	9148	17.25	24	7	1 1/2	8	to 1	135	24.80	32.40
	9148 1/2	35.83	50	7	5 1/2	7 1/2	to 1	227	875	41.92
	9028	15.84	22	7	1 1/2	7 1/2	to 1	150	23.84	29.70
	9028 1/2	50.12	70	7	7 1/2	8 1/2	to 1	233	855	50.88
	9029	21.50	30	7	2 1/2	8 1/4	to 1	230	28.00	40.50
	90036	43.00	60	7	7 1/2	8 1/2	to 1	250	590	47.04
	90036 1/2	17.25	24	7	1 1/2	8 1/4	to 1	146	24.80	32.40
	90032	48.00	67	6	7 1/2	7 1/4	to 1	485	42.39	117.25
	90032 1/2	12.87	18	6	1 1/2	6 1/2	to 1	136	18.36	24.30
	90028	84.50	118	6	8 1/2	8 1/2	to 1	1450	62.10	206.50
	90028 1/2	19.25	27	6	1 1/2	7 1/4	to 1	230	27.30	36.45
2 3/4	90056	25.50	32	5	5	8 1/2	to 1	275	35.88	72.00
	90056 1/2	24.75	31	5	3 1/2	6	to 1	240	33.75	55.80
	90058	33.37	42	7	6 1/2	7 1/2	to 1	120	460	57.28
	90058 1/2	27.87	35	7	3 3/4	8 1/4	to 1	295	49.60	63.00
	9103	43.00	54	8	6 3/8	9 1/2	to 1	129	785	84.00
	9104	33.55	42	8	3 3/8	9	to 1	390	71.60	75.60
	9103 1/2	35.00	44	8	6 1/4	10 1/2	to 1	129	700	74.80
	9103 1/2 1/2	27.00	34	8	3 3/4	9 1/2	to 1	330	62.00	61.20
	90042	37.37	47	8	5 1/2	9 1/2	to 1	138	545	78.00
	90042 1/2	27.00	34	8	3	9 3/8	to 1	333	62.00	61.20
	90099	30.25	38	6	5	7	to 1	146	420	48.90
	90099 1/2	20.75	26	6	2	7	to 1	205	36.45	46.80
	9105	38.22	48	8	5 1/2	8 3/4	to 1	150	600	79.08
	9106	25.50	32	8	2 1/2	8 3/4	to 1	290	57.60	57.60
	90039	47.75	60	9	7 1/2	11 3/4	to 1	150	881	85.80
	90039 1/2	31.75	40	9	3	10 1/2	to 1	450	66.69	72.00
	90048	71.62	90	9	8 1/2	12	to 1	167	1830	103.50
	90048 1/2	43.00	54	9	2 3/4	10 1/2	to 1	860	81.90	97.20



## Spur Mortise Gears



Style No. 116

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price	Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price
$1\frac{1}{4}$	60002	24.00	60	$1\frac{3}{4}$	50	6.32	\$54.00	<b>2</b>	60038	50.25	79	6	540	55.68	\$118.50
$1\frac{1}{2}$	60008	30.00	64	$1\frac{3}{4}$	65	7.82	64.00		60039	53.50	84	6	614	57.48	126.00
$1\frac{3}{4}$	60011	13.37	28	3	60	7.43	28.00		6101	57.12	90	8	1470	80.96	135.00
	60012	23.87	50	$3\frac{1}{2}$	96	14.04	50.00		60041	57.25	90	8	725	60.72	122.00
	60014	29.62	62	$3\frac{1}{2}$	185	16.95	62.00		60040	63.00	99	6	950	65.40	148.50
$1\frac{3}{4}$	6111	17.86	32	6	238	22.05	40.00	$2\frac{1}{4}$	60042	71.25	112	6	875	69.60	168.00
	60017	22.25	40	4	110	17.50	50.00		60043	80.25	126	6	1200	74.40	189.00
	60020	34.50	62	4	210	25.06	77.50		60053	37.25	52	6	465	50.39	91.00
	60021	39.00	70	4	272	27.30	87.50		60054	43.00	60	6	550	55.35	105.00
	6018	40.50	72	$4\frac{1}{2}$	465	32.80	90.00		60056	64.50	90	6	1100	73.57	167.50
<b>2</b>	60026	15.25	24	6	100	22.32	36.00	$2\frac{1}{2}$	60060	86.00	120	7	1855	97.65	210.00
	60027	17.18	27	6	130	25.20	40.50		60059	96.00	134	6	2100	95.85	234.50
	60028	20.37	32	6	163	29.16	48.00		60061	16.75	21	6	140	29.70	47.25
	60044	21.00	33	6	185	30.00	49.50		60062	19.87	25	6	210	34.50	56.25
	60029	22.87	36	6	210	31.80	54.00		60063	23.87	30	6	250	39.75	67.50
	60030	25.50	40	6	240	34.56	60.00		60070	27.00	34	6	385	43.50	76.50
	60031	28.00	44	6	280	37.20	66.00		60069	27.87	35	7	475	54.30	78.75
	60033	30.50	48	6	310	39.12	72.00		60066	38.25	48	8	630	78.00	108.00
	60032	33.12	52	6	325	41.52	78.00		60065	43.00	54	7	610	73.50	121.50
	60034	35.62	56	6	350	42.96	84.00		60064	57.25	72	$5\frac{1}{2}$	670	70.84	162.00
	60035	38.12	60	6	460	45.60	90.00		60068	66.75	84	$6\frac{1}{2}$	1195	90.56	189.00
	60036	44.50	70	6	450	50.40	105.00		60067	71.62	90	7	1255	103.25	202.50
	6011	46.00	72	5	600	43.50	108.00	$2\frac{3}{4}$	60151	19.25	22	6	190	59.10	66.00
	60037	45.87	72	6	525	51.36	108.00	<b>4</b>	60086	138.00	108	6	4800	216.00	1080.00

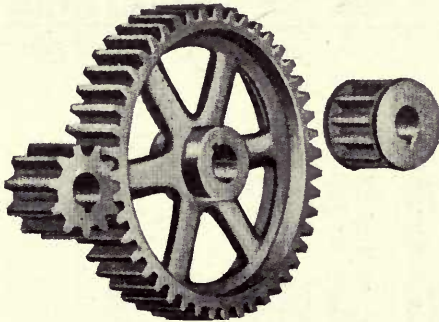
## Spur Mortise Pinions

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price	Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price
$1\frac{1}{4}$	70001	7.25	18	3	27	3.64	\$13.50	$1\frac{3}{4}$	70022	19.50	35	4	100	26.10	\$35.00
	70004	24.00	60	$1\frac{3}{4}$	46	5.83	30.00		7104	36.18	65	$6\frac{1}{4}$	360	41.14	80.00
$1\frac{1}{2}$	70008	28.00	64	$1\frac{3}{4}$	58	7.44	32.00	<b>2</b>	70049	6.37	10	6	50	13.20	12.00
$1\frac{3}{4}$	70011	5.25	11	$3\frac{1}{2}$	16	4.85	8.80		70048	7.62	12	6	50	14.64	14.40
	70013	9.50	20	4	50	7.38	16.00		70041	10.25	16	$6\frac{1}{2}$	126	18.98	19.20
	70012	16.75	35	6	145	17.82	35.00		70026	11.00	17	6	120	18.00	20.40
$1\frac{3}{4}$	70017	11.125	20	4	52	11.06	20.00		70045	11.50	18	6	125	18.96	21.60
	7113	12.31	22	$4\frac{1}{4}$	60	11.84	22.00		70027	12.75	20	6	142	19.80	24.00
	70018	12.75	23	4	64	11.55	23.00		70028	15.25	24	6	125	23.76	28.80
	7057	14.50	26	5	120	16.20	31.20		70029	17.25	27	6	192	26.40	32.40
	70020	15.625	28	4	80	13.86	28.00		70030	19.12	30	6	160	27.60	36.00
	70021	17.87	32	6	135	22.55	38.40		70031	21.00	33	6	184	29.16	39.60
									70032	22.25	35	6	198	30.00	42.00
									70033	23.00	36	6	205	31.80	43.20

Spur Mortise Pinions—Continued

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price	Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price
2	70034	23.62	37	6	188	32.00	\$44.40	2 1/4	70063	21.25	30	6	255	32.81	\$40.50
	7037	25.00	39	6	254	34.50	46.80		70062	22.87	32	6	195	33.75	43.20
	70035	25.50	40	6	248	34.80	48.00		70065	28.62	40	7	325	49.59	54.00
	70044	26.12	41	6	225	35.00	49.20	2 1/2	70146	8.75	11	5	70	15.38	19.80
	70042	27.00	42	6	235	37.20	50.40		70075	11.12	14	7	170	26.25	32.40
	70036	28.00	44	6	240	38.00	52.80		70066	14.31	18	6	145	27.90	32.40
	7101	28.10	44	8	395	49.92	63.30		70071	16.00	20	7	224	34.65	36.00
	70037	29.25	46	6	265	39.12	55.20		70067	16.81	21	6 1/2	176	34.13	37.80
	70038	31.87	50	6	300	40.20	60.00		7102	18.37	23	6	164	33.00	41.40
	70039	33.75	53	6	320	41.40	63.60		70069	19.87	25	6 1/2	216	36.80	45.00
	70040	37.00	58	6	385	45.12	69.60		70072	25.50	32	6	240	43.20	57.60
	70046	39.50	62	6	420	46.80	74.40		70073	35.00	44	7	415	62.65	79.20
	70043	44.50	70	6	525	50.40	84.00		70074	43.00	54	8	645	84.00	97.20
2 1/4	70056	12.25	17	6	112	21.33	22.95	3 7/16	7114	16.58	15	4 1/2	225	31.49	54.00
	70057	14.31	20	6	135	24.30	27.00		70079	31.25	28	6 1/2	485	78.66	100.80
	70055	15.75	22	7 3/4	210	34.53	29.70	3 1/2	70081	28.12	22	5	200	63.00	88.00
	70058	17.25	24	6	160	29.70	32.40								
	70059	17.25	24	7	188	35.20	35.40	4							
	70060	18.62	26	6	205	30.00	35.10								
	70054	19.50	27	6	220	31.05	36.45								

Cast Iron Spur Gears



Style No. 117

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price	Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price
3/10	0001	2.50	25	3/4	1	-----	\$1.00	1/2	10009	7.12	45	1	8	.60	\$2.25
	0002	7.50	75	3/4	8	-----	3.20		1148	8.35	52	1 1/8	8	.60	2.60
	0003	2.50	25	1	1	-----	1.00		10014	9.25	60	1	9	.75	3.00
	0004	3.40	34	1	1	-----	1.00		1006	11.62	78	1	10	1.00	3.90
	0005	7.50	75	1	8	-----	3.10		1007	14.75	96	1	16	1.10	4.80
2/5	0076	4.25	34	1	3	-----	1.30		0011	2.26	18	3/8	1	-----	1.00
	0077	7.00	56	1	8	-----	3.00		0012	7.42	52	3/8	8	-----	2.60
	0007	2.00	16	1 1/8	3	-----	1.25		0013	6.68	42	3/4	6	-----	1.80
	0008	8.00	64	1 1/8	8	-----	2.25		0014	7.64	48	3/4	8	-----	2.25
	0009	10.00	80	1 1/8	12	-----	4.40		0015	2.06	13	1	1	-----	1.00
7/16	0010	12.00	96	1 1/8	13	-----	4.80		0016	6.68	42	1	6	-----	1.80
	1199	1.55	11	1 1/8	1	.20	1.00		0052	5.33	32	1	6	-----	1.85
	1192	2.23	16	1	1	.20	1.00		0053	6.00	36	1	6	-----	1.75
	1001	3.08	21	1	1 1/2	.24	1.05		0054	10.00	60	1	6	-----	1.85
	1002	3.08	21	3 3/8	3	.60	1.26		0055	8.50	51	1	8	-----	3.00
15/32	1003	7.87	55	1	6	.70	2.75	9/16	0056	9.33	56	1 1/4	6	-----	2.60
	1004	10.62	74	1	10	.90	3.70		10023	2.12	13	1 1/2	2	.30	1.00
	1034	4.89	33	1	3	.50	1.00		10024	3.00	17	1 1/2	2 1/2	.35	1.00
	1193	1.98	12	1 1/8	2	.14	1.00		10026	6.25	35	1 1/2	6	.44	1.75
	1005	1.87	12	1 3/4	4	.22	1.00		10027	12.62	57	1 1/2	10	.90	2.85
1/2	10005	2.87	18	1	3	.29	1.00	3/5	10030	16.62	96	3/4	13	.92	4.80
	10006	3.37	21	1	3	.34	1.05		0057	2.60	13	3/4	1	-----	1.00
	10008	3.87	24	1	4	.40	1.20		0058	16.80	84	3/4	16	-----	3.85
	10012	4.87	30	1	5	.46	1.50		0059	2.60	13	1	1	-----	1.00
	10011	5.37	34	1	6	.50	1.70		0060	3.50	20	1	8	-----	2.10
	10013	5.75	36	1	6	.58	1.80		0061	4.00	24	1	6	-----	2.25
									0062	3.20	16	1 1/4	2	-----	1.60



## Cast Iron Spur Gears—Continued

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price	Pitch Inches	Pattern Number	Pitch Diameter Inches	Number Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price
5/8	1194	2.37	12	1 1/4	2	.35	\$1.00	7/8	10097	3.87	14	1 1/8	5	.95	\$1.75
	10031	2.37	12	1 1/4	2	.32	1.00		10099	4.50	16	1 3/4	5	1.00	2.00
	1165	2.75	14	1 1/4	3	.61	1.00		10100	5.00	18	1 3/4	8	1.10	2.25
	10034	3.00	15	1 1/4	3	.65	1.00		10101	5.62	20	1 3/4	9	1.20	2.50
	10036	4.00	20	1 1/4	5	.70	1.00		10351	7.18	26	2	14	1.60	3.25
	10035	4.31	21	1 1/2	6	.73	1.05		10102	8.37	30	1 3/8	12	1.70	3.75
	10037	4.62	23	1 1/2	7	.80	1.15		10342	8.37	30	1 3/4	9	2.00	3.75
	10038	5.62	28	1 1/2	7	.84	1.40		10103	8.37	30	2 1/2	15	2.50	4.25
	1156	5.80	29	1 1/2	8	.90	1.45		10105	11.12	40	1 3/4	19	3.00	5.00
	1123	5.98	30	1	6	.45	1.50		10104	12.31	44	1 3/4	22	3.40	5.50
	10039	6.62	33	1 1/2	8	1.00	1.65		10107	14.50	52	1 3/4	32	4.00	6.50
	10041	7.37	37	1 1/2	9	1.15	1.85		10108	16.75	60	1 3/4	40	4.50	7.50
	10040	8.00	40	1 1/2	10	1.23	2.00		10109	18.37	66	1 1/2	40	4.50	8.25
	1215	8.95	45	1 1/2	11	1.30	2.25		10112	25.12	90	1 3/4	52	6.50	11.25
	10042	10.00	50	1 1/2	12	1.35	2.50	1	1163	2.87	9	2 3/8	6	1.10	1.35
	10048	11.00	55	1 1/2	18	1.60	2.75		10138	3.25	10	2	5	1.00	1.50
	10043	11.12	56	1 1/2	16	1.50	2.80		1016	3.25	10	2 3/8	8	1.30	1.65
	10045	14.00	68	1 1/2	18	1.65	3.40		10116	3.37	11	1 3/4	4	1.00	1.65
	10046	14.50	70	2	20	2.00	3.85		10357	3.62	12	2 3/8	7	1.44	1.80
	10047	15.12	76	1 1/2	22	1.90	3.80		1197	3.89	12	3 3/8	9	2.10	2.16
11/16	1195	3.03	14	1 1/4	3	.50	1.00		10124	4.12	13	1 3/4	8	1.36	1.95
	10052	3.50	16	1 1/4	3	.45	1.00		10118	4.12	13	2	5	1.44	1.95
	10089	4.75	18	1 1/4	5	.50	1.00		1017	4.25	13	2 1/2	8	1.56	2.25
	10054	10.50	48	1 1/4	10	1.60	2.40		10136	4.50	14	3	12	2.00	2.52
									10348	4.75	15	3	13	2.30	2.70
3/4	1008	2.45	10	2 1/2	6	.64	1.20		10119	4.87	15	2	6	1.56	2.25
	10091	2.62	10	1	2	.30	1.00		10117	5.12	16	2 1/2	7	1.92	2.40
	10061	2.62	11	1	3	.40	1.10		10120	5.37	17	2	9	1.87	2.55
	1126	2.67	11	1 1/4	4	.44	1.10		10122	5.75	18	2	12	2.00	2.70
	10062	2.87	12	1 1/2	3 1/2	.44	1.20		1035	5.75	18	2 1/2	18	2.16	2.70
	10063	3.12	13	1 1/2	4	.45	1.30		10123	6.12	19	2	22	2.10	2.85
	1168	3.13	13	1 1/2	5	.50	1.30		10134	6.37	20	1 1/2	12	2.00	3.00
	10064	3.37	14	1 1/2	5	.55	1.40		10125	6.37	20	2	15	2.12	3.00
	10065	3.62	15	1 1/2	5	.60	1.50		10127	7.00	22	2	25	2.30	3.30
	1009	3.62	15	1 1/2	6	.65	1.50		1036	7.00	22	2 1/2	20	2.64	3.50
	1010	3.75	16	1 1/2	6	.64	1.60		10126	8.00	25	3	36	3.60	4.50
	10066	3.87	16	1 1/2	5	.62	1.60		10132	9.00	28	3	40	4.00	5.04
	1171	4.00	17	1 1/2	7	.62	1.70		1018	9.28	29	2 1/2	20	3.48	4.35
	1011	4.12	17	1 1/2	7	.74	1.70		10354	9.56	30	2	30	3.20	4.50
	10067	4.25	18	1 1/2	8	.80	1.80		10349	9.56	30	3	44	4.20	5.40
	1213	4.75	20	1 1/2	8	.82	2.00		10128	11.12	35	2	26	3.90	5.25
	10070	6.00	25	1 1/2	10	1.00	2.50		10130	11.50	36	2	27	4.10	5.40
	1042	6.00	25	1 1/2	12	1.41	2.50		10129	13.00	41	2 1/2	33	4.92	6.15
	1121	6.98	29	1 1/2	14	1.51	2.90		1019	14.00	44	2	28	4.50	6.60
	1039	7.86	33	1 1/2	15	1.72	3.30		1020	14.68	46	2 1/2	40	5.52	6.90
	10073	8.75	36	1 1/2	16	1.70	3.60		10131	16.00	50	2	46	5.10	7.50
	1160	8.87	37	1 1/2	17	1.80	3.70		1040	16.31	51	2 1/2	48	6.00	7.65
	10074	9.50	40	1 1/2	14	1.75	4.00		1021	20.62	64	2 1/2	50	7.68	9.60
	10075	9.87	41	1 1/2	15	1.80	4.10		10133	21.00	66	2	55	6.30	9.90
	1044	10.05	42	1 1/2	16	2.10	4.20		1037	24.00	75	2 1/2	72	8.64	11.25
	10076	12.00	50	1 1/2	17	2.20	5.00		10135	25.75	81	2	80	8.00	12.15
	1045	12.00	50	1 1/2	24	2.30	5.00		10140	27.12	85	2 1/2	51	10.00	12.75
	10077	13.37	56	1 1/2	19	2.25	5.60		10137	28.00	88	2	108	9.20	13.20
	10078	14.56	62	1 1/2	23	2.32	6.20		1022	30.00	94	2 1/2	96	11.30	14.10
	1012	15.62	66	1 1/2	32	2.90	6.60		10139	33.75	106	2	108	10.10	15.90
	10079	16.75	70	1 1/2	26	2.40	7.00		10141	35.00	110	2	105	11.15	16.50
	1214	19.12	80	1 1/2	31	2.80	8.00		1023	35.94	113	2 1/2	118	13.60	16.95
	1013	20.06	84	1 1/2	40	3.54	8.84		1024	43.50	137	2 1/2	180	16.00	20.55
	10084	21.50	90	1 1/2	40	3.65	9.00		0022	3.50	11	1 1/4	4	-----	1.65
	1169	21.77	91	1 1/2	43	4.20	9.10		0023	3.82	12	1 1/4	4	-----	1.80
	10086	23.87	100	1 1/2	43	4.25	10.00		0024	6.04	19	1 1/4	20	-----	2.75
	10088	26.75	112	1 1/2	45	4.50	11.20		0025	7.63	24	1 1/4	18	-----	3.00
	1047	30.00	125	1 1/2	66	6.00	12.50		0026	3.82	12	1 1/4	4	-----	1.60
	1014	36.00	151	1 1/2	88	7.20	15.10		0027	3.82	12	2	4 1/2	-----	1.95
	0063	2.62	11	1 1/2	2	-----	1.10		0028	5.72	18	2 1/2	18	-----	2.70
	0064	2.86	12	1 1/2	3	-----	1.25		0029	3.66	11	3	6	-----	2.25
	0065	3.10	13	1 1/2	4	-----	1.30	1 1/8	1157	4.10	12	3 3/8	12	1.90	2.16
	0066	3.10	13	1 1/2	4	-----	1.30		10142	12.50	38	1 1/2	28	2.75	5.70
	0067	3.58	15	1 1/2	5	-----	1.50		10143	24.50	67	3 3/8	100	8.00	11.05
	0068	4.53	19	1 1/2	7	-----	2.00		10144	3.62	10	1 1/2	5	1.00	2.00
	0069	5.96	25	1 1/2	10	-----	2.60		1198	3.67	10	3	7	1.80	2.00
4/5	0070	18.38	77	1 1/2	30	-----	6.00	1 3/8	10146	3.87	11	2	5	1.90	2.20
	0071	3.58	15	1 1/2	6	-----	1.50		1048	4.35	12	3	9	2.16	2.40
	0072	27.14	114	1 1/2	69	-----	12.55		10147	4.62	13	2	8	2.00	2.60
									10404	5.37	15	2 1/2	13	2.10	3.00
									1174	5.77	16	3	15	2.88	3.20
13/16	0020	3.75	15	2	4	-----	1.75		10401	5.75	16	2	11	2.20	3.20
	0021	18.75	75	2	40	-----	8.50		10148	6.06	17	2 1/2	17	2.40	3.40
									1050	7.20	20	3	18	3.60	4.00
	1033	4.16	16	2 3/8	6	.80	1.60		10403	7.87	22	2 3/8	30	3.00	4.90
									10402	7.87	22	3 3/8	30	3.96	4.40
7/8	10092	2.62	10	2	4	.88	1.25		1051	8.64	24	3	22	4.10	4.80
	1015	2.82	10	2 3/4	4	.95	1.40		1125	9.69	27	3	28	5.00	5.40
	10352	3.00	11	2	5	1.00	1.38		10405	11.50	32	3	41	5.76	6.40
	10093	3.37	12	1 1/4	4	.85	1.50		10151	13.62	38	2	30	4.70	7.60
	10095	3.87	14	1 1/4	4 1/2	.90	1.75		1053	14.34	40	3	28	7.56	8.00

## Cast Iron Spur Gears—Continued

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price	Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price
$1\frac{1}{8}$	1054	17.25	48	3	52	8.64	\$ 9.60	$1\frac{1}{8}$	1064	18.16	38	4	128	17.00	\$15.20
	10406	17.50	49	3	70	8.82	9.80		10208	18.12	38	$3\frac{1}{2}$	97	15.80	15.20
	10150	18.62	52	2	40	6.00	10.40		10210	23.00	48	$3\frac{1}{2}$	138	18.00	19.20
	1055	20.06	56	3	58	10.00	11.20		10213	23.75	50	$4\frac{1}{2}$	180	24.00	20.00
	1056	23.00	64	3	72	11.50	12.80		10212	26.75	56	4	177	23.50	22.40
	1057	26.51	74	3	76	13.30	14.80		10184	29.56	62	4	268	26.50	24.80
	1058	30.09	84	3	84	15.00	16.80		10189	30.12	63	5	300	23.00	28.80
	1059	34.38	96	3	102	17.00	19.20		1028	30.00	63	4	220	29.00	25.20
	10149	36.25	101	$2\frac{1}{2}$	128	18.00	20.20		10219	34.37	72	$4\frac{1}{2}$	300	35.00	28.80
	1060	40.88	114	3	106	21.00	22.80		10199	35.20	74	$3\frac{1}{2}$	275	29.00	29.60
$1\frac{3}{16}$	10145	8.00	21	$2\frac{1}{4}$	32	4.40	5.25		10185	36.00	75	$4\frac{1}{2}$	340	36.00	30.00
$1\frac{1}{4}$	10163	4.00	10	$3\frac{1}{4}$	12	2.20	2.50		1067	36.25	76	4	256	34.00	30.40
	10420	4.50	11	$3\frac{1}{4}$	10	2.70	2.75		10216	36.25	76	3	214	26.00	30.40
	1026	4.44	11	$3\frac{1}{2}$	12	2.96	2.75		10186	40.00	84	4	342	39.00	33.00
	10159	4.75	12	$2\frac{1}{4}$	9	2.00	3.00		10214	42.00	88	$2\frac{1}{2}$	230	30.00	35.20
	10152	4.75	12	3	13	2.90	3.00		10187	46.25	97	3	330	46.00	38.80
	10153	5.18	13	$2\frac{1}{4}$	10	2.20	3.25		10215	46.25	97	$3\frac{1}{2}$	304	47.00	38.80
	10157	5.63	14	$2\frac{1}{2}$	17	2.80	3.50		10217	49.75	104	4	392	48.00	41.00
	1153	5.63	14	$3\frac{1}{4}$	18	3.40	3.75		10356	50.00	105	4	450	49.00	42.00
	10154	6.00	15	$2\frac{1}{2}$	18	2.90	3.75		10218	60.00	126	3	412	50.00	50.40
	10155	6.00	15	3	21	3.70	4.00		10220	72.12	151	3	660	60.00	60.40
	10156	6.37	16	$2\frac{1}{2}$	19	3.00	4.00		0045	5.72	12	$3\frac{1}{2}$	17	-----	4.00
	10158	6.75	17	$3\frac{1}{2}$	29	4.40	4.25		0046	7.64	16	$3\frac{1}{2}$	30	-----	5.60
	10166	7.12	18	2	22	3.00	4.50		0047	8.49	18	$3\frac{1}{2}$	50	-----	7.20
	10180	7.25	18	$3\frac{1}{4}$	32	4.40	4.50		0048	12.89	27	$3\frac{1}{2}$	80	-----	10.80
	10160	8.30	21	$2\frac{1}{2}$	28	3.50	5.25		0049	15.75	33	$3\frac{1}{2}$	100	-----	14.50
	10161	10.00	25	3	42	6.00	6.25		0042	6.20	13	$2\frac{1}{2}$	26	-----	5.00
	10165	11.62	29	2	34	3.80	7.25		0044	5.25	11	$3\frac{1}{2}$	17	-----	4.00
	10162	12.75	32	3	48	7.60	8.00	$1\frac{5}{8}$	0073	10.86	21	4	60	-----	8.00
	10164	16.00	40	3	69	9.50	10.00	$1\frac{3}{4}$	10225	6.00	11	3	20	4.00	7.70
	10167	20.00	50	$3\frac{1}{2}$	105	13.00	12.50		10232	6.75	12	$5\frac{1}{2}$	45	9.50	8.40
	10169	21.44	54	2	56	6.00	13.50		10221	7.25	13	$4\frac{1}{2}$	42	9.00	9.10
	10168	23.87	60	$2\frac{1}{4}$	84	7.50	15.00		10226	7.87	14	$4\frac{1}{2}$	56	9.40	9.80
	10170	24.00	60	$2\frac{1}{2}$	87	8.50	15.00		10222	8.37	15	$4\frac{1}{2}$	65	9.80	10.50
	10171	24.00	60	3	120	14.70	15.00		1069	8.97	16	5	46	12.00	11.20
	10177	28.62	72	3	135	17.00	18.00		10224	10.00	18	$4\frac{1}{2}$	84	11.00	12.60
	10179	29.00	73	3	135	17.25	18.25		1070	12.30	22	5	80	16.50	15.40
	10172	29.87	75	3	140	18.00	18.75		10228	15.62	28	$4\frac{1}{2}$	150	19.00	19.60
	10175	32.19	81	2	130	12.00	20.25		10233	17.25	31	$4\frac{1}{2}$	160	22.00	21.70
	10178	33.00	83	4	135	24.00	20.75		1071	17.85	32	5	156	25.00	22.40
	10176	35.75	90	3	210	22.00	22.50		10227	19.00	34	$4\frac{1}{2}$	160	24.00	23.80
	10174	47.00	118	$2\frac{1}{2}$	196	18.00	29.50		10229	22.25	40	$4\frac{1}{2}$	178	28.00	28.00
	0038	29.83	75	3	230	-----	18.00		10231	27.87	50	$4\frac{1}{2}$	225	34.00	35.00
	0039	7.55	19	$3\frac{1}{2}$	-----	3.50	-----		1073	27.87	50	5	240	39.00	35.00
	0040	11.93	30	$3\frac{1}{2}$	65	-----	10.00		10230	34.00	61	$4\frac{1}{2}$	330	43.00	42.70
	0041	5.96	15	$3\frac{1}{2}$	14	-----	3.00		1138	40.74	73	5	440	50.00	50.00
	0031	4.37	11	$2\frac{1}{2}$	13	-----	3.00		10236	44.50	80	$4\frac{1}{2}$	440	58.00	56.00
	0032	5.57	14	$2\frac{1}{2}$	10	-----	3.25		10235	47.87	86	5	500	70.00	60.20
	0033	6.36	16	$2\frac{1}{2}$	20	-----	3.75		10237	53.50	96	$4\frac{1}{2}$	525	74.00	67.20
	0034	7.16	18	$2\frac{1}{2}$	26	-----	4.00		1076	61.34	110	5	600	88.00	77.00
	0035	9.94	25	$2\frac{1}{2}$	28	-----	4.50		10239	62.37	112	$4\frac{1}{2}$	700	80.00	78.40
	0036	21.87	55	$2\frac{1}{2}$	84	-----	10.00		1077	68.08	122	5	680	97.00	85.40
	0037	9.94	25	3	28	-----	4.60		10238	79.00	142	$4\frac{1}{2}$	850	90.00	99.40
$1\frac{3}{8}$	1027	5.25	12	4	16	4.00	3.60	2	10500	6.50	10	$3\frac{1}{2}$	33	6.00	9.00
	10346	6.12	14	$2\frac{1}{2}$	18	3.00	4.20		10242	6.50	10	6	42	11.50	10.00
	1127	7.94	18	3	20	4.80	5.40		10241	7.62	12	5	52	12.00	10.80
$1\frac{1}{2}$	10181	4.37	9	3	9	3.90	3.60		10502	8.37	13	5	74	13.00	11.70
	10182	5.00	10	$3\frac{1}{2}$	16	4.10	4.00		10243	8.87	14	5	70	14.00	12.60
	1196	5.35	11	$4\frac{1}{2}$	18	4.25	4.40		10244	9.37	15	$4\frac{1}{2}$	70	14.00	13.50
	10191	5.25	11	$2\frac{1}{2}$	12	4.00	4.40		10501	9.37	15	$6\frac{1}{2}$	115	17.50	14.00
	10350	5.75	12	$3\frac{1}{2}$	18	5.00	4.80		10255	10.18	16	6	100	18.40	14.40
	10183	5.75	12	4	20	5.40	4.80		10492	10.81	17	$4\frac{1}{2}$	95	15.00	15.30
	10188	5.75	12	$4\frac{3}{4}$	26	5.60	5.00		10491	12.00	19	4	125	16.50	17.10
	10192	6.25	13	3	20	4.50	5.20		10246	13.12	20	5	160	20.00	18.00
	1038	6.74	14	4	30	6.50	5.60		1079	14.05	22	6	122	25.00	19.80
	10193	6.75	14	5	42	7.20	6.72		10259	14.62	23	5	170	23.00	20.70
	10194	7.18	15	3	40	5.00	6.00		10505	15.25	24	6	200	27.50	21.60
	10196	7.18	15	4	40	6.40	6.00		10248	17.25	27	5	140	27.00	24.30
	10197	8.12	17	3	40	5.20	6.80		10250	17.75	28	$3\frac{1}{2}$	125	16.80	25.20
	10198	8.62	18	4	56	8.50	7.20		10245	18.50	29	6	190	33.30	26.10
	10200	9.25	19	3	42	6.80	7.60		1080	19.13	30	6	194	35.00	27.00
	1061	9.59	20	4	60	8.50	8.00		10249	21.00	33	6	250	37.90	29.70
	10355	9.56	20	$4\frac{1}{2}$	75	9.60	8.00		10493	21.62	34	4	144	29.58	30.60
	10202	10.50	22	4	72	9.20	8.80		10253	23.75	37	5	230	37.00	33.30
	10201	11.00	23	4	44	10.20	9.20		10251	24.25	38	5	239	38.00	34.20
	10195	12.00	25	$4\frac{1}{2}$	40	12.00	10.00		1081	24.22	38	6	194	43.00	34.20
	10203	12.00	25	3	74	9.00	10.00		10252	25.50	40	5	282	40.00	36.00
	1062	12.92	27	4	86	11.20	10.80		10247	28.00	44	4	210	36.96	39.60
	10353	12.75	27	$3\frac{1}{2}$	60	10.50	10.80		10254	30.50	48	5	300	48.00	43.20
	10204	13.37	28	$2\frac{1}{2}$	52	9.00	11.20		10256	35.62	56	5	400	56.00	50.40
	10211	13.37	28	4	85	12.56	11.60		10294	39.50	62	5	450	62.00	55.80
	10205	14.37	30	4	76	13.00	12.00		10258	42.75	67	6	550	75.00	60.30
	10209	14.75	31	4	88	14.00	12.40		10503	44.50	70	5	555	70.00	63.00
	10206	15.25	32	3	72	12.00	12.80		10497	51.00	80	5	550	80.00	72.00
	10207	17.25	36	$3\frac{1}{2}$	91	15.00	14.40		10498	54.75	86	6	985	97.00	77.40
									10499	60.50	95	6	1115	110.00	8



## Cast Iron Spur Gears—Concluded

Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price	Pitch Inches	Pattern Number	Pitch Diameter Inches	Number of Teeth	Width of Face Inches	Weight Pounds	H. P. at 100 Rev.	Price
2	10504 10496	65.50 77.75	103 122	5	1250 1210	103.00 122.00	\$ 92.70 109.80	2½	10286 1096	22.87 23.95	30	3 ½	224	24.00	\$ 40.00
2 1/8	0074	16.91	25	6	186	-----	36.00	2½	10287 10288	24.75 27.00	31 34	6 ½	375 390	60.14 65.96	46.50 51.00
2 1/4	0050	12.17	17	6 ½	190	-----	22.50	2½	10289 10290	29.50 30.25	37 38	6 ½	525 536	71.78 75.00	55.50 57.00
	10262	7.25	10	4 ¾	60	13.00	12.50	2½	10291	32.62	40	6	595	72.00	60.00
	10261	7.87	11	5	75	15.73	13.75	2½	10292	36.00	45	5	470	67.50	67.50
	10264	8.62	12	6	84	15.00	15.00	2½	10294	43.00	54	6 ½	865	104.76	81.00
	10279	9.25	13	6	100	19.50	16.25	2½	10295	47.75	60	6 ½	950	116.40	90.00
	10266	10.75	15	6 ½	120	24.00	18.75	2½	10297	66.00	83	6 ½	1380	161.02	124.50
	10263	12.25	17	5	135	24.31	21.25	2½	10299	72.50	91	6 ½	1510	176.54	136.50
	1088	12.24	17	7	210	29.65	22.50	2½	10572	81.00	102	8	2100	244.80	153.00
	10265	15.00	21	6	220	31.50	26.25	2½	10300	97.00	122	6 ½	2030	236.68	183.00
	10267	18.00	25	6	250	37.50	31.25	2 ¾	10583	20.12	23	7	450	62.00	46.00
	1089	20.08	28	7	245	49.00	35.00	2 ¾	10584	24.50	28	4	242	42.00	56.00
	10269	20.75	29	4 ¾	190	37.70	36.25	2 ¾	10581	27.12	31	4 ½	320	44.00	62.00
	10270	23.62	33	5	270	47.19	41.25	2 ¾	10582	29.50	36	4 ½	385	57.60	72.00
	1029	25.00	35	5	280	50.00	43.75	3	10303	12.50	13	6 ½	180	39.00	32.50
	1030	27.24	38	5	290	54.34	47.50	3	10301	17.25	18	5	200	45.00	45.00
	10271	27.87	39	6	400	58.50	48.75	3	10305	20.00	22	7 ½	350	74.36	55.00
	10272	28.62	40	4	300	48.00	48.50	3	10314	23.00	24	9	670	101.52	59.00
	10268	28.62	40	6 ½	350	64.00	50.00	3	10306	23.87	25	7 ½	750	84.50	62.50
	1031	30.00	42	5	306	60.06	52.50	3 1/2	10315	36.50	38	9	1100	160.74	95.00
	1124	31.54	44	5	408	62.92	55.00	3 1/2	10310	59.25	62	6 ½	1460	186.00	155.00
	10276	34.37	48	5	435	68.64	60.00	3 1/2	10309	60.00	63	7	1490	198.45	157.50
	10273	35.75	50	6	560	75.00	62.50	3 1/2	10621	15.37	12	10	440	76.80	42.00
	1032	36.00	50	6 ½	600	78.00	62.50	3 1/2	10322	16.75	15	10	650	90.00	52.50
	10274	40.25	56	4 ½	495	72.80	68.00	3 1/2	10619	23.37	21	11	440	135.00	88.20
	10275	40.25	56	6	592	84.00	70.00	3 1/2	10618	31.25	28	8	1425	160.60	98.00
	10277	48.00	67	6	830	102.00	83.75	3 1/2	10617	53.50	48	8	3025	273.60	168.00
	1091	48.72	68	7	950	119.00	85.00	3 1/2	10622	53.50	48	10	2160	307.20	168.00
	10278	50.12	70	3 ¾	500	70.00	74.00	3 1/2	10620	60.37	65	10	3000	416.00	227.50
	1094	71.75	100	7	1360	175.00	125.00	3 1/2	10321	95.75	86	10	4500	550.40	301.00
2 1/2	10571	8.87	11	6 ½	100	21.34	16.50	4	10325	17.56	14	8	480	124.16	63.00
	10281	10.50	13	4	75	13.00	19.50	4	10324	19.00	15	11	550	176.00	67.50
	10284	10.50	13	9	160	33.80	31.20	4	10319	33.12	26	12	1625	255.00	117.00
	10293	11.25	14	7	170	31.50	21.00	4	10323	68.75	54	10	4000	386.40	243.00
	10573	12.00	15	8	220	36.00	27.00	4	10320	84.00	66	10	3800	443.32	297.00
	10282	12.75	16	6 ½	190	31.04	24.00								
	10283	16.00	20	5	190	30.00	30.00								
	10298	18.30	23	5 ½	200	36.80	34.50								
	10285	20.75	26	5	310	39.00	39.00								

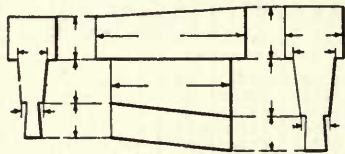
## Spur Racks

The Standard Faces for Spur Racks are the same as for Spur Gears

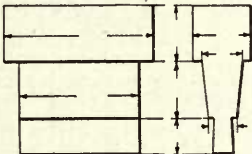
## Sizes and Prices

Pattern Number	Price Per Foot	Number of Teeth	Face, Inches	Pitch, Inches	Length
6032	\$0.60	32	1 ¾	¾	2' 0"
6096	.60	96	1 ¾	¾	6' 0"
8036	.80	36	2 ½	1	3' 0"
8048	.80	48	2 ½	1	4' 0"
9032	1.00	32	3	1 ⅞	3' 0"
9064	1.00	64	3	1 ⅞	6' 0"
10034	1.25	34	3 ½	1 ¼	3' 6 ½"
10039-A	1.10	39	3	1 ¼	4' 0 ¾"
10048	1.25	48	3 ½	1 ¼	5' 0"
12024	1.75	24	4 ½	1 ½	3' 0"
12032	1.75	32	4 ½	1 ½	4' 0"
12048	1.75	48	4 ½	1 ½	6' 0"
13015	2.25	15	5	1 ⅝	2' 0 ¾"
14036	3.00	36	5 ½	1 ¾	5' 3"
16012	3.75	12	6	2	2' 0"
18016	4.75	16	7	2 ¼	3' 0"
24012	8.00	12	9	3	3' 0"
40014-A	-----	14	11" Eff.	5" Circ.	5' 10" Rack
40014-A	-----	14	11" Eff.	5" Circ.	22.28 I. D. Pinion

Maple Cogs for Mortise Gears  
Mitre and Bevel Wheels



Spur Gears



Shank Sawed to Shape. Teeth Dressed Ready to Run

Direction for Ordering Cogs

1. Give number of cogs wanted, and face measure of iron pinion tooth in inches.
2. Send old cog or pattern which has been driven in the mortise, or send drawing giving exact dimensions as indicated in the above diagram.
3. In ordering "Ready Dressed Cogs" for mortise, bevel or mitre wheels, tracings should be sent on a piece of stiff paper showing the shape of three consecutive iron pinion teeth, both inner and outer ends. If the cogs are for a spur wheel it is necessary to send tracing of one end of iron pinion teeth.
4. Patterns showing exact shape of head of cogs may be sent in lieu of tracings.
5. When keys are wanted, either send a pattern or sketch giving the length of key and the width at both ends. A pattern is preferred.

List Price  
Unfinished Cogs

Face, Inches-----	3	4	5	6	7	8	9	10	12
Price-----	\$0.14	\$0.16	\$0.20	\$0.24	\$0.28	\$0.34	\$0.44	\$0.48	\$0.54

Ready Dressed Cogs

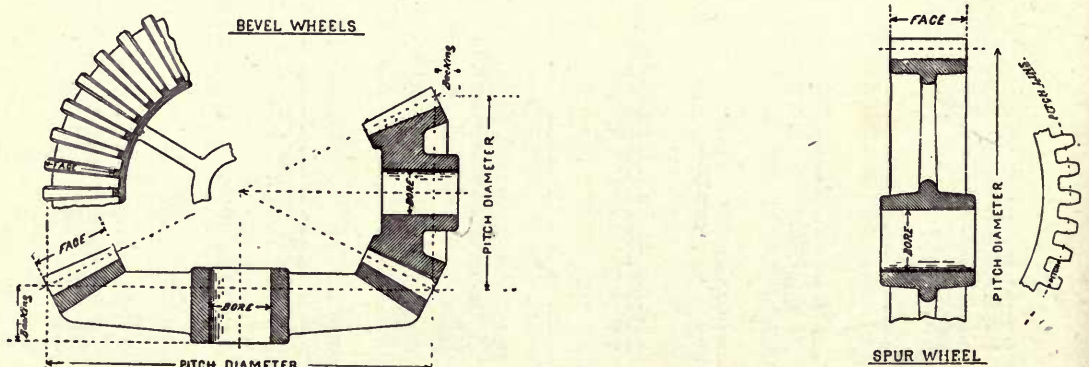
Face, Inches-----	3	4	5	6	7	8	9	10	12
Price-----	\$0.20	\$0.22	\$0.26	\$0.30	\$0.36	\$0.44	\$0.54	\$0.58	\$0.68

Hard Wood Keys

- 3 to 5-inch Face, List Price, each-----\$0.06  
6 to 8-inch Face, List Price, each-----.10  
9 to 12-inch Face, List Price, each-----.14

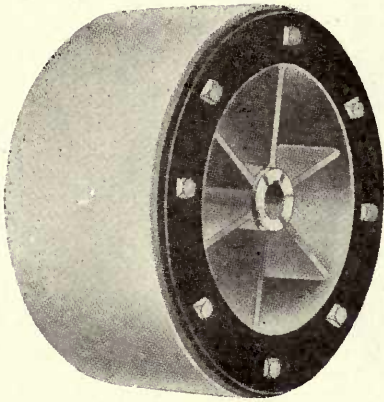
NOTE. Unless otherwise ordered, cogs furnished with shanks to shape and teeth not dressed. It is recommended that cogs be ordered this way, as owing to variations in the core wheel, the best way to secure a perfect running wheel, the cogs should be spaced, shaped and dressed after they have been fitted and keyed into the core or mortise wheel.

Diagram Showing Method of Obtaining Dimensions Used in Gear List



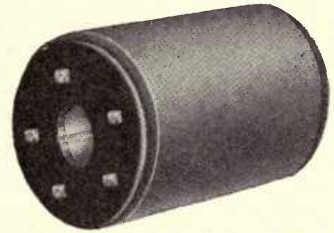


## Spur Paper and Iron Friction Gearing



Style No. 118

Frictions over 30 inches diameter are made as above



Style No. 119

Small Spur Paper Friction

### Price List of Spur Paper Frictions

Diam. Inches	Face Inches	Friction Wheel Complete with Flanges	Diam. Inches	Face Inches	Friction Wheel Complete with Flanges	Diam. Inches	Face Inches	Friction Wheel Complete with Flanges	Diam. Inches	Face Inches	Friction Wheel Complete with Flanges
4	3	\$2.12	9	5	\$ 6.22	14	4	\$10.74	18	12	\$31.78
	4	2.60		6	7.06		5	12.27		14	35.98
	5	3.02		7	7.86		6	13.84		16	40.16
	6	3.42		8	8.70		7	15.38	20	5	21.36
	7	3.84		9	9.54		8	16.96		6	23.76
	8	4.26		10	10.36		9	18.58		7	26.16
	9	4.68		4	6.62		10	20.16		8	28.54
	10	5.10	10	5	7.60		12	23.26		9	31.06
5	3	2.38		6	8.60		14	26.38		10	33.46
	4	2.84		7	9.58	15	4	11.10		12	38.24
	5	3.30		8	10.58		5	12.76		14	43.04
	6	3.76		9	11.66		6	14.42		16	47.82
	7	4.20		10	12.64		7	16.08	22	5	26.60
	8	4.66		12	14.62		8	17.78		6	29.34
	9	5.02		14	16.60		9	19.50		7	32.06
	10	5.48	11	4	7.44		10	21.20		8	34.78
6	3	2.80		5	8.56		12	24.52		9	37.66
	4	3.28		6	9.66		14	27.90		10	40.44
	5	3.78		7	10.78	16	4	12.77		12	45.88
	6	4.30		8	11.88		5	14.58		14	51.34
	7	4.80		9	13.08		6	16.42		16	56.88
	8	5.32		10	14.20		7	18.24	24	5	30.58
	9	5.82		12	16.42		8	20.06		6	33.64
	10	6.30		14	18.64		9	22.02		7	36.70
7	3	3.38	12	4	8.28		10	23.84		8	39.74
	4	4.00		5	9.50		12	27.50		9	43.00
	5	4.62		6	10.72		14	31.44		10	46.04
	6	5.28		7	11.96	17	4	13.82		12	52.14
	7	5.90		8	13.20		5	15.78		14	58.24
	8	6.58		9	14.52		6	17.74		16	64.14
	9	7.22		10	15.74		7	19.70	26	5	33.72
	10	7.88		12	18.20		8	21.66		6	36.98
8	3	3.82	13	4	20.68		9	23.74		7	40.16
	4	4.58		5	9.70		10	25.70		8	43.48
	5	5.28		6	11.08		12	29.60		9	46.94
	6	6.04		7	12.50		14	33.30		10	50.18
	7	6.76		8	14.00	18	5	16.98		12	56.68
	8	7.52		9	15.30		6	19.08		14	63.16
	9	8.28		10	16.78		7	21.18		16	69.68
	10	9.10		12	18.20		8	23.26	28	5	39.12
9	3	4.68		14	21.00		9	25.48		6	42.98
	4	5.40			23.80		10	27.58		7	46.84

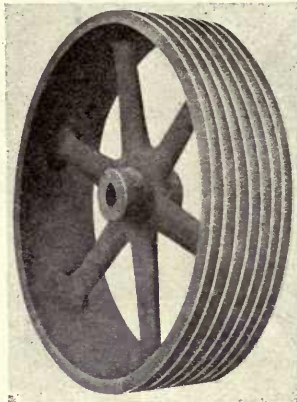
Prices of larger sizes, and also of Bevel and Mitre Frictions furnished upon application.

When ordering Paper Friction Rolls or Fillers, give dimensions, and state number and size of bolts, also radius or circle on which bolt holes are to be drilled. Send paper pattern when the holes in flanges have not been accurately spaced.

For prices of Cast Iron Spur Friction Wheels use lists as for standard Double Belt Cast Iron Pulleys, with Double Flange extras.

# Cast Iron Sheaves for Manila Rope Transmission

## With Turned Grooves



Style No. 120

For 3/4, 7/8 and 1-Inch Rope										
Price List										
Diam. Inches	1 Groove	2 Grooves	3 Grooves	4 Grooves	5 Grooves	6 Grooves	7 Grooves	8 Grooves	9 Grooves	10 Grooves
36	\$ 14.70	\$ 22.45	\$ 30.20	\$ 37.95	\$ 45.70	\$ 53.45	\$ 61.20	\$ 68.95	\$ 76.70	\$ 84.45
40	15.75	24.30	32.95	41.60	50.15	58.75	66.40	75.95	84.50	93.15
44	17.90	27.75	37.50	47.40	57.20	67.00	76.90	86.70	96.50	106.40
48	24.15	34.40	44.75	55.00	65.25	75.65	85.88	96.25	106.40	116.75
52	26.25	37.50	48.75	60.00	71.25	82.50	93.75	105.00	116.25	127.50
56	30.50	42.25	54.00	65.65	77.40	89.15	100.90	112.60	124.25	136.00
60	35.90	50.25	63.10	75.90	88.75	101.65	114.40	127.25	140.00	153.00
64	41.15	54.60	68.10	81.50	95.00	108.45	121.90	135.30	148.75	162.25
68	49.65	65.00	80.40	95.75	111.15	126.50	141.90	157.30	172.80	188.15
72	58.50	74.40	89.90	105.30	120.80	136.20	151.00	166.00	180.90	195.80
76	61.50	77.00	92.50	108.00	123.50	139.00	154.50	170.00	185.50	201.00
80	69.25	85.80	102.20	118.70	135.00	151.50	167.90	184.40	200.80	217.30
84	78.20	95.30	112.40	129.70	146.80	163.90	181.10	198.20	215.40	232.50
88	85.90	103.90	121.80	139.80	157.80	175.70	193.70	211.70	229.70	247.50
92	95.20	113.50	131.90	150.40	168.80	187.25	205.80	224.20	242.70	261.00
96	106.70	125.50	144.40	163.20	182.00	200.90	219.80	238.70	257.50	276.30
102	126.25	144.40	162.50	180.70	198.80	216.90	235.00	253.20	271.30	289.40
108	135.70	154.00	172.40	190.80	209.20	227.50	245.90	264.30	282.80	300.80
114	156.80	174.00	191.40	208.70	225.90	243.30	260.70	277.90	295.00	313.50
120	179.00	198.20	216.90	235.70	254.50	273.80	292.50	311.30	330.00	348.80
126	208.70	229.90	250.00	270.40	290.70	310.90	331.30	351.30	371.70	391.90
132	236.30	256.90	277.50	298.40	319.00	339.80	360.50	381.20	401.90	422.50

Diam. Inches	11 Grooves	12 Grooves	13 Grooves	14 Grooves	15 Grooves	16 Grooves	17 Grooves	18 Grooves	19 Grooves	20 Grooves
36	\$ 92.20	\$102.50	\$110.90	\$119.20	\$127.50	\$135.90	\$144.20	\$152.50	\$160.90	\$169.25
40	101.70	110.30	129.25	139.40	145.65	152.00	170.30	179.50	188.65	197.75
44	116.15	125.95	135.75	145.65	166.40	176.50	188.00	199.50	211.00	222.40
48	127.15	137.40	147.50	157.90	173.25	197.75	207.50	217.50	227.40	237.15
52	138.75	150.00	161.25	172.50	183.75	209.40	219.40	229.25	239.20	249.15
56	147.75	159.50	171.20	182.90	194.65	220.00	245.25	255.50	265.65	275.90
60	165.75	178.65	191.50	204.30	216.25	230.00	271.65	288.40	305.25	322.15
64	175.75	189.20	202.65	216.15	229.50	243.65	276.25	305.90	323.00	340.00
68	203.50	218.90	234.25	249.65	265.00	280.50	295.90	311.25	335.00	357.50
72	210.80	225.50	240.70	255.40	270.40	285.30	300.30	315.00	350.00	372.50
76	216.50	232.00	247.50	263.00	278.50	294.00	309.50	325.00	365.00	388.80
80	233.70	250.20	266.50	283.00	299.50	315.90	332.40	348.80	395.00	418.80
84	250.00	266.90	284.00	301.20	318.40	335.50	352.70	369.80	437.50	462.50
88	265.50	283.50	301.50	319.40	337.40	355.40	373.30	391.30	470.00	505.00
92	279.50	298.00	316.40	334.90	353.30	371.80	390.30	408.80	490.00	525.00
96	295.00	314.00	332.90	351.80	370.70	389.40	408.30	427.20	520.00	550.00
102	307.50	324.50	341.50	358.50	398.70	416.50	434.40	452.30	550.00	587.50
108	328.40	346.90	365.40	384.00	417.30	439.40	461.70	483.80	600.00	634.30
114	362.50	382.80	402.90	423.00	448.50	484.70	520.80	556.90	622.50	655.00
120	368.80	419.50	445.20	470.80	496.40	522.00	547.50	584.30	672.50	705.90
126	447.20	466.70	486.30	505.70	525.00	544.40	564.20	599.70	741.90	764.70
132	474.30	500.00	525.70	551.30	576.90	602.50	628.00	703.20	764.80	826.30

Sheaves over 120 inches diameter always made split. For Split Sheaves 120 inches diameter and under add 25%.  
Large bores are subject to extra charge.  
Prices quoted on application on sheaves with Engineer's Standard or English Grooves.



# Cast Iron Sheaves for Manila Rope Transmission—Continued

Diameter Inches	1 Groove	2 Grooves	3 Grooves	4 Grooves	5 Grooves	6 Grooves	7 Grooves	8 Grooves
44	\$ 24.50	\$ 37.40	\$ 50.30	\$ 63.20	\$ 76.00	\$ 88.80	\$101.80	\$114.60
48	31.00	45.40	59.60	73.80	88.10	102.40	116.60	130.90
52	32.80	48.30	63.80	79.30	94.80	110.30	125.70	141.20
56	37.50	53.40	69.40	85.70	101.30	117.30	133.20	149.20
60	43.20	61.10	78.20	95.40	112.50	129.80	146.90	164.20
64	49.00	68.80	88.50	108.40	128.30	147.90	167.80	187.50
68	60.20	81.80	103.30	125.00	147.00	168.00	189.80	211.30
72	67.00	90.70	112.90	135.40	157.80	180.00	202.40	224.80
76	69.80	98.20	117.50	140.80	160.90	184.80	218.50	232.40
80	79.70	103.40	126.90	150.70	174.30	198.00	221.70	245.30
84	87.90	112.50	137.50	162.00	186.90	211.70	236.40	261.00
88	99.40	125.70	151.20	177.40	203.30	229.20	255.00	280.90
92	112.00	138.40	164.70	191.00	217.50	243.80	270.30	296.50
96	119.70	148.00	176.30	204.50	232.90	261.30	289.50	317.90
102	134.80	163.00	192.20	221.50	250.80	280.00	309.30	338.50
108	146.80	177.20	207.70	238.20	268.50	299.20	329.50	360.20
114	174.30	204.50	235.00	265.40	295.80	326.30	356.70	387.00
120	191.00	230.50	269.90	309.40	348.80	388.30	427.70	467.20
126	216.30	259.50	302.80	346.00	396.80	432.50	475.80	519.00
132	244.40	288.30	332.30	376.30	427.50	464.00	508.00	552.00
138	272.30	317.00	361.90	406.30	458.80	495.70	540.30	585.00
144	300.40	345.80	391.20	436.50	489.40	527.30	572.70	618.00

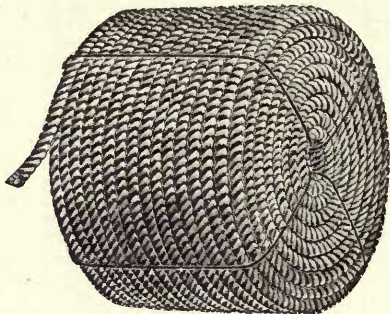
Diameter Inches	9 Grooves	10 Grooves	11 Grooves	12 Grooves	13 Grooves	14 Grooves	15 Grooves	16 Grooves
44	\$127.50	\$140.40	\$177.20	\$192.50	\$205.40	\$218.30	\$235.90	\$250.00
48	145.00	170.40	185.80	199.40	216.50	227.00	247.30	272.30
52	156.50	172.20	202.50	217.80	233.20	248.40	258.80	292.30
56	165.20	181.20	219.70	227.00	259.40	272.50	285.70	310.30
60	181.30	198.40	238.50	253.40	279.90	298.20	317.30	336.70
64	209.80	227.00	246.90	281.20	297.80	314.40	339.80	356.30
68	232.90	254.50	276.20	297.50	323.20	347.00	371.00	395.00
72	247.20	269.50	291.90	313.30	335.00	356.90	378.00	414.90
76	256.30	294.40	316.30	338.00	363.20	389.30	415.40	441.30
80	268.90	320.30	332.00	366.00	393.30	420.70	448.00	475.30
84	285.90	344.40	368.50	389.80	418.30	446.90	475.50	501.50
88	307.40	363.50	391.20	418.80	446.50	474.20	501.90	530.00
92	322.90	382.20	405.00	428.50	459.90	491.30	522.50	553.80
96	346.20	405.50	435.40	465.40	494.80	525.40	555.30	585.70
102	367.90	459.90	489.20	517.90	546.70	575.40	615.70	644.20
108	390.70	490.40	525.50	556.00	586.50	617.20	655.00	687.50
114	417.40	527.00	574.90	607.80	640.80	673.80	709.30	750.00
120	506.70	563.80	602.70	642.00	683.20	724.50	765.70	807.50
126	562.30	605.50	648.80	692.20	735.40	778.50	821.80	865.00
132	596.00	639.80	684.20	727.50	771.90	815.80	859.80	907.00
138	629.80	674.20	719.00	763.40	808.40	853.00	897.80	949.00
144	663.40	708.80	754.20	799.20	844.90	890.30	935.70	991.00

Diameter Inches	1 Groove	2 Grooves	3 Grooves	4 Grooves	5 Grooves	6 Grooves	7 Grooves	8 Grooves
52	\$ 39.30	\$ 59.00	\$ 78.80	\$ 98.50	\$118.20	\$137.90	\$157.70	\$177.40
56	44.20	64.40	84.70	104.90	125.20	145.40	165.50	185.80
60	50.50	71.90	93.40	114.90	136.40	157.90	179.40	200.90
64	56.90	83.00	109.10	135.30	161.30	187.40	223.50	239.60
68	66.20	95.00	123.30	151.30	179.50	207.50	229.50	257.50
72	72.50	104.80	134.50	164.40	194.20	223.90	253.80	283.50
76	80.00	110.50	142.50	173.50	198.30	230.40	262.50	294.80
80	90.00	120.90	151.80	182.70	213.50	244.40	275.30	306.20
84	97.50	129.90	162.20	194.50	226.90	259.30	292.20	323.90
88	112.80	147.30	180.70	215.00	248.80	282.50	316.30	350.00
92	123.80	158.80	193.80	228.80	263.80	298.80	333.80	368.90
96	132.80	170.50	208.30	246.00	283.80	321.50	358.30	397.00
102	141.20	185.50	229.90	273.60	317.80	362.00	406.10	450.00
108	157.80	205.50	254.00	302.50	351.00	399.50	448.10	496.50
114	191.70	242.70	293.50	344.20	395.70	447.20	497.70	548.20
120	204.10	261.00	317.90	375.00	431.80	488.80	545.70	602.50
126	227.50	290.00	352.50	415.00	478.80	541.30	602.50	666.30
132	257.00	324.30	391.50	458.80	527.00	594.30	660.50	728.80
138	286.50	358.50	430.50	502.50	575.30	647.30	718.50	791.30
144	316.00	392.80	469.50	546.30	622.40	700.30	776.30	853.70
150	345.50	427.00	508.50	590.00	671.70	753.20	834.40	916.20
156	375.00	461.30	547.50	633.80	719.90	806.20	892.40	978.70

Diameter Inches	9 Grooves	10 Grooves	11 Grooves	12 Grooves	13 Grooves	14 Grooves	15 Grooves	16 Grooves
52	\$197.10	\$216.80	\$266.30	\$285.70	\$305.00	\$323.30	\$354.10	\$375.00
56	206.00	226.20	291.50	294.40	347.70	362.20	376.70	400.50
60	222.40	243.80	311.30	328.20	368.30	393.30	418.30	443.30
64	270.70	291.80	317.90	373.20	392.90	412.70	450.00	470.00
68	285.80	313.80	342.00	376.30	412.00	444.40	476.90	509.40
72	313.30	343.20	372.90	401.20	429.40	457.80	485.50	544.40
76	326.90	387.70	415.90	444.00	478.80	515.40	552.00	588.70
80	337.00	423.30	452.90	481.90	520.00	558.20	596.40	634.50
84	356.30	461.30	486.90	512.50	552.50	592.50	632.50	672.50
88	385.00	489.40	516.80	553.20	591.50	628.90	666.30	703.70
92	403.20	503.10	531.20	569.00	602.30	647.50	691.80	736.00
96	434.80	534.70	575.70	616.80	656.70	694.00	740.00	781.20
102	494.40	630.30	670.80	711.30	751.70	792.20	832.50	873.00
108	549.00	680.20	722.70	765.20	807.70	850.30	892.80	935.30
114	600.00	731.40	787.20	832.80	878.50	924.30	970.00	1015.70
120	659.50	751.00	807.80	864.50	922.30	978.20	1034.90	1091.70
126	727.50	791.30	853.80	916.30	978.80	1042.50	1105.00	1167.50
132	795.00	863.30	930.50	997.80	1065.00	1133.20	1200.00	1267.80
138	862.50	935.20	1007.20	1078.70	1151.30	1223.90	1295.90	1367.90
144	929.90	1007.20	1083.90	1160.70	1237.50	1314.50	1391.30	1468.00
150	997.30	1079.00	1160.50	1242.00	1323.50	1405.30	1486.80	1568.30
156	1074.80	1151.00	1237.30	1323.50	1409.80	1495.90	1582.20	1668.40

Sheaves over 120 inches diameter always made split. For Split Sheaves 120 inches diameter and under add 25%. Large bores are subject to extra charge. Prices quoted on application on sheaves with Engineer's Standard or English Grooves.

Tallow-Laid Manila Rope  
For Transmission of Power



We carry a large stock of specially selected extra long fibre Manila Rope, carefully laid up in a lubricant which prevents its wearing and chafing when put into service. It is especially adapted for power transmission and we guarantee it superior to any other on the market for the purpose.

Circumference Inches	APPROXIMATE WEIGHT AND STRENGTH OF MANILA TRANSMISSION ROPE			
	Diameter Inches	Weight of 100 Feet in Pounds	Strength of New Rope in Pounds	Length of Rope in One Pound
1½	½	11	2,250	9' 2"
2	⅝	15	4,000	6' 8"
2¼	¾	20	5,000	5'
2¾	⅞	26	7,500	4'
3	1	34	9,000	3'
3½	1⅛	43	12,250	2' 6"
3¾	1¼	53	14,000	2'
4¼	1⅝	65	18,062	1' 8"
4½	1½	77	20,250	1' 3"
5	1⅞	95	25,000	1' 1"
5½	1¾	115	30,250	10½"
6	2	142	36,000	9½"

Price, per pound.....\$0.25

Manila Rope Dressing

The occasional application of a good Rope Dressing will add to the life of any transmission rope as it keeps it soft and pliable and protects it from external and internal friction, moisture or heat. For this purpose, we recommend the "Magnolia" Rope Dressing which is sold in the following size packages:

In 5 and 10-pound tin cans.....per lb., \$0.40  
In 25, 40 and 75-pound wooden kits....." .35  
In half and full barrels....." .25

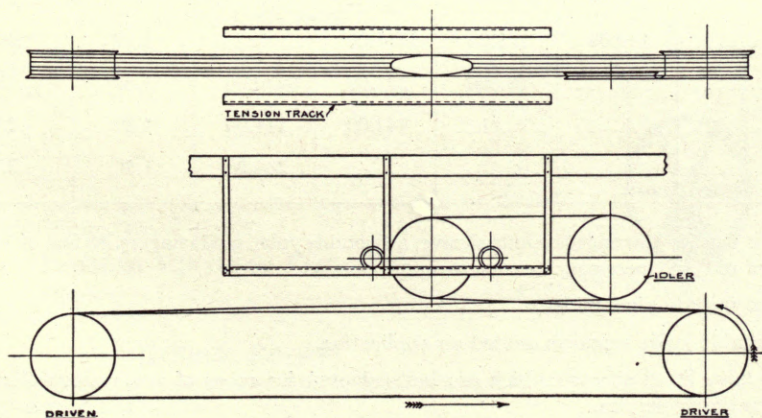
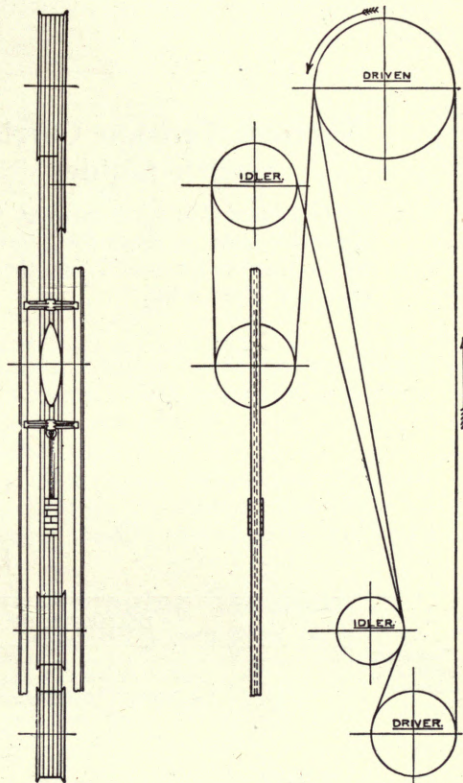
Horse Power, Manila Rope

Diameter of Rope Inches	VELOCITY, FEET PER MINUTE									
	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	6,000
¾	2.3	3.3	4.3	5.2	6.0	6.6	7.2	7.3	7.4	6.9
⅞	3.0	4.5	5.9	7.0	8.2	9.0	9.6	9.8	10.0	9.0
1	4.0	5.9	7.7	9.2	10.6	11.8	12.7	12.9	13.0	12.0
1⅛	5.0	7.5	9.7	11.6	13.5	14.9	16.0	16.3	16.7	15.3
1¼	6.3	9.1	12.0	14.3	16.7	18.5	20.0	20.2	20.7	18.9
1½	9.0	13.5	17.4	20.7	23.0	26.3	28.7	29.0	29.5	26.7
1¾	12.3	18.0	23.6	28.2	32.7	36.4	38.5	39.4	40.5	36.0
2	16.0	23.2	30.6	36.8	42.5	46.7	50.0	51.7	52.8	47.3
2¼	20.0	29.6	38.6	46.6	53.6	59.2	63.6	65.8	66.3	60.3
2½	25.0	36.6	47.7	57.5	66.0	71.2	78.0	80.0	81.0	73.8



## Diagrams of Rope Drives

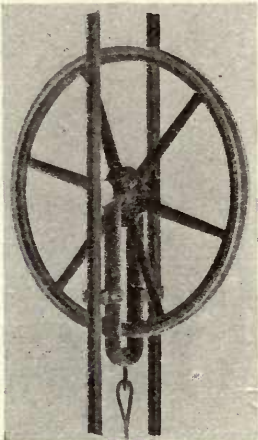
Examples of Simple Vertical  
and Horizontal Rope Drives  
and Tension Carriages



Tension Carriages

Vertical Tension Carriages  
with Guides

The Tension Carriage is provided with an adjustable yoke in which the sheave runs. The guides are made of T iron the lengths contained in price list.



Style No. 122

List Prices

Diameter of Sheave Inches	DIAMETER OF ROPE					EXTRAS		
	$\frac{3}{8}$ - $\frac{7}{8}$ -1 Inch	1 $\frac{1}{4}$ Inches	1 $\frac{1}{2}$ Inches	1 $\frac{3}{4}$ Inches	2 Inches	Pipe Double Track Per Foot	Wire Cable Per Foot	12-Inch Pull-Back Sheave
36	\$ 94.00	-----	-----	-----	-----	\$1.50	\$0.15	\$8.00
42	103.00	-----	-----	-----	-----	1.50	.15	8.00
48	113.00	\$123.00	-----	-----	-----	1.50	.20	8.00
54	-----	135.00	\$156.00	-----	-----	1.50	.20	8.00
60	-----	149.00	171.00	\$211.00	-----	1.50	.20	8.00
66	-----	-----	187.00	227.00	\$230.00	1.50	.25	8.00
72	-----	-----	-----	242.00	244.00	1.50	.25	8.00
84	-----	-----	-----	-----	284.00	1.50	.25	8.00

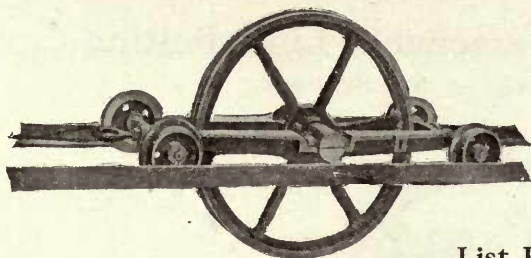
The prices for Tension Carriages include sheave, adjustable yoke, guide fingers, 50 feet of  $\frac{3}{8}$ -inch or  $\frac{1}{2}$ -inch wire rope, weight rod and necessary tension weights.

Prices do not include pipe guides.

Prices for suitable guide supports quoted on application.

NOTE. We have listed sheaves which are best adapted for ropes of the various diameters. Smaller sheaves do not give good service.





## Tension Carriages (Continued)

### Horizontal Tension Carriage

Style No. 123

#### List Prices

Diameter of Sheave Inches	DIAMETER OF ROPE					EXTRAS				
	$\frac{3}{4}$ - $\frac{1}{2}$ Inches	$1\frac{1}{4}$ Inches	$1\frac{1}{2}$ Inches	$1\frac{3}{4}$ Inches	2 Inches	Channel Double Track per Foot	I Beam Double Track per Foot	Pipe Double Track per Foot	Wire Cable per Foot	12-inch Pull Back Sheave
36	\$ 83.00					\$1.50	\$0.75	\$1.50	\$0.15	\$8.00
42	91.00					1.50	.75	1.50	.15	8.00
48	101.00	\$111.00				1.50	.90	1.50	.20	8.00
54		122.00	\$141.00			1.50	.90	1.50	.20	8.00
60		135.00	154.00	\$190.00		1.50	.90	1.50	.20	8.00
66			170.00	205.00	\$210.00	1.50	1.00	1.50	.25	8.00
72				220.00	225.00	1.50	1.00	1.50	.25	8.00
84					265.00	1.50	1.00	1.50	.25	8.00



Hanging Tightener

The prices for Tension Carriages include sheave, adjustable yoke, track wheels, pull-back sheave, 50 feet of  $\frac{3}{8}$ -inch or  $\frac{1}{2}$ -inch wire cable, weight rod and necessary tension weights.

Prices do not include track.

Prices for suitable track supports quoted upon application.

NOTE. We have listed sheaves which are best adapted for ropes of the various diameters. Smaller sheaves do not give good service.

### Plain Swinging Tensions

For  $\frac{3}{4}$  to  $1\frac{1}{8}$  Inch Rope

Diameter of Sheave, Inches	Price
18	\$20.00
24	25.00
30	30.00
36	35.00
40	40.00

The above prices include yokes, sheaves, and 100 pounds of weights.

### Plain Tied Down Tensions

For  $\frac{3}{4}$  to  $1\frac{1}{8}$  Inch Rope

Diameter of Sheave, Inches	Price
18	\$25.00
24	30.00
30	35.00
36	40.00
40	45.00

The above prices include yokes, sheaves, two well sheaves, 20 feet of wire cable and 100 pounds of weights.

### Tension Carriage Fixtures

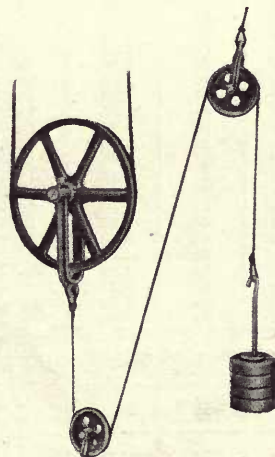
Swivel Pull-Back Sheaves	\$2.75
Swinging Pull-Back Sheaves	2.75

### Pull-Back Ropes

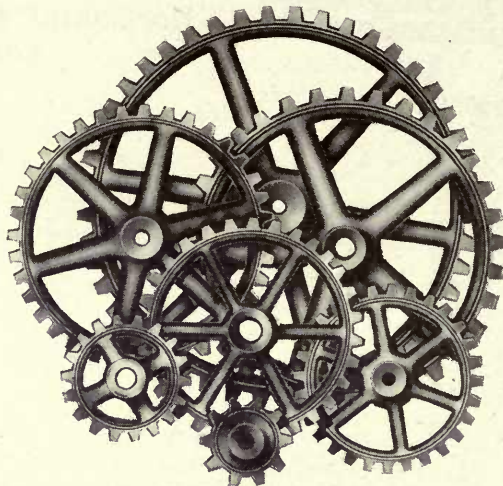
For Pull-Back Ropes we recommend Iron or Steel Hoisting Rope, made with 19 wires to the strand.

### Tension Weight Rods

Price, 24 inches long, $\frac{3}{4}$ inch diameter, each	\$1.25
Tension Weights, per pound	.04



Tied Down Tightener



For larger than maximum bore specified in list add 10% for each quarter inch or fraction thereof.

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# Finished Steel Shafting

## Price List

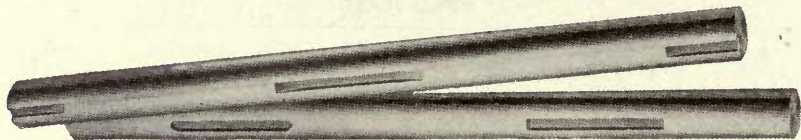
Size Inches	Weight per Foot	Price per Pound	Price per Foot	Size Inches	Weight per Foot	Price per Pound	Price per Foot
$\frac{3}{8}$	.375	\$0.06 $\frac{1}{2}$	\$0.03	3	24.05	\$0.05	\$1.21
$\frac{7}{16}$	.511	.06	.03	$3\frac{1}{8}$	26.09	.05 $\frac{1}{2}$	1.43
$\frac{1}{2}$	.667	.06	.04	$3\frac{3}{16}$	27.16	.05 $\frac{1}{2}$	1.49
$\frac{9}{16}$	.845	.06	.06	$3\frac{1}{4}$	28.22	.05 $\frac{1}{2}$	1.55
$\frac{5}{8}$	1.05	.05 $\frac{3}{4}$	.06	$3\frac{3}{8}$	30.43	.05 $\frac{1}{2}$	1.67
$\frac{11}{16}$	1.26	.05 $\frac{3}{4}$	.07	$3\frac{7}{16}$	31.58	.05 $\frac{1}{2}$	1.74
$\frac{3}{4}$	1.50	.05 $\frac{1}{2}$	.09	$3\frac{1}{2}$	32.73	.05 $\frac{3}{4}$	1.88
$\frac{13}{16}$	1.77	.05 $\frac{1}{2}$	.10	$3\frac{5}{8}$	35.20	.05 $\frac{3}{4}$	2.02
$\frac{7}{8}$	2.05	.05 $\frac{1}{2}$	.12	$3\frac{11}{16}$	36.40	.05 $\frac{3}{4}$	2.09
$\frac{15}{16}$	2.35	.05 $\frac{1}{2}$	.13	$3\frac{3}{4}$	37.57	.05 $\frac{3}{4}$	2.16
				$3\frac{7}{8}$	39.95	.05 $\frac{3}{4}$	2.30
				$3\frac{15}{16}$	41.25	.05 $\frac{3}{4}$	2.37
1	2.68	.05 $\frac{1}{2}$	.15				
$1\frac{1}{16}$	3.02	.05 $\frac{1}{2}$	.17	4	42.75	.06	2.57
$1\frac{1}{8}$	3.38	.05 $\frac{1}{2}$	.19	$4\frac{1}{8}$	45.44	.06	2.73
$1\frac{1}{4}$	3.77	.05 $\frac{1}{2}$	.21	$4\frac{1}{4}$	47.40	.06	2.85
$1\frac{3}{8}$	4.17	.05 $\frac{1}{2}$	.23	$4\frac{3}{8}$	48.26	.06	2.90
$1\frac{1}{2}$	4.61	.05 $\frac{1}{2}$	.26	$4\frac{3}{4}$	51.80	.06	3.11
$1\frac{5}{8}$	5.05	.05 $\frac{1}{2}$	.28	$4\frac{7}{8}$	52.62	.06	3.16
$1\frac{7}{8}$	5.52	.05 $\frac{1}{2}$	.31	$4\frac{1}{2}$	54.11	.06 $\frac{1}{2}$	3.52
$1\frac{1}{2}$	6.01	.05 $\frac{1}{4}$	.32	$4\frac{5}{8}$	57.12	.06 $\frac{1}{2}$	3.72
$1\frac{9}{16}$	6.52	.05 $\frac{1}{4}$	.34	$4\frac{11}{16}$	58.66	.06 $\frac{1}{2}$	3.82
$1\frac{5}{8}$	7.06	.05 $\frac{1}{4}$	.37	$4\frac{3}{4}$	60.88	.06 $\frac{1}{2}$	3.96
$1\frac{11}{16}$	7.61	.05 $\frac{1}{4}$	.40	$4\frac{7}{8}$	63.46	.06 $\frac{1}{2}$	4.13
$1\frac{3}{4}$	8.18	.05 $\frac{1}{4}$	.43	$4\frac{15}{16}$	65.50	.06 $\frac{1}{2}$	4.26
$1\frac{13}{16}$	8.78	.05 $\frac{1}{4}$	.46				
$1\frac{7}{8}$	9.39	.05 $\frac{1}{4}$	.49	5	67.45	.07	4.72
$1\frac{15}{16}$	10.03	.05 $\frac{1}{4}$	.53	$5\frac{1}{16}$	71.86	.07	5.03
				$5\frac{1}{8}$	78.95	.07	5.52
2	10.69	.05	.54	$5\frac{1}{2}$	80.77	.07 $\frac{3}{4}$	6.26
$2\frac{1}{16}$	11.35	.05	.57	$5\frac{1}{4}$	86.38	.07 $\frac{3}{4}$	6.69
$2\frac{1}{8}$	12.07	.05	.61	$5\frac{3}{8}$	88.37	.07 $\frac{3}{4}$	6.85
$2\frac{1}{4}$	12.80	.05	.64	$5\frac{7}{8}$	92.25	.07 $\frac{3}{4}$	7.15
$2\frac{3}{8}$	13.52	.05	.68	$5\frac{15}{16}$	94.14	.07 $\frac{3}{4}$	7.30
$2\frac{1}{2}$	14.35	.05	.72				
$2\frac{5}{8}$	15.07	.05	.76	6	96.14	.08 $\frac{1}{2}$	8.17
$2\frac{3}{4}$	15.89	.05	.80	$6\frac{1}{8}$	100.26	.08 $\frac{1}{2}$	8.52
$2\frac{7}{8}$	16.70	.05	.84	$6\frac{1}{4}$	104.41	.08 $\frac{1}{2}$	8.87
$2\frac{9}{8}$	17.55	.05	.88	$6\frac{3}{8}$	110.70	.08 $\frac{1}{2}$	9.41
$2\frac{11}{16}$	18.41	.05	.93	$6\frac{1}{2}$	112.92	.09	10.16
$2\frac{13}{16}$	19.31	.05	.97	$6\frac{5}{8}$	119.40	.09	10.75
$2\frac{3}{4}$	20.21	.05	1.02	$6\frac{3}{4}$	121.78	.09	10.96
$2\frac{15}{16}$	21.15	.05	1.06	$6\frac{7}{8}$	126.20	.09	11.36
$2\frac{7}{8}$	22.09	.05	1.11	$6\frac{15}{16}$	128.50	.09	11.57
$2\frac{15}{16}$	23.06	.05	1.16	7	130.77	.09	11.77

The above prices are for shafts 1 foot to 20 feet long, inclusive. For shafts 3 to  $11\frac{3}{4}$  inches long, 1 cent per pound, net extra. For shafts over 20 feet long and less than 30 feet,  $\frac{1}{2}$  cent per pound, net extra.

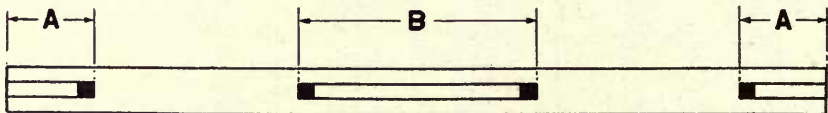
## Dimensions of Standard Key Seats

Diameter of Shaft Inches	Size of Key Way Inches	Diameter of Shaft Inches	Size of Key Way Inches
$\frac{3}{4}$ to $\frac{7}{8}$	$\frac{3}{16}$ x $\frac{3}{8}$	$2\frac{15}{16}$ to $3\frac{1}{8}$	$\frac{3}{4}$ x $\frac{3}{8}$
$\frac{15}{16}$ to $1\frac{1}{8}$	$\frac{7}{16}$ x $\frac{7}{8}$	$3\frac{1}{16}$ to $3\frac{3}{8}$	$\frac{15}{16}$ x $\frac{15}{16}$
$1\frac{1}{8}$ to $1\frac{3}{8}$	$\frac{1}{2}$ x $\frac{5}{8}$	$3\frac{1}{4}$ to $3\frac{5}{8}$	$\frac{7}{8}$ x $\frac{7}{8}$
$1\frac{1}{4}$ to $1\frac{1}{2}$	$\frac{5}{8}$ x $\frac{1}{2}$	$3\frac{3}{8}$ to $3\frac{7}{8}$	$\frac{15}{16}$ x $\frac{3}{4}$
$1\frac{3}{8}$ to $1\frac{3}{4}$	$\frac{3}{4}$ x $\frac{1}{2}$	$3\frac{1}{2}$ to $4\frac{1}{8}$	1 x $\frac{1}{2}$
$1\frac{1}{2}$ to $2\frac{1}{8}$	$\frac{7}{8}$ x $\frac{1}{2}$	$4\frac{1}{8}$ to $4\frac{3}{8}$	$1\frac{1}{8}$ x $\frac{1}{2}$
$2\frac{1}{8}$ to $2\frac{3}{8}$	$\frac{15}{16}$ x $\frac{1}{2}$	$4\frac{1}{4}$ to $5\frac{1}{8}$	$1\frac{1}{4}$ x $\frac{1}{2}$
$2\frac{3}{8}$ to $2\frac{1}{2}$	$\frac{1}{2}$ x $\frac{5}{8}$	$5\frac{1}{8}$ to $5\frac{3}{8}$	$1\frac{3}{8}$ x $\frac{1}{2}$
$2\frac{1}{2}$ to $2\frac{5}{8}$	$\frac{1}{2}$ x $\frac{3}{4}$	$5\frac{1}{4}$ to $6$	$1\frac{1}{2}$ x $\frac{5}{8}$
$2\frac{5}{8}$ to $2\frac{3}{4}$	$\frac{3}{4}$ x $\frac{5}{8}$		
$2\frac{3}{4}$ to $2\frac{7}{8}$	$\frac{7}{8}$ x $\frac{5}{8}$		
$2\frac{7}{8}$ to $2\frac{15}{16}$	$\frac{15}{16}$ x $\frac{3}{4}$		

Key Seating Price List



Diameter of Shaft Inches	Full Length, Per Foot	End Key Seats 12" Long or Less	First Foot or Less	Each Second Foot 12" or Less	Extra for Each Drilled End	Extra for Each Squared End
		A	B	A or B	A or B	A or B
1 <sup>1</sup> / <sub>16</sub> — 1 <sup>1</sup> / <sub>8</sub>	\$0.16	\$0.24	\$0.50	\$0.16	\$0.20	\$0.30
1 <sup>1</sup> / <sub>16</sub> — 1 <sup>3</sup> / <sub>8</sub>	.20	.30	.60	.20	.30	.40
1 <sup>1</sup> / <sub>8</sub> — 1 <sup>3</sup> / <sub>4</sub>	.24	.40	.70	.24	.40	.50
1 <sup>1</sup> / <sub>8</sub> — 2 <sup>1</sup> / <sub>8</sub>	.30	.50	.80	.30	.50	.60
2 <sup>1</sup> / <sub>8</sub> — 2 <sup>3</sup> / <sub>4</sub>	.40	.60	.90	.40	.60	.70
2 <sup>1</sup> / <sub>8</sub> — 3 <sup>3</sup> / <sub>8</sub>	.50	.80	1.10	.50	.70	.80
3 <sup>1</sup> / <sub>8</sub> — 3 <sup>7</sup> / <sub>8</sub>	.60	1.00	1.30	.60	.80	1.00
3 <sup>1</sup> / <sub>8</sub> — 4 <sup>1</sup> / <sub>4</sub>	.70	1.20	1.50	.70	.90	1.20
4 <sup>1</sup> / <sub>8</sub> — 4 <sup>3</sup> / <sub>4</sub>	.90	1.40	1.70	.90	1.00	1.30
4 <sup>1</sup> / <sub>8</sub> — 5 <sup>1</sup> / <sub>4</sub>	1.20	1.70	2.20	1.20	1.10	1.50
5 <sup>1</sup> / <sub>8</sub> — 5 <sup>3</sup> / <sub>4</sub>	1.50	2.00	2.50	1.50	1.30	1.70
5 <sup>1</sup> / <sub>8</sub> — 6 <sup>1</sup> / <sub>4</sub>	2.00	2.50	3.00	2.00	1.50	2.00
6 <sup>1</sup> / <sub>8</sub> — 7 <sup>3</sup> / <sub>8</sub>	2.25	2.75	3.25	2.25	1.80	2.30
7 <sup>1</sup> / <sub>8</sub> — 8 <sup>3</sup> / <sub>8</sub>	2.50	3.00	3.50	2.50	2.00	2.50
8 <sup>1</sup> / <sub>8</sub> — 9 <sup>3</sup> / <sub>8</sub>	2.75	3.25	3.75	2.75	2.30	2.75
9 <sup>1</sup> / <sub>8</sub> — 10 <sup>3</sup> / <sub>8</sub>	3.00	3.50	4.00	3.00	2.50	3.00



Horse Power of Shafting

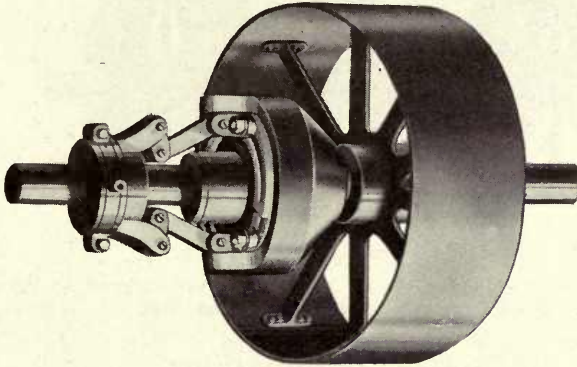
Diameter of Shaft Inches	NUMBER OF REVOLUTIONS PER MINUTE										
	100	125	150	175	200	225	250	275	300	325	350
1 <sup>1</sup> / <sub>16</sub>	5.3	6.6	7.9	9.2	10.6	11.9	13.2	14.6	15.9	17.2	18.3
1 <sup>1</sup> / <sub>8</sub>	8.1	10.1	12.2	14.2	16.2	18.2	20.1	22.3	24.3	26.3	28.3
2 <sup>1</sup> / <sub>16</sub>	11.6	14.5	17.4	20.3	23.2	26.1	29.0	31.9	34.8	37.7	40.6
2 <sup>1</sup> / <sub>8</sub>	16.1	20.1	24.2	28.2	32.2	36.2	40.2	44.3	48.3	52.3	56.4
2 <sup>1</sup> / <sub>4</sub>	21.9	27.4	32.9	38.4	43.8	44.3	54.7	60.3	65.7	71.2	76.6
2 <sup>3</sup> / <sub>8</sub>	28.2	35.2	42.3	49.3	56.4	63.5	70.5	77.5	84.6	91.6	98.7
3 <sup>1</sup> / <sub>8</sub>	36.0	45.0	54.0	68.0	72.0	81.0	90.0	99.0	108.0	117.0	126.0
3 <sup>1</sup> / <sub>4</sub>	45.1	56.5	67.6	74.0	90.2	102.0	113.0	124.0	135.3	146.5	158.0
3 <sup>3</sup> / <sub>8</sub>	55.7	69.5	83.5	97.4	111.4	125.3	139.5	153.3	167.1	181.5	195.0
3 <sup>7</sup> / <sub>8</sub>	67.8	84.7	102.0	118.8	135.6	152.6	169.2	181.8	203.4	220.5	237.0
4 <sup>1</sup> / <sub>16</sub>	97.0	121.3	145.5	169.8	194.0	218.3	242.5	266.8	291.0	315.3	339.5
4 <sup>1</sup> / <sub>8</sub>	134.0	167.0	200.0	234.0	268.0	302.0	335.0	368.0	402.0	435.0	468.0
5 <sup>1</sup> / <sub>16</sub>	178.0	223.0	268.0	313.0	357.0	402.0	447.0	491.0	536.0	581.0	625.0
5 <sup>1</sup> / <sub>8</sub>	232.0	291.0	349.0	407.0	465.0	523.0	581.0	639.0	697.0	755.0	813.0



# The Monarch Peerless Friction Clutches

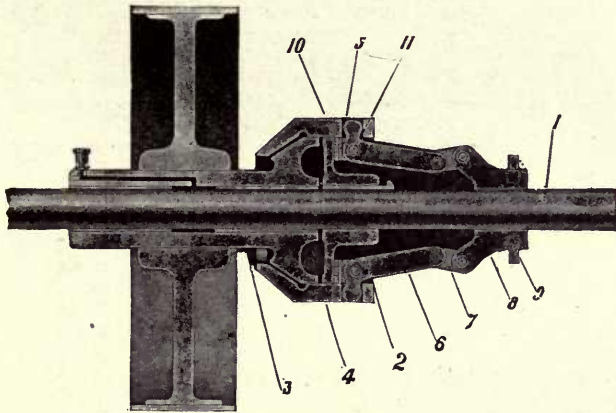
## Clutch and Pulley

Patented



Style No. 126

A glance at the above cut will serve to convince the initiated of the extreme simplicity and practicality of this clutch. It is radically different from other friction clutches and as far in advance of other makes as friction clutches in general are in advance of the old style, jaw or interlocking clutches.



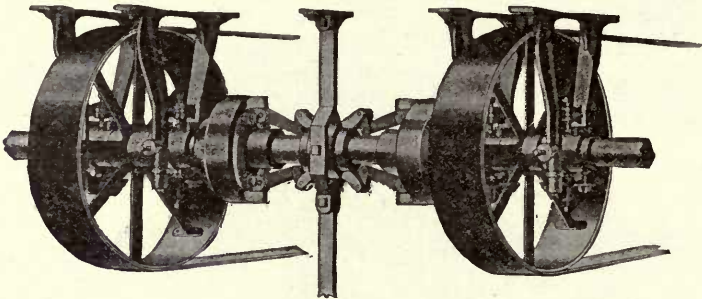
### Description

Above is a central longitudinal sectional view of the Monarch Peerless Friction Clutch with pulley, and shows the parts in the position they assume when the clutch is out of engagement.

The numeral (1) indicates a shaft on which is keyed a disc (2) that turns with the shaft. Arranged on the shaft opposite the disc is a sleeve and formed on one end of this sleeve next to the disc is a cone. This sleeve is provided with a bronze bushing which can easily be replaced in case of wear. An oil or grease cup is attached to the sleeve whereby it is kept constantly lubricated, the oil being fed to the center of the sleeve by means of a channel or duct.

The disc and the cone of the sleeve are encased by a cylindrical shell provided with an inwardly projecting annular flange, the inner surface of which is conical in shape to accurately conform to the face of the cone. This shell is free to move longitudinally on the disc, but is prevented from turning thereon by two pins or rollers mounted on the periphery of the disc and engaging two corresponding recesses in the inner face of the shell. A groove is turned in the interior of the shell for lubricating the contacting surfaces of the shell and cone. The disc is provided with an oil hole which serves as a reservoir for oil.

The Monarch Peerless Friction Clutches—Continued



Style No. 127

Duplex Clutches, Equipped to Work Together, are Furnished at Price of Two Separate Clutches of Same Size

Effective Combinations

Great care should be taken when ordering, that the clutch of your selection will transmit the maximum power of the wheel which you intend to use. Allowance must be made for work involving fluctuations, shocks, varying turning movements, etc. Especially where high speed is involved should due consideration be given to clutch selection.

Under ordinary conditions the list below gives proper size of clutch for pulleys 10 inches to 72 inches in diameter. We will gladly advise you in reference to any special conditions or requirements.

Pulley Diameter, Inches	FACE OF PULLEY, INCHES											
	4	5	6	7	8	10	12	14	16	18	20	24
	PROPER SIZE NUMBER OF CLUTCH											
10	1	1	1	1	2	2	2					
12	1	1	1	2	2	2	3	3				
14	1	1	2	2	2	2	3	3				
16	1	1	2	2	2	3	3	3	4	4	4	4
18	1	2	2	2	2	3	3	3	4	4	4	5
20	2	2	2	2	3	3	3	4	4	4	4	5
22	2	2	2	2	3	3	3	4	4	4	4	5
24	2	2	2	2	3	3	3	4	4	4	4	5
26	2	2	2	3	3	3	4	4	4	4	5	5
28	2	2	2	3	3	3	4	4	4	5	5	6
30	2	2	3	3	3	3	4	4	4	5	5	6
32	2	3	3	3	3	3	4	4	4	5	5	6
34	3	3	3	3	3	4	4	4	4	5	5	6
36	3	3	3	3	4	4	4	4	5	5	5	6
38	---	---	3	3	4	4	4	4	5	5	5	7
40	---	---	3	4	4	4	4	5	5	5	5	7
42	---	---	4	4	4	4	5	5	5	5	5	7
44	---	---	4	4	4	5	5	5	5	5	6	7
46	---	---	4	4	4	5	5	5	5	5	6	7
48	---	---	4	4	5	5	5	5	5	5	6	8
50	---	---	---	---	5	5	5	5	5	6	6	8
52	---	---	---	---	5	5	5	5	6	6	6	8
54	---	---	---	---	5	5	5	6	6	6	7	8
56	---	---	---	---	5	5	6	6	6	6	7	8
58	---	---	---	---	5	6	6	6	6	6	7	9
60	---	---	---	---	5	6	6	6	6	7	7	9
62	---	---	---	---	6	6	6	6	6	7	8	9
64	---	---	---	---	6	6	6	6	7	7	8	9
66	---	---	---	---	6	6	7	7	7	8	8	9
68	---	---	---	---	6	6	7	7	7	8	8	9
70	---	---	---	---	6	7	7	7	8	8	8	9
72	---	---	---	---	7	7	7	7	8	8	9	9

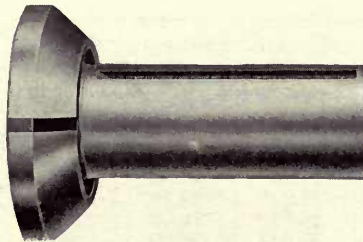


# The Monarch Peerless Friction Clutches—Continued

## Price List Peerless Friction Clutches with Sleeves for Pulleys, Gears, Sprockets, etc.

Size No. of Clutch	Range of Bore in Clutch and Sleeve Inches	Outside Diameter of Sleeve Inches	H. P. at 100 R. P. M.	Maxi- mum Speed	PRICE OF CLUTCH WITH SLEEVE FOR PULLEY						
					8-Inch Face and Under	10-Inch Face	12-Inch Face	14-Inch Face	16-Inch Face	18-Inch Face	20-Inch Face
1	1 to 1 $\frac{3}{16}$	3	5	650	\$ 44.00	\$ 44.80	\$ 45.60	\$ 46.40	\$ 47.20	\$ 48.00	\$ 48.80
	1 $\frac{3}{16}$ to 1 $\frac{7}{16}$	3 $\frac{7}{16}$	5	650	45.50	46.40	47.30	48.20	49.10	50.00	50.90
	1 $\frac{7}{16}$ to 1 $\frac{1}{2}$	3 $\frac{1}{2}$	5	650	47.00	48.00	49.00	50.00	51.00	52.00	53.00
2	1 to 1 $\frac{11}{16}$	3 $\frac{11}{16}$	10	600	52.00	53.00	54.00	55.00	56.00	57.00	58.00
	1 $\frac{11}{16}$ to 1 $\frac{1}{2}$	3 $\frac{1}{2}$	10	600	53.50	54.60	55.70	56.80	57.90	59.00	60.10
	1 $\frac{1}{2}$ to 2 $\frac{3}{16}$	4 $\frac{3}{16}$	10	600	56.00	57.20	58.40	59.60	60.80	62.00	63.20
3	1 to 2 $\frac{3}{16}$	4 $\frac{11}{16}$	20	550	68.00	69.30	70.60	71.90	73.20	74.50	75.80
	2 $\frac{3}{16}$ to 2 $\frac{7}{16}$	4 $\frac{1}{2}$	20	550	69.50	70.90	72.30	73.70	75.10	76.50	77.90
	2 $\frac{7}{16}$ to 2 $\frac{11}{16}$	5 $\frac{1}{16}$	20	550	72.00	73.50	75.00	76.50	78.00	79.50	81.00
4	1 $\frac{1}{2}$ to 2 $\frac{11}{16}$	5 $\frac{7}{16}$	30	500	88.00	89.50	91.00	92.50	94.00	95.50	97.00
	2 $\frac{11}{16}$ to 2 $\frac{1}{2}$	5 $\frac{1}{2}$	30	500	90.00	91.60	93.20	94.80	96.40	98.00	99.60
	2 $\frac{1}{2}$ to 3 $\frac{3}{16}$	6 $\frac{3}{16}$	30	500	92.50	94.20	95.90	97.60	99.30	101.00	102.70
5	2 $\frac{7}{16}$ to 3 $\frac{3}{16}$	6 $\frac{3}{16}$	40	400	110.00	111.70	113.40	115.10	116.80	118.50	120.20
	3 $\frac{3}{16}$ to 3 $\frac{7}{16}$	6 $\frac{7}{16}$	40	400	113.00	114.80	116.60	118.40	120.20	122.00	123.80
	3 $\frac{7}{16}$ to 3 $\frac{11}{16}$	6 $\frac{11}{16}$	40	400	116.00	118.00	120.00	122.00	124.00	126.00	128.00
6	2 $\frac{7}{16}$ to 3 $\frac{1}{2}$	7 $\frac{7}{16}$	55	350	135.00	137.40	139.80	142.20	144.60	147.00	149.40
	3 $\frac{1}{2}$ to 4 $\frac{3}{16}$	7 $\frac{1}{2}$	55	350	138.00	140.60	143.20	145.80	148.40	151.00	153.60
	4 $\frac{3}{16}$ to 4 $\frac{7}{16}$	8 $\frac{3}{16}$	55	350	142.00	145.00	148.00	151.00	154.00	157.00	160.00
7	2 $\frac{7}{16}$ to 4 $\frac{7}{16}$	8 $\frac{3}{16}$	70	300	164.00	167.00	170.00	173.00	176.00	179.00	182.00
	4 $\frac{7}{16}$ to 4 $\frac{11}{16}$	8 $\frac{1}{2}$	70	300	168.00	171.00	174.00	177.00	180.00	183.00	186.00
	4 $\frac{11}{16}$ to 4 $\frac{1}{2}$	8 $\frac{7}{16}$	70	300	172.00	176.00	180.00	184.00	188.00	192.00	196.00
8	2 $\frac{1}{2}$ to 4 $\frac{1}{2}$	8 $\frac{7}{16}$	100	275	196.00	200.00	204.00	208.00	212.00	216.00	220.00
	4 $\frac{1}{2}$ to 5 $\frac{3}{16}$	8 $\frac{1}{2}$	100	275	200.00	204.00	208.00	212.00	216.00	220.00	224.00
	5 $\frac{3}{16}$ to 5 $\frac{7}{16}$	9	100	275	205.00	210.00	215.00	220.00	225.00	230.00	235.00
	5 $\frac{7}{16}$ to 5 $\frac{11}{16}$	9 $\frac{7}{16}$	100	275	210.00	215.50	221.00	226.50	232.00	237.50	243.00
	5 $\frac{11}{16}$ to 5 $\frac{1}{2}$	10	100	275	215.00	221.00	227.00	233.00	239.00	245.00	251.00

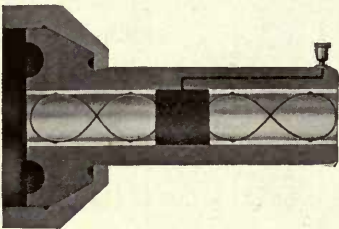
### Sleeves for Clutches



Style No. 128

The lengths in which these sleeves are made correspond with the standard pulley faces. By referring to cut on page 410 it will be observed that lubrication is accomplished by means of an oil or grease cup, the oil being carried to the center of the sleeve by means of a channel or duct. A groove is turned into the interior of the bonnet and serves as a reservoir to supply the oil for lubricating the contacting surfaces of the bonnet and cone. The flange is provided with an oil hole through which the contacting surfaces of the flange and cone can be kept lubricated.

The Monarch Peerless Friction Clutches—Continued  
Phosphor Bronze Bushings



Style No. 129

Bushings for sleeves of Monarch Peerless Friction Clutches are made of phosphor bronze. They can be quickly and easily replaced in case of wear. The method of lubrication is simple in the extreme and may be readily understood by reference to the above cut. Great care is taken in the selection of the material for and the process of manufacture of these bushings. The severe tests to which they have been subjected have proved to us the advisability of our care in their manufacture.

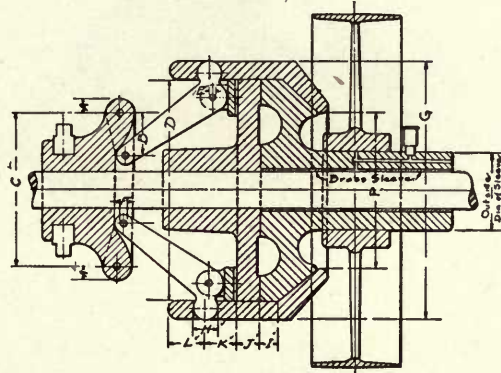
Price Per Pair of Phosphor Bronze Bushings for Sleeves  
of Monarch Peerless Friction Clutches

Size of Shaft Inches	Outside Diameter of Bushings	LENGTHS IN INCHES AND PRICES PER PAIR							
		3¼	3¾	4¼	4¾	5¼	5¾	6¼	6¾
1⅛	2.063	\$13.50	\$14.30	\$15.50	\$16.70	\$17.90	\$19.10	\$20.30	\$21.50
1⅝	2.313	14.10	15.30	16.20	17.40	18.30	19.50	21.60	22.80
2⅛	2.563	14.70	16.00	17.40	18.60	19.50	20.70	23.40	24.60
2⅝	2.813	15.30	16.60	18.00	19.20	20.40	22.20	24.00	25.25
2⅞	3.063	15.60	16.90	18.60	20.10	21.60	22.25	24.90	27.00
3⅛	3.313	16.80	17.85	18.90	20.55	22.20	23.85	25.50	27.75
3⅝	3.563	18.00	18.90	19.80	21.90	24.00	25.50	27.00	28.95
3⅞	3.938	19.50	20.40	21.30	26.70	24.90	26.40	27.90	29.85
4⅛	4.188	21.00	21.90	22.80	24.90	27.00	28.80	30.60	32.55
4⅝	4.438	28.50	30.00	31.50	32.25	33.00	34.80	36.60	38.55
4⅞	4.688	29.00	30.20	31.70	33.10	33.85	35.60	37.00	38.90
4⅞	4.938	31.50	32.25	33.00	34.50	36.00	37.50	39.00	40.80
4⅞	5.188	33.50	34.25	35.00	37.25	39.50	40.50	41.50	42.75
4⅞	5.438	34.50	35.55	36.60	38.85	41.10	42.00	42.90	43.95

Size of Shaft Inches	Outside Diameter of Bushings	LENGTHS IN INCHES AND PRICES PER PAIR						
		7¼	7¾	8¼	8¾	9¼	9¾	10¼
1⅛	2.063	\$22.70	\$23.90	\$25.10				
1⅝	2.313	26.10	27.30	28.20				
2⅛	2.563	27.00	28.20	29.10				
2⅝	2.813	27.50	28.75	30.00	\$32.60	\$35.10	\$36.30	\$37.50
2⅞	3.063	29.10	30.05	30.90	33.45	36.00	37.20	38.40
3⅛	3.313	30.00	31.35	32.70	35.10	37.50	39.60	41.70
3⅝	3.563	30.90	32.25	33.60	35.85	38.10	40.80	43.50
3⅞	3.938	31.80	33.50	34.50	36.75	39.00	41.55	44.10
4⅛	4.188	34.50	36.45	38.40	39.75	41.10	43.05	45.00
4⅝	4.438	40.50	42.00	43.50	45.00	46.50	48.60	50.70
4⅞	4.688	41.00	43.10	44.20	47.00	49.20	50.40	52.10
4⅞	4.938	42.60	44.55	46.50	49.35	52.20	53.85	55.50
4⅞	5.188	44.00	46.00	48.00	50.75	53.50	55.50	58.50
4⅞	5.438	45.00	47.25	49.50	52.20	54.90	57.15	59.40



# The Monarch Peerless Friction Clutches—Concluded

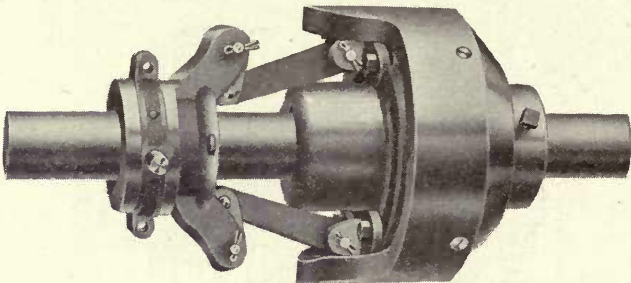


## Dimensions of Monarch Peerless Friction Clutches with Standard Sleeves

Size No. of Clutch	Range of Bore in Clutch and Sleeve Inches	Outside Diameter of Sleeve Inches	H. P. at 100 R. P. M.	Maximum Speed	C Inches	D Inches	G Inches	P Inches
1	1 to 1 $\frac{3}{16}$	3 $\frac{3}{16}$	5	650	5	6 $\frac{7}{8}$	8 $\frac{1}{4}$	4 $\frac{5}{8}$
	1 $\frac{3}{16}$ to 1 $\frac{7}{16}$	3 $\frac{7}{16}$	5	650	5	6 $\frac{7}{8}$	8 $\frac{1}{4}$	4 $\frac{5}{8}$
	1 $\frac{7}{16}$ to 1 $\frac{11}{16}$	3 $\frac{11}{16}$	5	650	5	6 $\frac{7}{8}$	8 $\frac{1}{4}$	4 $\frac{5}{8}$
2	1 to 1 $\frac{11}{16}$	3 $\frac{11}{16}$	10	600	5 $\frac{13}{16}$	7 $\frac{1}{2}$	9 $\frac{1}{16}$	4 $\frac{11}{8}$
	1 $\frac{11}{16}$ to 1 $\frac{15}{16}$	3 $\frac{15}{16}$	10	600	5 $\frac{13}{16}$	7 $\frac{1}{2}$	9 $\frac{1}{16}$	4 $\frac{11}{8}$
	1 $\frac{15}{16}$ to 2 $\frac{3}{16}$	4 $\frac{3}{16}$	10	600	5 $\frac{13}{16}$	7 $\frac{1}{2}$	9 $\frac{1}{16}$	4 $\frac{11}{8}$
3	1 to 2 $\frac{1}{16}$	4 $\frac{11}{16}$	20	550	7 $\frac{9}{16}$	9 $\frac{7}{8}$	11 $\frac{3}{4}$	7
	2 $\frac{1}{16}$ to 2 $\frac{5}{16}$	4 $\frac{15}{16}$	20	550	7 $\frac{9}{16}$	9 $\frac{7}{8}$	11 $\frac{3}{4}$	7
	2 $\frac{5}{16}$ to 2 $\frac{9}{16}$	5 $\frac{1}{16}$	20	550	7 $\frac{9}{16}$	9 $\frac{7}{8}$	11 $\frac{3}{4}$	7
4	1 $\frac{15}{16}$ to 2 $\frac{1}{16}$	5 $\frac{7}{16}$	30	500	8 $\frac{1}{4}$	11 $\frac{1}{2}$	13 $\frac{5}{8}$	8
	2 $\frac{1}{16}$ to 2 $\frac{5}{16}$	5 $\frac{15}{16}$	30	500	8 $\frac{1}{4}$	11 $\frac{1}{2}$	13 $\frac{5}{8}$	8
	2 $\frac{5}{16}$ to 3 $\frac{3}{16}$	6 $\frac{3}{16}$	30	500	8 $\frac{1}{4}$	11 $\frac{1}{2}$	13 $\frac{5}{8}$	8
5	2 $\frac{7}{16}$ to 3 $\frac{3}{16}$	6 $\frac{3}{16}$	40	400	8 $\frac{3}{4}$	13	15 $\frac{1}{8}$	9 $\frac{3}{8}$
	3 $\frac{3}{16}$ to 3 $\frac{7}{16}$	6 $\frac{7}{16}$	40	400	8 $\frac{3}{4}$	13	15 $\frac{1}{8}$	9 $\frac{3}{8}$
	3 $\frac{7}{16}$ to 3 $\frac{11}{16}$	6 $\frac{11}{16}$	40	400	8 $\frac{3}{4}$	13	15 $\frac{1}{8}$	9 $\frac{3}{8}$
6	2 $\frac{1}{16}$ to 3 $\frac{15}{16}$	7 $\frac{1}{16}$	55	350	---	15 $\frac{1}{2}$	17 $\frac{3}{4}$	11 $\frac{3}{8}$
	3 $\frac{15}{16}$ to 4 $\frac{1}{16}$	7 $\frac{15}{16}$	55	350	---	15 $\frac{1}{2}$	17 $\frac{3}{4}$	11 $\frac{3}{8}$
	4 $\frac{1}{16}$ to 4 $\frac{5}{16}$	8 $\frac{3}{16}$	55	350	---	15 $\frac{1}{2}$	17 $\frac{3}{4}$	11 $\frac{3}{8}$
7	2 $\frac{7}{16}$ to 4 $\frac{7}{16}$	8 $\frac{3}{16}$	70	300	---	17 $\frac{3}{4}$	20 $\frac{1}{8}$	13 $\frac{3}{8}$
	4 $\frac{7}{16}$ to 4 $\frac{11}{16}$	8 $\frac{7}{16}$	70	300	---	17 $\frac{3}{4}$	20 $\frac{1}{8}$	13 $\frac{3}{8}$
	4 $\frac{11}{16}$ to 4 $\frac{15}{16}$	8 $\frac{15}{16}$	70	300	---	17 $\frac{3}{4}$	20 $\frac{1}{8}$	13 $\frac{3}{8}$
8	2 $\frac{15}{16}$ to 4 $\frac{1}{8}$	8 $\frac{7}{16}$	100	275	---	23 $\frac{1}{2}$	26 $\frac{1}{4}$	20 $\frac{1}{4}$
	4 $\frac{1}{8}$ to 5 $\frac{3}{8}$	8 $\frac{7}{16}$	100	275	---	23 $\frac{1}{2}$	26 $\frac{1}{4}$	20 $\frac{1}{4}$
	5 $\frac{3}{8}$ to 5 $\frac{7}{8}$	9	100	275	---	23 $\frac{1}{2}$	26 $\frac{1}{4}$	20 $\frac{1}{4}$
	5 $\frac{7}{8}$ to 5 $\frac{11}{8}$	9 $\frac{7}{16}$	100	275	---	23 $\frac{1}{2}$	26 $\frac{1}{4}$	20 $\frac{1}{4}$
	5 $\frac{11}{8}$ to 5 $\frac{15}{8}$	10	100	275	---	23 $\frac{1}{2}$	26 $\frac{1}{4}$	20 $\frac{1}{4}$

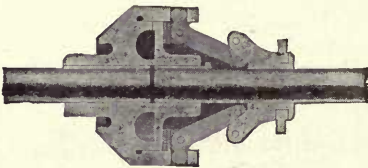
# The Monarch Peerless Friction Cut-Off Couplings

Patented



Style No. 130

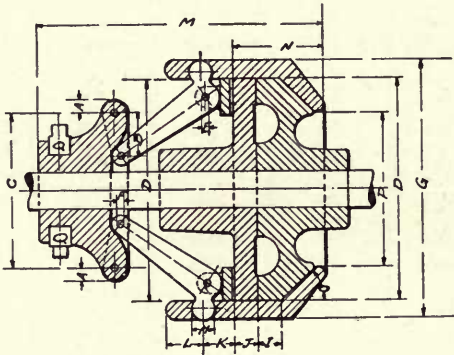
## Adjustment



In order to adjust the parts in assembling them and to compensate for wear, the following means are provided.

Arranged between the face of the disc and the bearing plates is a slotted washer or ring through which the screws, which fasten the bearing plates to the disc, pass. The face of this ring adjacent to the bearing plates is formed of reversely inclined surfaces against which the bearing plates lie. To adjust the clutch, loosen the cap screws by which the bearing plates are attached to the disc and turn the slotted washer or ring. By doing this it is obvious that the bearing plates are thrown to a greater or less extent from the face of the disc and consequently the space between the disc and the conical-shaped flange of the shell is increased or decreased. It will be noted that the washer acts on the bearing plates simultaneously and to exactly the same extent, hence the clutch is adjusted uniformly at all points and with one simple operation.

This sectional view of the Monarch Peerless Friction Clutch Cut-Off Coupling illustrates the clutch applied to a divided shaft.

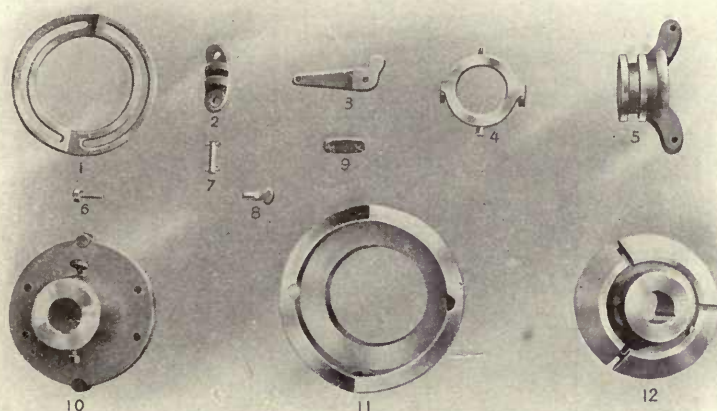


## Dimensions, Prices, Etc.

Size No.	Space on Shaft Engaged Inches	Space on Shaft Released Inches	Maximum Bore Inches	C Inches	D Inches	G Inches	K Inches	L Inches	N Inches	Maximum Speed R. P. M.	H. P. at 100 R.P.M.	Price, Includ'g Lever
1	10 $\frac{5}{8}$	12 $\frac{3}{8}$	1 $\frac{1}{16}$	5	6 $\frac{7}{8}$	8 $\frac{1}{4}$	1 $\frac{1}{4}$	1 $\frac{1}{8}$	3 $\frac{1}{4}$	650	5	\$ 40.00
2	14	15 $\frac{1}{2}$	2 $\frac{3}{16}$	5 $\frac{13}{16}$	7 $\frac{1}{2}$	9 $\frac{1}{16}$	{ 1 $\frac{1}{4}$ 1 $\frac{3}{8}$ }	1 $\frac{5}{16}$	3 $\frac{1}{2}$	600	10	47.00
3	14 $\frac{1}{2}$	16 $\frac{1}{2}$	2 $\frac{11}{16}$	7 $\frac{9}{16}$	9 $\frac{7}{8}$	11 $\frac{3}{4}$	1 $\frac{1}{2}$	1 $\frac{7}{16}$	4	550	20	62.00
4	16 $\frac{1}{4}$	17 $\frac{3}{8}$	3 $\frac{3}{16}$	8 $\frac{1}{4}$	11 $\frac{1}{2}$	13 $\frac{3}{8}$	1 $\frac{3}{4}$	1 $\frac{13}{16}$	5	500	30	82.00
5	16 $\frac{5}{8}$	18 $\frac{3}{4}$	3 $\frac{1}{8}$	8 $\frac{3}{4}$	13	15 $\frac{1}{8}$	1 $\frac{11}{16}$	1 $\frac{13}{16}$	5 $\frac{1}{4}$	400	40	103.00
6	20 $\frac{3}{8}$	22 $\frac{5}{8}$	4 $\frac{7}{16}$	---	15 $\frac{1}{2}$	17 $\frac{3}{4}$	1 $\frac{11}{8}$	1 $\frac{1}{16}$	5 $\frac{1}{2}$	350	55	128.00
7	20 $\frac{1}{2}$	22 $\frac{3}{4}$	4 $\frac{1}{8}$	---	17 $\frac{3}{4}$	20 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{13}{16}$	5 $\frac{3}{4}$	300	70	154.00
8	22 $\frac{3}{4}$	25 $\frac{1}{2}$	5 $\frac{1}{8}$	---	23 $\frac{1}{2}$	26 $\frac{1}{4}$	2	2	6 $\frac{3}{4}$	275	100	184.00



# The Monarch Peerless Friction Cut-Off Couplings—Cont'd



## List of Parts of the Monarch Peerless Friction Cut-Off Couplings

Number	Name of Part	Number	Name of Part	Number	Name of Part
1	Adjusting Ring	5	Guide Hub with Lug	9	Link
2	Bearing Plate	6	Cap Bolt	10	Guide Plate with Hub
3	Lever	7	C. R. S. Pin	11	Outside Shell
4	Clutch Collar	8	Oil Plug	12	Inside Friction Cone

## Directions for Ordering Monarch Peerless Friction Clutches

A friction clutch to operate properly should meet existing conditions. Therefore all conditions must be known and given with order so that proper size of clutch may be determined.

1. State whether cut-off coupling or clutch with extended sleeve is desired.
2. Give bore or size of shaft. Cut-off couplings may be bored to connect two shafts of different diameters.
3. Give speed at which clutch will be operated. This is necessary, as power of clutch is conditioned upon speed it will run. Construction of sleeve and method of lubrication are also affected by speed.
4. Advise size and give description of article to be attached to sleeve and which clutch will be required to drive. This information is necessary to figure power capacity of article to be driven. It is not good policy to use clutch with a rated capacity less than the pulley, sheave or gear to be driven.
5. Give full information as to character of service. State whether load is steady or intermittent, as clutch rating is based on a steady, even load and a larger clutch must be used for intermittent work.
6. Give maximum amount of power clutch will be required to transmit.

Where conditions will permit, always place a friction clutch on the driven shaft, as the sleeve will revolve on standing shaft when clutch is disengaged; whereas, if placed on driving shaft the sleeve would stand idle on revolving shaft. This would wear bore of sleeve out of round.

When ordering or writing for prices, always give the diameter and speed of the shaft to which the clutch is to be fitted, diameter and face of pulley and horse power to be transmitted.

Every essential feature of the principle and construction of the Peerless Friction Clutch is covered by patent No. 635194, of October 17, 1899.

Legal steps will be taken to protect our rights in any case of infringement.

## Style "M" Friction Cut-Off Coupling

### Dimensions and Prices

Symbol or Size	Price	Space on Shaft Inches	Diameter Over All Inches	H. P. at 100 Rev.	Largest Shaft Inches	Equal to Shaft Inches
*E	\$ 28.00	15 $\frac{9}{16}$	8 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{15}{16}$	1 $\frac{3}{16}$
*H	34.00	16 $\frac{15}{16}$	11	7 $\frac{1}{2}$	2 $\frac{7}{16}$	1 $\frac{11}{16}$
*A	40.00	19 $\frac{15}{16}$	12 $\frac{3}{4}$	13	2 $\frac{15}{16}$	2 $\frac{3}{16}$
B	54.00	22 $\frac{11}{16}$	15	19	3 $\frac{15}{16}$	2 $\frac{7}{16}$
G	75.00	24 $\frac{11}{16}$	17	27	4 $\frac{15}{16}$	2 $\frac{15}{16}$
C	95.00	27 $\frac{13}{16}$	18 $\frac{3}{4}$	36	5 $\frac{15}{16}$	3 $\frac{7}{16}$
F	145.00	30 $\frac{9}{16}$	21 $\frac{3}{4}$	55	6 $\frac{15}{16}$	3 $\frac{15}{16}$
D	180.00	33 $\frac{7}{16}$	26	70	----	4 $\frac{7}{16}$

\*This Clutch has no friction fibre.

## Style "M" Friction Clutch with Extended Sleeves

### Dimensions and Prices

Symbol or Size	Price	Space on Shaft Inches	Diameter Over All Inches	H. P. at 100 Rev.	Largest Shaft Inches
*E	\$ 27.00	18	8 $\frac{1}{2}$	3 $\frac{1}{2}$	2 $\frac{1}{2}$
*H	32.50	20	11	7 $\frac{1}{2}$	3
*A	38.00	23 $\frac{1}{4}$	12 $\frac{3}{4}$	13	3 $\frac{1}{2}$
B	52.00	26 $\frac{1}{2}$	15	19	4 $\frac{1}{2}$
G	72.00	29 $\frac{1}{2}$	17	27	5
C	92.00	33 $\frac{3}{4}$	18 $\frac{3}{4}$	36	6 $\frac{1}{2}$
F	140.00	37 $\frac{1}{2}$	21 $\frac{3}{4}$	55	7 $\frac{1}{2}$
D	175.00	39 $\frac{1}{2}$	26	70	12

\*This Clutch has no friction fibre.

For standard dimensions of Extended Sleeve see page 415.



# Table of Standard Dimensions of Extended Sleeves

Outside diameter of Extended Sleeves, showing bores required in pulleys, sheaves, sprockets, gears, etc., which are either keyed or clamped on extended sleeve of clutches.

Clutch Symbol	H. P. at 100 Revolutions	Length of Sleeve Inches	Length Bearing Inches	Space on Shaft Inches	DIAMETER OF SHAFT, INCHES										
					1 <sup>3</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>16</sub>	2 <sup>11</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	3 <sup>11</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>16</sub>	5 <sup>7</sup> / <sub>16</sub>			
					to	to	to	to	to	to	to	to			
					1 <sup>7</sup> / <sub>16</sub>	1 <sup>15</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>16</sub>	2 <sup>15</sup> / <sub>16</sub>	3 <sup>7</sup> / <sub>16</sub>	3 <sup>15</sup> / <sub>16</sub>	4 <sup>15</sup> / <sub>16</sub>	5 <sup>15</sup> / <sub>16</sub>			
E	3½	5	8	18	2 <sup>7</sup> / <sub>16</sub>	2 <sup>15</sup> / <sub>16</sub>								Extended Sleeve not key-seated	Outside Diameters of Extended Sleeves, Inches
H	7½	6	9½	20	2½	3	3½								
A	13	7	11	23¼	2 <sup>11</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	3 <sup>11</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>16</sub>							
B	19	8	12	26½	2 <sup>11</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	3 <sup>15</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>16</sub>	5 <sup>3</sup> / <sub>16</sub>						
G	27	10	15	29½	----	3 <sup>7</sup> / <sub>16</sub>	3 <sup>15</sup> / <sub>16</sub>	4 <sup>11</sup> / <sub>16</sub>	5 <sup>7</sup> / <sub>16</sub>	5 <sup>15</sup> / <sub>16</sub>					
C	36	11	16	33¾	----	----	----	4 <sup>15</sup> / <sub>16</sub>	5 <sup>7</sup> / <sub>16</sub>	5 <sup>15</sup> / <sub>16</sub>	6 <sup>15</sup> / <sub>16</sub>				
F	55	12	17	37½	----	----	----	----	5 <sup>7</sup> / <sub>16</sub>	5 <sup>15</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>16</sub>			
D	70	13	18	39½	----	----	----	----	----	6 <sup>7</sup> / <sub>16</sub>	7 <sup>7</sup> / <sub>16</sub>	8 <sup>7</sup> / <sub>16</sub>			
E	3½	5	8	18	2 <sup>11</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>								Extended Sleeve key-seated 40 cents net extra	
H	7½	6	9½	20	2¾	3¾	3¾								
A	13	7	11	23¼	2 <sup>15</sup> / <sub>16</sub>	3 <sup>7</sup> / <sub>16</sub>	3 <sup>15</sup> / <sub>16</sub>	4 <sup>11</sup> / <sub>16</sub>							
B	19	8	12	26½	2 <sup>15</sup> / <sub>16</sub>	3 <sup>7</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>16</sub>	4 <sup>11</sup> / <sub>16</sub>	5 <sup>7</sup> / <sub>16</sub>						
G	27	10	15	29½	----	3 <sup>11</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>16</sub>	4 <sup>15</sup> / <sub>16</sub>	5 <sup>11</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>16</sub>					
C	36	11	16	33¾	----	----	----	5 <sup>3</sup> / <sub>16</sub>	5 <sup>11</sup> / <sub>16</sub>	6 <sup>11</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>16</sub>				
F	55	12	17	37½	----	----	----	----	5 <sup>15</sup> / <sub>16</sub>	6 <sup>11</sup> / <sub>16</sub>	7 <sup>11</sup> / <sub>16</sub>	8 <sup>11</sup> / <sub>16</sub>			
D	70	13	18	39½	----	----	----	----	----	6 <sup>15</sup> / <sub>16</sub>	7 <sup>15</sup> / <sub>16</sub>	8 <sup>15</sup> / <sub>16</sub>			

The dimensions of extended sleeve are subject to order, but unless the dimensions of sleeve are stated on the order, they will be furnished according to the above table. One-half inch should be added to the outside diameter of sleeve when babbitted or bronzed bearings are wanted and when clutch is to be furnished split.

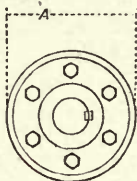
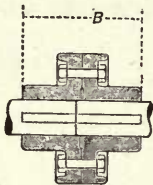
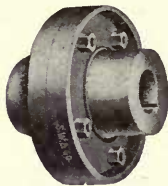
If sleeves are wanted longer than standard length according to the above table, add 25 cents net per inch.

Sleeves of clutches should be key-seated on outside to prevent pulleys, etc., from slipping. See table of dimensions for key-seats on outside of sleeves below. Cost of key-seating sleeves, 40 cents net extra. All clutches running 250 revolutions per minute or over should have babbitted or bronze bearing and ample means of lubrication.

## Standard Sizes of Key-Seats for Outside of Extended Sleeves for Clutch

For 2 to 2 <sup>15</sup> / <sub>16</sub> Diameter----	½ in. wide	⅛ in. deep	For 6 to 6 <sup>15</sup> / <sub>16</sub> Diameter --	1 in. wide	⅜ in. deep
" 3 to 3 <sup>15</sup> / <sub>16</sub> " ----	5⁄8 " "	¼ " "	" 7 to 7 <sup>15</sup> / <sub>16</sub> " --	1 ⅛ " "	3⁄8 " "
" 4 to 4 <sup>15</sup> / <sub>16</sub> " ----	¾ " "	¼ " "	" 8 to 8 <sup>15</sup> / <sub>16</sub> " --	1 ¼ " "	½ " "
" 5 to 5 <sup>15</sup> / <sub>16</sub> " ----	7⁄8 " "	3⁄8 " "	" 9 to 9 <sup>15</sup> / <sub>16</sub> " --	1 ¼ " "	½ " "

Standard Plate Couplings  
Complete With Bolts and Key



Style No. 133

Dimensions and Prices

Intermediate sizes charged at next larger diameter. Special prices for larger sizes. Add 10% for Reduction Couplings.

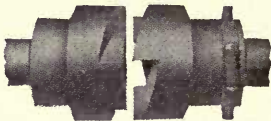
Size of Shaft, Inches.....	1 <sup>3</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>16</sub>	1 <sup>15</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>16</sub>	2 <sup>11</sup> / <sub>16</sub>	2 <sup>15</sup> / <sub>16</sub>
A, Inches.....	7	7 <sup>3</sup> / <sub>4</sub>	7 <sup>3</sup> / <sub>4</sub>	8	9 <sup>1</sup> / <sub>4</sub>	9 <sup>3</sup> / <sub>4</sub>	10 <sup>3</sup> / <sub>4</sub>	11
B, Inches.....	5 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>4</sub>	8	8 <sup>3</sup> / <sub>4</sub>	9	9 <sup>3</sup> / <sub>4</sub>
List Price.....	\$7.50	\$8.00	\$8.50	\$9.00	\$10.50	\$12.50	\$15.25	\$18.25
Size of Shaft, Inches.....	3 <sup>3</sup> / <sub>16</sub>	3 <sup>7</sup> / <sub>16</sub>	3 <sup>11</sup> / <sub>16</sub>	3 <sup>15</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>16</sub>	4 <sup>11</sup> / <sub>16</sub>	4 <sup>15</sup> / <sub>16</sub>
A, Inches.....	11 <sup>1</sup> / <sub>4</sub>	11 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>2</sub>	13 <sup>1</sup> / <sub>2</sub>	14	14 <sup>1</sup> / <sub>2</sub>	15	15 <sup>1</sup> / <sub>2</sub>
B, Inches.....	10	10 <sup>1</sup> / <sub>4</sub>	11	11 <sup>1</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	12	12 <sup>1</sup> / <sub>2</sub>	13
List Price.....	\$21.75	\$25.25	\$29.25	\$33.25	\$38.25	\$43.25	\$49.00	\$54.75

Square and Spiral Jaw Clutch Couplings

Substantially Designed for General Service and Finished in a First-Class Manner

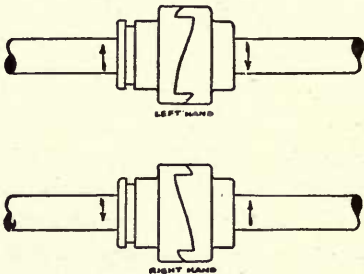
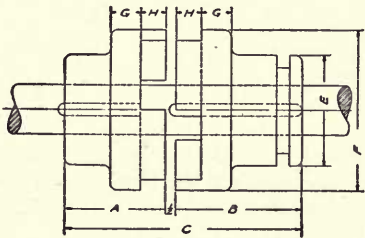


Style No. 137



Style No. 138

To determine Right or Left Hand Spiral Jaw Clutch Couplings



For Reducing Couplings add 10% to list. Intermediate sizes charged at next larger diameter. Special prices for larger sizes.

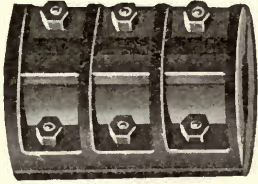
Dimensions and Prices

Size of Shaft Inches	Price Not Fitted	Price Fitted to Shaft	Price of Shifter	A Inches	B Inches	E Inches	F Inches	C Inches	H Inches	G Inches
1 <sup>3</sup> / <sub>16</sub>	\$16.50	\$19.50	\$ 8.00	2 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	3	4 <sup>1</sup> / <sub>2</sub>	6 <sup>3</sup> / <sub>4</sub>	5 <sup>8</sup> / <sub>16</sub>	3 <sup>4</sup> / <sub>16</sub>
1 <sup>7</sup> / <sub>16</sub>	19.00	23.00	8.00	3	3 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>4</sub>	5	7 <sup>1</sup> / <sub>4</sub>	3 <sup>4</sup> / <sub>16</sub>	7 <sup>8</sup> / <sub>16</sub>
1 <sup>11</sup> / <sub>16</sub>	22.00	26.00	8.00	3 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>	8 <sup>3</sup> / <sub>8</sub>	7 <sup>8</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>
1 <sup>15</sup> / <sub>16</sub>	24.00	28.00	8.25	4	5	4 <sup>1</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>2</sub>	1	1 <sup>1</sup> / <sub>16</sub>
2 <sup>3</sup> / <sub>16</sub>	26.00	30.00	8.50	4 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	5	7	10 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>
2 <sup>7</sup> / <sub>16</sub>	29.00	33.50	9.00	5	6 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>	7 <sup>3</sup> / <sub>4</sub>	11 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>
2 <sup>11</sup> / <sub>16</sub>	32.00	36.50	9.50	5 <sup>1</sup> / <sub>2</sub>	6 <sup>3</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>2</sub>	12 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>
2 <sup>15</sup> / <sub>16</sub>	36.00	40.50	9.50	6	7 <sup>1</sup> / <sub>2</sub>	6 <sup>3</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>8</sub>
3 <sup>3</sup> / <sub>16</sub>	40.00	44.00	10.00	6 <sup>1</sup> / <sub>2</sub>	8	7 <sup>1</sup> / <sub>4</sub>	10	15	1 <sup>5</sup> / <sub>8</sub>	2
3 <sup>7</sup> / <sub>16</sub>	46.00	52.00	10.00	7	8 <sup>1</sup> / <sub>2</sub>	7 <sup>3</sup> / <sub>4</sub>	10 <sup>3</sup> / <sub>4</sub>	16	1 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>8</sub>
3 <sup>11</sup> / <sub>16</sub>	51.00	57.00	10.50	7 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>4</sub>	11 <sup>1</sup> / <sub>2</sub>	17 <sup>1</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>
3 <sup>15</sup> / <sub>16</sub>	59.00	66.00	10.50	8	10	8 <sup>3</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>4</sub>	18 <sup>1</sup> / <sub>4</sub>	2	2 <sup>3</sup> / <sub>8</sub>
4 <sup>3</sup> / <sub>16</sub>	67.00	75.00	11.50	8 <sup>1</sup> / <sub>2</sub>	10 <sup>1</sup> / <sub>2</sub>	9 <sup>1</sup> / <sub>2</sub>	13	19 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>
4 <sup>7</sup> / <sub>16</sub>	74.00	82.00	11.50	9	11	10	13 <sup>3</sup> / <sub>4</sub>	20 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>
4 <sup>11</sup> / <sub>16</sub>	82.00	91.00	12.00	9 <sup>1</sup> / <sub>2</sub>	11 <sup>1</sup> / <sub>2</sub>	11	14 <sup>1</sup> / <sub>4</sub>	21 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>
4 <sup>15</sup> / <sub>16</sub>	90.00	100.00	12.00	10	12 <sup>1</sup> / <sub>4</sub>	13	15	23	2 <sup>1</sup> / <sub>2</sub>	3

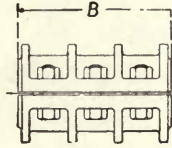


## Standard Clamp Couplings

Complete With Bolts and Key. Extra Charge For Covers



Style No. 134



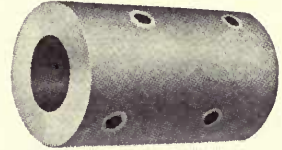
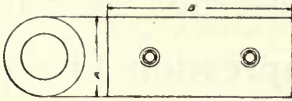
Intermediate sizes charged at next larger diameter. Special prices for larger sizes. Add 10% for reduction Couplings.

### Dimensions and Prices

Size of Shaft, Inches-----	1 <sup>3</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>16</sub>	1 <sup>13</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>16</sub>	2 <sup>11</sup> / <sub>16</sub>	2 <sup>15</sup> / <sub>16</sub>
A, Inches-----	3 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	5	5 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	7 <sup>1</sup> / <sub>2</sub>	8	8 <sup>1</sup> / <sub>2</sub>
B, Inches-----	5	6	7	8	9	10	11	12
List Price-----	\$5.00	\$6.00	\$7.00	\$8.00	\$9.00	\$10.75	\$13.00	\$16.50
Size of Shaft, Inches-----	3 <sup>3</sup> / <sub>16</sub>	3 <sup>7</sup> / <sub>16</sub>	3 <sup>11</sup> / <sub>16</sub>	3 <sup>13</sup> / <sub>16</sub>	4 <sup>3</sup> / <sub>16</sub>	4 <sup>7</sup> / <sub>16</sub>	4 <sup>11</sup> / <sub>16</sub>	4 <sup>15</sup> / <sub>16</sub>
A, Inches-----	8 <sup>3</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>2</sub>	9 <sup>3</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>4</sub>	10 <sup>1</sup> / <sub>2</sub>	11	11 <sup>1</sup> / <sub>2</sub>	12
B, Inches-----	13	14	15	16	16 <sup>1</sup> / <sub>2</sub>	17	17 <sup>1</sup> / <sub>2</sub>	18
List Price-----	\$20.00	\$24.00	\$28.90	\$32.00	\$42.00	\$42.00	\$53.40	\$53.40

## Solid Sleeve Couplings

For Light Work Only



Style No. 135

Our Solid Sleeve Couplings are designed and constructed for light work only, are finished all over and have countersunk set screws.

Intermediate sizes charged at next larger diameter. Special prices for larger sizes. Add 20% for Reduction Couplings.

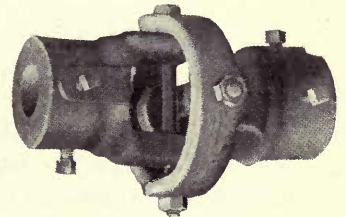
### Dimensions and Prices

Size of Shaft, Inches-----	1 <sup>5</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>16</sub>	1 <sup>15</sup> / <sub>16</sub>
A, Inches-----	1 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>16</sub>	3 <sup>1</sup> / <sub>2</sub>
B, Inches-----	4	5	6	7	8
List Price-----	\$4.00	\$5.00	\$6.00	\$7.00	\$7.50

## Universal Couplings

Ring Type

This coupling is intended for slow speed shafts varying not more than 20° from a straight line. We do not recommend it for heavy or high speed work. For greater angles and high speed we recommend a selection of special angle gears.



Style No. 136

### Price List, Including Set Screws or Key Ways

Bore Inches	Price	Bore Inches	Price
1 <sup>3</sup> / <sub>16</sub>	\$6.00	2	\$ 8.00
1 <sup>7</sup> / <sub>16</sub>	6.50	2 <sup>3</sup> / <sub>16</sub>	9.50
1 <sup>11</sup> / <sub>16</sub>	6.50	2 <sup>7</sup> / <sub>16</sub>	11.00
1 <sup>13</sup> / <sub>16</sub>	7.00	2 <sup>11</sup> / <sub>16</sub>	12.75
1 <sup>15</sup> / <sub>16</sub>	8.00	2 <sup>15</sup> / <sub>16</sub>	15.00

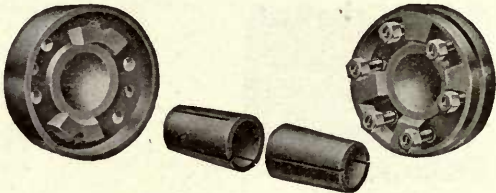
# The Hendershot Coupling

## Just a Few Points of Superiority

Two complete cases—double strength. Two short sleeves—compensating for shaft in equalities. Self-centering—insuring proper alignment. Internal jaws or clutches—eliminating strain on connecting bolts. Greater compression area—increasing power factor.

The foregoing are but a few of the Hendershot's more salient features when compared with any and all other Compression Sleeve Shafting Couplings. Too much attention and consideration cannot, however, be given the Interlocking Internal Jaws and self-aligning features, which absolutely do not apply to any other make of Compression Sleeve Couplings. The power is transmitted by the jaws, and not the bolts, obviating possibility of the shearing of the latter and probable breaking of the one-piece sleeve. The male and female joint of the two cases guarantee perfect alignment without necessity of chalking and running of shafts to determine whether or not the couplings are erected true.

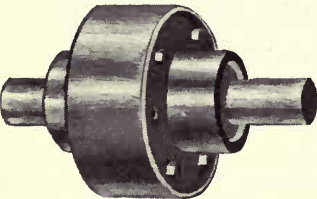
Intermediate sizes charged at next larger diameter. Special prices for larger sizes. Add 10% for Reduction Couplings.



Style No. 132

### Sizes and Prices

Diameter of Shaft, Inches.....	1 <sup>1</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>
Outside Diam. of Shell, Inches	3 <sup>5</sup> / <sub>8</sub>	4 <sup>5</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub>	6 <sup>3</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>	7 <sup>5</sup> / <sub>8</sub>	8 <sup>3</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>8</sub>
Total Length of Coupling, In..	4	4 <sup>3</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>4</sub>	6 <sup>3</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>4</sub>	10 <sup>3</sup> / <sub>8</sub>	10 <sup>3</sup> / <sub>4</sub>
List Price.....	\$3.00	\$4.75	\$5.00	\$5.50	\$6.25	\$8.00	\$9.00	\$10.75	\$13.00
Diameter of Shaft, Inches.....	2 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>
Outside Diam. of Shell, Inches	9 <sup>5</sup> / <sub>8</sub>	10 <sup>5</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>4</sub>	12.	12 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	14 <sup>3</sup> / <sub>4</sub>	15 <sup>3</sup> / <sub>8</sub>	16 <sup>3</sup> / <sub>4</sub>
Total Length of Coupling, In..	11 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	14	14 <sup>1</sup> / <sub>2</sub>	15 <sup>3</sup> / <sub>4</sub>	16 <sup>3</sup> / <sub>4</sub>	17 <sup>1</sup> / <sub>2</sub>	19
List Price.....	\$27.25	\$32.50	\$39.25	\$45.25	\$51.25	\$61.50	\$71.25	\$83.00	\$94.00



Style No. 139  
Patented

# Shaw Single Compression Flange Couplings

Require No Keys or Key-Seating

Intermediate sizes charged at nearest list prices.  
Reducing Couplings advance 10% on prices below.  
The largest shaft which the coupling fits determines the size.

### Dimensions and Prices

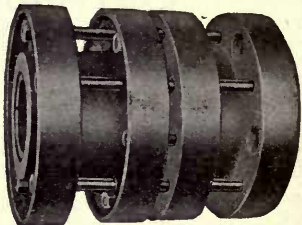
Size of Shaft, Inches.....	1 <sup>3</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>2</sub>
Outside Diam. of Shell, In.	4 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>	6	7 <sup>1</sup> / <sub>2</sub>	7 <sup>5</sup> / <sub>8</sub>	8 <sup>1</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>8</sub>
Length, Inches.....	4	4 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>2</sub>	8 <sup>1</sup> / <sub>4</sub>	7 <sup>5</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>8</sub>
List Price.....	\$4.75	\$5.00	\$5.50	\$6.25	\$8.00	\$9.00	\$10.75	\$13.00

# Shaw Double Compression Flange Couplings

Require No Keys or Key-Seating

Style of Coupling for sizes 2<sup>1</sup>/<sub>8</sub> inches and larger.

Constructed with four flanges instead of two, the alternating flanges being bolted together.



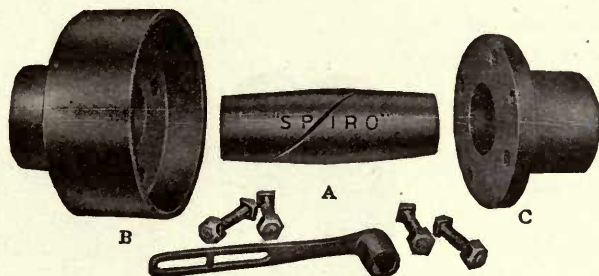
Style No. 140  
Patented

### Dimensions and Prices

Size of Shaft, Inches.....	2 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>8</sub>	4 <sup>7</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>
Outside Diam. of Flange, In....	9 <sup>1</sup> / <sub>4</sub>	9 <sup>5</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>	10 <sup>5</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>8</sub>	11 <sup>3</sup> / <sub>4</sub>	11 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>
Length, Inches.....	11 <sup>1</sup> / <sub>8</sub>	11 <sup>5</sup> / <sub>8</sub>	12 <sup>1</sup> / <sub>8</sub>	12 <sup>5</sup> / <sub>8</sub>	13 <sup>5</sup> / <sub>8</sub>	13 <sup>5</sup> / <sub>8</sub>	14 <sup>5</sup> / <sub>8</sub>	16 <sup>5</sup> / <sub>8</sub>	16 <sup>5</sup> / <sub>8</sub>
List Price.....	\$27.25	\$32.50	\$39.25	\$45.25	\$51.25	\$61.50	\$71.75	\$83.00	\$94.00



## The Monarch Spiro Compression Coupling



Style No. 141

Single Flange Coupling

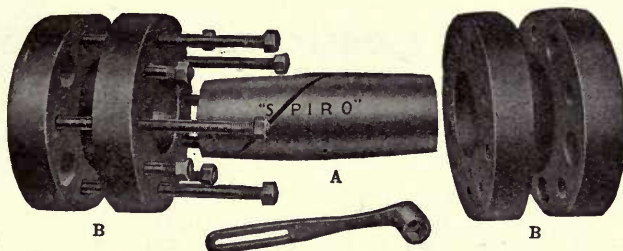
A—Sleeve    B—Outer Shell    C—Inner Shell

The method of this construction gives an enormous gripping power on the shaft, the sleeve gripping its entire length and circumference. From actual tests this coupling has exerted from 40 to 60% more gripping power than any other compression coupling on the market.

Price List

Size, Inches.	$\frac{3}{4}$	$1\frac{1}{8}$	$1\frac{3}{8}$	$1\frac{5}{8}$	$1\frac{7}{8}$	$1\frac{11}{8}$	$1\frac{13}{8}$	$2\frac{1}{8}$	$2\frac{7}{8}$	$2\frac{11}{8}$	$2\frac{13}{8}$
Price-----	\$3.50	\$4.00	\$4.75	\$5.00	\$5.50	\$6.25	\$8.00	\$9.00	\$10.75	\$13.00	\$16.00

## Double Flange Coupling



Style No. 142

Double Flange Coupling

A—Sleeve    B—Shells

These Double Compression Couplings are constructed with four flanges. Two of the flanges and hub of half of the coupling cast in one piece, using long and short bolts alternately for bolting together.

Price List

Size Inches-----	$2\frac{1}{8}$	$3\frac{1}{8}$	$3\frac{7}{8}$	$3\frac{11}{8}$	$3\frac{13}{8}$	$4\frac{7}{8}$	$4\frac{11}{8}$
Price-----	\$27.50	\$32.50	\$39.25	\$45.25	\$51.25	\$71.75	\$94.00

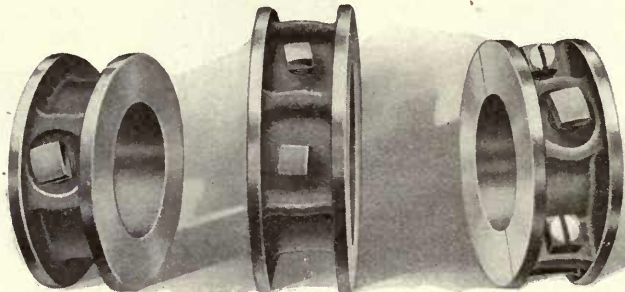
Intermediate or odd sizes charged at next listed price above.

For Reducing Couplings add 10% to largest bore.

Plain and Safety Set Collars, Solid and Split

These collars are made solid and split for all sizes of shafting and comply with all the legal requirements as to safety by having set screws and bolts protected. They are finished and polished on periphery and faced on ends, accurately bored and reamed and substantial throughout.

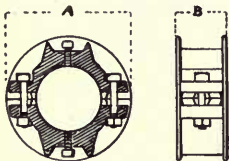
A strictly high grade machine and shafting collar, manufactured in large quantities, sold at reasonable prices, and carried in stock for immediate shipment.



Style No. 143

Solid Construction Safety Set Collars  
Prices

Shaft Size Inches	Price	Shaft Size Inches	Price	Shaft Size Inches	Price
1 1/8	\$0.60	3 1/8	\$3.30	6 7/16	\$10.10
1 3/16	.80	3 1/8	3.60	6 11/16	10.90
1 7/16	1.00	4 1/8	4.15	6 13/16	11.70
1 11/16	1.20	4 7/16	4.70	7 1/2	14.05
1 13/16	1.40	4 11/16	5.30	8	16.20
2 3/16	1.60	4 13/16	5.90	8 1/2	18.45
2 7/16	1.80	5 3/16	6.55	9	20.70
2 11/16	2.10	5 7/16	7.20	9 1/2	23.10
2 13/16	2.40	5 11/16	7.90	10	25.75
2 15/16	2.70	5 13/16	8.60		
3 1/16	3.00	6 3/16	9.35		



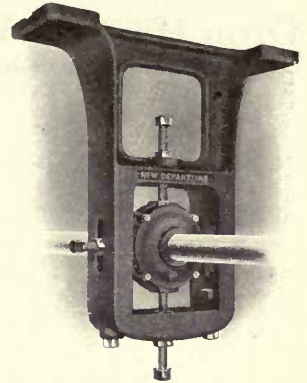
Split Construction Safety Set Collars

Dimensions and Prices

Diameter Shaft Inches	Price	A Inches	B Inches
1 3/16	\$ 1.20	3 1/4	1 3/8
1 7/16	1.50	3 1/2	1 3/8
1 11/16	1.80	3 3/4	1 5/8
1 13/16	2.10	4	1 5/8
2 3/16	2.40	4 3/4	1 7/8
2 7/16	2.70	5	1 7/8
2 11/16	3.15	5 1/4	1 7/8
2 13/16	3.60	5 1/2	1 7/8
3 1/16	4.05	6 1/4	2
3 7/16	4.50	6 1/2	2
3 11/16	4.95	6 3/4	2
3 13/16	5.40	7	2
4 1/16	7.05	8 1/4	2 1/2
4 13/16	8.85	8 3/4	2 1/2
5 1/16	10.80	9 1/4	2 1/2
5 13/16	12.90	9 3/4	2 1/2
6 1/2	15.15	10 1/2	2 1/2
7	17.55	11	2 1/2
8	24.25	12 1/2	3
9	31.05	13 1/2	3
10	38.65	14 1/2	3
11	48.00	16	3 1/2
12	58.50	17	3 1/2



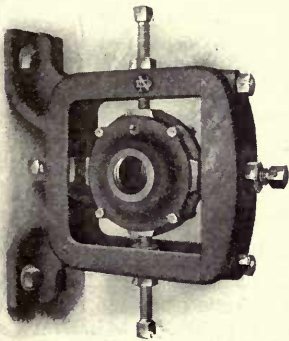
## The Monarch Ball Bearing Drop Hanger



Style No. 144

### List Prices

Type	Shaft Inches	DROP OF HANGER IN INCHES									
		10	12	15	18	21	24	27	30	33	36
1	$1\frac{5}{16}$	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00	\$13.25				
1	$1\frac{3}{16}$	13.00	13.25	13.50	13.75	14.00	14.25				
2	$1\frac{7}{16}$	17.75	18.00	18.25	18.50	18.75	19.00	\$19.25	\$19.50		
2	$1\frac{1}{16}$	18.75	19.00	19.25	19.50	19.75	20.00	20.25	20.50		
2	$1\frac{1}{16}$	20.00	20.25	20.50	20.75	21.00	21.25	21.50	21.75		
3	$2\frac{3}{16}$	---	27.25	27.50	27.75	28.00	28.25	28.50	28.75	\$29.00	\$29.50
3	$2\frac{1}{16}$	---	32.00	32.25	32.50	32.75	33.00	33.75	34.00	34.50	35.00
3	$2\frac{1}{16}$	---	41.75	42.00	42.25	42.50	42.75	43.00	43.50	44.00	44.50
4	$2\frac{1}{16}$	---	---	46.00	46.25	46.50	46.75	47.00	47.50	48.00	48.50
4	$3\frac{3}{16}$	---	---	51.00	51.25	51.50	51.75	52.00	52.50	53.00	53.50
4	$3\frac{7}{16}$	---	---	66.00	66.25	66.50	66.75	67.00	67.00	68.00	68.50



Style No. 145

## The Monarch Ball Bearing Post Hanger

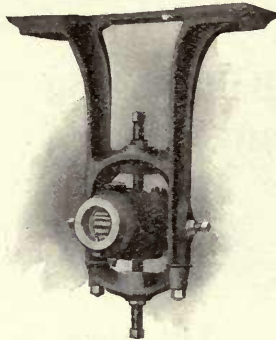
### List Prices

Type	Shaft Inches	EXTENSION OF HANGER IN INCHES				
		7	8	9	10½	12
1-P	$1\frac{5}{16}$	\$12.00	\$12.00			
1-P	$1\frac{3}{16}$	12.85	12.85			
2-P	$1\frac{7}{16}$	---	18.00	\$18.00		
2-P	$1\frac{1}{16}$	---	18.75	18.75		
2-P	$1\frac{1}{16}$	---	20.00	20.00		
3-P	$2\frac{3}{16}$	---	---	27.25	\$27.25	
3-P	$2\frac{1}{16}$	---	---	32.00	32.00	
3-P	$2\frac{1}{16}$	---	---	42.00	42.00	
4-P	$2\frac{1}{16}$	---	---	---	46.00	\$46.00
4-P	$3\frac{3}{16}$	---	---	---	50.75	50.75
4-P	$3\frac{7}{16}$	---	---	---	66.00	66.00

These hangers are guaranteed to produce definite results in the saving of power. They are also guaranteed for a period of one year from installation, against defects in material and workmanship.

Drop Hangers With Hyatt Standard Line Shaft Bearings

Four-Point Set Screw Type—For Speed up to 600 Revolutions



Price List

Diam. Shaft Inches	DROP IN INCHES									
	6-8	9-11	12-14	15-17	18-20	21-23	24-26	27-29	30-32	33-35
1-7/16	\$12.90	\$13.40	\$14.60	\$15.25	\$15.75	\$16.25	\$16.75			
1-1/2	13.90	14.40	15.60	16.25	16.75	17.25	17.75			
1-5/8	19.25	19.75	20.75	21.50	23.25	23.75	24.25	\$26.00	\$28.00	
2-3/16	20.25	20.75	21.75	22.50	24.25	24.75	25.25	27.00	29.00	
2-1/8	29.50	30.00	31.50	33.25	34.75	35.50	36.25	37.00	38.00	\$39.50
2-1/4	31.25	31.75	33.25	35.00	36.50	37.25	38.00	38.75	39.75	41.25
2-3/8	39.25	40.75	42.25	44.25	45.50	47.50	48.25	49.25	51.25	52.25
3-3/16	43.75	45.25	46.75	48.75	50.00	52.00	52.75	53.75	55.75	56.75

Even inches and their fractions take list of nearest sixteenth plus 10%.

Drop Hangers with Extra Heavy Main Shaft Bearings

Four-Point Set Screw Type—For Speed up to 400 Revolutions

Price List

Diam. Shaft Inches	DROP IN INCHES										
	6-8	9-11	12-14	15-17	18-20	21-23	24-26	27-29	30-32	33-35	36-38
3-7/16	\$ 86.50	\$ 88.10	\$ 89.75	\$ 92.80	\$ 96.00	\$ 99.00	\$102.65	\$107.35	\$112.00	\$116.75	\$122.00
3-1/2	113.00	114.60	116.15	119.30	122.45	125.60	129.15	133.85	138.55	143.25	148.00
3-5/8	-----	163.25	166.30	169.45	174.15	178.85	184.15	188.30	193.00	197.70	202.50
4-1/8	-----	-----	220.75	223.15	227.85	234.10	238.80	243.50	248.25	253.00	258.00
4-3/8	-----	-----	250.00	256.35	262.75	269.00	275.40	281.55	287.75	294.00	300.50

List of Intermediate Diameter Shafts given on application.  
Even inches and their fractions take list of nearest sixteenth.

Hyatt Roller Bearing Post Hangers

Four-Point Set Screw Type—3-3/16-inch Bearings and under, suitable for 600 Revolutions—  
larger sizes suitable for 400 Revolutions

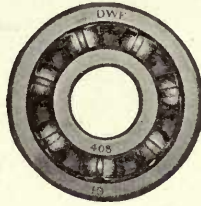
Price List

Diam. of Shaft, Inches...	1-7/16	1-1/2	1-5/8	2-3/16	2-1/8	2-1/4	2-3/8
Price List.....	\$12.50	\$13.50	\$18.75	\$19.75	\$28.50	\$31.00	\$41.00
Diam. of Shaft, Inches...	3-3/16	3-7/16	3-1/2	3-5/8	4-1/8	4-3/8	5-1/8
Price List.....	\$45.50	\$86.00	\$116.00	\$153.00	\$200.00	\$230.00	\$340.00

Even inches and their fractions take list of nearest sixteenth plus 10% in sizes up to and including 3-3/16 inches. Above that list is the same.



## Radial Ball Bearings



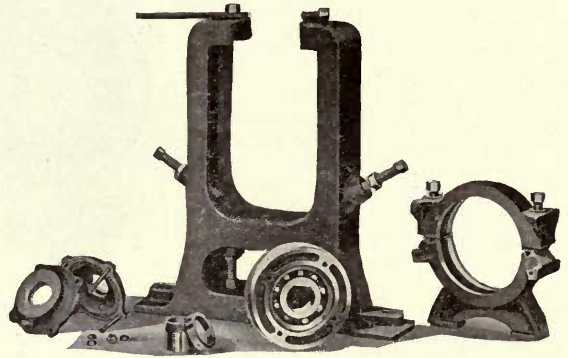
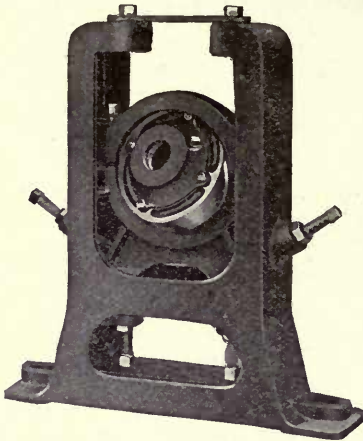
Style No. 146

### Price List

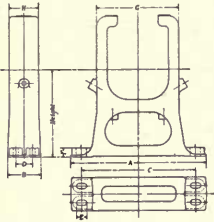
WIDE SERIES						NARROW SERIES					
Light		Medium		Heavy		Light		Medium		Heavy	
Number	Price	Number	Price	Number	Price	Number	Price	Number	Price	Number	Price
200	\$ 3.00	300	\$ 3.75	403	\$ 7.50	102	\$ 3.75	1	\$ 4.75	52	\$ 7.50
201	3.20	301	4.00	404	8.75	103	4.25	2	5.00	53	8.75
202	3.50	302	4.25	405	10.50	104	4.75	3	5.90	54	10.60
203	4.00	303	5.00	406	11.90	105	5.25	4	6.90	55	11.90
204	4.75	304	5.90	407	13.75	106	6.25	5	8.10	56	13.75
205	5.25	305	6.90	408	16.50	107	6.85	6	9.50	57	17.50
206	6.25	306	8.10	409	19.50	108	7.50	7	11.90		
207	6.85	307	9.50	410	22.50	109	9.00	8	15.40		
208	7.50	308	11.90	411	26.50	110	10.40	9	16.90		
209	9.00	309	14.50	412	31.00	111	12.50	10	18.25		
210	10.00	310	16.00	413	36.50	112	13.75	11	20.90		
211	12.50	311	18.00	414	45.50	113	17.40	12	23.75		
212	14.50	312	21.00	415	55.00	114	18.75	13	28.25		
213	16.50	313	24.00	416	62.00	115	22.25	14	31.20		
214	18.75	314	28.00	417	85.00	116	24.10	15	35.00		
215	21.50	315	31.00	418	90.00	117	27.80				
216	24.10	316	35.00	419	110.00	118	29.40				
217	27.80	317	43.50	420	125.00	119	31.90				
218	30.30	318	51.50			120	34.40				
219	33.50	319	60.00			121	39.40				
220	37.00	320	70.00			122	41.25				
221	42.00	321	80.00								
222	48.00	322	90.00								

Larger sizes supplied but not carried in stock.

# The Hess-Bright Ball Bearing Floor Stand



Style No. 147



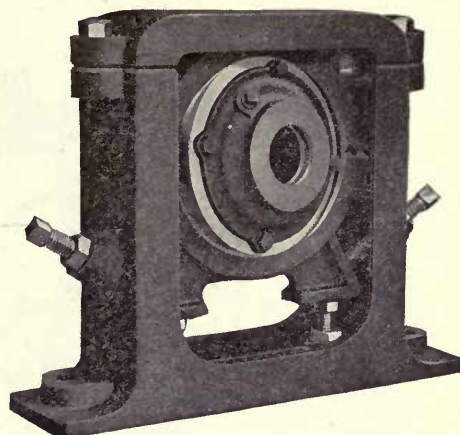
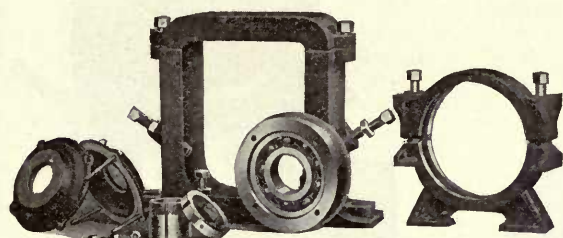
## Price List and Dimensions

Size of Shaft, In.	Height Inches	Price	Foot Dimensions in Inches								No. of Bolts	Diam. of Bolts, In.
			A	B	C	D	E	F	G	H		
2 1/8	15	\$73.20	24	5 1/2	19 1/2	---	1 3/4	1 1/2	13	5	2	3/4
	18	74.07	25 1/2	5 3/4	21	---	1 3/4	1 1/2	13	5	2	3/4
	21	74.84	27 1/4	6	22 1/2	3 1/4	2 1/2	1 3/4	13	5	4	3/4
	24	75.70	29	6 1/4	24	3 3/4	2 1/2	1 3/4	13	5	4	3/4
	27	76.40	30 3/4	6 3/4	25 1/2	3 3/4	2 1/2	1 3/4	13	5	4	3/4
	30	77.30	32 1/2	6 3/4	27	3 3/4	2 1/2	1 3/4	13	5	4	3/4
	33	78.50	34 1/4	7	28 1/2	3 3/4	2 1/2	1 3/4	13	5	4	3/4
	36	79.04	36	7 1/4	30	3 3/4	2 1/2	1 3/4	13	5	4	3/4
2 1/2	14	90.57	25	6 1/4	21	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	17	91.57	26 1/2	6 3/4	22 1/2	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	20	92.64	28	6 3/4	23 1/2	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	23	93.64	29 3/4	7	24 3/4	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	26	94.67	31 1/4	7 1/4	26	4	3	1 3/4	16	5 3/4	4	3/8
	29	95.67	32 3/4	7 3/4	27 1/4	4	3	1 3/4	16	5 3/4	4	3/8
	32	96.70	34 1/2	7 3/4	28 3/4	4	3	1 3/4	16	5 3/4	4	3/8
	35	97.50	36	8	30	4	3	1 3/4	16	5 3/4	4	3/8
2 3/4	14	101.94	25	6 1/4	21	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	17	102.94	26 1/2	6 3/4	22 1/2	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	20	104.00	28	6 3/4	23 1/2	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	23	105.00	29 3/4	7	24 3/4	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	26	106.04	31 1/4	7 1/4	26	4	3	1 3/4	16	5 3/4	4	3/8
	29	107.04	32 3/4	7 3/4	27 1/4	4	3	1 3/4	16	5 3/4	4	3/8
	32	108.07	34 1/2	7 3/4	28 3/4	4	3	1 3/4	16	5 3/4	4	3/8
	35	109.07	36	8	30	4	3	1 3/4	16	5 3/4	4	3/8
3 1/8	14	109.84	25	6 1/4	21	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	17	110.84	26 1/2	6 3/4	22 1/2	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	20	111.87	28	6 3/4	23 1/2	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	23	112.87	29 3/4	7	24 3/4	3 3/4	2	1 3/4	16	5 3/4	4	3/8
	26	113.90	31 1/4	7 1/4	26	4	3	1 3/4	16	5 3/4	4	3/8
	29	114.90	32 3/4	7 3/4	27 1/4	4	3	1 3/4	16	5 3/4	4	3/8
	32	115.94	34 1/2	7 3/4	28 3/4	4	3	1 3/4	16	5 3/4	4	3/8
	35	116.94	36	8	30	4	3	1 3/4	16	5 3/4	4	3/8
3 1/2	16 1/2	144.74	27 1/2	7	23 1/2	3	1 1/2	2	18	6	4	1
	19 1/2	146.07	29	7 1/4	24 3/4	3 1/2	2	2	18	6	4	1
	22 1/2	147.38	30 3/8	8	25 3/4	4 1/2	2	2	18	6	4	1
	25 1/2	148.70	31 3/4	8 1/2	26 3/4	4 1/2	2	2	18	6	4	1
	28 1/2	150.00	33 3/8	9	27 3/4	4 1/2	3	2	18	6	4	1
	31 1/2	151.30	34 3/4	9 1/2	29	4 1/2	3	2	18	6	4	1
	34 1/2	152.74	36	10	30	4 1/2	3	2	18	6	4	1
3 3/4	16 1/2	155.37	27 1/2	7	23 1/2	3	1 1/2	2	18	6	4	1
	19 1/2	156.70	29	7 1/4	24 3/4	3 1/2	2	2	18	6	4	1
	22 1/2	158.00	30 3/8	8	25 3/4	4 1/2	2	2	18	6	4	1
	25 1/2	159.34	31 3/4	8 1/2	26 3/4	4 1/2	2	2	18	6	4	1
	28 1/2	160.64	33 3/8	9	27 3/4	4 1/2	3	2	18	6	4	1
	31 1/2	161.97	34 3/4	9 1/2	29	4 1/2	3	2	18	6	4	1
	34 1/2	163.37	36	10	30	4 1/2	3	2	18	6	4	1
3 7/8	16 1/2	168.50	27 1/2	7	23 1/2	3	1 1/2	2	18	6	4	1
	19 1/2	169.84	29	7 1/4	24 3/4	3 1/2	2	2	18	6	4	1
	22 1/2	171.14	30 3/8	8	25 3/4	4 1/2	2	2	18	6	4	1
	25 1/2	172.47	31 3/4	8 1/2	26 3/4	4 1/2	2	2	18	6	4	1
	28 1/2	173.74	33 3/8	9	27 3/4	4 1/2	3	2	18	6	4	1
	31 1/2	175.07	34 3/4	9 1/2	29	4 1/2	3	2	18	6	4	1
	34 1/2	176.50	36	10	30	4 1/2	3	2	18	6	4	1
2 1/8	15	61.97	24	5 1/2	19 1/2	---	1 3/4	1 1/2	13	5	2	3/4
	18	62.84	25 1/2	5 3/4	21	---	1 3/4	1 1/2	13	5	2	3/4
	21	63.57	27 1/4	6	22 1/2	3 1/4	2 1/2	1 3/4	13	5	4	3/4
	24	64.47	29	6 1/4	24	3 3/4	2 1/2	1 3/4	13	5	4	3/4
	27	65.17	30 3/4	6 3/4	25 1/2	3 3/4	2 1/2	1 3/4	13	5	4	3/4
	30	66.04	32 1/2	6 3/4	27	3 3/4	2 1/2	1 3/4	13	5	4	3/4
	33	66.90	34 1/4	7	28 1/2	3 3/4	2 1/2	1 3/4	13	5	4	3/4
	36	67.80	36	7 1/4	30	3 3/4	2 1/2	1 3/4	13	5	4	3/4

Adjustment 1 inch vertical and 1/2 inch horizontal each way from central position.

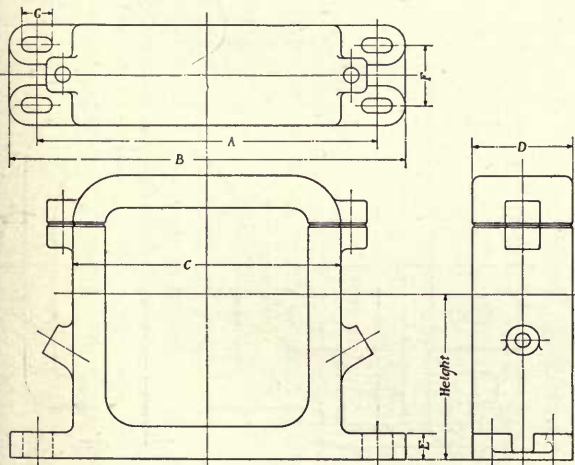


# The Hess-Bright Ball Bearing Pillow Block



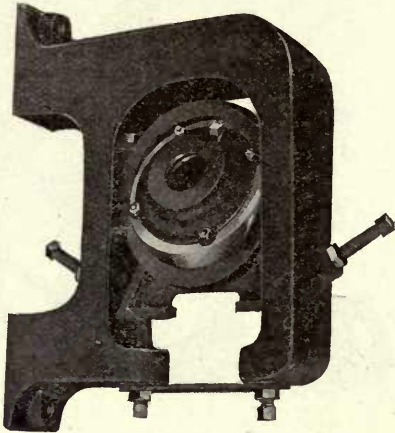
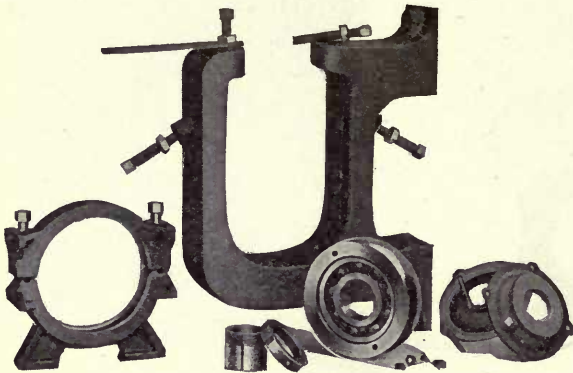
Style No. 149

## Price List and Dimensions

	Size of Shaft, In.	Height Inches	Price	Foot Dimensions in Inches							No. of Bolts	Diam. of Bolts, In.
	A	B	C	D	E	F	G					
$\frac{1}{2}$	6 $\frac{1}{4}$	\$23.70	12 $\frac{1}{4}$	14 $\frac{3}{4}$	9	3 $\frac{1}{2}$	1	---	1 $\frac{1}{2}$	2	$\frac{5}{8}$	
1 $\frac{1}{8}$	6 $\frac{1}{4}$	25.67	12 $\frac{1}{4}$	14 $\frac{3}{4}$	9	3 $\frac{1}{2}$	1	---	1 $\frac{1}{2}$	2	$\frac{5}{8}$	
1 $\frac{1}{8}$	8 $\frac{1}{4}$	37.24	14 $\frac{1}{4}$	17	10 $\frac{3}{4}$	4 $\frac{1}{4}$	1 $\frac{1}{4}$	---	1 $\frac{1}{2}$	2	$\frac{5}{8}$	
1 $\frac{1}{8}$	8 $\frac{1}{4}$	39.94	14 $\frac{1}{4}$	17	10 $\frac{3}{4}$	4 $\frac{1}{4}$	1 $\frac{1}{4}$	---	1 $\frac{1}{2}$	2	$\frac{5}{8}$	
1 $\frac{1}{8}$	8 $\frac{1}{4}$	43.74	14 $\frac{1}{4}$	17	10 $\frac{3}{4}$	4 $\frac{1}{4}$	1 $\frac{1}{4}$	---	1 $\frac{1}{2}$	2	$\frac{5}{8}$	
2 $\frac{1}{8}$	9	61.24	16 $\frac{1}{4}$	19	12 $\frac{3}{4}$	5	1 $\frac{3}{8}$	---	1 $\frac{1}{2}$	2	$\frac{3}{4}$	
2 $\frac{1}{8}$	9	72.50	16 $\frac{1}{4}$	19	12 $\frac{3}{4}$	5	1 $\frac{3}{8}$	---	1 $\frac{1}{2}$	2	$\frac{3}{4}$	
2 $\frac{1}{8}$	9 $\frac{1}{2}$	89.54	19 $\frac{1}{2}$	22 $\frac{3}{4}$	15 $\frac{3}{8}$	5 $\frac{3}{4}$	1 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{3}{4}$	4	$\frac{3}{4}$	
2 $\frac{1}{8}$	9 $\frac{1}{2}$	100.90	19 $\frac{1}{2}$	22 $\frac{3}{4}$	15 $\frac{3}{8}$	5 $\frac{3}{4}$	1 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{3}{4}$	4	$\frac{3}{4}$	
3 $\frac{1}{8}$	9 $\frac{1}{2}$	108.77	19 $\frac{1}{2}$	22 $\frac{3}{4}$	15 $\frac{3}{8}$	5 $\frac{3}{4}$	1 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{3}{4}$	4	$\frac{3}{4}$	
3 $\frac{1}{8}$	10 $\frac{1}{2}$	141.84	21 $\frac{1}{2}$	25	17 $\frac{1}{2}$	6	1 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{3}{4}$	4	$\frac{7}{8}$	
3 $\frac{1}{8}$	10 $\frac{1}{2}$	152.47	21 $\frac{1}{2}$	25	17 $\frac{1}{2}$	6	1 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{3}{4}$	4	$\frac{7}{8}$	
3 $\frac{1}{8}$	10 $\frac{1}{2}$	165.57	21 $\frac{1}{2}$	25	17 $\frac{1}{2}$	6	1 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{3}{4}$	4	$\frac{7}{8}$	

Adjustment  $\frac{1}{2}$  inch each way from central position.

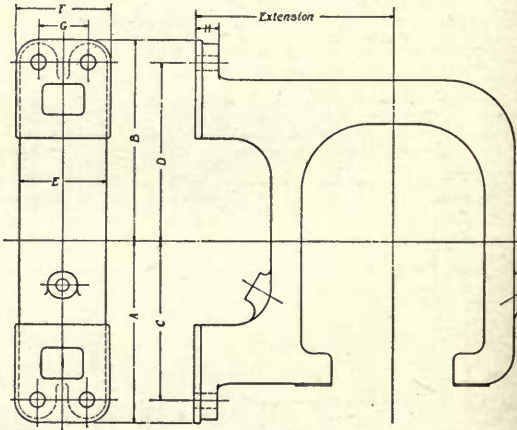
The Hess-Bright Ball Bearing Post Hanger



Style No. 150

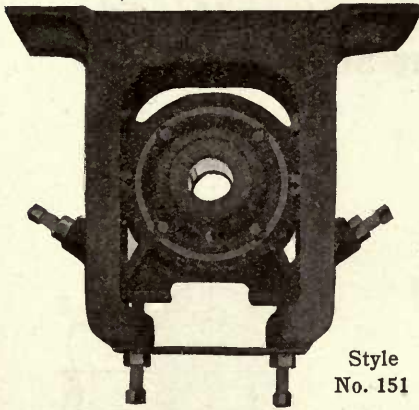
Price List and Dimensions

Size of Shaft, In.	Extension Inches	Price	Foot Dimensions in Inches								No. of Bolts	Diam. of Bolts, In.
			A	B	C	D	E	F	G	H		
1 1/8	8	\$24.30	8 1/2	9	7 1/2	8	3 1/2	3 1/2	---	1 1/4	2	5/8
1 1/8	8	26.24	8 1/2	9	7 1/2	8	3 1/2	3 1/2	---	1 1/4	2	5/8
1 1/8	9	37.84	10 3/4	10 1/4	9 1/2	9	4 1/4	4 1/4	---	1 1/4	2	5/8
1 1/8	9	40.54	10 3/4	10 1/4	9 1/2	9	4 1/4	4 1/4	---	1 1/4	2	5/8
1 1/8	9	44.30	10 3/4	10 1/4	9 1/2	9	4 1/4	4 1/4	---	1 1/4	2	5/8
2 1/8	10	61.97	11 1/2	12 5/8	10 5/8	11 3/8	5	5	---	1 3/8	2	3/4
2 1/8	10	73.20	11 1/2	12 5/8	10 5/8	11 3/8	5	5	---	1 3/8	2	3/4
2 1/8	12	90.57	12	13 3/4	10 5/8	11 3/8	5 3/4	6 3/4	3 3/4	1 1/2	4	7/8
2 1/8	12	101.94	12	13 3/4	10 5/8	11 3/8	5 3/4	6 3/4	3 3/4	1 1/2	4	7/8
3 1/8	12	109.84	12	13 3/4	10 5/8	11 3/8	5 3/4	6 3/4	3 3/4	1 1/2	4	7/8
3 1/8	13	143.30	13 3/4	16 1/4	12 1/4	14 3/4	6	6 1/2	3 3/4	1 3/4	4	1
3 1/8	13	153.90	13 3/4	16 1/4	12 1/4	14 3/4	6	6 1/2	3 3/4	1 3/4	4	1
3 1/8	13	167.05	13 3/4	16 1/4	12 1/4	14 3/4	6	6 1/2	3 3/4	1 3/4	4	1



Adjustable 1 inch vertical and 1/2 inch horizontal each way from central position.

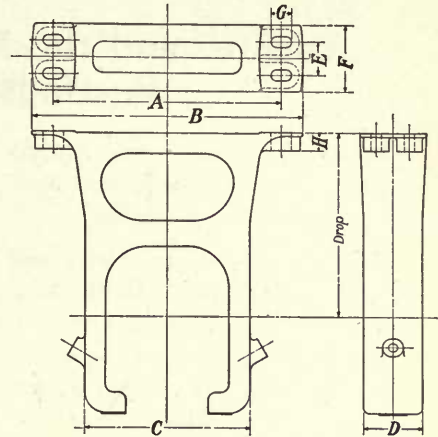




# The Hess-Bright Ball Bearing Ceiling Hanger

Style  
No. 151

## Price List and Dimensions



Size of Shaft, In.	Drop Inches	Price	Foot Dimensions in Inches								No. of Bolts	Diam. of Bolts, In.
			A	B	C	D	E	F	G	H		
1 1/8	6	\$22.70	12	15	9	3 1/2	---	3 1/2	1 1/2	1	2	5/8
9	9	23.00	12 1/2	15 1/2	9	3 3/4	---	3 3/4	1 1/2	1	2	5/8
12	12	23.70	13	16 1/4	9	3 3/4	---	4	1 1/2	1	2	5/8
15	15	24.30	13 1/2	17 1/4	9	3 3/4	---	4 1/4	2	1	2	5/8
18	18	24.70	14 1/2	18	9	3 3/4	---	4 1/2	2	1	2	5/8
21	21	25.30	15 1/2	19	9	3 3/4	2 1/2	4 3/4	2	1	4	5/8
24	24	25.94	16	20	9	3 3/4	2 1/2	5	2	1 1/4	4	5/8
1 1/8	6	24.67	12	15	9	3 3/4	---	3 1/2	1 1/2	1	2	5/8
9	9	24.94	12 1/2	15 1/2	9	3 3/4	---	3 3/4	1 1/2	1	2	5/8
12	12	25.67	13	16 1/4	9	3 3/4	---	4	1 1/2	1	2	5/8
15	15	26.24	13 1/2	17 1/4	9	3 3/4	---	4 1/4	2	1	2	5/8
18	18	26.67	14 1/2	18	9	3 3/4	---	4 1/2	2	1	2	5/8
21	21	27.24	15 1/2	19	9	3 3/4	2 1/2	4 3/4	2	1 1/4	4	5/8
24	24	27.94	16	20	9	3 3/4	2 1/2	5	2	1 1/4	4	5/8
1 1/8	7	36.20	14	17	11	4 1/4	---	4 1/4	1 1/2	1 1/4	2	5/8
9	9	36.67	14 1/2	18	11	4 1/4	---	4 1/2	1 1/2	1 1/4	2	5/8
12	12	37.24	16	19 1/4	11	4 1/4	---	4 3/4	1 1/2	1 1/4	2	5/8
15	15	37.84	17 1/2	21	11	4 1/4	---	4 3/4	1 1/2	1 1/4	2	5/8
18	18	38.40	19 1/2	22 1/2	11	4 1/4	---	5	1 1/2	1 1/4	2	5/8
21	21	39.14	21	24 1/2	11	4 1/4	3	5 1/2	2	1 1/2	4	5/8
24	24	39.87	22 1/2	26 1/2	11	4 1/4	3	5 1/2	2	1 1/2	4	5/8
27	27	40.57	24	28 1/2	11	4 1/4	3	5 1/2	2	1 1/2	4	5/8
30	30	41.34	25 1/2	30	11	4 1/4	3	6	2	1 1/2	4	5/8
1 1/8	7	38.90	14	17	11	4 1/4	---	4 1/4	1 1/2	1 1/4	2	5/8
9	9	39.37	14 1/2	18	11	4 1/4	---	4 1/2	1 1/2	1 1/4	2	5/8
12	12	39.94	16	19 1/4	11	4 1/4	---	4 3/4	1 1/2	1 1/4	2	5/8
15	15	40.54	17 1/2	21	11	4 1/4	---	4 3/4	1 1/2	1 1/4	2	5/8
18	18	41.10	19 1/2	22 1/2	11	4 1/4	---	5	1 1/2	1 1/4	2	5/8
21	21	41.84	21	24 1/2	11	4 1/4	3	5 1/2	2	1 1/2	4	5/8
24	24	42.57	22 1/2	26 1/2	11	4 1/4	3	5 1/2	2	1 1/2	4	5/8
27	27	43.27	24	28 1/2	11	4 1/4	3	5 1/2	2	1 1/2	4	5/8
30	30	44.01	25 1/2	30	11	4 1/4	3	6	2	1 1/2	4	5/8
1 1/8	7	42.67	14	17	11	4 1/4	---	4 1/4	1 1/2	1 1/4	2	5/8
9	9	43.14	14 1/2	18	11	4 1/4	---	4 1/2	1 1/2	1 1/4	2	5/8
12	12	43.74	16	19 1/4	11	4 1/4	---	4 3/4	1 1/2	1 1/4	2	5/8
15	15	44.30	17 1/2	21	11	4 1/4	---	4 3/4	1 1/2	1 1/4	2	5/8
18	18	44.90	19 1/2	22 1/2	11	4 1/4	---	5	1 1/2	1 1/4	2	5/8
21	21	45.60	21	24 1/2	11	4 1/4	3	5 1/2	2	1 1/2	4	5/8
24	24	46.34	22 1/2	26 1/2	11	4 1/4	3	5 1/2	2	1 1/2	4	5/8
27	27	47.07	24	28 1/2	11	4 1/4	3	5 1/2	2	1 1/2	4	5/8
30	30	47.80	25 1/2	30	11	4 1/4	3	6	2	1 1/2	4	5/8
2 1/8	8 1/2	59.80	18	22	13	5	---	5	1 1/2	1 1/2	2	3/4
12	12	61.24	18	22	13	5	---	5 1/4	1 1/2	1 1/2	2	3/4
15	15	61.97	19 1/2	24	13	5	---	5 1/2	1 1/2	1 1/2	2	3/4
18	18	62.84	21	25 1/2	13	5	---	5 3/4	1 1/2	1 1/2	2	3/4
21	21	63.57	22 1/2	27 1/4	13	5	3 1/4	6	2 1/2	1 1/2	4	3/4
24	24	64.47	24	29	13	5	3 1/4	6 1/4	2 1/2	1 1/2	4	3/4
27	27	65.17	25 1/2	30 3/4	13	5	3 1/4	6 1/2	2 1/2	1 1/2	4	3/4
30	30	66.04	27	32 1/2	13	5	3 1/4	6 3/4	2 1/2	1 1/2	4	3/4
33	33	66.90	28 1/2	34 1/4	13	5	3 1/4	7	2 1/2	1 1/2	4	3/4
36	36	67.80	30	36	13	5	3 1/4	7 1/4	2 1/2	1 1/2	4	3/4
2 1/8	8 1/2	71.04	18	22	13	5	---	5	1 1/2	1 1/2	2	3/4
12	12	72.50	18	22	13	5	---	5 1/4	1 1/2	1 1/2	2	3/4
15	15	73.20	19 1/2	24	13	5	---	5 1/2	1 1/2	1 1/2	2	3/4
18	18	74.07	21	25 1/2	13	5	---	5 3/4	1 1/2	1 1/2	2	3/4
21	21	74.84	22 1/2	27 1/4	13	5	3 1/4	6	2 1/2	1 1/2	4	3/4
24	24	75.70	24	29	13	5	3 1/4	6 1/4	2 1/2	1 1/2	4	3/4
27	27	76.40	25 1/2	30 3/4	13	5	3 1/4	6 1/2	2 1/2	1 1/2	4	3/4
30	30	77.30	27	32 1/2	13	5	3 1/4	6 3/4	2 1/2	1 1/2	4	3/4
2 1/8	8 1/2	152.47	22	26 1/4	18	6	3	6	1 1/2	2	4	1
15	15	153.90	22	26 1/4	18	6	3	6 1/2	1 1/2	2	4	1
18	18	155.37	23 1/4	27 1/2	18	6	3	7	1 1/2	2	4	1
21	21	156.70	24 1/2	29	18	6	3	7 1/2	2	2	4	1
24	24	158.00	25 1/2	30 1/2	18	6	4 1/8	8	2	2	4	1
27	27	159.34	26 1/4	31 1/4	18	6	4 1/8	8 1/2	2	2	4	1
30	30	160.64	27 1/4	33 1/4	18	6	4 1/8	9	3	2	4	1
33	33	161.97	29	34 1/2	18	6	4 1/8	9 1/2	3	2	4	1
36	36	163.37	30	36	18	6	4 1/8	10	3	2	4	1
2 1/8	8 1/2	165.57	22	26 1/4	18	6	3	6	1 1/2	2	4	1
15	15	167.05	22	26 1/4	18	6	3	6 1/2	1 1/2	2	4	1
18	18	168.50	23 1/4	27 1/2	18	6	3	7	1 1/2	2	4	1
21	21	169.84	24 1/2	29	18	6	3	7 1/2	2	2	4	1
24	24	171.14	25 1/2	30 1/2	18	6	4 1/8	8	2	2	4	1
27	27	172.47	26 1/4	31 1/4	18	6	4 1/8	8 1/2	2	2	4	1
30	30	173.74	27 1/4	33 1/4	18	6	4 1/8	9	3	2	4	1
33	33	175.07	29	34 1/2	18	6	4 1/8	9 1/2	3	2	4	1
36	36	176.50	30	36	18	6	4 1/8	10	3	2	4	1

Adjustable 1 inch vertical and 1/2 inch horizontal each way from central position.

# Adapter and the Method of Assembling it with Bearings on a Straight Shaft

The bush is tapered outside, and the inner race is tapered to correspond, therefore a special bearing is required.

First locate the bearing (Fig. 2) and start the bush in place. Oil the bush lightly inside and outside, and drive it solidly home (Fig. 3) by means of the Adapter Tool (7). The inner race, not the outer, should be backed while the adapter is driven in. Finally screw the nut (4) home and lock it by the set screw. It is important that the nut (4) be not used to draw the bush home, as that is apt to strip the thread; its function is that of a check-nut.

Always place the Adapter so that, if nut (4) should loosen under vibrations till it rubs against housing (5), it will tend to screw up, not to unscrew. Do not jam the lateral trunnion set screws.

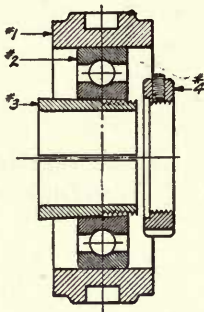


Fig. 1

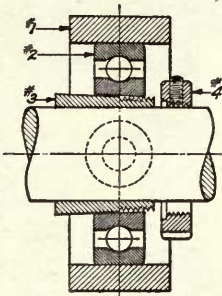


Fig. 2

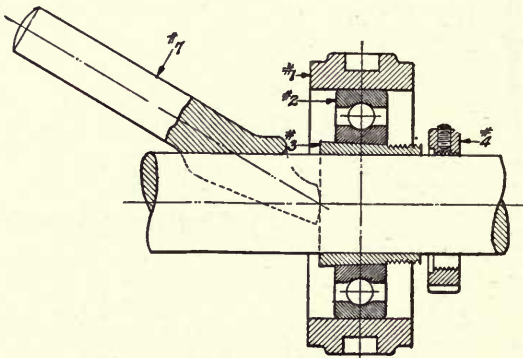


Fig. 3

## Dimensions

Size No. of Box	A Inches	B Inches	C Inches
1 1/8 L	3 1/8	3 3/8	3
1 1/8 L	3 5/8	3 7/8	3 1/8
1 1/8 L	4 1/8	4 3/8	3 1/4
1 1/8 L	4 1/2	5	3 3/8
1 1/8 L	4 7/8	5 1/8	3 5/8
2 1/8 L	5 3/4	6	3 3/4
2 1/8 L	6 1/8	6 3/8	3 7/8
2 1/8 L	6 5/8	6 7/8	4 3/8
2 1/8 L	7 1/8	7 3/8	4 3/4
3 1/8 L	7 1/2	7 3/4	4 5/8
3 1/8 L	8 1/2	9	4 7/8
3 1/8 L	9	9 1/2	5 3/8
3 1/8 L	9 3/8	9 7/8	5 1/2

Size No. of Box	A Inches	B Inches	C Inches
1 1/8 M	3 5/8	3 7/8	3 1/8
1 1/8 M	4	4 1/4	3 1/4
1 1/8 M	4 7/8	5 1/8	3 5/8
1 1/8 M	5 3/8	5 5/8	3 3/4
1 1/8 M	5 3/4	6	3 7/8
2 1/8 M	6 5/8	6 7/8	4 3/8
2 1/8 M	7 1/8	7 3/4	4 5/8
2 1/8 M	8	8 1/2	4 7/8
2 1/8 M	8 1/2	9	4 7/8
3 1/8 M	9	9 1/2	5 3/8
3 1/8 M	10	10 1/2	5 3/8
3 1/8 M	10 3/4	11 1/4	5 5/8
3 1/8 M	11 1/4	11 3/4	5 7/8

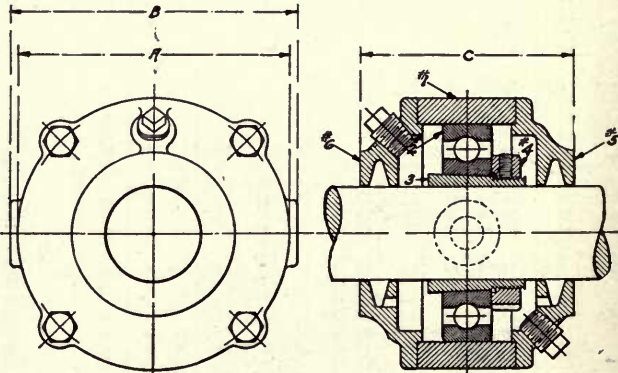
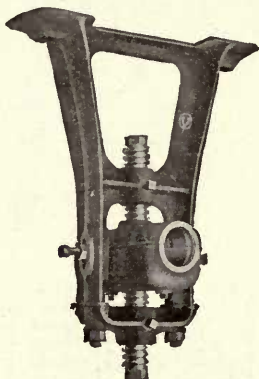


Fig. 4



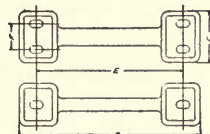
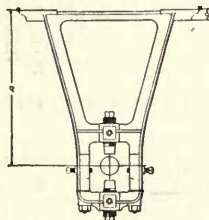
# The Monarch Hercules Duplex Oiling Hangers

## Convertible Into Floor Stands



Style No. 152

Double Braced Four-Way  
Adjustable



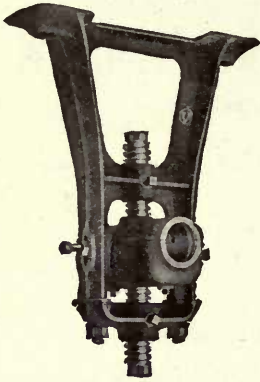
The Monarch Hercules "Duplex" Hangers are without exception the heaviest and strongest of their type on the market and rank as the peer of all others.

The duplex system of oiling as used in the ball and socket box illustrated above, is a combination of centrifugal force and capillary attraction effected by means of tempered steel rings and woven cotton wick. With this system of oiling, dry bearings are an impossibility as long as any oil remains in the reservoirs which require filling only after from six to twelve-month periods of service.

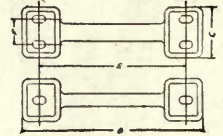
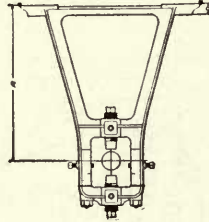
### \*Dimensions, Prices, Etc.

Size of Shaft Inches	Drop Inches	Price	Length Boxes Inches	Base Inches		Thick- ness, In.	Bolt Holes Inches		No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Drop Inches	Price	Length Boxes Inches	Base Inches		Thick- ness, In.	Bolt Holes Inches		No. of Bolts	Size of Bolts Inches
				B	C		D	E							F	B		C	D		
1 1/8	7 to 9	\$ 4.20	5	12	3 3/4	1	8 3/8	----	2	1 1/8	2 1/8	16 to 18	\$10.50	9 3/4	18 3/8	5 3/4	1 1/4	14 3/8	----	2	3/8
	10 to 12	4.80	5 1/2	13 3/8	3 3/8	1	10 1/4	----	2	1 1/8	2 1/8	19 to 21	11.25	9 3/4	19 3/8	6	1 1/4	15 3/8	----	2	3/8
	13 to 15	5.50	5 1/2	15 1/4	4	1	11 1/4	----	2	1 1/8	2 1/8	23 to 25	12.25	9 3/4	26	6 1/2	1 1/4	21 1/8	3	4	3/8
	16 to 18	6.00	5	16 3/8	4 1/8	1	13 3/8	----	2	1 1/8	2 1/8	28 to 30	14.00	9 3/4	30	7	1 1/4	25 3/8	3	4	3/8
1 1/4	7 to 9	5.50	6	13 3/4	4	1 1/8	9 3/8	----	2	3/8	2 1/4	7 to 9	11.00	10	16 3/8	5 3/4	1 3/8	12 3/8	----	2	3/4
	10 to 12	6.00	6	14 3/8	4	1 1/8	10 3/8	----	2	3/8	2 1/4	10 to 12	12.00	10	17 3/8	5 3/4	1 3/8	13 3/8	----	2	3/4
	13 to 15	6.50	6	15 3/8	4 1/2	1 1/8	11 3/8	----	2	3/8	2 1/4	13 to 15	13.00	10	19 3/8	6	1 3/8	14 3/8	----	2	3/4
	16 to 18	7.00	6	16 3/8	5	1 1/8	13	----	2	3/8	2 1/4	16 to 18	13.75	10	20 3/8	6 1/2	1 3/8	15 3/8	----	2	3/4
	19 to 21	7.75	6	17 3/8	5 1/2	1 1/8	14 3/8	----	2	3/8	2 1/4	19 to 21	14.75	10	21 3/8	6 3/4	1 3/8	17 3/8	----	2	3/4
	23 to 25	8.75	6	22	6	1 1/8	18	2 1/2	4	3/8	2 1/4	23 to 25	17.00	10	26 3/8	7 1/2	1 3/8	22 3/8	3	4	3/4
1 1/2	7 to 9	6.00	7	13 3/4	4	1 1/8	9 3/8	----	2	3/8	2 1/2	7 to 9	12.50	11 1/8	16 3/8	5 3/4	1 3/8	12 3/8	----	2	3/4
	10 to 12	6.50	7	14 3/8	4	1 1/8	10 3/8	----	2	3/8	2 1/2	10 to 12	13.50	11 1/8	17 3/8	5 3/4	1 3/8	13 3/8	----	2	3/4
	13 to 15	7.00	7	15 3/8	4 1/2	1 1/8	11 3/8	----	2	3/8	2 1/2	13 to 15	14.50	11 1/8	19 3/8	6	1 3/8	14 3/8	----	2	3/4
	16 to 18	7.50	7	16 3/8	5	1 1/8	13	----	2	3/8	2 1/2	16 to 18	15.25	11 1/8	20 3/8	6 1/2	1 3/8	15 3/8	----	2	3/4
	19 to 21	8.25	7	17 3/8	5 1/2	1 1/8	14 3/8	----	2	3/8	2 1/2	19 to 21	16.25	11 1/8	21 3/8	6 3/4	1 3/8	17 3/8	----	2	3/4
1 3/4	23 to 25	9.25	7	22	6	1 1/8	18	2 1/2	4	3/8	2 1/2	23 to 25	18.50	10	30	8	1 1/2	25 3/8	3	4	3/4
												34 to 36	22.00	10	34	8 1/2	1 1/2	29 3/8	3	4	3/4
	7 to 9	7.25	8 3/4	14 3/8	4 3/4	1 1/8	10 1/8	----	2	3/8	2 3/4	7 to 9	12.50	11 1/8	16 3/8	5 3/4	1 3/8	12 3/8	----	2	3/4
	10 to 12	8.00	8 3/4	16 1/8	4 1/2	1 1/8	12 1/8	----	2	3/8	2 3/4	10 to 12	13.50	11 1/8	17 3/8	5 3/4	1 3/8	13 3/8	----	2	3/4
	13 to 15	8.75	8 3/4	17 3/8	5	1 1/8	13 3/8	----	2	3/8	2 3/4	13 to 15	14.50	11 1/8	19 3/8	6	1 3/8	14 3/8	----	2	3/4
	16 to 18	9.50	8 3/4	18 3/8	5 1/2	1 1/8	14 3/8	----	2	3/8	2 3/4	16 to 18	15.25	11 1/8	20 3/8	6 1/2	1 3/8	15 3/8	----	2	3/4
	19 to 21	10.25	8 3/4	19 3/8	6	1 1/8	15 3/8	----	2	3/8	2 3/4	19 to 21	16.25	11 1/8	21 3/8	6 3/4	1 3/8	17 3/8	----	2	3/4
	23 to 25	11.25	8 3/4	26	6 1/2	1 1/8	21 1/8	3	4	3/8	2 3/4	23 to 25	18.50	11 1/8	26 3/8	7 1/2	1 3/8	22 3/8	3	4	3/4
2 1/4	28 to 30	13.00	8 3/4	30	7	1 1/2	25 3/4	3	4	3/8	2 3/4	28 to 30	20.00	11 1/8	30	8	1 1/2	25 3/8	3	4	3/4
												34 to 36	23.50	11 1/8	34	8 3/4	1 1/2	29 3/8	3	4	3/4
	7 to 9	8.25	9 3/4	14 3/8	4 3/4	1 1/8	10 1/8	----	2	3/8	2 3/4	7 to 9	15.00	12 1/4	18 3/8	6	1 1/2	13 3/8	----	2	3/8
	10 to 12	9.00	9 3/4	16 1/8	4 1/2	1 1/8	12 1/8	----	2	3/8	2 3/4	10 to 12	16.50	12 1/4	19 3/8	6 3/8	1 1/2	14 3/8	----	2	3/8
	13 to 15	9.75	9 3/4	17 3/8	5	1 1/8	13 3/8	----	2	3/8	2 3/4	13 to 15	18.00	12 1/4	20 3/8	6 3/4	1 1/2	15 3/8	----	2	3/8

\* Intermediate sizes charged at next larger diameter. Special prices for larger sizes.



# The Monarch Hercules Duplex Oiling Hangers—Continued



Style No. 152—Double Braced  
Four-Way Adjustable

**\*Dimensions, Prices, Etc.**

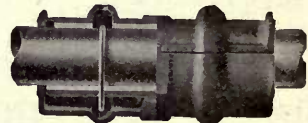
Size of Shaft Inches	Drop Inches	Price	Length Boxes Inches	Base Inches		Thick- ness, In.	Bolt Holes Inches		No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Drop Inches	Price	Length Boxes Inches	Base Inches		Thick- ness In.	Bolt Holes Inches		No. of Bolts	Size of Bolts Inches
				B	C		D	E							F	B		C	D		
2 1/4	28 to 30	\$25.00	12 1/4	31 1/8	8 3/4	1 3/4	26 3/4	3 3/4	4	3/4	3 1/4	28 to 30	\$42.00	16 1/4	33	9 3/4	2	27	4 1/2	4	1
	34 to 36	29.00	12 3/4	36	9	1 3/4	31 1/8	3 3/4	4	3/4		34 to 36	45.00	16 3/4	36	10	2	30	4 3/4	4	1
3 1/4	7 to 9	16.50	13 3/4	18 3/4	6	1 3/4	13 1/4	---	2	3/8	4 1/4	10 to 12	34.00	17	23 3/4	7	2	17 1/2	3 3/4	4	1
	10 to 12	18.00	13 3/4	19 1/8	6 3/4	1 3/4	14 3/4	---	2	3/8		13 to 15	36.00	17	24 3/4	7 1/2	2	18 3/4	3 3/4	4	1
	13 to 15	19.50	13 3/4	20 3/8	6 3/4	1 3/4	15 3/4	---	2	3/8		16 to 18	37.50	17	25 3/8	8	2	19 3/4	3 3/4	4	1
	16 to 18	20.50	13 3/4	22 1/4	7	1 3/4	17 3/4	---	2	3/8		19 to 21	39.00	17	26 3/8	8 1/2	2	20 3/4	3 3/4	4	1
	19 to 21	21.50	13 3/4	23 3/4	7 1/4	1 3/4	18 3/4	---	2	3/8		23 to 25	41.50	17	30 3/4	9	2	24 3/4	4 1/4	4	1
	23 to 25	23.00	13 3/4	28 3/4	8	1 3/4	23 3/4	3 3/4	4	3/4		28 to 30	45.00	17	35	9 1/2	2	27	4 3/4	4	1
	28 to 30	26.50	13 3/4	31 1/8	8 1/2	1 3/4	26 3/4	3 3/4	4	3/4		34 to 36	48.00	17	36	10	2	30	4 3/4	4	1
	34 to 36	30.50	13 3/4	36	9	1 3/4	31 3/8	3 3/4	4	3/4											
3 3/4	10 to 12	23.00	14 1/4	21 1/4	6 3/4	1 3/4	16 3/4	3 3/4	4	3/8	4 3/4	10 to 12	44.00	18	27	8	2 1/4	21	3 3/4	4	1 3/4
	13 to 15	25.00	14 1/4	22 1/4	7	1 3/4	17 3/4	3 3/4	4	3/8		13 to 15	47.00	18	28 3/4	8 1/2	2 1/4	22 3/4	3 3/4	4	1 3/4
	16 to 18	27.00	14 1/4	23 3/8	7 1/4	1 3/4	18 3/4	3 3/4	4	3/8		16 to 18	50.00	18	30	9	2 1/4	23 3/4	3 3/4	4	1 3/4
	19 to 21	29.00	14 1/4	24 3/4	8	1 3/4	19 3/4	3 3/4	4	3/8		19 to 21	53.00	18	31 3/4	9 1/2	2 1/4	25 3/8	5	4	1 3/4
	23 to 25	32.00	14 1/4	29 3/4	8 3/4	1 3/4	24 3/4	4	4	3/8		23 to 25	56.00	18	33 3/4	10	2 1/4	27 1/2	5	4	1 3/4
	28 to 30	35.00	14 1/4	32 3/4	9	1 3/4	27 3/4	4	4	3/8		28 to 30	60.00	18	36 3/4	10 1/2	2 1/4	30	6	4	1 3/4
	34 to 36	37.50	14 1/4	36	9 3/4	1 3/4	30 3/4	4	4	3/8		34 to 36	64.00	18	39 3/4	11	2 1/4	33 3/4	6	4	1 3/4
3 1/2	10 to 12	26.50	15	21 1/4	6 3/4	1 3/4	16 3/4	3 3/4	4	3/8	4 1/2	10 to 12	47.00	19	27	8	2 1/4	21	3 3/4	4	1 3/4
	13 to 15	28.50	15	22 3/4	7	1 3/4	17 3/4	3 3/4	4	3/8		13 to 15	50.00	19	28 3/4	8 1/2	2 1/4	22 3/4	3 3/4	4	1 3/4
	16 to 18	30.50	15	23 3/8	7 1/4	1 3/4	18 3/4	3 3/4	4	3/8		16 to 18	53.00	19	30	9	2 1/4	23 3/4	3 3/4	4	1 3/4
	19 to 21	32.50	15	24 3/8	8	1 3/4	19 3/4	3 3/4	4	3/8		19 to 21	56.00	19	31 3/4	9 1/2	2 1/4	25 3/8	5	4	1 3/4
	23 to 25	35.50	15	29 3/8	8 3/4	1 3/4	24 3/4	4	4	3/8		23 to 25	59.00	19	33 3/4	10	2 1/4	27 1/2	5	4	1 3/4
	28 to 30	38.50	15	32 3/8	9	1 3/4	27 3/4	4	4	3/8		28 to 30	63.00	19	36 3/4	10 1/2	2 1/4	30	6	4	1 3/4
	34 to 36	41.00	15	36	9 3/4	1 3/4	30 3/4	4	4	3/8		34 to 36	67.00	19	39 3/4	11	2 1/4	33 3/4	6	4	1 3/4
3 3/8	10 to 12	31.00	16 1/4	23 3/4	7	2	17 3/4	3 3/4	4	1	4 3/8	10 to 12	50.00	20	27	8	2 1/4	21	3 3/4	4	1 3/4
	13 to 15	33.00	16 1/4	24 3/4	7 1/2	2	18 3/4	3 3/4	4	1		13 to 15	53.00	20	28 3/4	8 1/2	2 1/4	22 3/4	3 3/4	4	1 3/4
	16 to 18	34.50	16 1/4	25 3/4	8	2	19 3/4	3 3/4	4	1		16 to 18	56.00	20	30	9	2 1/4	23 3/4	3 3/4	4	1 3/4
	19 to 21	36.00	16 1/4	26 3/4	8 1/2	2	20 3/4	3 3/4	4	1		19 to 21	59.00	20	31 3/4	9 1/2	2 1/4	25 3/8	5	4	1 3/4
	23 to 25	38.50	16 1/4	30 3/4	9	2	24 3/4	4 1/4	4	1		23 to 25	62.00	20	33 3/4	10	2 1/4	27 1/2	5	4	1 3/4
													28 to 30	66.00	20	36 1/4	10 1/2	2 1/4	30	6	4
	34 to 36	70.00	20	39 3/4	11	2 1/4	33 3/4	6	4	1 3/4											

## Hanger Boxes — \*Price List

Size	Standard Wick Oiling	Universal Ring Oiling	Hercules Duplex Oiling
	Price	Price	Price
1 1/2	\$ 1.75	\$ 2.25	
1 5/8	2.00	2.50	\$ 2.75
1 7/8	2.25	2.75	3.00
2	2.65	3.25	3.50
2 1/8	3.25	3.75	4.00
2 1/4	4.15	4.75	5.00
2 3/8	4.90	5.35	5.65
2 1/2	6.15	6.75	7.15
2 5/8	7.40	8.00	8.45
3 1/8	9.15	9.50	10.40
3 1/4	10.75	11.25	13.00
3 3/8	12.00	12.50	14.55
3 1/2	13.25	13.75	16.35
4 1/8	14.75	15.50	18.00
4 1/4	16.25	17.00	19.00
4 3/8	17.75	18.50	20.25
4 1/2	19.25	20.00	21.20



Style No. 153  
Standard Wick Oiling



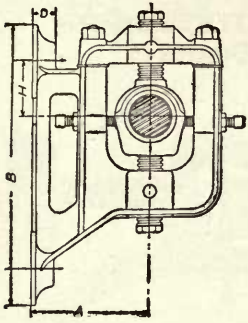
Style No. 154  
Universal Ring Oiling



Style No. 155  
Hercules Duplex Oiling

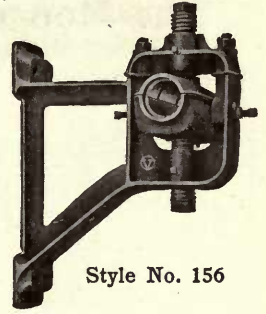
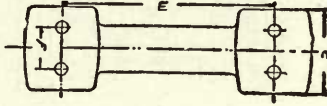
\* Intermediate sizes charged at next larger diameter. Special prices for larger sizes.





## The Monarch Hercules Long Reach Post Hangers

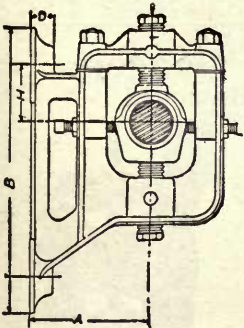
Duplex Oiling, Ball and Socket, Babbitted Bearings, Broached



Style No. 156

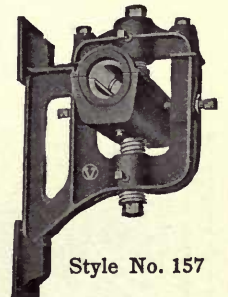
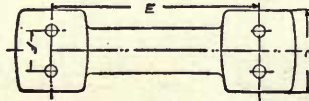
### \*Dimensions and Prices

Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	No. of Bolts	Size of Bolts Inches
1 1/8	\$ 6.25 6.75 7.25 7.50 7.75	10 12 14 16 18	16 3/4 17 1/2 19 20 3/4 21 1/4	4 4 4 4 4	1 1/8 1 1/8 1 1/8 1 1/8 1 1/8	12 3/4 13 1/8 15 16 1/8 17 1/2	---	2 1/4 2 1/4 2 1/4 2 1/4 2 1/4	2 2 2 2 2	1/2 1/2 1/2 1/2 1/2	2 1/8	\$14.00 15.50 17.00 18.50 20.00	10 12 14 16 18	20 21 1/4 22 1/2 23 3/4 25	5 5 5 5 5	1 1/8 1 1/8 1 1/8 1 1/8 1 1/8	15 1/8 16 3/4 18 19 3/8 20 3/4	---	3 1/8 3 1/8 3 1/8 3 1/8 3 1/8	2 2 2 2 2	3/4 3/4 3/4 3/4 3/4
1 1/2	6.75 7.25 7.75 8.00 8.25	10 12 14 16 18	16 3/4 17 1/2 19 20 3/4 21 1/4	4 4 4 4 4	1 1/8 1 1/8 1 1/8 1 1/8 1 1/8	12 3/4 13 1/8 15 16 1/8 17 1/2	---	2 1/4 2 1/4 2 1/4 2 1/4 2 1/4	2 2 2 2 2	1/2 1/2 1/2 1/2 1/2	2 1/8	19.50 22.50 26.00 29.00 31.00	12 14 16 18 20	22 23 1/2 25 26 3/4 28	5 1/2 5 1/2 5 1/2 5 1/2 5 1/2	1 1/8 1 1/8 1 1/8 1 1/8 1 1/8	17 18 1/4 20 21 3/4 23 3/8	---	3 3/4 3 3/4 3 3/4 3 3/4 3 3/4	2 2 2 2 2	7/8 7/8 7/8 7/8 7/8
1 3/4	8.00 9.00 10.00 11.00 12.00	10 12 14 16 18	17 18 1/4 19 1/2 20 3/4 21 1/2	4 1/2 4 1/2 4 1/2 4 1/2 4 1/2	1 1/4 1 1/4 1 1/4 1 1/4 1 1/4	12 1/2 13 1/8 14 1/4 15 1/8 17 1/4	---	3 1/8 3 1/8 3 1/8 3 1/8 3 1/8	2 2 2 2 2	5/8 5/8 5/8 5/8 5/8	3 1/8	21.00 24.00 27.50 30.50 32.50	12 14 16 18 20	22 23 1/2 25 26 3/4 28	5 1/2 5 1/2 5 1/2 5 1/2 5 1/2	1 1/8 1 1/8 1 1/8 1 1/8 1 1/8	17 18 1/8 20 21 3/4 23 3/8	---	3 3/4 3 3/4 3 3/4 3 3/4 3 3/4	2 2 2 2 2	7/8 7/8 7/8 7/8 7/8
2 1/8	9.00 10.00 11.00 12.00 13.00	10 12 14 16 18	17 18 1/4 19 1/2 20 3/4 21 1/2	4 1/2 4 1/2 4 1/2 4 1/2 4 1/2	1 1/4 1 1/4 1 1/4 1 1/4 1 1/4	12 1/2 13 1/8 14 1/4 15 1/8 17 1/4	---	3 1/8 3 1/8 3 1/8 3 1/8 3 1/8	2 2 2 2 2	5/8 5/8 5/8 5/8 5/8	3 1/8	29.50 31.50 33.00 35.00 37.00	12 14 16 18 20	22 1/2 24 25 1/2 27 28 1/2	6 6 6 6 6	1 3/4 1 3/4 1 3/4 1 3/4 1 3/4	16 1/4 17 1/8 19 1/4 20 3/8 22 1/4	2 1/2 2 1/2 2 1/2 2 1/2 2 1/2	4 3/8 4 3/8 4 3/8 4 3/8 4 3/8	4 4 4 4 4	7/8 7/8 7/8 7/8 7/8
2 1/2	12.50 14.00 15.50 17.00 18.50	10 12 14 16 18	20 21 1/4 22 1/2 23 3/4 25	5 5 5 5 5	1 1/2 1 1/2 1 1/2 1 1/2 1 1/2	15 1/2 16 3/4 18 19 3/8 20 3/4	---	3 1/8 3 1/8 3 1/8 3 1/8 3 1/8	2 2 2 2 2	3/4 3/4 3/4 3/4 3/4	3 1/2	33.00 35.00 36.50 38.50 40.50	12 14 16 18 20	22 1/2 24 25 1/2 27 28 1/2	6 6 6 6 6	1 3/4 1 3/4 1 3/4 1 3/4 1 3/4	16 1/4 17 1/8 19 1/4 20 3/8 22 1/4	2 1/2 2 1/2 2 1/2 2 1/2 2 1/2	4 3/8 4 3/8 4 3/8 4 3/8 4 3/8	4 4 4 4 4	7/8 7/8 7/8 7/8 7/8



## The Monarch Hercules Adjustable Post Hangers

Duplex Oiling, Ball and Socket, Babbitted Bearings, Broached



Style No. 157

### \*Dimensions and Prices

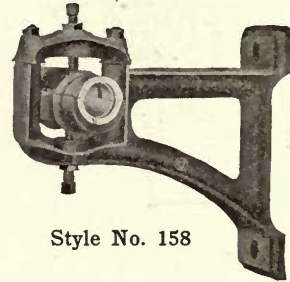
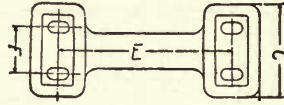
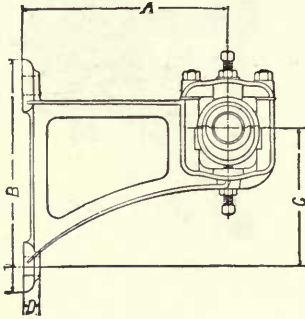
Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	Set Screws Inches	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	Set Screws Inches	No. of Bolts	Size of Bolts Inches
1 1/8	\$ 4.20	5 3/8	11 1/4	3	1	8 3/4	---	2 1/2	5/8x1 1/2	2	7/8	3 1/8	\$20.00	8 3/8	20 3/4	5 1/2	1 1/8	15 3/4	---	3 3/4	5/8x3	2	7/8
1 1/2	5.50	5 3/8	14 1/4	4	1 1/8	10 3/8	---	2 1/2	5/8x2 1/4	2	7/8	3 1/8	24.00	10	22 3/4	6	1 1/4	16 3/8	---	4 3/8	5/8x3 3/4	4	7/8
1 3/4	6.20	5 3/8	15 1/4	4 1/2	1 1/8	10 3/8	---	3	5/8x2 1/2	2	7/8	3 1/8	27.50	10	22 3/4	6	1 1/4	16 3/8	---	4 3/8	5/8x3 3/4	4	7/8
2 1/8	7.40	6 3/8	15 1/2	4 1/2	1 1/8	11 1/8	---	3	5/8x2 1/2	2	7/8	3 1/8	33.50	12	25 3/4	7	1 1/2	19	---	4 3/8	5/8x3 3/4	4	1
2 1/2	8.00	6 3/8	15 3/4	4 1/2	1 1/8	11 1/8	---	3	5/8x2 1/2	2	7/8	3 1/8	43.00	12	25 3/4	7	1 1/2	19	---	4 3/8	5/8x3 3/4	4	1 1/4
2 3/4	12.00	7 3/8	18 1/2	5 1/2	1 3/8	13 3/4	---	3 1/8	5/8x3	2	7/8	4 1/8	49.00	14	29 3/4	8 3/8	2 1/4	22 1/4	---	5 1/8	5/8x4 1/2	4	1 1/2
3 1/8	13.50	7 3/8	18 3/4	5 1/2	1 3/8	13 3/4	---	3 1/8	5/8x3	2	7/8	4 1/8	53.50	14	29 3/4	8 3/8	2 1/4	22 1/4	---	5 1/8	5/8x4 1/2	4	1 1/2
3 1/2	16.50	8 3/8	20 3/4	5 1/2	1 3/8	15 3/4	---	3 1/2	5/8x3	2	7/8	4 1/8	56.00	14	29 3/4	8 3/8	2 1/4	22 1/4	---	5 1/8	5/8x4 1/2	4	1 1/2

\*Intermediate sizes charged at next larger diameter.

Special prices for larger sizes.

# The Monarch Standard Long Reach Post Hangers

Wick Oiling, Ball and Socket, Babbitted Bearings, Broached



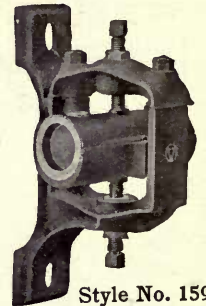
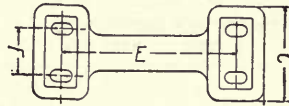
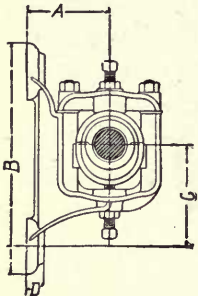
Style No. 158

## \*Dimensions and Prices

Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	No. of Bolts	Size of Bolts In.	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	No. of Bolts	Size of Bolts In.
1 1/8	\$ 5.50 6.00	12 14 3/4	4 1	11 1 1/4	10 3/4	9 1/2	2 5/8	3 1/8	2	5/8	3 1/8	\$24.50 27.00	14 16	25 7 1/2	1 1/4	20 1/2	4 1/4	15 1/2	4 3/4	4	3/4
1 1/8	5.75 6.25	12 14 3/4	4 1	11 1 1/4	10 3/4	9 1/2	2 5/8	3 1/8	2	5/8	3 1/8	24.50 26.50 29.00	12 14 16	23 7 1/2	1 1/4	18 1/2	4 1/4	13 1/2	4 3/4	4	3/4
1 1/2	7.00 7.75 8.50	12 15 3/4	4 1/4	12 1 1/4	10 3/4	9 1/2	2 5/8	3 1/2	2	5/8	3 1/2	32.00 36.00 40.00	12 14 16	24 8 1/2	1 3/8	19 1/4	4 1/2	15 17	4 3/4	4	3/8
1 1/2	7.75 8.50 9.25	12 15 3/4	4 1/4	12 1 1/4	10 3/4	9 1/2	2 5/8	3 1/2	2	5/8	3 1/2	34.00 38.00 42.00	12 14 16	24 8 1/2	1 3/8	19 1/4	4 1/2	15 17	4 3/4	4	3/8
2 1/8	10.25 11.50 13.00	12 18 6	1 14 1/2	11 1 1/4	10 3/4	9 1/2	2 5/8	4 1/8	2	5/8	4 1/8	36.50 40.50 44.50	12 14 16	24 8 1/2	1 3/8	19 1/4	4 1/2	15 17	4 3/4	4	3/8
2 1/8	11.25 12.50 14.00	12 18 6	1 14 1/2	11 1 1/4	10 3/4	9 1/2	2 5/8	4 1/8	2	5/8	4 1/8	50.00 54.00 58.00	12 14 16	25 8 1/2	1 3/8	20 1/4	4 1/2	15 17 1/4	4 3/4	4	3/8
2 1/2	15.00 16.50 18.00	12 18 6	1 14 1/2	11 1 1/4	10 3/4	9 1/2	2 5/8	4 1/2	2	3/4	4 1/2	52.50 56.50 60.50	12 14 16	25 8 1/2	1 3/8	20 1/4	4 1/2	15 17 1/4	4 3/4	4	3/8
2 1/2	17.00 18.50 20.00	12 18 6	1 14 1/2	11 1 1/4	10 3/4	9 1/2	2 5/8	4 1/2	2	3/4	4 1/2	55.00 59.00 63.00	12 14 16	25 8 1/2	1 3/8	20 1/4	4 1/2	15 17 1/4	4 3/4	4	3/8
3 1/8	22.50	12 23 7 1/2	1 1/4 18 1/2	4 1/4 13 1/2	4 3/4	13 1/2	4	3/4													

# The Monarch Standard Adjustable Post Hangers

Wick Oiling, Ball and Socket, Babbitted Bearings, Broached



Style No. 159

## \*Dimensions and Prices

Size of Shaft, Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	No. of Bolts	Size of Bolts In.	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	No. of Bolts	Size of Bolts In.
1 1/8	\$ 4.00	4 3/4	13 3/4	4	1	10 1/2	---	6	2	5/8	3 1/8	\$19.00	7 1/2	22 3/4	6 1/2	1 1/4	18	3 3/4	11 1/2	4	5/8
1 1/8	4.25	4 3/4	13 3/4	4	1	10 1/2	---	6	2	5/8	3 1/8	21.00	7 1/2	22 3/4	6 1/2	1 1/4	18	3 3/4	11 1/2	4	5/8
1 1/8	5.25	5 1/4	14	4	1	10 1/4	---	6 1/2	2	5/8	3 1/2	33.00	8	23 3/4	7 1/4	1 1/4	18 1/2	3 3/4	13	4	3/4
1 1/8	6.00	5 1/4	14	4	1	10 1/4	---	6 1/2	2	5/8	3 1/2	35.00	8	23 3/4	7 1/4	1 1/4	18 1/2	3 3/4	13	4	3/4
2 1/8	8.25	6	17 1/4	4 1/2	1	13 1/2	---	8 1/4	2	5/8	4 1/8	37.50	8	23 3/4	7 1/4	1 1/4	18 1/2	3 3/4	13	4	3/4
2 1/8	9.25	6	17 1/4	4 1/2	1	13 1/2	---	8 1/4	2	5/8	4 1/8	49.00	9	25	7 1/4	1 1/4	20 1/4	3 3/4	13 1/2	4	3/4
2 1/2	12.50	6 1/2	19	5	1	15 1/4	---	9	2	5/8	4 1/2	51.50	9	25	7 1/4	1 1/4	20 1/4	3 3/4	13 1/2	4	3/4
2 1/2	14.50	6 1/2	19	5	1	15 1/4	---	9	2	5/8	4 1/2	54.00	9	25	7 1/4	1 1/4	20 1/4	3 3/4	13 1/2	4	3/4

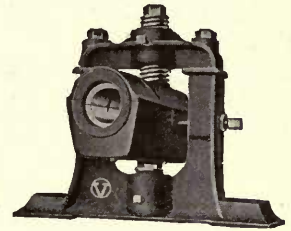
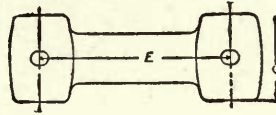
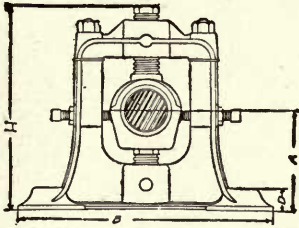
\*Intermediate sizes charged at next larger diameter.

Special prices for larger sizes.



## The Monarch Hercules Adjustable Pillow Blocks

### Duplex Oiling, Ball and Socket, Babbitted Bearings, Broached



Style No. 160

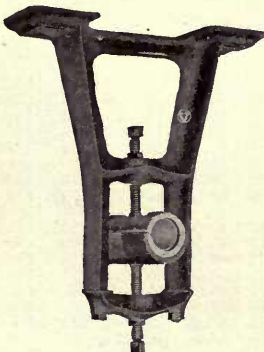
#### \*Dimensions and Prices

Size of Shaft Inches	Price	A Inches	B Inches	C Inches	D Inches	E Inches	Set Screws Inches	No. of Bolts	Size of Bolts Inches
1 $\frac{3}{16}$	\$ 4.50	3 $\frac{7}{8}$	10 $\frac{3}{8}$	2 $\frac{3}{4}$	1	7 $\frac{13}{16}$	3 $\frac{8}{16}$ x 1 $\frac{7}{8}$	2	1 $\frac{7}{16}$
1 $\frac{7}{16}$	5.50	5 $\frac{1}{8}$	12 $\frac{3}{8}$	4	1 $\frac{1}{8}$	9	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	2	1 $\frac{1}{2}$
1 $\frac{11}{16}$	6.00	5 $\frac{1}{2}$	12 $\frac{3}{8}$	4	1 $\frac{1}{8}$	9	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	2	1 $\frac{1}{2}$
1 $\frac{13}{16}$	7.25	5 $\frac{7}{16}$	13 $\frac{3}{4}$	4 $\frac{3}{4}$	1 $\frac{1}{4}$	10 $\frac{1}{4}$	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	2	5 $\frac{5}{8}$
2 $\frac{3}{16}$	8.25	5 $\frac{7}{16}$	13 $\frac{3}{4}$	4 $\frac{3}{4}$	1 $\frac{1}{4}$	10 $\frac{1}{4}$	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$	2	5 $\frac{5}{8}$
2 $\frac{7}{16}$	11.00	6 $\frac{5}{8}$	16 $\frac{3}{4}$	5 $\frac{1}{2}$	1 $\frac{3}{8}$	12	5 $\frac{8}{16}$ x 3	2	3 $\frac{3}{4}$
2 $\frac{11}{16}$	12.50	6 $\frac{5}{8}$	16 $\frac{3}{4}$	5 $\frac{1}{2}$	1 $\frac{3}{8}$	12	5 $\frac{8}{16}$ x 3	2	3 $\frac{3}{4}$
2 $\frac{13}{16}$	15.00	6 $\frac{7}{8}$	18 $\frac{1}{4}$	6	1 $\frac{1}{2}$	13 $\frac{5}{16}$	5 $\frac{8}{16}$ x 3	2	7 $\frac{7}{8}$
3 $\frac{3}{16}$	16.50	6 $\frac{7}{8}$	18 $\frac{1}{4}$	6	1 $\frac{1}{2}$	13 $\frac{5}{16}$	5 $\frac{8}{16}$ x 3	2	7 $\frac{7}{8}$
3 $\frac{7}{16}$	22.00	8	21 $\frac{1}{4}$	7	1 $\frac{5}{8}$	15 $\frac{5}{16}$	3 $\frac{4}{16}$ x 3 $\frac{3}{4}$	2	1
3 $\frac{11}{16}$	25.50	8	21 $\frac{1}{4}$	7	1 $\frac{5}{8}$	15 $\frac{5}{16}$	3 $\frac{4}{16}$ x 3 $\frac{3}{4}$	2	1
3 $\frac{13}{16}$	30.00	8 $\frac{1}{2}$	24	8	1 $\frac{3}{4}$	17 $\frac{1}{4}$	3 $\frac{4}{16}$ x 3 $\frac{3}{4}$	2	1 $\frac{1}{8}$
4 $\frac{3}{16}$	33.00	8 $\frac{1}{2}$	24	8	1 $\frac{3}{4}$	17 $\frac{1}{4}$	3 $\frac{4}{16}$ x 3 $\frac{3}{4}$	2	1 $\frac{1}{8}$
4 $\frac{7}{16}$	40.00	10	27 $\frac{3}{4}$	8 $\frac{1}{2}$	2 $\frac{1}{4}$	20 $\frac{1}{2}$	7 $\frac{8}{16}$ x 4 $\frac{1}{2}$	2	1 $\frac{1}{4}$
4 $\frac{11}{16}$	43.00	10	27 $\frac{3}{4}$	8 $\frac{1}{2}$	2 $\frac{1}{4}$	20 $\frac{1}{2}$	7 $\frac{8}{16}$ x 4 $\frac{1}{2}$	2	1 $\frac{1}{4}$
4 $\frac{13}{16}$	46.00	10	27 $\frac{3}{4}$	8 $\frac{1}{2}$	2 $\frac{1}{4}$	20 $\frac{1}{2}$	7 $\frac{8}{16}$ x 4 $\frac{1}{2}$	2	1 $\frac{1}{4}$

\*Intermediate sizes charged at next larger diameter. Special prices for larger sizes.

## The Monarch Standard Wick Oiling Hangers

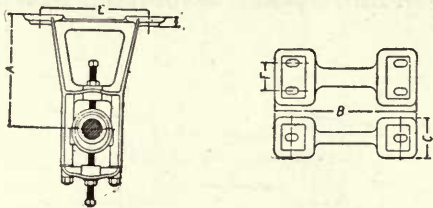
### Convertible into Floor Stands

Style No. 161  
Double BracedStyle No. 153  
Ball and Socket Wick Oiling Box, Broached

This line of Hangers combines symmetry, strength and durability, it gives both the two-way screw and the ball and socket adjustments and we recommend it for use where hangers or floor stands are called for.

The Wick Oiling Boxes, illustrated above, are carefully and scientifically made, are self oiling, generously babbitted and machined and guaranteed to have the maximum amount of bearing surface.

## The Monarch Standard Wick Oiling Hangers—Continued



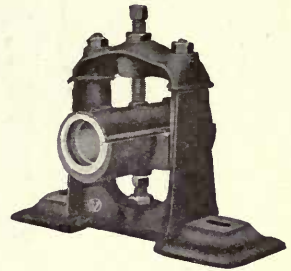
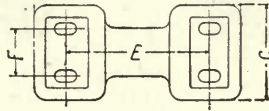
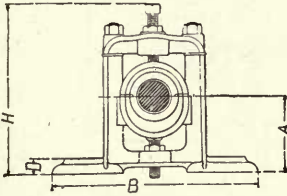
\*Dimensions, Prices, Etc.

Size of Shaft Inches	Drop Inches	Price	Length Boxes Inches	Base Inches		Thick- ness, In.	Bolt Holes Inches		No. of Bolts	Size of Bolts Inches
				B	C		D	E		
1 1/8	7 to 9	\$ 3.00	4	12	3 1/2	3/4	8 1/2	---	2	1/2
	10 to 13	3.75	4	13	3 3/4	3/4	8 3/4	---	2	1/2
	7 to 9	3.75	5	13 3/4	4 1/4	1	9 3/4	---	2	5/8
	10 to 13	4.50	5	14 3/4	4 3/4	1	11	---	2	5/8
	14 to 17	5.00	5	16 1/4	5	1	12	---	2	5/8
1 1/8	18 to 21	6.25	5	17 3/4	5	1	13 1/2	---	2	5/8
	22 to 24	6.75	5	18 3/4	5	1	14 3/4	---	2	5/8
	7 to 9	4.00	6	13 3/4	4 1/4	1	9 3/4	---	2	5/8
	10 to 13	4.75	6	14 3/4	4 3/4	1	11	---	2	5/8
	14 to 17	5.25	6	16 1/4	5	1	12	---	2	5/8
1 1/8	18 to 21	6.50	6	17 3/4	5	1	13 1/2	---	2	5/8
	22 to 24	7.00	6	18 3/4	5	1	14 3/4	---	2	5/8
	7 to 9	5.25	7	14 3/4	4 1/2	1	10	---	2	5/8
	10 to 13	6.00	7	15 3/4	4 1/2	1	11	---	2	5/8
	14 to 17	6.75	7	16 3/4	4 1/2	1	12 3/4	---	2	5/8
1 1/8	18 to 21	7.25	7	19	6	1	14 1/2	---	2	5/8
	22 to 24	7.75	7	20 1/2	6	1	15 1/2	---	2	5/8
	25 to 27	9.25	7	21 1/2	6	1	16 3/4	---	2	5/8
	28 to 30	11.25	7	22 3/4	6	1	17 3/4	---	2	5/8
	7 to 9	6.00	8	14 3/4	4 3/4	1	10	---	2	5/8
1 1/8	10 to 13	6.75	8	15 3/4	4 3/4	1	11	---	2	5/8
	14 to 17	7.50	8	16 3/4	4 3/4	1	12 3/4	---	2	5/8
	18 to 21	8.00	8	19	6	1	14 1/2	---	2	5/8
	22 to 24	8.50	8	20 1/2	6	1	15 1/2	---	2	5/8
	25 to 27	10.00	8	21 1/2	6	1	16 3/4	---	2	5/8
28 to 30	12.00	8	22 3/4	6	1	17 3/4	---	2	5/8	
2 1/8	7 to 9	7.75	9	16 1/4	7	1 1/8	11 1/4	3 3/4	4	5/8
	10 to 13	8.75	9	17 1/4	7	1 1/8	12 1/4	3 3/4	4	5/8
	14 to 17	9.75	9	19 3/4	7	1 1/8	14 3/4	3 3/4	4	5/8
	18 to 21	10.25	9	19 3/4	7	1 1/8	14 3/4	3 3/4	4	5/8
	22 to 24	11.25	9	22	7 1/4	1 1/8	16 3/4	3 3/4	4	5/8
2 1/8	25 to 27	12.75	9	23	7 1/4	1 1/8	18	3 3/4	4	5/8
	28 to 30	13.25	9	24	7 1/4	1 1/8	18 3/4	3 3/4	4	5/8
	7 to 9	8.75	10	16 1/4	7	1 1/8	11 1/4	3 3/4	4	5/8
	10 to 13	9.75	10	17 1/4	7	1 1/8	12 1/4	3 3/4	4	5/8
	14 to 17	10.75	10	19 3/4	7	1 1/8	14 3/4	3 3/4	4	5/8
2 1/8	18 to 21	11.25	10	19 3/4	7	1 1/8	14 3/4	3 3/4	4	5/8
	22 to 24	12.25	10	22	7 1/4	1 1/8	16 3/4	3 3/4	4	5/8
	25 to 27	13.75	10	23	7 1/4	1 1/8	18	3 3/4	4	5/8
	28 to 30	14.25	10	24	7 1/4	1 1/8	18 3/4	3 3/4	4	5/8
	10 to 13	13.00	11	18	7	1 1/4	13 1/4	3 3/4	4	3/4
2 1/8	14 to 17	14.50	11	20	9	1 1/4	14 3/4	4 3/4	4	3/4
	18 to 21	16.50	11	20 9/16	9	1 1/4	15 3/4	4 3/4	4	3/4
	22 to 24	17.50	11	24 1/4	10 1/8	1 1/4	18 3/4	5 3/4	4	3/4
	25 to 27	18.50	11	25 1/4	10 1/8	1 1/4	19 3/4	5 3/4	4	3/4
	28 to 30	20.00	11	26 1/4	10 1/8	1 1/4	20 3/4	5 3/4	4	3/4
2 1/8	31 to 33	22.50	11	27 1/4	10 1/8	1 1/4	21 3/4	5 3/4	4	3/4
	34 to 36	25.00	11	28 3/4	10 1/8	1 1/4	22 3/4	5 3/4	4	3/4
	10 to 13	15.00	12	18	7	1 1/4	13 1/4	3 3/4	4	3/4
	14 to 17	16.50	12	20	9	1 1/4	14 3/4	4 3/4	4	3/4
	18 to 21	18.50	12	20 9/16	9	1 1/4	15 3/4	4 3/4	4	3/4
2 1/8	22 to 24	19.50	12	24 1/4	10 1/8	1 1/4	18 3/4	5 3/4	4	3/4
	25 to 27	20.50	12	25 1/4	10 1/8	1 1/4	19 3/4	5 3/4	4	3/4
	28 to 30	22.00	12	26 1/4	10 1/8	1 1/4	20 3/4	5 3/4	4	3/4
	31 to 33	24.50	12	27 1/4	10 1/8	1 1/4	21 3/4	5 3/4	4	3/4
	34 to 36	27.00	12	28 3/4	10 1/8	1 1/4	22 3/4	5 3/4	4	3/4
3 1/8	10 to 13	19.50	13	21	9 1/4	1 5/8	14 3/4	4 3/4	4	3/4
	14 to 17	22.00	13	22 1/4	9 1/4	1 5/8	16 3/4	5 3/4	4	3/4
	18 to 21	24.50	13	24 1/4	10 1/8	1 5/8	17 3/4	5 3/4	4	3/4
	22 to 24	26.50	13	25 1/4	10 1/8	1 5/8	18 3/4	5 3/4	4	3/4
	25 to 27	28.00	13	28 3/4	10 1/8	1 5/8	20 3/4	5 3/4	4	3/4
3 1/8	28 to 30	30.00	13	31	10 3/4	1 5/8	21 3/4	5 3/4	4	3/4
	31 to 33	32.00	13	32 1/4	10 3/4	1 5/8	22 3/4	5 3/4	4	3/4
	34 to 36	34.50	13	34 1/4	10 3/4	1 5/8	24 3/4	5 3/4	4	3/4
	10 to 13	22.50	14	21	9 1/2	1 3/4	14 3/4	4 3/4	4	3/4
	14 to 17	24.00	14	22 1/2	9 1/2	1 3/4	16 3/4	5 3/4	4	3/4
3 1/8	18 to 21	26.00	14	24 1/2	10 1/2	1 3/4	18 3/4	5 3/4	4	3/4
	22 to 24	27.50	14	26 1/2	10 1/2	1 3/4	20 3/4	5 3/4	4	3/4
	25 to 27	29.00	14	28 1/2	10 1/2	1 3/4	22 3/4	5 3/4	4	3/4
	28 to 30	30.50	14	30 1/2	10 1/2	1 3/4	24 3/4	5 3/4	4	3/4
	31 to 33	32.50	14	32 1/2	10 1/2	1 3/4	26 3/4	5 3/4	4	3/4
3 1/8	34 to 36	34.50	14	34 1/2	10 1/2	1 3/4	28 3/4	5 3/4	4	3/4
	10 to 13	21.50	14	21	9 1/4	1 3/8	14 3/4	4 3/4	4	3/4
	14 to 17	24.00	14	22 1/4	9 1/4	1 3/8	16 3/4	5 3/4	4	3/4
	18 to 21	26.50	14	24 1/4	10 1/4	1 3/8	18 3/4	5 3/4	4	3/4
	22 to 24	27.50	14	25 1/4	10 1/4	1 3/8	19 3/4	5 3/4	4	3/4
3 1/8	25 to 27	29.00	14	26 1/4	10 1/4	1 3/8	20 3/4	5 3/4	4	3/4
	28 to 30	31.00	14	28 1/4	10 1/4	1 3/8	22 3/4	5 3/4	4	3/4
	31 to 33	32.50	14	28 3/4	10 1/4	1 3/8	23 3/4	5 3/4	4	3/4
	34 to 36	34.50	14	29 3/4	10 1/4	1 3/8	24 3/4	5 3/4	4	3/4
	10 to 13	25.50	15	22	10	1 1/2	16 1/2	5 3/4	4	3/4
3 1/8	14 to 17	28.00	15	23 1/2	10 1/2	1 1/2	18 1/2	5 3/4	4	3/4
	18 to 21	31.00	15	25 1/2	10 1/2	1 1/2	19 1/2	5 3/4	4	3/4
	22 to 24	32.50	15	27	10 1/2	1 1/2	21 1/2	5 3/4	4	3/4
	25 to 27	34.00	15	28	10 1/2	1 1/2	22 1/2	5 3/4	4	3/4
	28 to 30	35.50	15	29	10 1/2	1 1/2	23 1/2	5 3/4	4	3/4
3 1/8	31 to 33	37.50	15	30 1/2	10 1/2	1 1/2	24 3/4	5 3/4	4	3/4
	34 to 36	39.50	15	31 1/2	10 1/2	1 1/2	25 3/4	5 3/4	4	3/4
	10 to 13	27.50	16	22	10 1/2	1 1/2	16 1/2	5 3/4	4	3/4
	14 to 17	30.00	16	23 1/2	10 1/2	1 1/2	18 1/2	5 3/4	4	3/4
	18 to 21	33.00	16	25 1/2	10 1/2	1 1/2	19 1/2	5 3/4	4	3/4
3 1/8	22 to 24	34.50	16	27	10 1/2	1 1/2	21 1/2	5 3/4	4	3/4
	25 to 27	36.00	16	28	10 1/2	1 1/2	22 1/2	5 3/4	4	3/4
	28 to 30	37.50	16	29	10 1/2	1 1/2	23 1/2	5 3/4	4	3/4
	31 to 33	39.50	16	30 1/2	10 1/2	1 1/2	24 3/4	5 3/4	4	3/4
	34 to 36	41.50	16	31 1/2	10 1/2	1 1/2	25 3/4	5 3/4	4	3/4
4 1/8	10 to 13	35.00	16	22	10	1 1/2	16 1/2	5 3/4	4	3/4
	14 to 17	37.50	16	23 1/2	10 1/2	1 1/2	18 1/2	5 3/4	4	3/4
	18 to 21	40.00	16	25 1/2	10 1/2	1 1/2	19 1/2	5 3/4	4	3/4
	22 to 24	42.50	16	27	10 1/2	1 1/2	21 1/2	5 3/4	4	3/4
	25 to 27	45.00	16	28	10 1/2	1 1/2	22 1/2	5 3/4	4	3/4
4 1/8	28 to 30	47.50	16	29	10 1/2	1 1/2	23 1/2	5 3/4	4	3/4
	31 to 33	50.50	16	30 1/2	10 1/2	1 1/2	24 3/4	5 3/4	4	3/4
	34 to 36	54.00	16	31 1/2	10 1/2	1 1/2	25 3/4	5 3/4	4	3/4
	10 to 13	40.00	16	23 3/4	10	1 1/2	18 1/2	5 3/4	4	3/4
	14 to 17	43.00	16	24 3/4	10 1/2	1 1/2	19 1/2	5 3/4	4	3/4
4 1/8	18 to 21	46.00	16	25 3/4	10 1/2	1 1/2	20 1/2	5 3/4	4	3/4
	22 to 24	48.50	16	28 3/4	10 1/2	1 1/2	22 1/2	5 3/4	4	3/4
	25 to 27	51.50	16	29 3/4	10 1/2	1 1/2	23 1/2	5 3/4	4	3/4
	28 to 30	55.00	16	31	10 1/2	1 1/2	25 1/2	5 3/4	4	3/4
	31 to 33	58.00	16	32	10 1/2	1 1/2	26 1/2	5 3/4	4	3/4
4 1/8	34 to 36	62.00	16	34	10 1/2	1 1/2	28 1/2	5 3/4	4	3/4
	10 to 13	42.50	16	23 3/4	10 1/2	1 1/2	18 1/2	5 3/4	4	3/4
	14 to 17	45.50	16	24 3/4	10 1/2	1 1/2	19 1/2	5 3/4	4	3/4
	18 to 21	48.50	16	25 3/4	10 1/2	1 1/2	20 1/2	5 3/4	4	



# The Monarch Standard Adjustable Pillow Blocks

Wick Oiling, Ball and Socket, Babbitted Bearings, Broached  
Convertible Into Low Drop Hangers



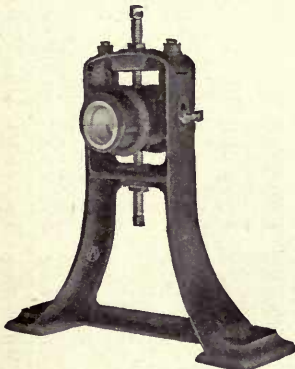
Style No. 162

Our Pillow Blocks vary in style and design as do our line of Hangers and have in addition a line of "Common Blocks." Every possible usage of a block bearing has been kept in mind throughout the design of this line of Pillow Blocks so that we can guarantee the best possible results if a little care is exercised in your selection.

## \*Dimensions and Prices

Size of Shaft Inches	Price	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	H Inches	No. of Bolts	Size of Bolts Inches
$\frac{1}{8}$	\$ 2.75	2½ to 3½	9½	3½	¾	6	-----	8	2	½
$\frac{1}{4}$	3.75	3¾ to 4½	12½	4	1½	8¼	-----	10½	2	5/8
$\frac{3}{8}$	4.00	3¾ to 4½	12½	4	1½	8¼	-----	10½	2	5/8
$\frac{1}{2}$	5.25	4½ to 5½	13¾	4¾	1½	9	-----	11¾	2	5/8
$\frac{5}{8}$	6.00	4½ to 5½	13¾	4¾	1½	9	-----	11¾	2	5/8
$\frac{3}{4}$	7.75	5 to 6½	16	5½	1¾	11½	-----	13	2	5/8
$\frac{7}{8}$	8.75	5 to 6½	16	5½	1¾	11½	-----	13	2	5/8
$1\frac{1}{8}$	10.50	5½ to 7	18¼	6¼	1½	12½	-----	14½	2	¾
$1\frac{1}{4}$	12.50	5½ to 7	18¼	6¼	1½	12½	-----	14½	2	¾
$1\frac{3}{8}$	18.00	6½ to 8	19¼	7¼	1½	13¾	3	16	4	7/8
$1\frac{1}{2}$	20.00	6½ to 8	19¼	7¼	1½	13¾	3	16	4	7/8
$1\frac{5}{8}$	28.50	7½ to 9	20¾	7½	1½	15	3	17	4	7/8
$1\frac{3}{4}$	30.50	7½ to 9	20¾	7½	1½	15	3	17	4	7/8
$1\frac{7}{8}$	33.00	7½ to 9	20¾	7½	1½	15	3	17	4	7/8
$2\frac{1}{8}$	40.00	8½ to 9½	21¾	7½	1½	16	3	18	4	7/8
$2\frac{1}{4}$	42.50	8½ to 9½	21¾	7½	1½	16	3	18	4	7/8
$2\frac{3}{8}$	45.00	8½ to 9½	21¾	7½	1½	16	3	18	4	7/8

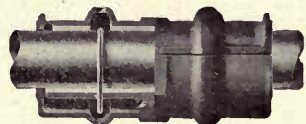
\*Intermediate sizes charged at next larger diameter. Special prices for larger sizes.



Style No. 163  
Convertible Into Floor Stands

# The Monarch Four-Point Adjustable Ring Oiling Hangers

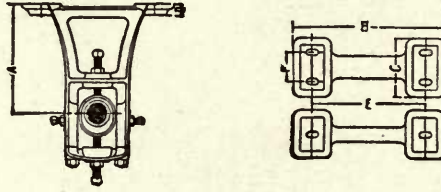
Double Braced, Cracked Joint Yoke



Style No. 154  
Ball and Socket Ring Oiling Box, Broached

These Hangers excel not alone in their outward appearance. All openings and pockets are as smooth and neat as machined work, providing equal bearings for nuts and adjustment screws. The cracked joint yoke, while giving the hanger all of the neat appearance and rigidity of a solid piece of metal, prevents the oscillation so common in other makes of hangers. We consider this as being absolutely the most desirable shaft hanger on the market.

# The Monarch Four-Point Adjustable Ring Oiling Hangers—Continued



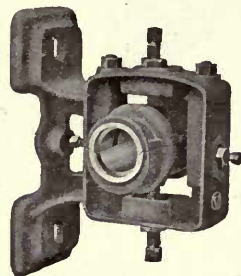
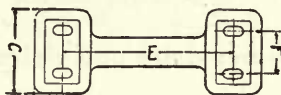
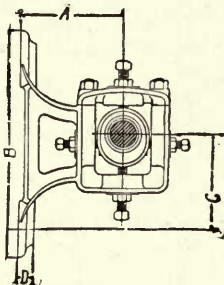
## \*Dimensions, Prices, Etc.

Size of Shaft Inches	Drop Inches	Price	Length Boxes Inches	Base Inches		Thick- ness, In.	Bolt Holes Inches		No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Drop Inches	Price	Length Boxes Inches	Base Inches		Thick- ness, In.	Bolt Holes Inches		No. of Bolts	Size of Bolts Inches
				B	C		D	E							F	B		C	D		
1 1/8	6 to 8 10 to 12 14 to 16	\$ 3.50 4.00 4.75	4	11 3/4 13 3/4 15 3/4	4 4 4	1 1 1	8 10 12 1/2	---	2	1/2	3 1/8	22 to 24 26 to 28 30 to 32	26.50 28.50 30.50	12 3/4 12 3/4 12 3/4	28 30 32	10 10 10	1 3/4 1 3/4 1 3/4	22 24 26	5 1/4 5 3/4 5 3/4	4 4 4	3/4 3/4 3/4
1 1/4	6 to 8 10 to 12 14 to 16 18 to 20	4.50 5.00 5.75 6.50	5	13 3/4 14 3/4 17 1/4 19 3/4	4 1/2 4 1/2 5 5	1 1/8 1 1/8 1 1/8 1 1/8	9 1/2 11 13 16	---	2	5/8	3 1/4	6 to 8 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28 30 to 32	21.00 22.00 24.50 27.00 28.50 30.50 32.50	13 3/4 13 3/4 13 3/4 13 3/4 13 3/4 13 3/4 13 3/4	20 22 24 26 28 30 32	8 3/8 8 3/8 8 3/8 8 3/8 8 3/8 8 3/8 8 3/8	14 16 18 20 22 24 26	3 3/4 3 3/4 3 3/4 3 3/4 3 3/4 3 3/4 3 3/4	4 4 4 4 4 4 4	3/4 3/4 3/4 3/4 3/4 3/4 3/4	
1 1/2	6 to 8 10 to 12 14 to 16 18 to 20	5.00 5.50 6.25 7.00	6	13 3/4 14 3/4 17 1/4 19 3/4	4 1/2 4 1/2 5 5	1 1/8 1 1/8 1 1/8 1 1/8	9 1/2 11 13 16	---	2	5/8											
1 3/4	6 to 8 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28	6.00 6.50 7.25 7.75 8.50 10.75	7	14 3/4 15 3/4 18 1/2 20 1/2 22 1/2 25	5 5 5 6 1/4 6 1/4 6 1/4	1 1/8 1 1/8 1 1/8 1 1/8 1 1/8 1 1/8	10 1/2 11 1/2 14 1/2 16 1/2 18 21	---	2	5/8	3 1/2	6 to 8 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28 30 to 32	25.00 26.00 28.50 31.50 33.50 35.50 37.50	14 14 14 14 14 14 14	22 1/4 22 3/4 24 1/4 26 1/4 28 30 32	9 9 9 11 11 11 11	1 7/8 1 7/8 1 7/8 1 7/8 1 7/8 1 7/8 1 7/8	16 1/4 16 3/4 18 1/4 20 1/4 22 1/4 24 1/4 26	4 1/2 4 3/8 4 3/8 5 1/4 5 1/4 5 1/4 5 1/4	4 4 4 4 4 4 4	3/4 3/4 3/4 3/4 3/4 3/4 3/4
1 7/8	6 to 8 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28	7.00 7.50 8.25 8.75 9.50 11.75	8	14 3/4 15 3/4 18 1/2 20 1/2 22 1/2 25	5 5 5 6 1/4 6 1/4 6 1/4	1 1/8 1 1/8 1 1/8 1 1/8 1 1/8 1 1/8	10 1/2 11 1/2 14 1/2 16 1/2 18 21	---	2	5/8	3 3/4	6 to 8 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28 30 to 32	27.00 28.00 30.50 33.50 35.50 37.50 39.50	14 1/2 14 1/2 14 1/2 14 1/2 14 1/2 14 1/2 14 1/2	22 1/4 22 3/4 24 1/4 26 1/4 28 30 1/2 32	9 9 9 11 11 11 11	1 7/8 1 7/8 1 7/8 1 7/8 1 7/8 1 7/8 1 7/8	16 1/4 16 3/4 18 1/4 20 1/4 22 1/4 24 1/4 26	4 1/2 4 3/8 4 3/8 5 1/4 5 1/4 5 1/4 5 1/4	4 4 4 4 4 4 4	3/4 3/4 3/4 3/4 3/4 3/4 3/4
2 1/8	6 to 8 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28	8.75 9.50 10.50 11.25 12.25 14.00	9	16 18 1/2 21 1/2 23 1/2 25 26 1/2	7 7 7 8 1/2 8 1/2 8 1/2	1 1/8 1 1/8 1 1/8 1 1/8 1 1/8 1 1/8	11 1/2 13 1/2 17 18 1/2 20 1/2 22 1/2	3 3/4 3 3/4 3 3/4 4 1/4 4 1/4 4 1/4	4	5/8	4 1/8	7 to 9 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28 30 to 32	34.00 35.00 38.00 40.50 43.50 47.00 51.00	15 15 15 15 15 15 15	23 23 1/2 26 28 30 1/2 33 34 1/2	10 1/4 10 1/4 10 1/4 12 12 12 12	2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8	16 1/4 17 1/4 19 1/4 21 1/4 24 1/4 26 1/4 28	4 1/2 4 3/8 4 3/8 5 1/4 5 1/4 5 1/4 5 1/4	4 4 4 4 4 4 4	3/8 3/8 3/8 3/8 3/8 3/8 3/8
2 1/4	6 to 8 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28	9.75 10.50 11.50 12.25 13.25 15.00	10	16 18 1/2 21 1/2 23 1/2 25 26 1/2	7 7 7 8 1/2 8 1/2 8 1/2	1 1/8 1 1/8 1 1/8 1 1/8 1 1/8 1 1/8	11 1/2 13 1/2 17 18 1/2 20 1/2 22 1/2	3 3/4 3 3/4 3 3/4 4 1/4 4 1/4 4 1/4	4	5/8	4 1/4	7 to 9 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28 30 to 32	37.00 38.00 41.00 43.50 46.50 50.00 54.00	15 1/2 15 1/2 15 1/2 15 1/2 15 1/2 15 1/2 15 1/2	23 23 1/2 26 28 30 1/2 33 34 1/2	10 1/4 10 1/4 10 1/4 12 12 12 12	2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8	16 1/4 17 1/4 19 1/4 21 1/4 24 1/4 26 1/4 28	4 1/2 4 3/8 4 3/8 5 1/4 5 1/4 5 1/4 5 1/4	4 4 4 4 4 4 4	3/8 3/8 3/8 3/8 3/8 3/8 3/8
2 3/8	6 to 8 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28	11.50 12.50 13.50 14.50 15.50 17.00	11	17 1/2 19 1/2 22 1/2 24 1/2 26 1/2 28	7 7 7 8 1/2 8 1/2 9	1 1/8 1 1/8 1 1/8 1 1/8 1 1/8 1 1/8	12 1/2 14 1/2 17 1/2 19 1/2 21 1/2 23 1/2	3 3/4 3 3/4 3 3/4 4 1/4 4 1/4 4 1/4	4	5/8	4 1/2	7 to 9 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28 30 to 32	41.00 42.00 46.00 49.00 52.00 55.00 58.00	16 3/4 16 3/4 16 3/4 16 3/4 16 3/4 16 3/4 16 3/4	24 25 27 1/2 29 1/2 32 34 35 1/2	11 1/4 11 1/4 11 1/4 11 1/4 11 1/4 11 1/4 11 1/4	2 1/4 2 1/4 2 1/4 2 1/4 2 1/4 2 1/4 2 1/4	17 1/4 18 1/4 20 1/4 22 1/4 25 1/4 27 1/4 29	5 1/4 5 3/8 5 3/8 5 3/4 5 3/4 5 3/4 5 3/4	4 4 4 4 4 4 4	3/8 3/8 3/8 3/8 3/8 3/8 3/8
2 1/2	6 to 8 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28	13.50 15.50 17.00 19.00 20.50 22.00	12	17 1/2 19 1/2 22 1/2 24 1/2 26 1/2 28	7 7 7 8 1/2 8 1/2 9	1 1/8 1 1/8 1 1/8 1 1/8 1 1/8 1 1/8	12 1/2 14 1/2 17 1/2 19 1/2 21 1/2 23 1/2	3 3/4 3 3/4 3 3/4 4 1/4 4 1/4 4 1/4	4	5/8	4 3/4	7 to 9 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28 30 to 32	43.50 44.50 48.50 51.50 54.50 58.00 60.50	17 1/4 17 1/4 17 1/4 17 1/4 17 1/4 17 1/4 17 1/4	24 25 27 1/2 29 1/2 32 34 35 1/2	11 1/4 11 1/4 11 1/4 11 1/4 11 1/4 11 1/4 11 1/4	2 1/4 2 1/4 2 1/4 2 1/4 2 1/4 2 1/4 2 1/4	17 1/4 18 1/4 20 1/4 22 1/4 25 1/4 27 1/4 29	5 1/4 5 3/8 5 3/8 5 3/4 5 3/4 5 3/4 5 3/4	4 4 4 4 4 4 4	3/8 3/8 3/8 3/8 3/8 3/8 3/8
3 1/8	6 to 8 10 to 12 14 to 16 18 to 20	19.00 20.00 22.50 25.00	12 3/4	20 22 24 26	8 1/2 8 1/2 8 1/2 10	1 1/4 1 1/4 1 1/4 1 1/4	14 16 18 20	3 3/4 3 3/4 3 3/4 5 1/4	4	3/4	4 1/2	7 to 9 10 to 12 14 to 16 18 to 20 22 to 24 26 to 28 30 to 32	43.50 44.50 48.50 51.50 54.50 58.00 63.00	17 1/4 17 1/4 17 1/4 17 1/4 17 1/4 17 1/4 17 1/4	24 25 27 1/2 29 1/2 32 34 35 1/2	11 1/4 11 1/4 11 1/4 11 1/4 11 1/4 11 1/4 11 1/4	2 1/4 2 1/4 2 1/4 2 1/4 2 1/4 2 1/4 2 1/4	17 1/4 18 1/4 20 1/4 22 1/4 25 1/4 27 1/4 29	5 1/4 5 3/8 5 3/8 5 3/4 5 3/4 5 3/4 5 3/4	4 4 4 4 4 4 4	3/8 3/8 3/8 3/8 3/8 3/8 3/8



# The Monarch Four-Point Adjustable Post Hangers

Ring Oiling, Ball and Socket, Babbitted Bearings, Broached



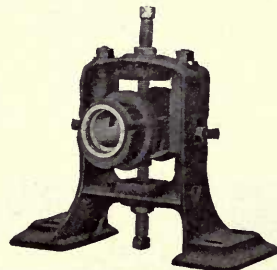
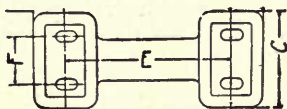
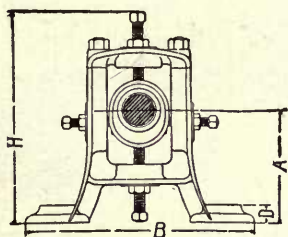
Style No. 164

## \*Dimensions and Prices

Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	No. of Bolts	Size of Bolts Inches
1 1/8	\$ 4.75	7 1/4	13 1/4	4 1/2	1 1/2	9 1/2	---	5 1/2	2	5/8	3 1/8	\$20.00	8 1/2	19	8 1/2	1 3/4	13	3 3/4	7 1/4	4	3/4
1 1/4	5.25	7 1/4	13 1/4	4 1/2	1 1/2	9 1/2	---	5 1/2	2	5/8	3 1/8	22.00	8 1/2	19	8 1/2	1 3/4	13	3 3/4	7 1/4	4	3/4
1 1/2	6.00	7 1/4	14	5	1 1/2	10	---	5 3/4	2	5/8	3 1/8	31.50	11	20 1/2	9	1 1/2	14 1/4	4 1/2	8 1/4	4	3/4
1 3/4	7.00	7 1/4	14	5	1 1/2	10	---	5 3/4	2	5/8	3 1/8	33.50	11	20 1/2	9	1 1/2	14 1/4	4 1/2	8 1/4	4	3/4
2	9.25	7 1/4	15	6	1 3/4	10 1/2	---	6	2	3/4	4 1/8	43.00	11	22	10 1/4	2 1/2	15 1/4	4 1/2	8 3/4	4	3/4
2 1/4	10.25	7 1/4	15	6	1 3/4	10 1/2	---	6	2	3/4	4 1/8	46.00	11	22	10 1/4	2 1/2	15 1/4	4 1/2	8 3/4	4	3/4
2 1/2	13.50	8 1/2	17	7	1 3/4	12	3 1/4	6 3/4	4	3/4	4 1/2	53.50	11	23	10 1/4	2 1/2	16 1/4	4 1/2	9 1/4	4	3/4
2 3/4	15.50	8 1/2	17	7	1 3/4	12	3 1/4	6 3/4	4	3/4	4 1/2	56.00	11	23	10 1/4	2 1/2	16 1/4	4 1/2	9 1/4	4	3/4

# The Monarch Four-Point Adjustable Pillow Blocks

Ring Oiling, Ball and Socket, Babbitted Bearings, Broached  
Convertible Into Low Drop Hangers



Style No. 165

## \*Dimensions and Prices

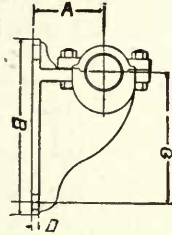
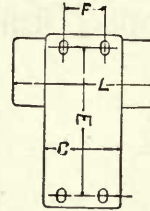
Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	No. of Bolts	Size of Bolts Inches
1 1/8	\$ 3.50	7 1/2 to 9	11 3/4	4	1	8	---	12	2	1/2	3 1/8	\$19.00	7 1/2 to 9	20	8 1/2	1 3/4	14	3 3/4	16	4	3/4
1 1/4	4.50	7 1/2 to 9	13 1/4	4 1/4	1 1/2	9 1/2	---	14	2	5/8	3 1/8	21.00	7 1/2 to 9	20	8 1/2	1 3/4	14	3 3/4	16	4	3/4
1 1/2	5.00	7 1/2 to 9	13 1/4	4 1/4	1 1/2	9 1/2	---	14	2	5/8	3 1/8	26.50	7 1/2 to 9	22 1/4	9	1 1/2	16 1/4	4 1/2	17	4	3/4
1 3/4	6.00	7 1/2 to 9	14 1/4	4 3/4	1 1/2	10 1/4	---	14 1/2	2	5/8	3 1/8	28.50	7 1/2 to 9	22 1/4	9	1 1/2	16 1/4	4 1/2	17	4	3/4
2	7.00	7 1/2 to 9	14 1/4	4 3/4	1 1/2	10 1/4	---	14 1/2	2	5/8	4 1/8	36.00	8 1/2 to 10	23	10 1/4	2 1/2	16 1/4	4 1/2	18	4	3/4
2 1/4	8.75	7 1/2 to 9	16	6	1 1/2	11 1/2	3 1/4	15	4	3/4	4 1/8	39.00	8 1/2 to 10	23	10 1/4	2 1/2	16 1/4	4 1/2	18	4	3/4
2 1/2	9.75	7 1/2 to 9	16	6	1 1/2	11 1/2	3 1/4	15	4	3/4	4 1/8	43.50	8 1/2 to 10	24	11 1/4	2 1/2	17 1/4	5 1/2	19	4	3/4
2 3/4	11.50	7 1/2 to 9	17 1/2	6 1/4	1 3/4	12 1/2	3 3/4	15 1/2	4	3/4	4 1/2	46.00	8 1/2 to 10	24	11 1/4	2 1/2	17 1/4	5 1/2	19	4	3/4
3	13.50	7 1/2 to 9	17 1/2	6 1/4	1 3/4	12 1/2	3 3/4	15 1/2	4	3/4	4 1/2										

\*Intermediate sizes charged at next larger diameter. Special prices for larger sizes.



# The Monarch Standard Wick Oiling Rigid Post Hangers

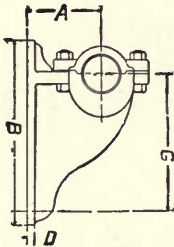
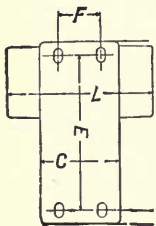
Babbitted Bearings, Broached



Style No. 166

\*Dimensions and Prices

Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	L In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	L In.	No. of Bolts	Size of Bolts Inches
1 1/8	\$ 3.00	4	10	2	1/2	8	---	6 1/2	5	2	1/2	3 1/8	\$17.60	6	15 3/4	7	7/8	13	4	11 1/4	13	4	3/4
1 1/4	4.00	4	10 3/4	2 1/2	1/2	8 1/2	---	7	6	2	5/8	3 1/4	21.00	6	17 1/2	7 1/2	7/8	14 3/4	4 1/2	12	14	4	3/4
1 1/2	4.75	4	11 1/4	2 3/4	3/8	9	---	7 1/2	7	2	5/8	3 3/8	25.75	6	19	8	15 1/2	15 1/2	4 3/4	12 1/2	15	4	7/8
1 3/4	5.90	4	11 3/4	3 1/4	3/8	9 1/2	---	8	8	2	5/8	3 1/2	30.75	6	19 1/2	8 1/4	1	16	5	13	16	4	7/8
2	7.50	4	13 3/4	4	3/8	11 1/4	---	9	9	2	5/8	4 1/8	35.25	7	21	8 3/4	1	17 1/2	5 1/2	14	16	4	7/8
2 1/8	9.00	4	15	5	3/4	12 1/2	---	9 1/2	10	2	3/4	4 1/4	40.25	7	22	9	1	18 1/2	5 3/4	15	16	4	7/8
2 1/4	12.25	6	15 1/4	5 1/4	3/4	12 3/4	2 3/4	11	11	4	3/4	4 1/2	45.75	7	23	9 1/2	1 1/8	19 1/2	6	15 1/2	16	4	1
2 1/2	14.25	6	15 3/4	6 1/2	3/4	12 3/4	3 1/2	11	12	4	3/4	4 3/4	51.50	7	23 1/2	10	1 1/8	20	7	16	16	4	1



# The Monarch Standard Ring Oiling Rigid Post Hangers

Babbitted Bearings, Broached



\*Dimensions and Prices

Style No. 167

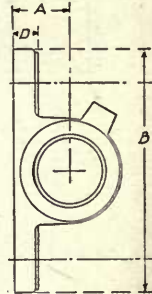
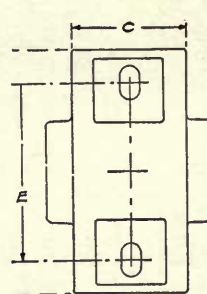
Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	L In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	L In.	No. of Bolts	Size of Bolts Inches
1 1/8	\$ 4.00	4	10	2	1/2	8	---	6 1/2	5	2	1/2	3 1/8	\$18.50	6	15 3/4	7	7/8	13	4	11 1/4	13	4	3/4
1 1/4	5.00	4	10 3/4	2 1/2	3/4	8 1/2	---	7	6	2	5/8	3 1/4	22.00	6	17 1/2	7 1/2	7/8	14 3/4	4 1/2	12	14	4	3/4
1 1/2	5.75	4	11 1/4	2 3/4	3/8	9	---	7 1/2	7	2	5/8	3 3/8	26.50	6	19	8	15 1/2	15 1/2	4 3/4	12 1/2	15	4	7/8
1 3/4	6.75	4	11 3/4	3 1/4	3/8	9 1/2	---	8	8	2	5/8	3 1/2	31.50	6	19 1/2	8 1/4	1	16	5	13	16	4	7/8
2	8.50	4	13 3/4	4 1/2	3/8	11 1/4	---	9	9	2	5/8	4 1/8	36.00	7	21	8 3/4	1	17 1/2	5 1/2	14	16	4	7/8
2 1/8	10.00	4	15	5	3/4	12 1/2	---	9 1/2	10	2	3/4	4 1/4	41.00	7	22	9	1	18 1/2	5 3/4	15	16	4	7/8
2 1/4	13.00	6	15 1/4	5 1/4	3/4	12 3/4	2 3/4	11	11	4	3/4	4 1/2	46.50	7	23	9 1/2	1 1/8	19 1/2	6	15 1/2	16	4	1
2 1/2	15.00	6	15 3/4	6 1/2	3/4	12 3/4	3 1/2	11	12	4	3/4	4 3/4	52.50	7	23 1/2	10	1 1/8	20	7	16	16	4	1



# Solid Journal Post Boxes

Babbitted—For Light Work

Our Solid Journal Post Boxes are furnished either "bored" or "babbitted." We furnish them "babbitted" unless otherwise specified.



Style No. 168

\*Dimensions and Prices

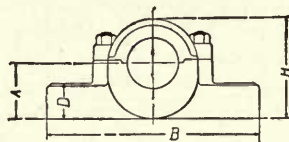
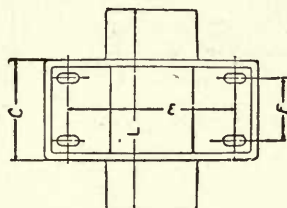
Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	Length Bear'g Inches	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	Length Bear'g Inches	No. of Bolts	Size of Bolts Inches
1 1/8	\$0.90	1	5	2	3/4	3 1/2	3	2	1/2	2 1/8	\$ 4.40	2 1/4	9 3/4	4 1/2	1 1/8	7	6 5/8	2	3/4
1 1/4	1.00	1 1/8	5 1/2	2 1/4	3/8	3 3/4	3 1/4	2	1/2	2 1/4	5.50	2 3/8	10 5/8	4 3/4	1 1/8	7 1/4	7	2	3/4
1 1/2	1.40	1 1/4	6	2 1/2	3/4	4	3 3/4	2	5/8	2 3/8	6.60	2 5/8	11 1/4	5	1 3/8	8 1/4	7 1/2	2	7/8
1 3/4	1.75	1 3/4	6 3/4	3	3/4	4 1/2	4 1/4	2	5/8	3 1/8	8.00	2 7/8	12	5 1/2	1 1/4	9	8	2	7/8
2	2.20	1 3/4	7 1/2	3 1/2	3/4	5	4 3/4	2	5/8	3 1/4	9.50	3	13	5 3/4	1 3/8	9 1/4	8 3/4	2	1
2 1/8	2.90	2	8	4	1	5 1/2	5 1/2	2	3/4	3 1/2	11.00	3 1/4	14	5 3/4	1 3/8	11	9 1/2	2	1
2 1/4	3.60	2 1/8	9	4 1/4	1 1/8	6 1/2	6 1/2	2	3/4	3 3/4									

\* Intermediate sizes charged at next larger diameter. Special prices for larger sizes.



# The Monarch Standard Wick Oiling Rigid Pillow Blocks

## Babbitted Bearings, Broached



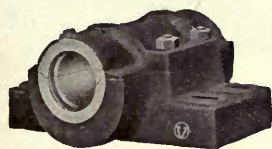
Style No. 169

### \*Dimensions and Prices

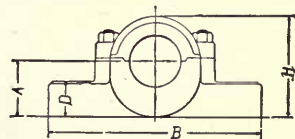
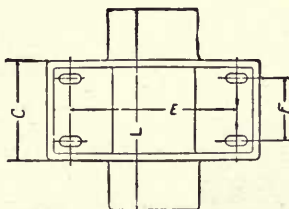
Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	L Length Bearing, In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	L Length Bearing, In.	No. of Bolts	Size of Bolts Inches
1 $\frac{1}{8}$	\$ 2.75	2	7 $\frac{1}{2}$	2	1 $\frac{1}{4}$	6	---	3 $\frac{1}{4}$	5	2	$\frac{1}{4}$	3 $\frac{1}{8}$	\$17.75	3 $\frac{1}{2}$	14 $\frac{1}{2}$	7	2 $\frac{3}{8}$	11	3 $\frac{1}{2}$	6 $\frac{1}{4}$	13	4	$\frac{5}{8}$
1 $\frac{1}{4}$	3.65	2 $\frac{1}{8}$	8	2 $\frac{1}{2}$	1 $\frac{1}{4}$	6 $\frac{1}{2}$	---	3 $\frac{1}{2}$	6	2	$\frac{1}{2}$	3 $\frac{1}{4}$	19.75	3 $\frac{3}{8}$	15	7 $\frac{1}{4}$	2 $\frac{1}{2}$	11 $\frac{3}{4}$	4	6 $\frac{3}{4}$	14	4	$\frac{5}{8}$
1 $\frac{3}{8}$	4.15	2 $\frac{1}{4}$	8 $\frac{3}{4}$	3	1 $\frac{1}{2}$	6 $\frac{3}{4}$	---	3 $\frac{3}{4}$	7	2	$\frac{1}{2}$	3 $\frac{1}{2}$	22.75	4 $\frac{1}{8}$	16	7 $\frac{1}{2}$	2 $\frac{3}{4}$	12 $\frac{1}{2}$	4 $\frac{3}{4}$	7 $\frac{1}{2}$	15	4	$\frac{5}{8}$
1 $\frac{1}{2}$	4.90	2 $\frac{3}{8}$	9 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{3}{4}$	7 $\frac{1}{4}$	---	4 $\frac{1}{4}$	8	2	$\frac{3}{8}$	3 $\frac{1}{2}$	27.75	4 $\frac{3}{8}$	16 $\frac{1}{2}$	8	2 $\frac{3}{4}$	13	5	7 $\frac{1}{2}$	16	4	$\frac{5}{8}$
2	6.50	2 $\frac{7}{8}$	10 $\frac{1}{2}$	4	2	8 $\frac{1}{4}$	---	4 $\frac{3}{4}$	9	2	$\frac{5}{8}$	4 $\frac{1}{8}$	29.75	4 $\frac{7}{8}$	17 $\frac{1}{4}$	9	3	14	5	8	16	4	$\frac{3}{4}$
2 $\frac{1}{4}$	8.00	3	11 $\frac{1}{2}$	4 $\frac{1}{2}$	2	9	---	5 $\frac{1}{4}$	10	2	$\frac{3}{4}$	4 $\frac{1}{4}$	35.75	4 $\frac{7}{8}$	18 $\frac{1}{2}$	9 $\frac{1}{2}$	3	14 $\frac{3}{4}$	5	8 $\frac{1}{2}$	16	4	$\frac{3}{4}$
2 $\frac{1}{2}$	11.75	3 $\frac{1}{4}$	12 $\frac{1}{2}$	6	2 $\frac{1}{4}$	9 $\frac{3}{4}$	3	5 $\frac{1}{2}$	11	4	$\frac{5}{8}$	4 $\frac{1}{2}$	38.75	5 $\frac{1}{4}$	19 $\frac{1}{2}$	9 $\frac{3}{4}$	3 $\frac{1}{4}$	15 $\frac{1}{4}$	7	9	16	4	$\frac{3}{4}$
2 $\frac{3}{4}$	13.75	3 $\frac{3}{4}$	13 $\frac{1}{2}$	6 $\frac{1}{2}$	2 $\frac{1}{2}$	10 $\frac{3}{4}$	3 $\frac{1}{2}$	6	12	4	$\frac{3}{4}$	4 $\frac{3}{4}$	41.75	5 $\frac{3}{4}$	20 $\frac{1}{4}$	10	3 $\frac{1}{2}$	16	7 $\frac{1}{4}$	9 $\frac{1}{2}$	16 $\frac{1}{2}$	4	$\frac{3}{4}$

# The Monarch Standard Ring Oiling Rigid Pillow Blocks

## Babbitted Bearings, Broached



Style No. 170



### \*Dimensions and Prices

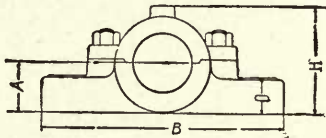
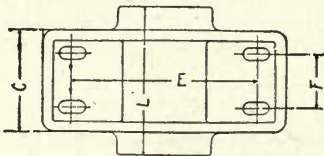
Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	L Length Bearing, In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	L Length Bearing, In.	No. of Bolts	Size of Bolts Inches
1 $\frac{1}{8}$	\$ 3.75	2	7 $\frac{1}{2}$	2	1 $\frac{1}{4}$	6	---	3 $\frac{1}{4}$	5	2	$\frac{1}{4}$	3 $\frac{1}{8}$	\$18.00	3 $\frac{1}{2}$	14 $\frac{1}{2}$	7	2 $\frac{3}{8}$	11	3 $\frac{1}{2}$	6 $\frac{1}{4}$	13	4	$\frac{5}{8}$
1 $\frac{1}{4}$	4.65	2 $\frac{1}{8}$	8	2 $\frac{1}{2}$	1 $\frac{1}{4}$	6 $\frac{1}{2}$	---	3 $\frac{1}{2}$	6	2	$\frac{1}{2}$	3 $\frac{1}{4}$	20.00	3 $\frac{3}{8}$	15	7 $\frac{1}{4}$	2 $\frac{1}{2}$	11 $\frac{3}{4}$	4	6 $\frac{3}{4}$	14	4	$\frac{5}{8}$
1 $\frac{3}{8}$	5.25	2 $\frac{1}{4}$	8 $\frac{3}{4}$	3	1 $\frac{1}{2}$	6 $\frac{3}{4}$	---	3 $\frac{3}{4}$	7	2	$\frac{1}{2}$	3 $\frac{1}{2}$	23.00	4 $\frac{1}{8}$	16	7 $\frac{1}{2}$	2 $\frac{3}{4}$	12 $\frac{1}{2}$	4 $\frac{3}{4}$	7 $\frac{1}{2}$	15	4	$\frac{5}{8}$
1 $\frac{1}{2}$	6.00	2 $\frac{3}{8}$	9 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{3}{4}$	7 $\frac{1}{4}$	---	4 $\frac{1}{4}$	8	2	$\frac{5}{8}$	3 $\frac{1}{2}$	28.00	4 $\frac{3}{8}$	16 $\frac{1}{2}$	8	2 $\frac{3}{4}$	13	5	7 $\frac{1}{2}$	16	4	$\frac{5}{8}$
2	6.75	2 $\frac{7}{8}$	10 $\frac{1}{2}$	4	2	8 $\frac{1}{4}$	---	4 $\frac{3}{4}$	9	2	$\frac{5}{8}$	4 $\frac{1}{8}$	30.00	4 $\frac{7}{8}$	17 $\frac{1}{4}$	9	3	14	5	8	16	4	$\frac{3}{4}$
2 $\frac{1}{4}$	8.25	3	11 $\frac{1}{2}$	4 $\frac{1}{2}$	2	9	---	5 $\frac{1}{4}$	10	2	$\frac{3}{4}$	4 $\frac{1}{4}$	36.00	4 $\frac{7}{8}$	18 $\frac{1}{2}$	9 $\frac{1}{2}$	3	14 $\frac{3}{4}$	5	8 $\frac{1}{2}$	16	4	$\frac{3}{4}$
2 $\frac{1}{2}$	12.00	3 $\frac{1}{4}$	12 $\frac{1}{2}$	6	2 $\frac{1}{4}$	9 $\frac{3}{4}$	3	5 $\frac{1}{2}$	11	4	$\frac{5}{8}$	4 $\frac{1}{2}$	39.00	5 $\frac{1}{4}$	19 $\frac{1}{2}$	9 $\frac{3}{4}$	3 $\frac{1}{4}$	15 $\frac{1}{4}$	7	9	16	4	$\frac{3}{4}$
2 $\frac{3}{4}$	14.00	3 $\frac{3}{4}$	13 $\frac{1}{2}$	6 $\frac{1}{2}$	2 $\frac{1}{2}$	10 $\frac{3}{4}$	3 $\frac{1}{2}$	6	12	4	$\frac{3}{4}$	4 $\frac{3}{4}$	42.00	5 $\frac{3}{4}$	20 $\frac{1}{4}$	10	3 $\frac{1}{2}$	16	7 $\frac{1}{4}$	9 $\frac{1}{2}$	16 $\frac{1}{2}$	4	$\frac{3}{4}$

\*Intermediate sizes charged at next larger diameter. Special prices for larger sizes.

Light Pattern, Common Pillow Blocks  
Babbitted Bearings, Broached



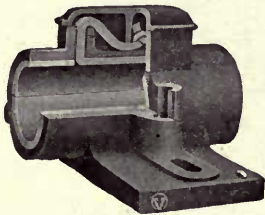
Style No. 171



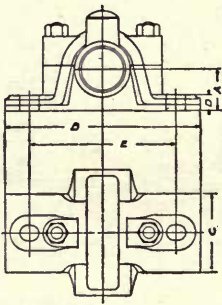
\*Dimensions and Prices

Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	L Length Bearing, In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	L Length Bearing, In.	No. of Bolts	Size of Bolts Inches
1 1/8	\$1.00	3/4	5	1 1/4	1/2	3 3/4	---	2 1/4	3	2	3/8	2 1/8	\$ 6.50	2 1/4	10 3/4	4 1/4	3/4	8 1/2	---	5	7	2	5/8
1 1/4	1.20	1	6	1 3/4	5/8	4 1/2	---	2 1/2	3 1/4	2	3/8	3 1/8	9.50	2 3/4	13	6 1/4	1 3/4	10 1/4	3 1/2	5 3/4	8	4	5/8
1 1/2	1.30	1 1/8	6 1/2	2	3/4	4 3/4	---	2 3/4	3 3/4	2	3/8	3 1/4	10.50	2 3/4	13 3/4	6 3/4	2	10 1/2	3 3/4	6	8 3/4	4	5/8
1 3/4	1.60	1 1/4	7 1/4	2 1/4	3/4	5 1/2	---	3	4 1/4	2	3/8	3 1/2	11.50	2 3/4	13 3/4	6 3/4	2	11	3 3/4	6 1/2	9 3/4	4	5/8
2	2.20	1 1/2	8	2 1/2	3/4	6 1/4	---	3 1/4	4 3/4	2	3/8	4 1/8	13.75	3	14 3/4	7 1/4	2 1/2	11 1/4	4 1/4	7	10 1/2	4	5/8
2 1/4	2.90	1 3/4	8 1/2	2 3/4	3/4	6 3/4	---	3 3/4	5 1/4	2	3/8	4 1/4	15.00	3 1/4	14 3/4	7 3/4	2 1/2	11 3/4	4 1/4	7 1/2	11 1/4	4	5/8
2 1/2	3.70	1 3/4	9 3/4	3 3/4	3/4	7 3/4	---	4 1/4	6 1/4	2	3/8	4 1/4	18.00	3 3/4	15	7 3/4	2 1/2	12	5	8	11 3/4	4	5/8
2 3/4	4.25	1 3/4	10 3/4	3 3/4	3/4	8 3/4	---	4 3/4	6 3/4	2	3/8	4 1/4	20.00	3 3/4	15 3/4	7 3/4	2 1/2	12 1/4	5	8 3/4	12 1/4	4	5/8
3	5.40	2	10 3/4	3 3/4	3/4	8 3/4	---	4 3/4	6 3/4	2	3/8	4 1/4	22.00	3 3/4	15 3/4	7 3/4	2 1/2	12 3/4	5	8 3/4	12 3/4	4	5/8

The Monarch Standard Top Wick Oiling  
Rigid Pillow Blocks  
Babbitted Bearings, Broached



Style No. 172



\*Dimensions and Prices

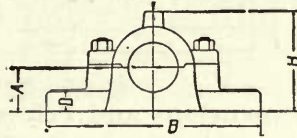
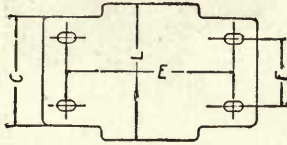
Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	Length Bearing Inches	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	Length Bearing Inches	No. of Bolts	Size of Bolts Inches
1 1/8	\$2.25	1 1/2	7 7/8	2 1/2	3/4	6	3 3/4	2	3/8	3 1/8	\$ 8.80	3	13 1/2	5 1/2	1 1/4	10 3/4	9	2	7/8
1 1/4	2.90	1 5/8	8 1/2	3	3/4	6 3/4	4 1/4	2	3/8	3 1/4	10.90	3 3/8	14	6	1 3/8	10 1/2	9 1/2	2	7/8
1 1/2	3.40	2	10 3/8	3 1/4	3/4	8	5 1/4	2	3/8	3 1/2	13.25	3 3/4	14 1/2	6 1/2	1 3/8	11	10	2	1
1 3/4	3.90	2 1/8	11	4	3/4	8 1/2	6 1/4	2	3/8	3 3/4	14.50	4	15	7	1 3/8	11 1/2	10 3/4	2	1 1/8
2	4.40	2 1/4	11 1/2	4 1/4	3/4	8 3/4	6 3/4	2	3/8	4 1/8	15.75	4 1/4	16	7 1/4	1 3/8	12	11 1/4	2	1 1/8
2 1/4	5.40	2 3/4	12	4 3/4	3/4	9	7 1/4	2	3/8	4 1/4	16.90	4 1/4	16 3/4	7 3/4	1 3/8	12 1/2	12 1/4	2	1 1/8
2 1/2	6.40	2 3/4	12 1/2	5	1	9 3/4	8	2	3/8	4 1/4	20.00	5	17 1/2	8 1/4	1 3/8	13 1/4	13	2	1 1/4
2 3/4	7.40	3	13	5 1/4	1	10 1/4	8 1/4	2	3/8	4 1/4	23.50	5 1/4	18 1/2	8 3/4	1 3/8	14 1/4	14	2	1 1/4

\*Intermediate sizes charged at next larger diameter. Special prices for larger sizes.



## Extra Heavy Pattern, Common Pillow Blocks

### Babbitted Bearings, Broached



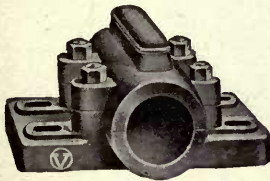
Style No. 173

#### \*Dimensions and Prices

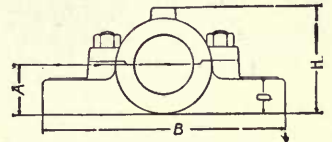
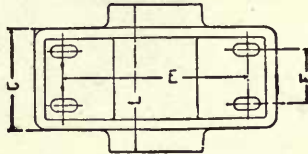
Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	L Length Bearing, In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	L Length Bearing, In.	No. of Bolts	Size of Bolts Inches
1 1/8	\$ 2.50	1 1/4	7 1/2	2 3/4	5/8	6	---	3 3/4	3 3/4	2	3/4	3 1/8	\$13.25	2 3/4	14	7 1/2	1 1/4	11	4 3/4	6 1/2	9 1/2	4	3/4
1 1/4	3.75	1 5/8	8 3/4	3 1/4	3/4	7	---	4 1/4	4 1/4	2	3/4	3 1/4	14.50	3	15	8	1 1/4	12	5	7 1/4	10	4	3/4
1 1/2	5.00	1 3/4	9	3 3/4	3/4	7 1/2	---	4 3/4	5	2	3/4	3 1/2	16.50	3 1/8	15 1/2	8 1/2	1 1/4	12 1/2	5 1/2	7 3/4	10 1/2	4	3/4
1 3/4	6.25	2	11 1/4	4 1/4	3/4	8 3/4	---	4 3/4	6 1/4	2	3/4	3 3/4	18.50	3 1/2	16	8 3/4	1 3/4	13	5 3/4	7 3/4	11	4	3/4
2	7.75	2 1/4	12	5 1/2	1	9 1/4	---	5	7	2	3/4	4 1/8	21.00	3 3/4	16 1/2	8 3/4	1 3/4	13 1/2	5 3/4	7 3/4	11 1/2	4	3/4
2 1/4	9.00	2 1/2	12 3/4	6	1	9 3/4	---	5 1/4	7 1/2	2	3/4	4 1/4	25.00	3 3/4	17	9	1 3/4	13 3/4	6	8 3/4	12	4	3/4
2 1/2	10.00	2 3/4	13	6 1/2	1 1/8	10 1/4	---	5 1/2	8 1/4	2	3/4	4 1/2	27.50	3 3/4	17 1/2	9 1/2	1 3/4	14 1/2	6	8 3/4	12 1/2	4	3/4
2 3/4	11.50	2 3/4	13 1/2	7	1 1/8	10 1/2	---	4 1/4	9	4	3/4	4 3/4	30.00	4	18 1/2	10	1 1/2	15 1/4	7	8 3/4	13	4	3/4

## Heavy Pattern, Common Pillow Blocks

### Babbitted Bearings, Broached



Style No. 174



#### \*Dimensions and Prices

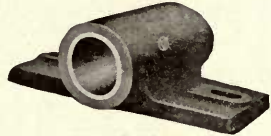
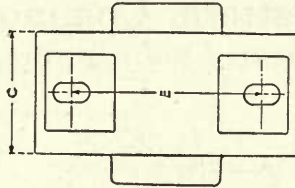
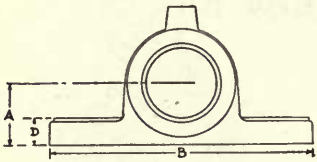
Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	L Length Bearing, In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	H In.	L Length Bearing, In.	No. of Bolts	Size of Bolts Inches
1 1/8	\$1.50	1 1/4	6 3/4	2 1/4	5/8	4 5/8	---	2 3/4	3 3/4	2	3/8	3 1/8	\$10.00	2 3/4	13	5	1 3/4	9 1/4	---	6	9 1/2	2	3/8
1 1/4	2.25	1 1/2	7 1/2	2 1/2	3/4	5 3/8	---	3 3/4	4 1/4	2	3/8	3 1/4	11.50	3	14	6 1/2	1 3/4	10 3/4	3 3/4	6 3/8	10	4	3/8
1 1/2	2.75	1 3/4	8 3/4	3	3/4	6	---	3 3/4	5	2	3/8	3 1/2	13.00	3 1/8	14 1/2	7	1 3/4	11 1/4	4 3/4	7 1/2	10 1/2	4	3/8
1 3/4	3.50	1 3/4	9 1/4	3 1/4	3/4	7	---	3 3/4	6	2	3/8	3 3/4	16.50	3 1/2	15	7 1/2	1 3/4	11 3/4	4 3/4	8 3/4	11 1/2	4	3/8
2	4.00	2	10	3 3/4	3/4	7 1/2	---	4 1/4	6 1/4	2	3/8	4 1/8	18.00	3 3/4	15 1/2	8 1/2	1 3/4	12 1/4	4 3/4	8 3/4	12 1/2	4	3/8
2 1/4	4.75	2 1/4	10 3/4	4 1/4	1	8	---	4 3/4	7 1/2	2	3/8	4 1/4	21.00	3 3/4	16	9	1 3/4	12 3/4	4 3/4	8 3/4	12 1/2	4	3/8
2 1/2	6.25	2 1/2	11 1/2	4 3/4	1 1/8	8 3/4	---	5	8 1/2	2	3/4	4 1/2	23.00	4	16 1/2	8 1/2	1 3/4	13	5 1/4	9	12 1/2	4	3/8
2 3/4	7.50	2 3/4	12	4 3/4	1 1/8	9	---	5 1/4	9	2	3/4	4 3/4	26.50	4 1/2	17	9	1 1/2	13 1/2	5 3/4	9 1/2	13	4	3/8

\*Intermediate sizes charged at next larger diameter.

Special prices for larger sizes.

# Solid Journal Boxes

## Babbitted for Light Work

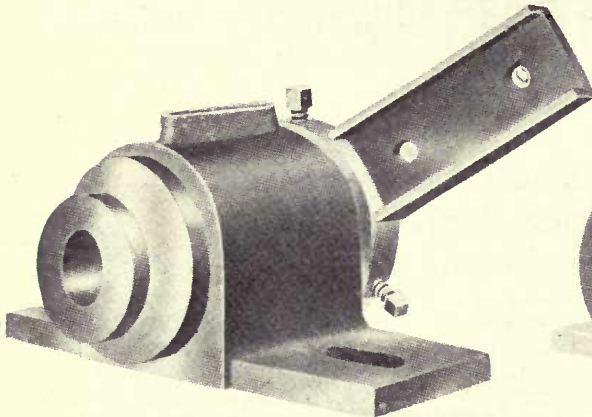


Style No. 175

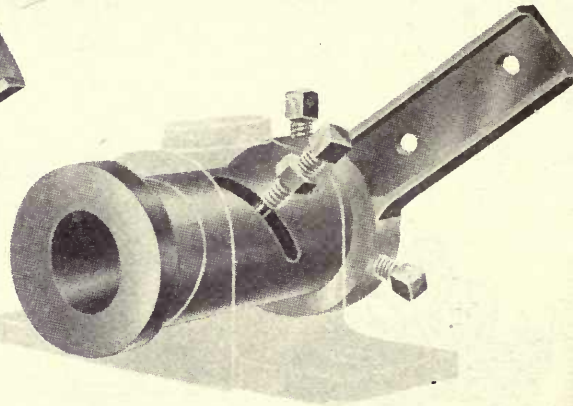
### Dimensions and Prices

Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	Length Bear- ing, Inches	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	Length Bear- ing, Inches	No. of Bolts	Size of Bolts Inches
1 1/8	\$0.90	1	5	2	5/8	3 1/2	3	2	1/2	2 1/8	\$ 4.40	2 1/4	9 3/4	4 1/2	1 1/8	7	6 5/8	2	3/4
1 1/4	1.00	1 1/8	5 1/2	2 1/4	3/4	3 3/4	3 1/4	2	1/2	2 1/8	5.50	2 3/8	10 1/2	4 3/4	1 1/8	7 3/4	7	2	3/4
1 1/2	1.40	1 3/8	6	2 1/2	3/4	4 1/4	3 3/4	2	1/2	2 1/8	6.60	2 5/8	11 1/4	5	1 1/8	8 1/4	7 1/2	2	3/4
1 3/4	1.75	1 5/8	6 3/4	3	3/4	4 1/2	4 1/4	2	1/2	2 1/8	8.00	2 7/8	12	5 1/4	1 3/8	9	8	2	7/8
2	2.20	1 3/4	7 1/2	3 1/2	3/4	5	4 3/4	2	1/2	2 1/8	9.50	3	13	5 1/2	1 3/8	9 3/4	8 3/4	2	1
2 1/8	2.90	2	8	4	3/4	5 1/2	5 1/4	2	1/2	2 1/8	11.00	3 1/4	14	5 3/4	1 3/8	11	9 1/2	2	1
2 1/4	3.60	2 1/8	9	4 1/4	1 1/8	6 1/4	6 1/4	2	1/2	2 1/8									

# Friction Transmission Boxes



Style No. 176  
Eccentric Box for Engaging Spur Frictions

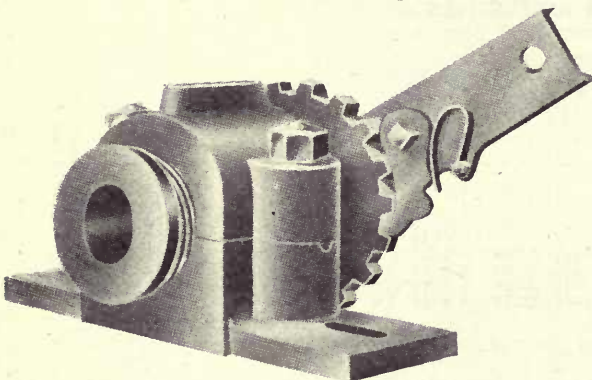


Style No. 178  
Quick-Acting End-Thrust Box

Used when frictions are frequently engaged and disengaged, also for reverse motions.

### Price List

Size of Shaft Inches	Quick-Acting End-Thrust Box	Take-up End-Thrust Box	Eccentric Box
1 3/16	\$ 9.75	\$11.25	\$ 7.50
1 1/8	10.60	12.25	8.15
1 1/4	12.15	14.00	9.35
1 1/2	13.85	16.00	10.65
1 3/4	15.75	18.15	12.10
2	17.90	20.60	13.75
2 1/8	20.35	23.50	15.65
2 1/4	23.20	26.80	17.85
2 1/2	26.55	30.60	20.40
2 3/4	30.35	35.00	23.35
3	34.80	40.10	26.75
3 1/8	39.80	45.90	30.60



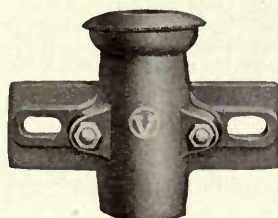
Style No. 177—Take-Up End-Thrust Box

For adjusting the pressure and taking up the wear of bevel and mitre frictions. Used when frictions are not frequently thrown in and out of contact.

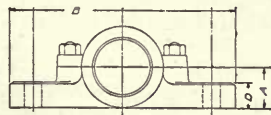
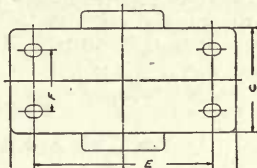


## Vertical Common Pillow Blocks

Babbitted Bearings, Broached



Style No. 179

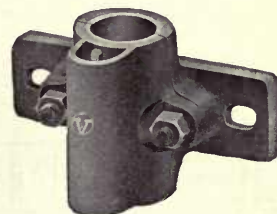
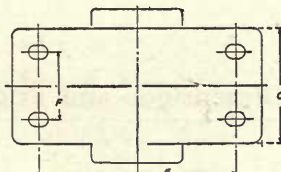
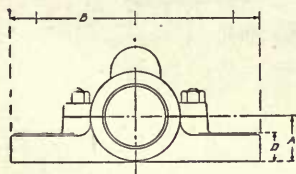


\*Dimensions and Prices

Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	Length Bear- ing, Inches	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	Length Bear- ing, Inches	No. of Bolts	Size of Bolts Inches
1 1/8	\$2.00	3/4	5	1 3/4	3/4	3 3/4	---	3	2	3/8	3 1/8	\$11.00	2 3/8	13	6	1 3/4	10 1/4	3 1/2	8	4	3/8
1 1/4	2.50	1	6	1 3/4	3/8	4 1/2	---	3 3/4	2	3/8	3 1/4	13.00	2 1/2	13 1/4	6 1/4	1 3/4	10 1/2	3 3/4	8 3/4	4	3/8
1 1/2	3.00	1 1/8	6 1/4	2	3/8	4 3/4	---	3 3/4	2	1/2	3 1/2	15.00	2 7/8	13 3/4	6 3/4	2	10 3/4	3 7/8	9 1/4	4	3/8
1 3/4	4.00	1 1/4	7 1/4	2 1/4	3/8	5 1/4	---	4 1/4	2	1/2	3 3/4	17.00	3	13 3/4	6 3/4	2	11	4	9 3/4	4	3/8
2	5.00	1 1/2	8	2 1/2	3/4	6 1/4	---	4 3/4	2	1/2	4 1/4	22.00	3 1/4	14 1/4	7	2 3/8	11 1/4	4 1/4	10 1/2	4	3/4
2 1/4	6.00	1 3/4	8 1/2	2 3/4	3/4	6 3/4	---	5 1/2	2	1/2	4 1/2	25.00	3 1/2	14 3/4	7 1/4	2 3/4	11 3/4	4 1/2	11	4	3/4
2 1/2	7.00	1 7/8	9 1/4	3 1/4	7/8	7 1/4	---	6 1/4	2	5/8	4 3/4	29.00	3 3/8	15	7 3/4	2 3/4	12	5	11 3/4	4	3/4
2 3/4	8.00	2	10 1/4	3 1/2	7/8	8 1/4	---	6 3/4	2	5/8	4 1/2	32.00	3 3/4	15 1/4	7 3/4	2 3/4	12 3/4	5	12 1/2	4	3/4
3	9.00	2 1/8	10 3/4	4 1/4	7/8	8 3/4	---	7	2	5/8	4 3/4										

## Vertical Wick Oiling Rigid Pillow Blocks

Babbitted Bearings, Broached



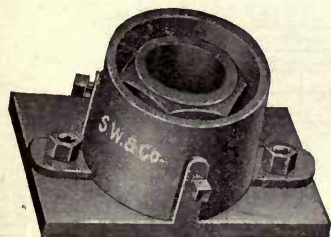
\*Dimensions and Prices

Style No. 180

Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	Length Bear- ing, Inches	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	Length Bear- ing, Inches	No. of Bolts	Size of Bolts Inches
1 1/8	\$ 3.00	3/4	5	1 3/4	3/4	3 3/4	---	3	2	3/8	3 1/8	\$16.50	2 3/8	13	6	1 3/4	10 1/4	3 1/2	8	4	3/8
1 1/4	3.75	1	6	1 3/4	3/8	4 1/2	---	3 3/4	2	3/8	3 1/4	19.50	2 1/2	13 1/4	6 1/4	1 3/4	10 1/2	3 3/4	8 3/4	4	3/8
1 1/2	4.50	1 1/8	6 1/4	2	3/8	4 3/4	---	3 3/4	2	1/2	3 1/2	22.50	2 7/8	13 3/4	6 3/4	2	10 3/4	3 7/8	9 1/4	4	3/8
1 3/4	6.00	1 1/4	7 1/4	2 1/4	3/8	5 1/4	---	4 1/4	2	1/2	3 3/4	25.50	3	13 3/4	6 3/4	2	11	4	9 3/4	4	3/8
2	7.50	1 1/2	8	2 1/2	3/4	6 1/4	---	4 3/4	2	1/2	4 1/4	33.00	3 1/4	14 1/4	7	2 3/8	11 1/4	4 1/4	10 1/2	4	3/4
2 1/4	9.00	1 3/4	8 1/2	2 3/4	3/4	6 3/4	---	5 1/2	2	1/2	4 1/2	37.50	3 1/2	14 3/4	7 1/4	2 3/4	11 3/4	4 1/2	11	4	3/4
2 1/2	10.50	1 7/8	9 1/4	3 1/4	7/8	7 1/4	---	6 1/4	2	5/8	4 3/4	43.50	3 3/8	15	7 3/4	2 3/4	12	5	11 3/4	4	3/4
2 3/4	12.00	2	10 1/4	3 1/2	7/8	8 1/4	---	6 3/4	2	5/8	4 1/2	48.00	3 3/4	15 1/4	7 3/4	2 3/4	12 3/4	5	12 1/2	4	3/4
3	13.50	2 1/8	10 3/4	4 1/4	7/8	8 3/4	---	7	2	5/8	4 3/4										

## Vertical Shaft Step Bearings

Adjustable in All Directions



Style No. 181

This bearing is equipped with a tempered steel button and babbitted bushing, surrounded by an oil reservoir of ample capacity, and operates with a minimum friction loss.

Price List

Size of Shaft.....	1 3/16	1 7/16	1 11/16	1 1 5/16	2 3/16	2 7/16	2 11/16	2 1 5/16
Price.....	\$6.00	\$6.75	\$7.80	\$9.20	\$11.00	\$13.00	\$16.00	\$20.00
Size of Shaft, Inches.....	3 3/16	3 7/16	3 11/16	3 1 5/16	4 3/16	4 7/16	4 11/16	4 1 5/16
Price.....	\$22.80	\$26.20	\$29.90	\$36.00	\$44.00	\$49.00	\$56.00	\$64.00

\*Intermediate sizes charged at next larger diameter. Special prices for larger sizes.

# Sole Plates

Our Sole Plates are made in three styles for Pillow Blocks of our own construction. The "Plain" type is designed for our own Wick and Ring Oiling Rigid Pillow Blocks; the "Standard" type for our Standard, Universal and Hercules Adjustable Pillow Blocks; and our "Wedge Adjustable" type for our Wick and Ring Oiling Rigid Pillow Blocks where vertical, as well as horizontal adjustment is desired.



Style No. 182

## Plain Sole Plates

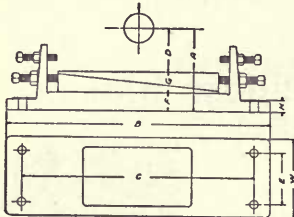
For Wick and Ring Oiling Rigid Pillow Blocks

### Price List

Diameter of Shaft, Inches	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{11}{16}$	$1\frac{15}{16}$	$2\frac{1}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{15}{16}$
Price-----	\$3.90	\$4.30	\$4.60	\$5.10	\$5.60	\$6.10	\$7.50	\$8.10
Diameter of Shaft, Inches	$3\frac{3}{16}$	$3\frac{7}{16}$	$3\frac{11}{16}$	$3\frac{15}{16}$	$4\frac{1}{16}$	$4\frac{7}{16}$	$4\frac{11}{16}$	$4\frac{15}{16}$
Price-----	\$10.60	\$11.10	\$13.00	\$14.10	\$16.00	\$16.60	\$18.00	\$18.60

## Wedge Adjustable Sole Plates

For Wick and Ring Oiling Rigid Pillow Blocks



Style No. 183

### \*Dimensions and Prices

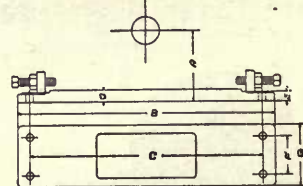
Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	H In.	W In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	H In.	W In.	No. of Bolts	Size of Bolts Inches
$1\frac{1}{8}$	\$ 6.00	$3\frac{3}{4}$	$12\frac{3}{8}$	11	2	---	1	$\frac{3}{4}$	$\frac{1}{8}$	2	2	$\frac{1}{2}$	$3\frac{1}{8}$	\$28.00	$6\frac{3}{8}$	$23\frac{3}{8}$	$20\frac{1}{8}$	$3\frac{3}{8}$	$4\frac{3}{8}$	$1\frac{1}{8}$	$1\frac{3}{8}$	1	7	4	$\frac{3}{4}$
$1\frac{1}{4}$	7.00	4	$13\frac{3}{8}$	$11\frac{1}{2}$	$2\frac{1}{2}$	---	1	$\frac{3}{4}$	$\frac{1}{8}$	2	2	$\frac{1}{2}$	$3\frac{1}{4}$	32.00	$7\frac{3}{8}$	$24\frac{3}{8}$	$21\frac{1}{8}$	$3\frac{3}{8}$	$4\frac{3}{8}$	$1\frac{1}{8}$	$1\frac{3}{8}$	1	$7\frac{1}{4}$	4	$\frac{3}{4}$
$1\frac{1}{2}$	8.00	$4\frac{1}{4}$	$14\frac{3}{8}$	$12\frac{3}{8}$	$2\frac{3}{4}$	---	1	1	$\frac{1}{8}$	3	2	$\frac{1}{2}$	$3\frac{1}{2}$	40.00	8	$25\frac{3}{8}$	$22\frac{1}{8}$	$4\frac{3}{8}$	$5\frac{3}{8}$	$1\frac{1}{4}$	$2\frac{1}{8}$	$1\frac{1}{8}$	$7\frac{1}{2}$	4	$\frac{3}{4}$
$1\frac{3}{4}$	9.00	$4\frac{1}{2}$	$15\frac{3}{8}$	$13\frac{3}{8}$	$2\frac{3}{4}$	$1\frac{1}{8}$	1	$1\frac{1}{8}$	$\frac{3}{8}$	$3\frac{1}{2}$	3	$\frac{1}{2}$	$3\frac{3}{4}$	44.00	$8\frac{3}{8}$	$26\frac{3}{8}$	$23\frac{1}{8}$	$4\frac{3}{8}$	$5\frac{3}{8}$	$1\frac{1}{4}$	$2\frac{1}{8}$	$1\frac{1}{8}$	8	4	$\frac{3}{4}$
$2\frac{1}{8}$	11.00	$5\frac{1}{8}$	$16\frac{3}{8}$	15	$2\frac{3}{4}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{1}{8}$	$\frac{3}{8}$	4	4	$\frac{1}{2}$	$4\frac{1}{8}$	46.00	$8\frac{3}{8}$	$28\frac{3}{8}$	$24\frac{1}{8}$	$4\frac{3}{8}$	6	2	$2\frac{1}{8}$	$1\frac{1}{4}$	9	4	$\frac{3}{4}$
$2\frac{1}{4}$	13.00	$5\frac{3}{8}$	$18\frac{3}{8}$	$16\frac{3}{8}$	3	3	$1\frac{1}{8}$	$1\frac{1}{8}$	$\frac{3}{8}$	$4\frac{1}{2}$	4	$\frac{1}{2}$	$4\frac{1}{4}$	50.00	$9\frac{1}{8}$	$29\frac{3}{8}$	$25\frac{1}{8}$	$4\frac{3}{8}$	$6\frac{3}{8}$	$2\frac{1}{8}$	$2\frac{1}{8}$	$1\frac{3}{8}$	$9\frac{1}{2}$	4	$\frac{3}{4}$
$2\frac{1}{2}$	15.00	$5\frac{3}{4}$	$20\frac{3}{8}$	18	$3\frac{3}{4}$	$3\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$\frac{7}{8}$	6	4	$\frac{3}{8}$	$4\frac{1}{2}$	54.00	$9\frac{3}{8}$	$30\frac{3}{8}$	$27\frac{1}{8}$	$5\frac{3}{8}$	$6\frac{3}{8}$	$2\frac{1}{4}$	$2\frac{1}{8}$	$1\frac{3}{8}$	$9\frac{3}{4}$	4	1
$2\frac{3}{4}$	20.00	6	$21\frac{3}{8}$	19	$3\frac{3}{4}$	4	$1\frac{1}{2}$	$1\frac{1}{2}$	$\frac{7}{8}$	$6\frac{1}{2}$	4	$\frac{3}{8}$	$4\frac{1}{2}$	58.00	10	$31\frac{3}{8}$	$28\frac{3}{8}$	$5\frac{3}{8}$	$6\frac{3}{8}$	$2\frac{1}{4}$	$2\frac{1}{8}$	$1\frac{1}{2}$	10	4	1

## Standard Sole Plates

For Standard, Universal and Hercules Adjustable Pillow Blocks



Style No. 184



### \*Dimensions and Prices

Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	No. of Bolts	Size of Bolts Inches	Size of Shaft Inches	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	No. of Bolts	Size of Bolts Inches	
$1\frac{1}{8}$	\$ 3.90	$4\frac{3}{4}$ to $5\frac{1}{2}$	$19\frac{1}{4}$	$17\frac{1}{4}$	1	$\frac{3}{4}$	$2\frac{1}{4}$	4	4	$\frac{1}{2}$	$3\frac{1}{8}$	\$13.00	8	to $9\frac{1}{2}$	$28\frac{3}{4}$	26	$1\frac{1}{2}$	$1\frac{3}{8}$	$4\frac{1}{2}$	$7\frac{1}{4}$	4	$\frac{3}{4}$
$1\frac{1}{4}$	4.30	$4\frac{3}{4}$ to $5\frac{1}{2}$	$19\frac{1}{4}$	$17\frac{1}{4}$	1	$\frac{3}{4}$	$2\frac{1}{4}$	4	4	$\frac{1}{2}$	$3\frac{1}{4}$	14.50	8	to $9\frac{1}{2}$	$28\frac{3}{4}$	26	$1\frac{1}{2}$	$1\frac{3}{8}$	$4\frac{1}{2}$	$7\frac{1}{4}$	4	$\frac{3}{4}$
$1\frac{1}{2}$	4.60	$5\frac{1}{2}$ to $6\frac{1}{2}$	21	$18\frac{3}{4}$	1	$\frac{3}{4}$	$2\frac{3}{4}$	$4\frac{1}{4}$	4	$\frac{1}{2}$	$3\frac{1}{2}$	16.50	$9\frac{1}{8}$	to $10\frac{1}{8}$	30	27	$1\frac{1}{2}$	$1\frac{3}{8}$	$4\frac{3}{4}$	$7\frac{1}{2}$	4	$\frac{3}{4}$
$1\frac{3}{4}$	5.80	$5\frac{1}{2}$ to $6\frac{1}{2}$	21	$18\frac{3}{4}$	1	$\frac{3}{4}$	$2\frac{3}{4}$	$4\frac{1}{4}$	4	$\frac{1}{2}$	$3\frac{1}{2}$	17.75	$9\frac{1}{8}$	to $10\frac{1}{8}$	30	27	$1\frac{1}{2}$	$1\frac{3}{8}$	$4\frac{3}{4}$	$7\frac{1}{2}$	4	$\frac{3}{4}$
$2\frac{1}{8}$	7.25	$6\frac{1}{8}$ to $7\frac{3}{8}$	$23\frac{3}{4}$	$21\frac{1}{4}$	$1\frac{1}{8}$	$\frac{7}{8}$	$3\frac{3}{8}$	$5\frac{1}{2}$	4	$\frac{1}{2}$	$4\frac{1}{8}$	21.00	$9\frac{1}{8}$	to $10\frac{1}{8}$	30	27	$1\frac{1}{2}$	$1\frac{3}{8}$	$4\frac{3}{4}$	$7\frac{1}{2}$	4	$\frac{3}{4}$
$2\frac{1}{4}$	9.25	$6\frac{1}{8}$ to $7\frac{3}{8}$	$23\frac{3}{4}$	$21\frac{1}{4}$	$1\frac{1}{8}$	$\frac{7}{8}$	$3\frac{3}{8}$	$5\frac{1}{2}$	4	$\frac{1}{2}$	$4\frac{1}{4}$	24.00	$10\frac{1}{8}$	to $11\frac{1}{8}$	$31\frac{1}{2}$	$28\frac{3}{4}$	$2\frac{1}{4}$	$1\frac{1}{2}$	$4\frac{3}{4}$	$7\frac{1}{2}$	4	$\frac{3}{4}$
$2\frac{1}{2}$	10.50	$6\frac{1}{4}$ to $8\frac{1}{4}$	26	$23\frac{3}{4}$	$1\frac{1}{4}$	1	$3\frac{7}{8}$	$6\frac{1}{4}$	4	$\frac{3}{8}$	$4\frac{1}{2}$	26.00	$10\frac{3}{8}$	to $11\frac{3}{8}$	$31\frac{1}{2}$	$28\frac{3}{4}$	$2\frac{1}{4}$	$1\frac{1}{2}$	$4\frac{3}{4}$	$7\frac{1}{2}$	4	$\frac{3}{4}$
$2\frac{3}{4}$	11.60	$6\frac{1}{4}$ to $8\frac{1}{4}$	26	$23\frac{3}{4}$	$1\frac{1}{4}$	1	$3\frac{7}{8}$	$6\frac{1}{4}$	4	$\frac{3}{8}$	$4\frac{1}{2}$	28.00	$10\frac{3}{8}$	to $11\frac{3}{8}$	$31\frac{1}{2}$	$28\frac{3}{4}$	$2\frac{1}{4}$	$1\frac{1}{2}$	$4\frac{3}{4}$	$7\frac{1}{2}$	4	$\frac{3}{4}$

\*Special prices for larger sizes.



## Floor Stands

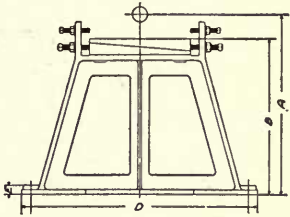
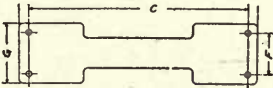
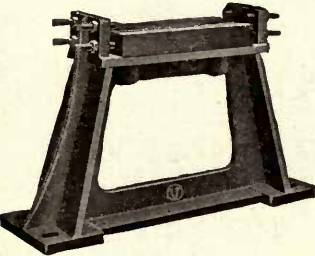
The proportions of the Wedge Adjustable Floor Stands are such that they give ample strength, weight and area of base for the respective shaft sizes, are well adapted to heavy duty and high speed service, as well as being symmetrical in design, carefully made and finished. They are furnished for shaft sizes, and heights as shown in tables.

Our Standard, Universal and Hercules Drop Hangers are all convertible into Floor Stands and are frequently used as such where heavy duty and high speed service does not demand the Wedge Adjustable type.

Our Pedestal Floor Stands are offered to satisfy the demand for a stand of this character and meet the varied requirements in every respect. They are furnished with Common Split Babbitted Bearing Boxes.

### Wedge Adjustable Floor Stands

For Wick or Ring Oiling Rigid Pillow Blocks



Style No. 185

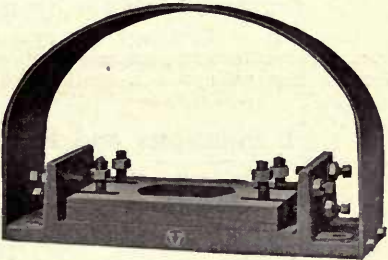
\*Dimensions and Prices

Size of Shaft In.	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	Size of Bolts In.	Size of Shaft In.	Price	A In.	B In.	C In.	D In.	E In.	F In.	G In.	Size of Bolts In.
1 1/4	\$14.00 18.00 22.00	24 30 36	21 5/8 27 3/8 33 3/8	24 1/2 27 1/4 31 1/2	26 3/8 29 3/8 33 3/8	1 1 1	3 3 3/4 4 1/2	5 5 3/4 6 1/2	1/2 1/2 1/2	3 1/4	\$62.00 50.00 57.00 65.00	42 30 36 42	38 3/8 25 3/4 31 3/4 37 3/4	39 3/8 34 3/8 38 41 1/4	42 3/8 38 41 1/4 45	1 1/4 1 3/8 1 3/8 1 3/8	7 6 6 1/2 7 1/4	10 9 3/4 10 10 3/4	3/4 7/8 7/8 7/8
2 1/4	18.00 22.80 27.80	24 30 36	21 5/8 27 3/8 33 3/8	26 1/2 30 33	29 32 1/2 35 1/2	1 1/8 1 1/8 1 1/8	4 4 3/4 5 1/2	6 3/4 7 7 3/4	5/8 5/8 5/8	3 1/2	52.00 59.00 67.00	30 36 42	25 3/8 31 3/8 37 3/8	34 3/8 38 41 1/4	38 41 1/4 45	1 3/8 1 3/8 1 3/8	6 6 1/2 7 1/4	9 3/4 10 10 3/4	7/8 7/8 7/8
2 1/2	19.00 23.80 28.80	24 30 36	21 27 33	26 1/2 30 33	29 32 1/2 35 1/2	1 1/8 1 1/8 1 1/8	4 4 3/4 5 1/2	6 3/4 7 7 3/4	5/8 5/8 5/8	3 3/4	66.00 85.00 97.00	30 36 42	25 3/8 31 3/8 37 3/8	37 3/8 40 3/8 44	41 1/8 44 1/2 48	1 1/2 1 1/2 1 1/2	7 7 3/4 8 1/4	11 11 3/4 12 1/2	1 1 1
2 3/4	34.00 40.00 48.00	24 30 36	20 3/4 26 3/4 32 3/4	28 3/4 32 1/2 35 3/4	31 1/4 35 38 1/4	1 1/4 1 1/4 1 1/4	5 1/2 6 1/4 7	8 8 3/4 9 1/2	3/4 3/4 3/4	4 1/4	68.00 87.00 99.00	30 36 42	25 3/8 31 3/8 37 3/8	37 3/8 40 3/8 44	41 1/8 44 1/2 48	1 1/2 1 1/2 1 1/2	7 7 3/4 8 1/4	11 11 3/4 12 1/2	1 1 1
3 1/4	35.00 41.00 49.00	24 30 36	20 3/4 26 3/4 32 3/4	28 3/4 32 1/2 35 3/4	31 1/4 35 38 1/4	1 1/4 1 1/4 1 1/4	5 1/2 6 1/4 7	8 8 3/4 9 1/2	3/4 3/4 3/4	4 1/2	85.00 96.00 107.00	30 36 42	24 3/4 30 3/4 36 3/4	39 3/8 43 46 3/4	44 47 1/2 50 3/4	1 1/2 1 1/2 1 1/2	7 1/2 8 1/4 9	12 12 3/4 13 1/2	1 1 1
3 1/2	44.40 51.60 60.00	30 36 42	26 1/2 32 1/2 38 1/2	33 36 1/2 39 1/2	36 39 1/2 42 1/2	1 1/4 1 1/4 1 1/4	5 1/2 6 1/4 7	8 3/4 9 1/4 10	3/4 3/4 3/4	4 3/4	88.00 99.00 110.00	30 36 42	24 3/4 30 3/4 36 3/4	39 3/8 43 46 3/4	44 47 1/2 50 3/4	1 1/2 1 1/2 1 1/2	7 1/2 8 1/4 9	12 12 3/4 13 1/2	1 1 1

\*Special prices for special stands.

## Wall Box Frames

These Frames are strong and well made, having been designed for our Standard, Universal and Hercules Adjustable and Wick and Ring Oiling Rigid Pillow Blocks, provide for both horizontal and vertical adjustment as well as the removal of the pillow block cap.



List Prices

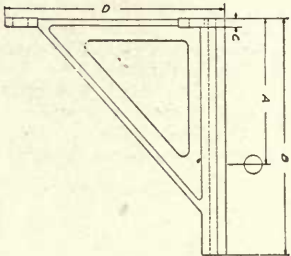
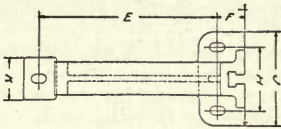
Style No. 186

Size of Shaft, Inches-----	1 3/16	1 7/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16	2 15/16
For Adjustable Pillow Blocks-----	\$6.00	\$6.80	\$ 7.80	\$ 8.50	\$ 9.50	\$10.50	\$13.00	\$15.00
For Wick and Ring Oiling Rigid Pil.Bl.	\$8.00	\$9.00	\$10.00	\$11.00	\$12.00	\$13.00	\$16.00	\$18.00
Size of Shaft, Inches-----	3 3/16	3 7/16	3 11/16	3 15/16	4 3/16	4 7/16	4 11/16	4 15/16
For Adjustable Pillow Blocks-----	\$16.40	\$20.00	\$23.50	\$25.40	\$27.00	\$31.50	\$34.00	\$37.20
For Wick and Ring Oiling Rigid Pil.Bl.	\$22.00	\$26.00	\$30.00	\$32.00	\$34.00	\$38.00	\$42.00	\$46.00



Style No. 187

Extension Wall Brackets



\*Dimensions and Prices

Size of Shaft, In.	A Exten. In.	Price	B In.	C In.	D In.	E In.	F In.	H In.	J In.	K In.	Size of Bolts, In.
1 1/8 to 1 1/2	12	\$ 8.00	19 1/2	3/4	18	14 1/2	2	4 3/4	6 3/4	3 1/2	5/8
	18	12.00	25 1/2	3/4	24	20 1/2	2	4 3/4	6 3/4	3 1/2	5/8
	24	16.00	31 1/2	3/8	30	26	2 1/4	5 1/4	7 3/4	3 1/2	3/4
	30	20.00	37 1/2	3/8	36	32	2 1/4	5 1/4	7 3/4	3 1/2	3/4
1 1/2 to 2 1/8	12	9.00	20 1/2	1	19 1/2	15 3/8	2 3/8	5 3/8	7 3/4	3 1/2	3/4
	18	12.50	26 1/2	1	25 1/2	21 3/8	2 3/8	5 3/8	7 3/4	3 1/2	3/4
	24	18.00	32 1/2	1 1/8	31 1/2	27 3/8	2 5/8	5 3/4	8 3/4	3 1/2	7/8
	30	22.00	38 1/2	1 1/8	37 1/2	33 3/8	2 5/8	5 3/4	8 3/4	3 1/2	7/8

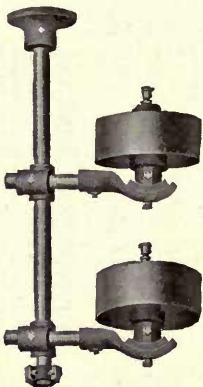
Size of Shaft, In.	A Exten. In.	Price	B In.	C In.	D In.	E In.	F In.	H In.	J In.	K In.	Size of Bolts, In.
2 1/8 to 3 1/8	12	\$12.00	22 1/2	1 1/8	21 1/2	17	2 5/8	8 1/2	11 1/2	4 1/2	7/8
	18	16.00	28 1/2	1 1/8	27 1/2	23	2 5/8	8 1/2	11 1/2	4 1/2	7/8
	24	21.00	34 1/2	1 1/8	33 1/2	28 3/4	2 3/4	8 3/4	11 1/2	4 1/2	1
	30	26.00	40 1/2	1 1/4	39 1/2	34 3/4	2 3/4	8 3/4	11 1/2	4 1/2	1
3 1/8 to 4 1/8	12	20.00	23	1 1/8	22 1/2	16 1/2	4	8 7/8	11 1/2	5	1
	18	26.00	29	1 1/8	28 1/2	22 3/4	4	8 7/8	11 1/2	5	1
	24	32.00	35	1 1/4	34 1/2	28 3/8	4 1/2	8 7/8	11 1/2	5	1 1/8
4 1/8 to 4 1/2	12	28.00	23 1/2	1 1/4	23 1/2	16 7/8	4 1/2	8 7/8	11 1/2	5 1/2	1 1/8
	18	36.00	29 1/2	1 1/4	29 1/2	22 3/4	4 1/2	8 7/8	11 1/2	5 1/2	1 1/8
	24	43.00	35 1/2	1 1/4	35 1/2	28 7/8	4 1/2	8 7/8	11 1/2	5 1/2	1 1/8

\*Special prices for larger sizes.



Style No. 188

Mule Stands



Style No. 189

Stationary Mule Stands

Complete as illustrated with ceiling plate, guy rods, turnbuckles and compression grease cups. We furnish iron pulleys (crowned) unless otherwise specified.

Dimensions and Prices

Width Belt Inches	Sizes Pulleys Inches	Standard Length Shaft	Price
3	12 x 4	3' 6"	\$ 37.50
4	12 x 5	4' 0"	42.50
5	12 x 6	4' 0"	45.00
6	15 x 7	4' 6"	52.00
7	15 x 8	4' 6"	55.00
8	20 x 9.5	5' 0"	55.00
9	20 x 10.5	5' 0"	88.00
10	24 x 11.5	5' 6"	100.00
12	30 x 13.5	5' 6"	140.00
14	30 x 15.5	6' 0"	155.00

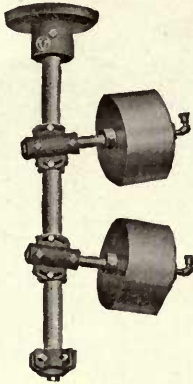
Adjustable Mule Stands

Adjustable in every direction and complete as illustrated with ceiling plate, guy rods, turnbuckles and compression grease cups. Unless otherwise ordered will be furnished with crowned iron pulleys.

Dimensions and Prices

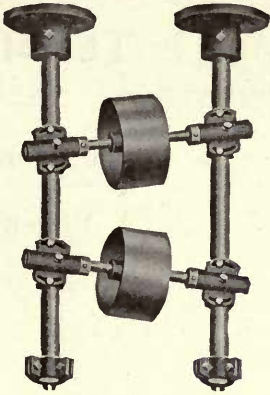
Width Belt Inches	Sizes Pulleys Inches	Standard Length Shaft	Price
3	12 x 4	3' 6"	\$ 60.00
4	12 x 5	4' 0"	67.50
5	12 x 6	4' 0"	70.00
6	15 x 7	5' 0"	90.00
7	15 x 8	5' 0"	95.00
8	20 x 9.5	5' 6"	100.00
9	20 x 10.5	5' 6"	135.00
10	24 x 11.5	6' 0"	147.00
12	30 x 13.5	6' 6"	200.00
14	30 x 15.5	7' 0"	215.00





# Binder Frames

Complete as illustrated with guy rods, turnbuckles and compression grease cups. Crowned iron pulleys furnished unless otherwise specified.



Style No. 190  
Single Brace Binder Frames

## Dimensions and Prices

Width Belt Inches	Sizes Pulleys Inches	Standard Length Shaft	Price
3	12 x 4	3' 6"	\$46.00
4	12 x 5	4' 0"	50.00
5	12 x 6	4' 0"	70.00
6	12 x 7	4' 6"	75.00

Style No. 191  
Double Brace Binder Frames

## Dimensions and Prices

Width Belt Inches	Sizes Pulleys Inches	Standard Length Shaft	Price
4	12 x 5	4' 0"	\$ 75.00
5	12 x 6	4' 0"	78.00
6	15 x 7	4' 6"	81.00
7	15 x 8	4' 6"	85.00
8	20 x 9	5' 0"	125.00
10	20 x 12	5' 6"	130.00
12	20 x 14	5' 6"	135.00

# The Monarch Idlers

## Dimensions and Prices

## The Monarch Adjustable Idler and Tightener

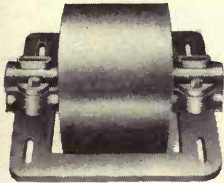
PULLEY		Price	PULLEY		Price	PULLEY		Price
Diam. Inches	Face Inches		Diam. Inches	Face Inches		Diam. Inches	Face Inches	
8	4	\$14.00	9	4	\$14.50	10	4	\$15.00
	5	14.50		5	15.00		5	15.50
	6	15.00		6	15.50		6	16.00



Style No. 192

## The Monarch Floor Idler

	PULLEY		Price		PULLEY		Price		PULLEY		Price
	Diam. Inches	Face Inches			Diam. Inches	Face Inches			Diam. Inches	Face Inches	
10		5	\$14.00	12		8	\$16.50	14		11	\$23.50
		6	14.50			9	18.00			12	24.50
		7	15.00			10	19.00			5	18.00
		8	15.50			11	20.00			6	19.00
		9	16.50			12	21.50			7	20.00
		10	17.50			14	16.50			8	21.00
		11	18.50			6	17.50			9	22.00
12		12	19.50	14		7	18.50	16		10	22.00
		5	15.00			8	19.50			11	25.00
		6	15.50			9	20.50			12	26.00
		7	16.00			10	22.50				



Style No. 193

## The Monarch Adjustable Idler

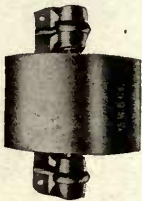
PULLEY		Price	PULLEY		Price	PULLEY		Price
Diam. Inches	Face Inches		Diam. Inches	Face Inches		Diam. Inches	Face Inches	
8	4	\$13.50	9	4	\$14.00	10	4	\$14.50
	5	14.00		5	14.50		5	15.00
	6	14.50		6	15.00		6	15.50



Style No. 194

The Monarch Idlers

The Monarch Angle Idler



Dimensions and Prices

Style No. 195

PULLEY		Price	PULLEY		Price	PULLEY		Price
Diameter Inches	Face Inches		Diameter Inches	Face Inches		Diameter Inches	Face Inches	
10	6	\$ 9.50	11	12	\$13.00	13	10	\$14.50
	8	10.50		6	10.50		12	16.50
	10	11.50		8	12.00		6	12.00
11	12	12.50	12	10	14.00	14	8	14.00
	6	10.00		12	16.00		10	16.00
	8	11.00		6	11.50		12	18.00
	10	12.00		8	12.50			



Style No. 196

The Monarch Floor Stand Idler

Dimensions and Prices

PULLEY		Price	PULLEY		Price	PULLEY		Price
Diam. Inches	Face Inches		Diam. Inches	Face Inches		Diam. Inches	Face Inches	
6	3	\$11.00	8	3	\$12.00	10	3	\$13.00
	4	11.50		4	12.50		4	13.50
	5	12.00		5	13.00		5	14.00
	6	12.50		6	13.50		6	14.50

The Monarch Floor Idler

Dimensions and Prices

PULLEY		Price	PULLEY		Price	PULLEY		Price
Diam. Inches	Face Inches		Diam. Inches	Face Inches		Diam. Inches	Face Inches	
6	3	\$11.00	8	6	\$13.50	12	5	\$15.00
	4	11.50		3	13.00		6	15.50
	5	12.00		4	13.50		3	15.00
	6	12.50		5	14.00		4	15.50
8	3	12.00	12	6	14.50	14	5	16.00
	4	12.50		3	14.00		6	16.50
	5	13.00		4	14.50			



Style No. 197

The Monarch Beam Idler

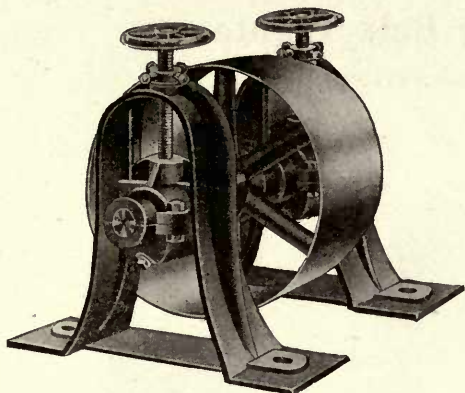
Dimensions and Prices

PULLEY		Price	PULLEY		Price	PULLEY		Price
Diam. Inches	Face Inches		Diam. Inches	Face Inches		Diam. Inches	Face Inches	
6	3	\$ 9.50	8	6	\$12.00	12	5	\$13.50
	4	10.00		3	11.50		6	14.00
	5	10.50		4	12.00		3	13.00
	6	11.00		5	12.50		4	14.00
	3	10.50		6	13.00		5	14.50
8	4	11.00	12	3	12.50	14	6	15.00
	5	11.50		4	13.00			



Style No. 198





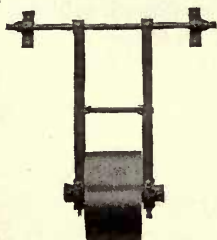
## The Monarch Vertical Mill Tightener

This is a very substantial and convenient Tightener and can be used for a variety of purposes. It consists of two adjustable floor stands with a short shaft and pulley between. We can furnish it with any size pulley wanted, the price varying according to size of pulley.

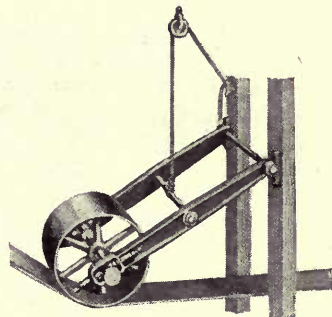
Style No. 199

### Price List

Pulley		Price	Pulley		Price	Pulley		Price
Diam. Inches	Face Inches		Diam. Inches	Face Inches		Diam. Inches	Face Inches	
10	5	\$21.50	12	8	\$24.00	14	11	\$30.50
	6	22.00		9	25.50		12	31.50
	7	22.50		10	26.00		5	25.00
	8	23.00		11	27.00	16	6	26.00
	9	24.50		12	28.00		7	27.00
	10	25.00	14	5	23.50		8	28.00
	11	25.50		6	24.50		9	29.00
12	12	26.50		7	25.50		10	31.00
	5	22.50		8	26.50		11	32.00
	6	23.00		9	27.50		12	33.00
	7	23.50		10	29.50			



## The Monarch Swing Tightener

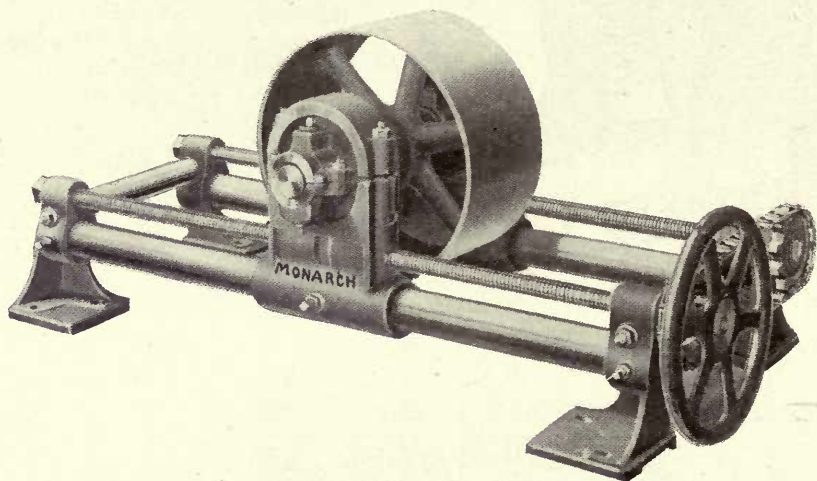


Style No. 200

### Price List

Pulley		Price	Pulley		Price	Pulley		Price
Diam. Inches	Face Inches		Diam. Inches	Face Inches		Diam. Inches	Face Inches	
8	6	\$20.50	13	14	\$31.00	19	12	\$36.00
	8	21.50		6	24.50		14	39.50
	10	23.50	14	8	25.50	20	6	29.00
	12	24.50		10	28.00		8	31.00
	14	26.00		12	30.00		10	34.00
9	6	21.00		14	32.00		12	37.00
	8	22.00	15	6	25.00		14	41.00
	10	24.00		8	26.50	21	6	30.00
	12	25.00		10	29.00		8	32.00
10	14	26.50		12	31.00		10	35.00
	6	21.50		14	33.00		12	38.00
	8	22.50	16	6	25.50		14	42.00
	10	25.00		8	27.00	22	6	31.50
	12	26.00		10	29.50		8	34.00
11	14	27.50		12	32.00		10	37.50
	6	22.00		14	34.50		12	41.00
	8	23.00	17	6	26.00		14	45.00
	10	25.50		8	28.00	23	6	32.50
12	12	26.50		10	31.00		8	35.00
	14	27.50		12	34.00		10	38.50
	6	23.00		14	37.00		12	42.00
	8	24.00	18	6	27.00		14	46.00
13	10	26.50		8	29.00	24	6	34.00
	12	28.50		10	32.00		8	37.00
	14	30.50		12	35.00		10	41.00
	6	23.50		14	38.00		12	45.00
	8	24.50	19	6	28.00		14	50.00
	10	27.00		8	30.00			
	12	29.00		10	33.00			

**Heavy Single Pipe Style Belt Tighteners**  
**Made in Both Horizontal and Vertical Styles**



**Style No. 201**  
**Horizontal Style**

This type of Belt Tightener is suitable for medium service. It is made with ring or collar-oiling bearings. The dimensions of the pulleys can be varied if necessary from the standard sizes given below. The prices cover tighteners with standard adjustment as given in the dimension list.

Prices for tighteners with other than standard adjustment quoted on application.

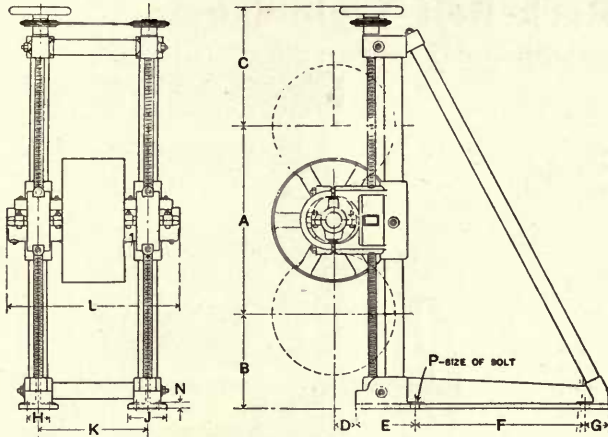
**Horizontal Single Pipe Belt Tighteners**  
**Price List**

No.	Size of Pulley, Inches	Price
1	16 x 8	\$45.00
2	20 x 12	76.00
3	24 x 16	95.00
4	30 x 20	150.00
5	36 x 26	200.00

**Vertical Single Pipe Belt Tighteners**  
**Price List**

No.	Size of Pulley, Inches	Price
6	16 x 8	\$ 60.00
7	20 x 12	80.00
8	24 x 16	115.00
9	30 x 20	165.00
10	36 x 26	220.00

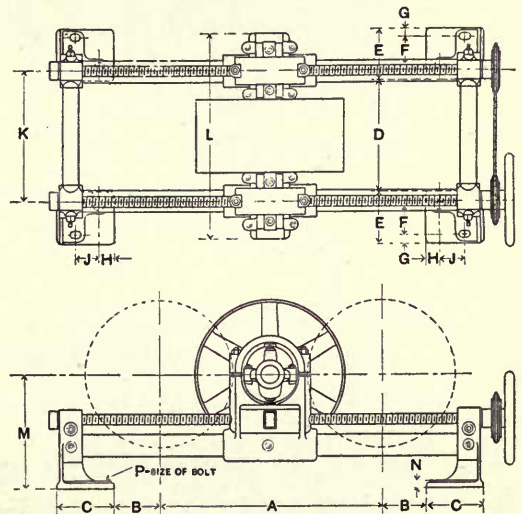




## Dimensions of Horizontal Single Pipe Belt Tighteners

No. of Tightener	Max. Size of Pulley Inches	Diam. of Shaft Inches	Travel A Inches	DIMENSIONS, INCHES												
				B	C	D	E	F	G	H	J	K	L	M	N	P
1	16 x 8	1 $\frac{1}{16}$	24	4 $\frac{7}{8}$	6 $\frac{1}{8}$	12	5 $\frac{1}{2}$	3 $\frac{3}{8}$	$\frac{7}{8}$	1 $\frac{1}{2}$	2 $\frac{5}{8}$	14	22	12 $\frac{1}{4}$	$\frac{3}{4}$	$\frac{5}{8}$
2	20 x 12	2 $\frac{3}{16}$	30	5	8	16 $\frac{1}{2}$	7	4 $\frac{3}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$	4	19	29	15 $\frac{1}{4}$	$\frac{7}{8}$	$\frac{3}{4}$
3	24 x 16	2 $\frac{7}{16}$	36	7 $\frac{1}{8}$	8 $\frac{1}{2}$	21	7 $\frac{1}{2}$	4 $\frac{3}{8}$	1	1 $\frac{3}{8}$	4 $\frac{1}{2}$	24	34	17 $\frac{1}{4}$	$\frac{7}{8}$	$\frac{3}{4}$
4	30 x 20	2 $\frac{1}{2}$	36	9 $\frac{1}{2}$	9 $\frac{1}{2}$	27	9	5 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	5	30	42	22	1	$\frac{7}{8}$
5	36 x 26	3 $\frac{1}{16}$	36	11 $\frac{1}{2}$	9 $\frac{1}{2}$	34	9	5 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	5	37	51	22	1	$\frac{7}{8}$

## Dimensions of Vertical Single Pipe Belt Tighteners



No. of Tight- ener	Max. Size of Pulley Inches	Diam. of Shaft Inches	Travel A Inches	DIMENSIONS, INCHES											
				B	C	D	E	F	G	H	J	K	L	N	P
6	16 x 8	1 $\frac{1}{16}$	24	12	15 $\frac{1}{4}$	2 $\frac{5}{8}$	7 $\frac{1}{2}$	21	4 $\frac{1}{2}$	3	5	14	22	$\frac{7}{8}$	$\frac{5}{8}$
7	20 x 12	2 $\frac{1}{16}$	30	14 $\frac{1}{2}$	19	3	8 $\frac{3}{8}$	27 $\frac{1}{2}$	5 $\frac{1}{8}$	4	6	19	29	1	$\frac{3}{4}$
8	24 x 16	2 $\frac{1}{16}$	36	16 $\frac{1}{2}$	22	3	8 $\frac{3}{8}$	36 $\frac{1}{2}$	5 $\frac{1}{8}$	4 $\frac{1}{2}$	7	24	34	1 $\frac{1}{8}$	$\frac{7}{8}$
9	30 x 20	2 $\frac{1}{16}$	36	21	25	4	8 $\frac{3}{4}$	39 $\frac{3}{4}$	5 $\frac{1}{2}$	5	7 $\frac{1}{2}$	30	42	1 $\frac{1}{4}$	1
10	36 x 26	3 $\frac{1}{16}$	36	24	27	5	9 $\frac{3}{4}$	41 $\frac{1}{4}$	6	5 $\frac{1}{2}$	8	37	51	1 $\frac{1}{4}$	1

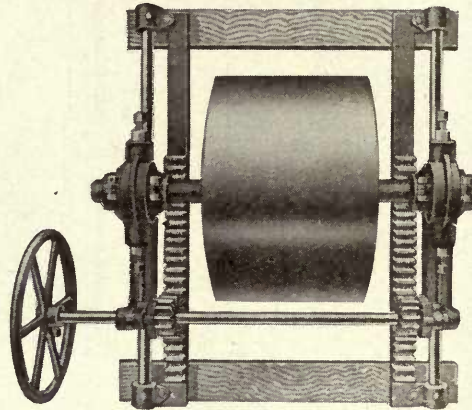
## The Monarch Rack Belt Tightener

This Tightener is especially suited for heavy work and is made so that it can be used either vertically or horizontally. The bearings are of the ball and socket chain oiling type, either babbitted or brass bushed and adjustable in any direction. The racks, hand wheel and pulley are of cast iron, the latter being accurately balanced and the shafting is best grade cold rolled steel.

### Price List

Length of Adjustment Inches	Size of Pulley Inches	Size of Shaft Inches	Price
20	20 x 8	2 $\frac{3}{16}$	\$100.00
20	24 x 10	2 $\frac{1}{16}$	110.00
24	30 x 16	2 $\frac{1}{8}$	130.00
24	36 x 20	2 $\frac{1}{4}$	200.00

For intermediate or larger sizes, write for prices.



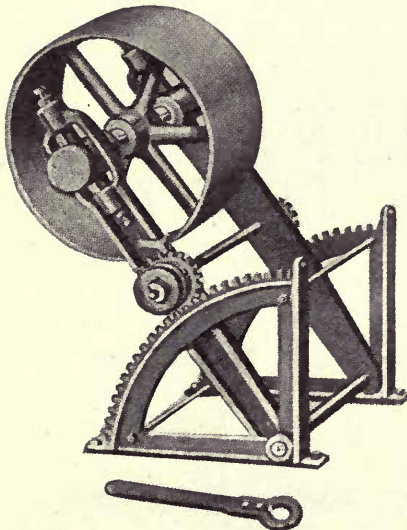
Style No. 202

## The Monarch Radial Belt Tightener

Geared

### Dimensions and Prices

No. of Tightener	Size of Pulley Inches	Radius Inches	Diameter of Shaft Inches	Price, Each Without Pulley
915	12 x 8	36	1 $\frac{11}{16}$	\$ 45.00
916	16 x 10	36	1 $\frac{1}{8}$	50.00
925	20 x 14	40	1 $\frac{1}{8}$	60.00
926	24 x 16	40	1 $\frac{1}{4}$	65.00
935	28 x 20	52 $\frac{1}{2}$	2 $\frac{1}{8}$	100.00
936	30 x 26	52 $\frac{1}{2}$	2 $\frac{1}{4}$	110.00



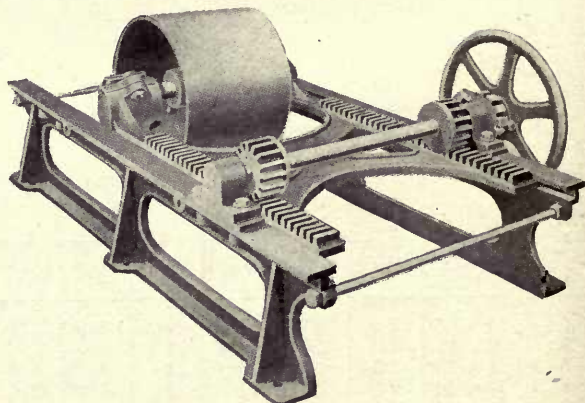
Style No. 203

## The Monarch Rack and Pinion Belt Tightener with Cast Iron Frame

These Tighteners are designed for use on main drives or other large belts. They are of very substantial construction and are furnished complete in iron frame as shown in the illustration. Prices given apply to both the Horizontal and Upright Tighteners.

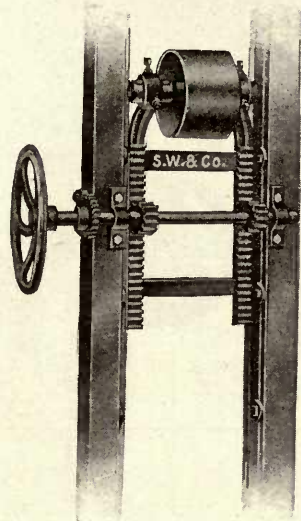
### Price List

No.	Length of Adjustment Feet	Size of Pulley Inches	Diameter of Shaft Inches	Price
00	1 $\frac{1}{2}$	12 x 9	1 $\frac{7}{16}$	\$ 45.00
0	1 $\frac{2}{3}$	18 x 12	1 $\frac{11}{16}$	60.00
1	2	24 x 14	1 $\frac{1}{8}$	70.00
2	3 $\frac{1}{2}$	28 x 20	2 $\frac{7}{16}$	100.00
3	4	30 x 26	2 $\frac{1}{8}$	160.00
4	5	42 x 38	2 $\frac{1}{4}$	350.00



Style No. 204

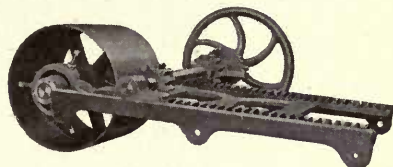




Style No. 205  
For Horizontal Belt

## The Monarch Rack and Pinion Belt Tightener

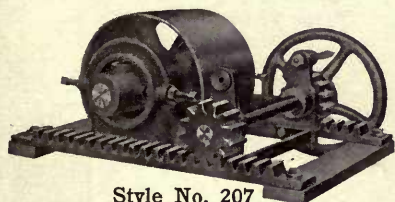
Vertical and Horizontal



Style No. 206  
For Vertical Belt

### Price List

PULLEY			PULLEY			PULLEY		
Diameter Inches	Face Inches	Price	Diameter Inches	Face Inches	Price	Diameter Inches	Face Inches	Price
10	6	\$25.00	18	14	\$44.00	26	10	\$52.00
	8	26.50		16	46.50		12	56.00
	10	28.50		18	49.00		14	60.00
	12	30.00		20	52.00		16	64.00
	14	32.00					18	68.00
12	6	26.00	20	8	38.00	28	20	73.00
	8	29.00		10	41.00		10	56.00
	10	30.00		12	44.00		12	60.00
	12	32.00		14	48.00		14	64.00
	14	34.00		16	51.00		16	68.00
14	6	27.50	22	18	54.00	30	18	72.00
	8	32.00		20	59.00		20	78.00
	10	33.50		8	40.00		10	60.00
	12	35.00		10	44.00		12	65.00
	14	36.00		12	47.00		14	70.00
16	8	30.00	24	14	50.00	32	16	75.00
	10	33.00		16	53.00		18	80.00
	12	35.00		18	56.00		20	86.00
	14	37.00		20	64.00			
	16	39.50		8	44.00		10	65.00
18	18	41.00		10	49.00		12	71.00
	20	44.50		12	51.50		14	77.00
				14	55.00		16	83.00
				16	59.00		18	89.00
				18	62.00		20	96.00
				20	68.00			



Style No. 207

## Special Rack Belt Tightener

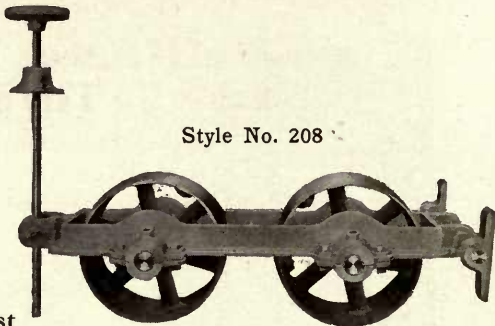
A very substantial tightener that can be used in any position, upright with either end up and horizontal as shown, or upside down. It can be used effectively to start and stop machines.

### Price List

Size of Pulley Inches	Length of Travel Inches	PRICE		Size of Pulley Inches	Length of Travel Inches	PRICE	
		Plain Bearings	Collar Oil Bearings			Plain Bearings	Collar Oil Bearings
12 x 6	11	\$35.00	\$43.00	20 x 11	15	\$62.00	\$70.00
12 x 7	11	37.00	45.00	20 x 13	15	66.00	76.00
16 x 8	15	44.00	52.00	20 x 15	15	70.00	80.00
16 x 10	15	48.00	56.00	20 x 17	15	75.00	85.00
20 x 9	15	58.00	66.00	20 x 19	15	80.00	90.00

The Monarch Hanging Yoke

Double Tightener with Lighter Rod

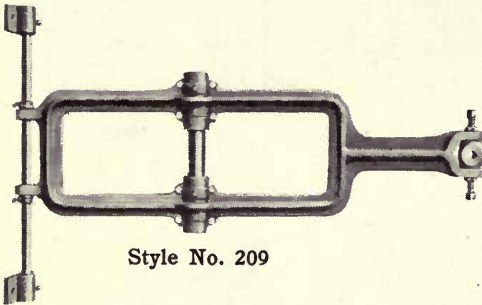


Style No. 208

Price List

Pulley		Center to Center of Pulleys Inches	Price	Pulley		Center to Center of Pulleys Inches	Price
Diameter Inches	Face Inches			Diameter Inches	Face Inches		
10	6	32	\$50.00	16	10	36	\$69.00
12	7	32	53.00	18	8	48	70.00
14	8	32	57.00		10	48	76.00
	10	32	62.00	24	12	52	84.00
16	8	36	63.00				

The Monarch Hanging Yoke Tightener with Lighter Rod

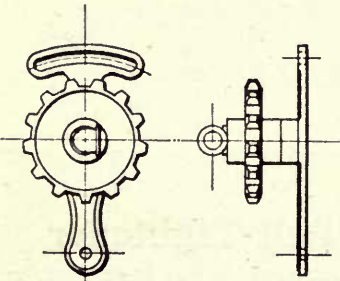


Style No. 209

Price, including Lighter Rod, Post Bearings, Shaft and Pulley

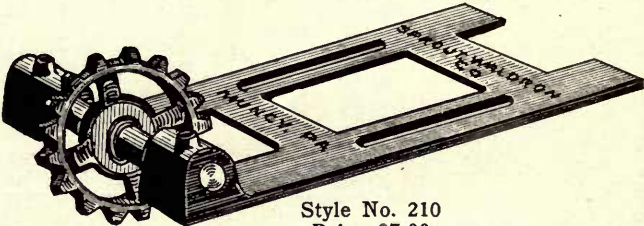
Pulley			Pulley			Pulley		
Diam. In.	Face In.	Price	Diam. In.	Face In.	Price	Diam. In.	Face In.	Price
12	5	\$24.00	28	5	\$33.50	36	6	\$44.00
14	5	25.00		6	36.50		8	51.00
16	5	26.00		7	39.50	38	5	43.00
18	5	27.00	30	5	36.00		6	46.00
20	5	28.50		6	39.00		8	53.00
	6	30.00		7	42.00	40	5	49.00
22	5	30.50		8	45.00		10	59.00
	6	32.00	32	5	37.00	42	5	52.00
24	5	31.50		6	40.00		10	62.00
	6	33.50		8	47.00	44	5	55.00
	7	35.00	34	5	39.00		10	66.00
26	5	32.50		6	42.00	46	10	70.00
	6	35.00		8	49.00	48	10	74.00
	7	37.00	36	5	41.00	50	10	78.00

The Monarch Adjustable Post Chain Tightener



Style No. 212  
Price \$3.00

The Monarch Floor Chain Tightener

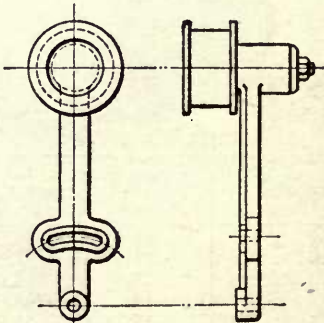


Style No. 210  
Price \$7.00

The Monarch Adjustable Chain Tightener

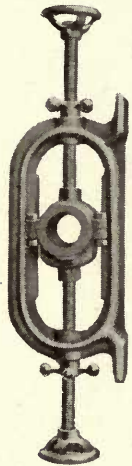
Style of Chain and Price

Chain Number	Price
25, 32, 33, 35, 42, 45, 52, 55	\$2.00
57, 67, 77	2.25
78, 88	2.50



Style No. 211





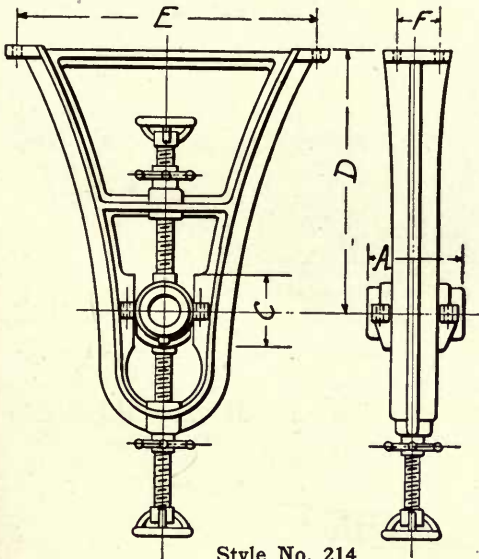
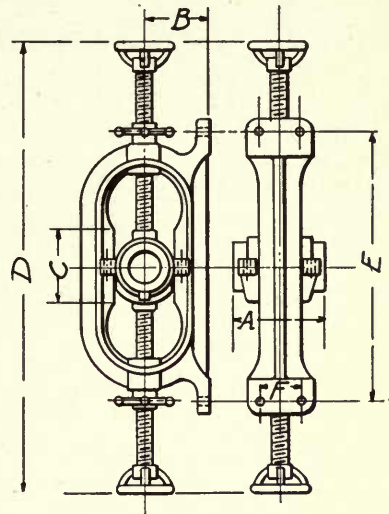
Style No. 213

## The Monarch Special Take-Up Post Hanger

Chain Oiling Bearings

### Dimensions and Prices

Size In.	A In.	B In.	C In.	D In.	E In.	F In.	Price
1 $\frac{7}{16}$	5 $\frac{1}{2}$	4 $\frac{1}{2}$	6	36	19 $\frac{1}{2}$	3	\$ 8.00
1 $\frac{1}{16}$	7 $\frac{3}{4}$	4 $\frac{1}{2}$	6	37	19 $\frac{1}{2}$	3	9.00
2 $\frac{3}{16}$	8 $\frac{1}{2}$	4 $\frac{1}{2}$	6	37	19 $\frac{1}{2}$	3	12.00
2 $\frac{1}{16}$	9	5	6	37 $\frac{1}{2}$	20 $\frac{3}{4}$	3 $\frac{1}{4}$	13.00
2 $\frac{1}{16}$	10	5 $\frac{1}{2}$	8	38	22 $\frac{3}{4}$	3 $\frac{1}{2}$	16.00
2 $\frac{1}{16}$	12	5 $\frac{1}{2}$	8	38	22 $\frac{3}{4}$	3 $\frac{1}{2}$	19.00
3 $\frac{1}{16}$	12	5 $\frac{1}{2}$	8	38	22 $\frac{3}{4}$	3 $\frac{1}{2}$	24.00
3 $\frac{1}{16}$	12 $\frac{1}{4}$	5 $\frac{1}{2}$	8	38	22 $\frac{3}{4}$	3 $\frac{1}{2}$	31.00



Style No. 214

## The Monarch Special Drop Hanger with Take-Up Boxes

Chain Oiling Bearings

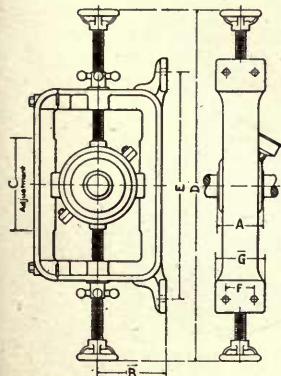
### Dimensions and Prices

D		Size Shaft In.	A In.	C In.	E In.	F In.	Price
From In.	To In.						
12	20	1 $\frac{5}{16}$	8 $\frac{1}{2}$	8	20	3 $\frac{5}{8}$	\$11.00
		2 $\frac{3}{16}$	9	8	20	3 $\frac{5}{8}$	13.00
		2 $\frac{1}{16}$	9	8	20	3 $\frac{5}{8}$	16.00
		2 $\frac{1}{16}$	12	8	20	3 $\frac{5}{8}$	23.00
18	24	2 $\frac{7}{16}$	9	6	25 $\frac{1}{4}$	3 $\frac{5}{8}$	18.00
		2 $\frac{1}{16}$	10	6	25 $\frac{1}{4}$	3 $\frac{5}{8}$	23.00
		2 $\frac{1}{16}$	12	6	25 $\frac{1}{4}$	3 $\frac{5}{8}$	26.00
		2 $\frac{1}{16}$	8 $\frac{1}{2}$	8	25 $\frac{1}{4}$	3 $\frac{5}{8}$	20.00
22	30	2 $\frac{3}{16}$	9	8	25 $\frac{1}{4}$	3 $\frac{5}{8}$	21.00
		2 $\frac{1}{16}$	9	8	25 $\frac{1}{4}$	3 $\frac{5}{8}$	23.00
		2 $\frac{1}{16}$	12	8	25 $\frac{1}{4}$	3 $\frac{5}{8}$	28.00
		2 $\frac{1}{16}$	12	8	25 $\frac{1}{4}$	3 $\frac{5}{8}$	28.00

## The Monarch Special Take-Up Post Hanger

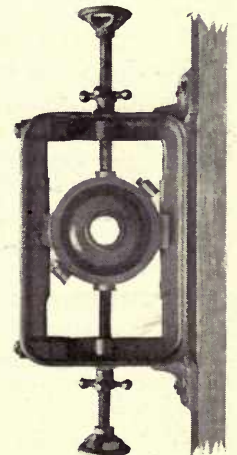
Ball Bearing

### Dimensions and Prices



Diam. of Shaft Inches	Price	DIMENSIONS IN INCHES						
		A	B	C	D	E	F	G
2 $\frac{3}{16}$	\$ 61.97	4 $\frac{1}{2}$	8 $\frac{3}{8}$	8 $\frac{1}{2}$	42	27 $\frac{3}{4}$	3 $\frac{1}{2}$	6
2 $\frac{1}{16}$	73.20	4 $\frac{1}{2}$	8 $\frac{3}{8}$	8	42	27 $\frac{3}{4}$	3 $\frac{1}{2}$	6
2 $\frac{1}{16}$	90.57	4 $\frac{1}{2}$	8 $\frac{3}{8}$	7 $\frac{1}{2}$	42	27 $\frac{3}{4}$	3 $\frac{1}{2}$	6
2 $\frac{1}{16}$	101.94	4 $\frac{1}{2}$	8 $\frac{3}{8}$	7	42	27 $\frac{3}{4}$	3 $\frac{1}{2}$	6

Prices for larger sizes quoted on application.



Style No. 215

Plain Brass Oilers

Screw Cover

The Plain Brass Oiler is made with or without tube.

A small wick placed in the tube with one end in the oil provides a regular, efficient and economical means of feeding oil to the bearings.

Unless otherwise specified, oiler will be furnished without tube.

Order by number.

Price List

Number-----	00	0	1	2	3	4	5	6	8
Diameter, Inches-----	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Pipe Thread, Inches-----	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{7}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$
Brass-----	\$0.25	\$0.30	\$0.35	\$0.40	\$0.50	\$0.60	\$0.90	\$1.25	\$1.75
Brass, with Tube-----	.35	.40	.45	.50	.60	.70	1.00	1.35	1.85
Nickel-----	.45	.50	.55	.65	.75	.90	1.25	1.65	2.25
Nickel, with Tube-----	.55	.60	.65	.75	.85	1.00	1.35	1.75	2.35



Style No. 216

Elbow Shank Oilers

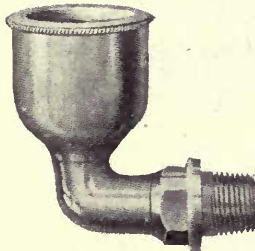
Screw Cover

The Elbow Shank Oiler is like the Plain Brass Oiler shown above, except for the elbow shank.

Order by number.

Price List

Number-----	1	2	3	4	5	6	7	8	9
Diameter, Inches-----	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$1\frac{3}{8}$	2	$2\frac{1}{4}$
Pipe Thread, Inches-----	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$
Brass-----	\$0.65	\$0.75	\$0.85	1.00	1.40	1.80	2.15	2.40	3.00
Extra for Tube-----	.10	.10	.10	.15	.15	.15	.15	.15	.20
Extra for Nickel-----	.10	.10	.10	.10	.15	.15	.15	.20	.20



Style No. 217

Brass Loose Pulley Oiler

This oiler is intended to be attached to hub of pulley. It is easily filled and regulated, will not throw or waste oil, and a trial will convince users that it is a simple and satisfactory oiler for loose pulleys.

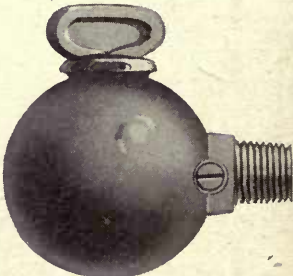
The feed is regulated by means of screw in the shank and one filling will last from two to four weeks.

For high speeds, we recommend the use of two oilers for each pulley, so as to keep same properly balanced.

Shanks on Nos. 0, 1 and 2 are threaded  $\frac{3}{8}$ -inch on point, 16 threads to the inch, and are tapered so as to screw tightly into  $\frac{3}{8}$ -inch bolt hole. Shanks on Nos. 3 and 4 are threaded  $\frac{1}{4}$ -inch pipe thread.

Price List

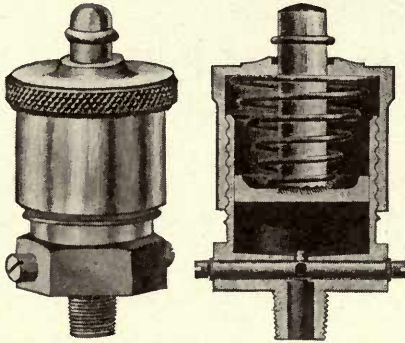
Number-----	0	1	2	3	4
Height of Cup (plug raised to fill) Inches	$1\frac{1}{8}$	$2\frac{5}{16}$	$2\frac{5}{8}$	3	$3\frac{1}{8}$
Length of Cup, Inches-----	$1\frac{3}{4}$	2	$2\frac{1}{8}$	$2\frac{1}{2}$	$2\frac{3}{4}$
Diameter of Body, Inches-----	1	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Capacity, Ounces-----	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{3}{4}$
Rough Brass, Bronzed, each-----	\$0.25	\$0.30	\$0.40	\$0.50	\$0.65



Style No. 218



## Coin Patent Compression Grease Cup



Style No. 219

For finish, workmanship, elegance of design, the Coin Grease Cup is not excelled by any cup on the market. It is especially designed for engine bearings of all kinds, excepting crank pins. The base of the cup need never be disturbed for filling. The pressure is equalized the entire length of the cup, insuring emptying the entire contents. About three adjustments of the hood will accomplish this.

### Price List

Number.....	00	0	1	2	3
Inside Diameter of Body, Inches.....	1	1¼	1½	2	2½
Capacity, Ounces.....	⅓	1	1½	3	4½
Size of Shank, Pipe Thread, Inches.....	⅜	¼	⅜	⅜	½
Polished, Per Dozen.....	\$21.00	\$25.00	\$29.00	\$33.50	\$50.00

## Grease Cups

### Pressed Steel or Brass

Pressed Grease Cups are drawn from rolled sheet metal. They are light and strong, with all the rigidity and density of rolled metal.

The combination type has a plain steel base with plain brass cover and is known as the plain combination type. Full information regarding special combination cups with polished brass covers furnished on application.

### Price List

Number.....	000	00	0	1	2	3	4
Inside Diam., In.	¾	1	1¼	1½	2	2½	3
Shank Pipe Thread, In. }	⅜	⅜	{ ⅝ or ¼ }	¼	{ ¼ or ⅜ }	{ ⅜ or ½ }	½
Capacity, Ounces	¼	½	¾	1	2	3½	5
Polished Brass...	\$0.70	\$0.80	\$1.05	\$1.30	\$1.70	\$2.45	\$3.25

Full information regarding pressed steel or brass grease cups with female thread will be sent upon application.



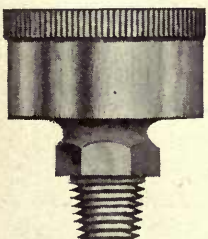
Style No. 220

## Plain Brass Grease Cup

The Plain Brass Grease Cup was designed to meet the demand for a low-priced, all-finished brass cup. It is not provided with the spring lock arrangement, but the cup is well made throughout, and will be found superior to iron grease cups.

### Price List

Number.....	000	00	0	1	2	3	4
Inside Diameter, Inches.....	1½	¾	1½	1¾	1¾	2¾	2¾
Extreme Outside Diam., Finished Pat., Inches.....	¾	1¼	1½	1½	2½	2½	3½
Extreme Outside Diameter, Rough Pat., Inches.....	1½	1½	1½	1¾	2¾	2¾	3¾
Extreme Height over all, (Cup Open) Finished and Rough Patterns, Inches.....	1¾	1¾	1½	2½	2¾	2½	3½
Shank Pipe Thread, Inches.....	¾	¾	¾	¾	¾	¾	¾
Capacity (Grease), Ounces.....	¾	¾	¾	1	2	3½	5
Finished Brass, each.....	\$0.50	\$0.70	\$0.90	\$1.15	\$1.50	\$2.15	\$3.30



Style No. 221

## Rules for Determining Size and Speed of Pulleys, Sheaves, Gears or Sprocket Wheels

The Driving Pulley is called the Driver and the Driven Pulley the Driven.

If the number of **teeth in gears or sprocket wheels** is used instead of diameter in these calculations, number of teeth must be substituted whenever diameter occurs.

To determine the diameter of Driver, the diameter of the Driven and its revolutions, and also revolutions of Driver being given.

$$\frac{\text{Diameter of Driven} \times \text{revolutions of Driven}}{\text{Revolutions of Driver}} = \text{Diameter of Driver.}$$

To determine the diameter of Driven, the revolutions of the Driven and the diameter and revolutions of the Driver being given.

$$\frac{\text{Diameter of Driver} \times \text{revolutions of Driver}}{\text{Revolutions of Driven}} = \text{Diameter of Driven.}$$

To determine the revolutions of the Driver, the diameter and revolutions of the Driven, and diameter of the Driver being given.

$$\frac{\text{Diameter of Driven} \times \text{revolutions of Driven}}{\text{Diameter of Driver}} = \text{Revolutions of Driver.}$$

To determine the revolutions of the Driven, the diameter and revolutions of the Driver, and diameter of the Driven being given.

$$\frac{\text{Diameter of Driver} \times \text{revolutions of Driver}}{\text{Diameter of Driven}} = \text{Revolutions of Driven.}$$

## Horse Power of Cast Iron Pulleys

Let  $D$  = diameter of pulley in inches.  
 $W$  = width of belt in inches.  
 $N$  = revolutions per minute.  
 H.P. = horse power.

$$\text{Then H. P.} = \frac{D \times W \times N}{2860} \text{ for single belt.}$$

$$\text{H. P.} = \frac{D \times W \times N}{1720} \text{ for double belt.}$$



# Weight of Square and Round Rolled Iron

## One Foot Long

### Square

Size Inches	Weight Pounds	Size Inches	Weight Pounds	Size Inches	Weight Pounds	Size Inches	Weight Pounds
$\frac{1}{4}$	.211	$2\frac{1}{2}$	21.120	$4\frac{3}{4}$	76.264	8	216.336
$\frac{3}{8}$	.475	$2\frac{5}{8}$	23.292	$4\frac{7}{8}$	80.333	$8\frac{1}{4}$	230.038
$\frac{1}{2}$	.845	$2\frac{3}{4}$	25.560	5	84.480	$8\frac{1}{2}$	244.220
$\frac{5}{8}$	1.320	$2\frac{7}{8}$	27.939	$5\frac{1}{8}$	88.784	$8\frac{3}{4}$	258.800
$\frac{3}{4}$	1.901	3	30.416	$5\frac{1}{4}$	93.168	9	273.792
$\frac{7}{8}$	2.588	$3\frac{1}{8}$	33.010	$5\frac{3}{8}$	97.656	$9\frac{1}{4}$	289.220
1	3.380	$3\frac{1}{4}$	35.704	$5\frac{1}{2}$	102.240	$9\frac{1}{2}$	305.055
$1\frac{1}{8}$	4.278	$3\frac{3}{8}$	38.503	$5\frac{5}{8}$	106.956	$9\frac{3}{4}$	321.332
$1\frac{1}{4}$	5.280	$3\frac{1}{2}$	41.408	$5\frac{3}{4}$	111.750	10	337.920
$1\frac{3}{8}$	6.390	$3\frac{5}{8}$	44.418	$5\frac{7}{8}$	116.671	$10\frac{1}{4}$	355.136
$1\frac{1}{2}$	7.604	$3\frac{3}{4}$	47.543	6	121.664	$10\frac{1}{2}$	372.672
$1\frac{5}{8}$	8.926	$3\frac{7}{8}$	50.756	$6\frac{1}{4}$	132.040	$10\frac{3}{4}$	390.628
$1\frac{3}{4}$	10.352	4	54.084	$6\frac{1}{2}$	142.816	11	408.960
$1\frac{7}{8}$	11.883	$4\frac{1}{8}$	57.517	$6\frac{3}{4}$	154.012	$11\frac{1}{4}$	427.812
2	13.520	$4\frac{1}{4}$	61.055	7	165.632	$11\frac{1}{2}$	447.024
$2\frac{1}{8}$	15.263	$4\frac{3}{8}$	64.700	$7\frac{1}{4}$	177.672	$11\frac{3}{4}$	466.684
$2\frac{1}{4}$	17.112	$4\frac{1}{2}$	68.488	$7\frac{1}{2}$	190.136	12	486.656
$2\frac{3}{8}$	19.066	$4\frac{5}{8}$	72.305	$7\frac{3}{4}$	203.024		

### Round

Diameter Inches	Weight Pounds	Diameter Inches	Weight Pounds	Diameter Inches	Weight Pounds	Diameter Inches	Weight Pounds
$\frac{1}{4}$	.165	$2\frac{1}{2}$	16.688	$4\frac{3}{4}$	59.900	8	169.826
$\frac{3}{8}$	.373	$2\frac{5}{8}$	18.293	$4\frac{7}{8}$	63.094	$8\frac{1}{4}$	180.696
$\frac{1}{2}$	.663	$2\frac{3}{4}$	20.076	5	66.752	$8\frac{1}{2}$	191.808
$\frac{5}{8}$	1.043	$2\frac{7}{8}$	21.944	$5\frac{1}{8}$	69.731	$8\frac{3}{4}$	203.260
$\frac{3}{4}$	1.493	3	23.888	$5\frac{1}{4}$	73.172	9	215.040
$\frac{7}{8}$	2.032	$3\frac{1}{8}$	25.926	$5\frac{3}{8}$	76.700	$9\frac{1}{4}$	227.152
1	2.654	$3\frac{1}{4}$	28.040	$5\frac{1}{2}$	81.304	$9\frac{1}{2}$	239.600
$1\frac{1}{8}$	3.360	$3\frac{3}{8}$	30.240	$5\frac{5}{8}$	84.001	$9\frac{3}{4}$	252.376
$1\frac{1}{4}$	4.172	$3\frac{1}{2}$	32.512	$5\frac{3}{4}$	87.776	10	266.288
$1\frac{3}{8}$	5.019	$3\frac{5}{8}$	34.886	$5\frac{7}{8}$	91.634	$10\frac{1}{4}$	278.924
$1\frac{1}{2}$	5.972	$3\frac{3}{4}$	37.332	6	95.552	$10\frac{1}{2}$	292.688
$1\frac{5}{8}$	7.020	$3\frac{7}{8}$	39.864	$6\frac{1}{4}$	103.704	$10\frac{3}{4}$	306.800
$1\frac{3}{4}$	8.128	4	42.464	$6\frac{1}{2}$	112.160	11	321.216
$1\frac{7}{8}$	9.333	$4\frac{1}{8}$	45.174	$6\frac{3}{4}$	120.960	$11\frac{1}{4}$	336.004
2	10.616	$4\frac{1}{4}$	47.952	7	130.048	$11\frac{1}{2}$	351.104
$2\frac{1}{8}$	11.988	$4\frac{3}{8}$	50.815	$7\frac{1}{4}$	139.544	$11\frac{3}{4}$	366.536
$2\frac{1}{4}$	13.440	$4\frac{1}{2}$	53.760	$7\frac{1}{2}$	149.328	12	282.208
$2\frac{3}{8}$	14.975	$4\frac{5}{8}$	56.788	$7\frac{3}{4}$	159.456		

## Square

Breadth Inches	Thickness Inches	Weight Pounds	Breadth Inches	Thickness Inches	Weight Pounds	Breadth Inches	Thickness Inches	Weight Pounds
1	$\frac{1}{8}$	.422	$1\frac{3}{4}$	$1\frac{1}{2}$	8.871	$2\frac{1}{2}$	$\frac{1}{2}$	4.224
	$\frac{1}{4}$	.845		$1\frac{5}{8}$	9.610		$\frac{5}{8}$	5.280
	$\frac{3}{8}$	1.267	2	$\frac{1}{8}$	.845		$\frac{3}{4}$	6.336
	$\frac{1}{2}$	2.690		$\frac{1}{4}$	1.689		$\frac{7}{8}$	7.392
	$\frac{5}{8}$	2.112		$\frac{3}{8}$	2.534	1		8.448
	$\frac{3}{4}$	2.534		$\frac{1}{2}$	3.379		$1\frac{1}{8}$	9.504
	$\frac{7}{8}$	2.956		$\frac{5}{8}$	4.224		$1\frac{1}{4}$	10.560
$1\frac{1}{4}$	$\frac{1}{8}$	.528		$\frac{3}{4}$	5.069		$1\frac{3}{8}$	11.616
	$\frac{1}{4}$	1.056		$\frac{7}{8}$	5.914		$1\frac{1}{2}$	12.672
	$\frac{3}{8}$	1.584		1	6.758		$1\frac{5}{8}$	13.728
	$\frac{1}{2}$	2.112		$1\frac{1}{8}$	7.604		$1\frac{3}{4}$	14.784
	$\frac{5}{8}$	2.640		$1\frac{1}{4}$	8.448		$1\frac{7}{8}$	15.840
	$\frac{3}{4}$	3.168		$1\frac{3}{8}$	9.294	2		16.866
	$\frac{7}{8}$	3.696		$1\frac{1}{2}$	10.138		$2\frac{1}{8}$	17.952
	1	4.224		$1\frac{5}{8}$	10.983		$2\frac{1}{4}$	19.008
	$1\frac{1}{8}$	4.752		$1\frac{3}{4}$	11.828		$2\frac{3}{8}$	20.064
$1\frac{1}{2}$	$\frac{1}{8}$	.633		$1\frac{7}{8}$	12.673	$2\frac{3}{4}$	$\frac{1}{4}$	2.323
	$\frac{1}{4}$	1.266	$2\frac{1}{4}$	$\frac{1}{8}$	.950		$\frac{1}{2}$	4.617
	$\frac{3}{8}$	1.900		$\frac{1}{4}$	1.900		$\frac{3}{4}$	6.970
	$\frac{1}{2}$	2.535		$\frac{3}{8}$	2.851		1	9.294
	$\frac{5}{8}$	3.168		$\frac{1}{2}$	3.802		$1\frac{1}{4}$	11.617
	$\frac{3}{4}$	3.802		$\frac{5}{8}$	4.752		$1\frac{1}{2}$	13.840
	$\frac{7}{8}$	4.435		$\frac{3}{4}$	5.703		$1\frac{3}{4}$	16.264
	1	5.069		$\frac{7}{8}$	6.653		2	18.587
	$1\frac{1}{8}$	5.703		1	7.604		$2\frac{1}{4}$	20.910
	$1\frac{1}{4}$	6.337		$1\frac{1}{8}$	8.554		$2\frac{1}{2}$	23.234
	$1\frac{3}{8}$	6.970		$1\frac{1}{4}$	9.505	3	$\frac{1}{4}$	2.535
$1\frac{3}{4}$	$\frac{1}{8}$	.739		$1\frac{3}{8}$	10.455		$\frac{1}{2}$	5.069
	$\frac{1}{4}$	1.479		$1\frac{1}{2}$	11.406		$\frac{3}{4}$	7.605
	$\frac{3}{8}$	2.218		$1\frac{5}{8}$	12.356		1	10.138
	$\frac{1}{2}$	2.957		$1\frac{3}{4}$	13.307		$1\frac{1}{4}$	12.673
	$\frac{5}{8}$	3.696		$1\frac{7}{8}$	14.257		$1\frac{1}{2}$	15.208
	$\frac{3}{4}$	4.435		2	15.208		$1\frac{3}{4}$	17.742
	$\frac{7}{8}$	5.178		$2\frac{1}{8}$	16.158		2	20.277
	1	5.914	$2\frac{1}{2}$	$\frac{1}{8}$	1.056		$2\frac{1}{4}$	22.811
	$1\frac{1}{8}$	6.653		$\frac{1}{4}$	2.112		$2\frac{1}{2}$	25.346
	$1\frac{1}{4}$	7.393		$\frac{3}{8}$	3.167		$2\frac{3}{4}$	27.881
	$1\frac{3}{8}$	8.132						



# Table Showing the Difference Between Standard Gauges of Metal

Number of Gauge	THICKNESS IN DECIMALS OF AN INCH						
	Birmingham	Browne & Sharpe	United States Standard Plate, Iron and Steel	British Imperial	American Steel & Wire Co.	Trenton Iron Co.	Stubs Steel Wire
7°	----	-----	.500	.500	-----	-----	----
6°	----	-----	.46875	.464	-----	-----	----
5°	----	-----	.4375	.432	-----	.45	----
4°	.454	.46	.40625	.400	.3938	.40	----
3°	.425	.40964	.375	.372	.3625	.36	----
2°	.380	.3648	.34375	.348	.3310	.33	----
0	.340	.32486	.3125	.324	.3065	.305	----
1	.300	.2893	.28125	.300	.2830	.285	.227
2	.284	.25763	.265625	.276	.2625	.265	.219
3	.259	.22942	.25	.252	.2437	.245	.212
4	.238	.20431	.234375	.232	.2253	.225	.207
5	.220	.18194	.21875	.212	.2070	.205	.204
6	.203	.16202	.203125	.192	.1920	.190	.201
7	.180	.14428	.1875	.176	.1770	.175	.199
8	.165	.12849	.171875	.160	.1620	.160	.197
9	.148	.11443	.15625	.144	.1483	.145	.194
10	.134	.10189	.140625	.128	.1350	.130	.191
11	.120	.090742	.125	.116	.1205	.1175	.188
12	.109	.080808	.109375	.104	.1055	.1050	.185
13	.095	.071961	.09375	.092	.0915	.0925	.182
14	.083	.064084	.078125	.080	.0800	.0800	.180
15	.072	.057068	.0703125	.072	.0720	.0700	.178
16	.065	.05082	.0625	.064	.0625	.0610	.175
17	.058	.045257	.05625	.056	.0540	.0525	.172
18	.049	.040303	.05	.048	.0475	.0450	.168
19	.042	.03589	.04375	.040	.0410	.0400	.164
20	.035	.031961	.0375	.036	.0348	.0350	.161
21	.032	.028462	.034375	.032	.03175	.0310	.157
22	.028	.025347	.03125	.028	.0286	.0280	.155
23	.025	.022571	.028125	.024	.0258	.0250	.153
24	.022	.0201	.025	.022	.0230	.0225	.151
25	.020	.0179	.021875	.020	.0204	.0200	.148
26	.018	.01594	.01875	.018	.0181	.0180	.146
27	.016	.014195	.0171875	.0164	.0173	.0170	.143
28	.014	.012641	.015625	.0148	.0162	.0160	.139
29	.013	.011257	.0140625	.0136	.0150	.0150	.134
30	.012	.010025	.0125	.0124	.0140	.0140	.127
31	.010	.008928	.0109375	.0116	.0132	.0130	.120
32	.009	.00795	.01015625	.0108	.0128	.0120	.115
33	.008	.00708	.009375	.0100	.0118	.0110	.112
34	.007	.006304	.00859375	.0092	.0104	.0100	.110
35	.005	.005614	.0078125	.0084	.0095	.0095	.108
36	.004	.005	.00703125	.0076	.0090	.0090	.106
37	----	.004453	.006640625	.0068	-----	.0085	.103
38	----	.003965	.00625	.0060	-----	.0080	.101
39	----	.003531	-----	----	-----	.0075	.099
40	----	.003144	-----	----	-----	.0070	.097

Mensuration

- Diameter of a circle x 3.1416 = circumference.
- Diameter of a circle x .8862 = side of an equal square.
- Diameter of a circle x .7071 = side of an inscribed square.
- Square of diameter x .7854 = area of circle.
- Circumference of a circle x .31831 = diameter.
- Side of a square x 1.128 = diameter of equal circle.
- Square root of an area x 1.12837 = diameter of equal circle.
- Square of the diameter of a sphere x 3.1416 = convex surface.
- Cube of the diameter of a sphere x .5236 = solidity.
- Diameter of a sphere x .806 = dimensions of equal cube.
- Diameter of a sphere x .6667 = length of equal cylinder.
- Square inches x .00695 = square feet.
- Cubic inches x .00058 = cubic feet.
- Cubic feet x .03704 = cubic yards.
- Cylindrical inches x .0004546 = cubic feet.
- Cylindrical feet x .02909 = cubic yards.
- Cubic inches x .003607 = imperial gallons.
- Cubic feet x .6232 = imperial gallons.
- Cylindrical inches x .002832 = imperial gallons.
- Cylindrical feet x 4.895 = imperial gallons.
- 183.346 circular inches = 1 square foot.
- 2,200 cylindrical inches = 1 cubic foot.
- Avoirdupois pounds x .009 = cwts.
- Avoirdupois pounds x .00045 = tons.
- Lineal feet x .00019 = statute miles.
- Lineal yards x .000568 = statute miles.

Table of Half Circumferences of Pulleys  
6 to 100 Inches Diameter

Diameter Inches	Half Circumference	Diameter Inches	Half Circumference	Diameter Inches	Half Circumference
6	9 1/4"	28	3' 8"	60	7' 10 1/4"
7	11"	29	3' 9 1/2"	62	8' 1 1/4"
8	12 1/2"	30	3' 11 1/4"	64	8' 4 1/2"
9	1' 2"	31	4' 3/4"	66	8' 7 3/4"
10	1' 3 1/2"	32	4' 2 1/4"	68	8' 10 3/4"
11	1' 5 1/4"	33	4' 3 3/4"	70	9' 2"
12	1' 7"	34	4' 5 1/4"	72	9' 5"
13	1' 8 1/2"	35	4' 7"	74	9' 8 1/2"
14	1' 10"	36	4' 8 3/4"	76	9' 11 1/2"
15	1' 11 1/2"	37	4' 10 1/4"	78	10' 2 1/2"
16	2' 1"	38	4' 11 3/4"	80	10' 5 1/2"
17	2' 2 3/4"	40	5' 2 3/4"	82	10' 8 3/4"
18	2' 4 1/4"	42	5' 6"	84	11'
19	2' 5 3/4"	44	5' 9"	86	11' 3 1/4"
20	2' 7 1/4"	46	6' 1/4"	88	11' 6 1/4"
21	2' 9"	48	6' 3 1/2"	90	11' 9 1/2"
22	2' 10 1/2"	50	6' 6"	92	12' 1 1/2"
23	3'	52	6' 9 1/2"	94	12' 3 1/2"
24	3' 1 3/4"	54	7' 3/4"	96	12' 6 3/4"
25	3' 3 1/4"	56	7' 4"	98	12' 10"
26	3' 4 3/4"	58	7' 7"	100	13' 1 1/4"
27	3' 6 1/4"				



## Circumference and Area of Circles

Diameter	Circumference	Area	Diameter	Circumference	Area	Diameter	Circumference	Area
$\frac{1}{4}$	.785	.049	14	43.982	153.93	46	144.513	1661.9
$\frac{1}{2}$	1.570	.196	$14\frac{1}{4}$	44.767	159.48	47	147.655	1734.9
$\frac{3}{4}$	2.356	.441	$14\frac{1}{2}$	45.553	165.13	48	150.796	1809.5
1	3.141	.7854	$14\frac{3}{4}$	46.338	170.87	49	153.938	1885.7
$1\frac{1}{4}$	3.926	1.227	15	47.123	176.78	50	157.080	1963.5
$1\frac{1}{2}$	4.712	1.767	$15\frac{1}{4}$	47.909	182.65	51	160.221	2042.8
$1\frac{3}{4}$	5.497	2.405	$15\frac{1}{2}$	47.694	188.69	52	163.363	2123.7
2	6.283	3.141	$15\frac{3}{4}$	49.480	194.82	53	166.504	2206.1
$2\frac{1}{4}$	7.068	3.976	16	50.265	201.06	54	169.646	2290.2
$2\frac{1}{2}$	7.853	4.908	$16\frac{1}{4}$	51.050	207.39	55	172.788	2375.8
$2\frac{3}{4}$	8.639	5.939	$16\frac{1}{2}$	51.836	213.82	56	175.929	2463.0
3	9.424	7.068	$16\frac{3}{4}$	52.621	220.35	57	179.071	2551.7
$3\frac{1}{4}$	10.210	8.295	17	53.407	226.98	58	182.212	2642.0
$3\frac{1}{2}$	10.995	9.621	$17\frac{1}{4}$	54.192	233.70	59	185.354	2733.9
$3\frac{3}{4}$	11.781	11.045	$17\frac{1}{2}$	54.977	240.52	60	188.496	2827.4
4	12.566	12.566	$17\frac{3}{4}$	55.763	247.45	61	191.637	2922.4
$4\frac{1}{4}$	13.351	14.186	18	56.548	254.46	62	194.779	3019.0
$4\frac{1}{2}$	14.137	15.904	$18\frac{1}{4}$	57.334	261.58	63	197.920	3117.2
$4\frac{3}{4}$	14.992	17.721	$18\frac{1}{2}$	58.119	268.80	64	201.062	3216.9
5	15.708	19.635	$18\frac{3}{4}$	58.904	276.11	65	204.204	3318.3
$5\frac{1}{4}$	16.493	21.648	19	59.690	283.52	66	207.345	3421.2
$5\frac{1}{2}$	17.278	23.758	$19\frac{1}{4}$	60.475	291.03	67	210.487	3525.6
$5\frac{3}{4}$	18.064	25.967	$19\frac{1}{2}$	61.261	298.64	68	213.628	3631.6
6	18.849	28.274	$19\frac{3}{4}$	62.046	306.35	69	216.770	3739.2
$6\frac{1}{4}$	19.635	30.679	20	62.831	314.16	70	219.911	3848.4
$6\frac{1}{2}$	20.420	33.183	$20\frac{1}{2}$	64.402	330.06	71	223.053	3959.2
$6\frac{3}{4}$	21.205	35.784	21	65.973	346.36	72	226.195	4071.5
7	21.991	38.484	$21\frac{1}{2}$	67.544	363.05	73	229.336	4185.3
$7\frac{1}{4}$	22.776	41.282	22	69.115	380.13	74	232.478	4300.8
$7\frac{1}{2}$	23.561	44.178	$22\frac{1}{2}$	70.685	397.60	75	235.619	4417.8
$7\frac{3}{4}$	24.347	47.173	23	72.256	415.47	76	238.761	4536.4
8	25.132	50.265	$23\frac{1}{2}$	73.827	433.73	77	241.903	4656.6
$8\frac{1}{4}$	25.918	53.456	24	75.398	452.39	78	245.044	4778.3
$8\frac{1}{2}$	26.703	56.745	$24\frac{1}{2}$	76.969	471.43	79	248.186	4901.6
$8\frac{3}{4}$	27.488	60.132	25	78.539	490.87	80	251.327	5026.5
9	28.274	63.617	26	81.681	530.93	81	254.469	5153.0
$9\frac{1}{4}$	29.059	67.200	27	84.823	572.55	82	257.611	5281.0
$9\frac{1}{2}$	29.845	70.882	28	87.964	615.75	83	260.752	5410.6
$9\frac{3}{4}$	30.630	74.662	29	91.106	660.52	84	263.894	5541.7
10	31.415	78.539	30	94.247	706.86	85	267.035	5674.5
$10\frac{1}{4}$	32.201	82.516	31	97.389	754.76	86	270.177	5808.8
$10\frac{1}{2}$	32.986	86.590	32	100.531	804.24	87	273.319	5944.6
$10\frac{3}{4}$	33.772	90.760	33	103.673	855.30	88	276.460	6082.1
11	34.557	95.033	34	106.814	907.92	89	279.602	6221.1
$11\frac{1}{4}$	35.342	99.402	35	109.956	962.11	90	282.743	6361.7
$11\frac{1}{2}$	36.128	103.869	36	113.097	1017.8	91	285.885	6503.8
$11\frac{3}{4}$	36.913	108.430	37	116.239	1075.2	92	289.027	6647.6
12	37.699	113.097	38	119.381	1134.1	93	292.167	6792.9
$12\frac{1}{4}$	38.484	117.85	39	122.522	1194.5	94	295.310	6936.7
$12\frac{1}{2}$	39.269	122.71	40	125.664	1256.6	95	298.451	7088.2
$12\frac{3}{4}$	40.055	127.67	41	128.805	1320.2	96	301.593	7238.2
13	40.840	132.73	42	131.947	1385.4	97	304.734	7389.8
$13\frac{1}{4}$	41.626	137.88	43	135.088	1452.2	98	307.876	7542.9
$13\frac{1}{2}$	42.411	143.13	44	138.230	1520.5	99	311.018	7697.7
$13\frac{3}{4}$	43.196	148.48	45	141.372	1590.4	100	314.159	7853.9

To find the circumference of circle, multiply the diameter by 3.1416.

To find the diameter of circle, divide the circumference by 3.1416, or multiply by 7 and divide by 22, and the product is the diameter.

To find area of circle, square the diameter and multiply by 0.7854.

## Weight of Sheets of Wrought Iron, Steel, Copper and Brass

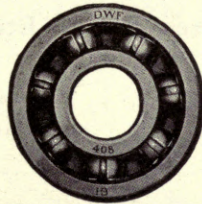
Weights per Square Foot

Thickness by Birmingham Gauge

No. of Gauge	Thickness in Inches	Iron Pounds	Steel Pounds	Copper Pounds	Brass Pounds
0000	.454	18.22	18.46	20.57	19.43
000	.425	17.05	17.28	19.25	18.19
00	.38	15.25	15.45	17.21	16.26
0	.34	13.64	13.82	15.40	14.55
1	.3	12.04	12.20	13.59	12.84
2	.284	11.40	11.55	12.87	12.16
3	.259	10.39	10.53	11.73	11.09
4	.238	9.55	9.68	10.78	10.19
5	.22	8.83	8.95	9.97	9.42
6	.203	8.15	8.25	9.20	8.69
7	.18	7.22	7.32	8.15	7.70
8	.165	6.62	6.71	7.47	7.06
9	.148	5.94	6.02	6.70	6.33
10	.134	5.38	5.45	6.07	5.74
11	.12	4.82	4.88	5.44	5.14
12	.109	4.37	4.43	4.94	4.67
13	.095	3.81	3.86	4.30	4.07
14	.083	3.33	3.37	3.76	3.55
15	.072	2.89	2.93	3.26	3.08
16	.065	2.61	2.64	2.94	2.78
17	.058	2.33	2.36	2.63	2.48
18	.049	1.97	1.99	2.22	2.10
19	.042	1.69	1.71	1.90	1.80
20	.035	1.40	1.42	1.59	1.50
21	.032	1.28	1.30	1.45	1.37
22	.028	1.12	1.14	1.27	1.20
23	.025	1.00	1.02	1.13	1.07
24	.022	.883	.895	1.00	.942
25	.02	.803	.813	.906	.856
26	.018	.722	.732	.815	.770
27	.016	.642	.651	.725	.685
28	.014	.562	.569	.634	.599
29	.013	.522	.529	.589	.556
30	.012	.482	.488	.544	.514
31	.01	.401	.407	.453	.428
32	.009	.361	.366	.408	.385
33	.008	.321	.325	.362	.342
34	.007	.281	.285	.317	.300
35	.005	.201	.203	.227	.214
Specific Gravity-----		7.704	7.806	8.698	8.218
Weight, Cubic Foot, Pounds-----		481.25	487.75	543.6	513.6
Weight, Cubic Inch, Pounds-----		.2787	.2823	.3146	.2972



# MONARCH Line of Mill Supplies



*Section I, No. 115*

Established 1866

**SPROUT, WALDRON & CO.**

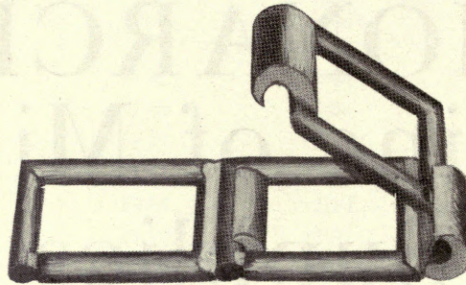
Mill Builders and Mill Furnishers

MUNCY, PA., U. S. A.



# Detachable Chain Belt

## Standard Sizes



## Sizes, Prices, Etc.

Chain Belt Number	List Price per Foot	Couplers per Pair	Approximate Links in 10 Feet	Working Strain 200 Feet per Minute	Maximum Speed Feet per Minute
25	\$0.13	\$0.13	133	115	700
32	.13	.16	104	185	700
33	.13	.15	86	200	700
34	.13	.15	86	215	700
35	.13	.18	74	200	700
42	.15	.19	88	250	700
45	.13	.18	74	265	700
51	.19	.18	104	315	700
52	.18	.16	80	385	700
55	.16	.16	74	370	700
57	.18	.19	52	465	700
62	.22	.22	73	515	700
66	.23	.22	60	435	600
67	.23	.22	52	550	600
75	.24	.19	46	665	600
77	.25	.22	52	600	600
78	.34	.25	46	815	600
83	.35	.32	30	825	500
85	.44	.44	30	1265	500
88	.43	.28	46	960	600
95	.53	.54	30	1450	500
103	.67	.58	39	1600	500
108	.63	.79	25½	1650	400
110	.74	.92	25½	2115	400
114	.85	.84	37	1835	500
122	1.13	1.58	20	2500	300
124	1.03	1.19	30	2115	400
146	1.02	1.29	20	2335	300

Working strains for speeds greater than 200 feet travel per minute, but not exceeding maximum speeds given are the following per cent of tabulated working strains:

200 to 300 feet per minute.....	80%	500 to 600 feet per minute.....	50%
300 to 400 feet per minute.....	65%	600 to 700 feet per minute.....	45%
400 to 500 feet per minute.....	55%		



## Detachable Chain Belt—Special Sizes

Chain Belt Number	List Price per Foot	Couplers per Pair	Approximate Links in 10 Feet	Working Strain 200 Feet per Min.
4	\$0.14	-----	31	250
5	.18	-----	22	470
6	.20	-----	19	500
21	.23	-----	191	40
22	.24	-----	160	60
23	.18	-----	185	80
024	.16	-----	133	115
025	.16	-----	120	115
027	.15	-----	129	115
28	.15	-----	130	110
29	.15	-----	120	140
31	.17	-----	133	80
34½	.16	-----	103	250
36½	.17	-----	81	220
37	.13	-----	60	205
38	.13	-----	60	210
4 Bar 39	.27	-----	75	300
042	.18	-----	88	250
42½	.13	-----	88	250
3 Bar 43	.29	\$0.49	79	335
44	.14	-----	81	260
046	.20	-----	74	300
46	.18	-----	74	250
047	.20	-----	69	265
48	.15	.20	60	280
50	.18	.18	87	320
50-32-25	.14	-----	94	130
052	.24	.20	80	380
52½	.26	.20	79	480
Keeper 53	.20	-----	90	370
54	.18	-----	82	310
054	.19	-----	80	300
055	.19	-----	74	350
Keeper 55	.18	-----	74	370
056	.27	-----	80	430
057	.19	-----	74	320
58	.20	-----	75	375
062	.28	-----	73	550
62½	.26	-----	73	520
063	.28	-----	79	390
64	.26	-----	59	490
65	.19	-----	56	410
71	.36	-----	72	730
071½	.36	-----	58	900
71½	.32	.34	60	560
072	.37	.33	72	720
72	.30	-----	59	710
072½	.38	-----	72	720
72½	.39	.34	72	1000
73	.36	-----	54	570
075	.33	-----	58	765
75½	.26	-----	51	500
76	.35	-----	52	590
76½ or E1	.27	-----	58	650
77½	.40	-----	52	765
88½	.65	.46	46	1200
89	.58	-----	46	920
93	.49	.44	30	1000
94	.80	-----	30	1835
101	.60	-----	45	1255
105	.54	-----	20	1150
L-111	.18	-----	74	200
115	1.04	-----	37	2120
116½	1.16	-----	37	2110
117	1.12	-----	37	2400
118	1.20	-----	37	1830
125	1.45	-----	35	2200
130	1.72	1.74	34	3090
HHK-1	1.40	-----	37	1620
HHK-2	2.04	-----	34	2500

# Attachments for Detachable Sprocket Chain

These Cuts are not Actual Size—Other Styles can be Made to Order



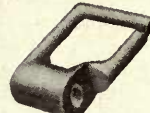
A 1 Left



A 1 Right



Chain Coupler



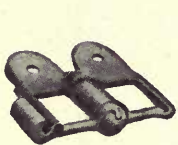
Coupler Male



Coupler Female



Pin



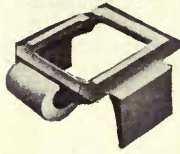
A 1 Right Coupler



A Strap



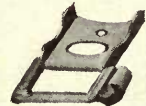
A Spoon



A A



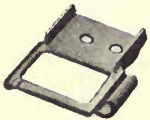
A 1



A 2



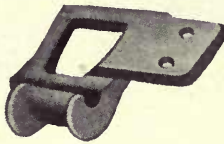
A 3



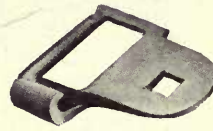
A 3 on No. 57



A 4



A 5



A 6



A 7



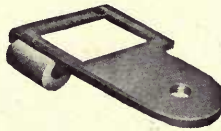
A 10



A 11



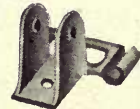
A 12



A 12 1/2



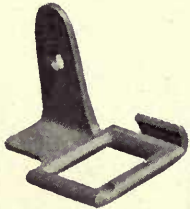
A 13



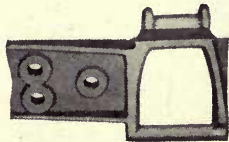
A 14



A 14 A



A 15



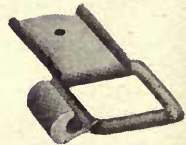
A 16



A 17



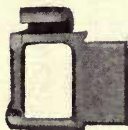
A 18



A 20



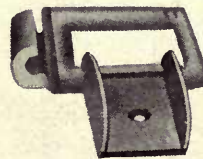
A 22



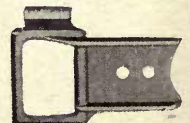
A 25



A 28



A 29



A 33



## Attachments for Detachable Sprocket Chain



A 35



A 37



A 41



A 85



A 86



A 399



B 1



B 2



C 1/2



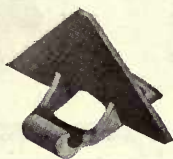
C 1



C 2



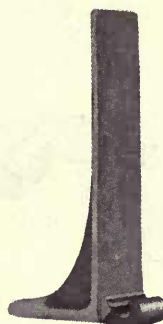
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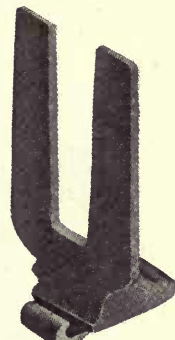
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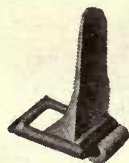
C 19



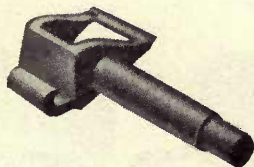
C 22



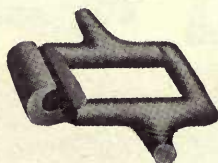
C 11



C 20



D 1



DD on No. 42



DD on Nos. 103-114



D 3 1/2



D 3



D 5



E 1



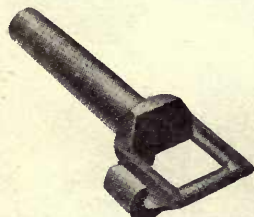
D 7



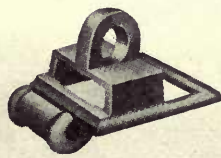
D 9



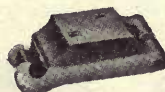
E Stud



D 4



E M



E 2



E 3



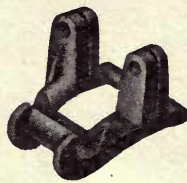
F 2



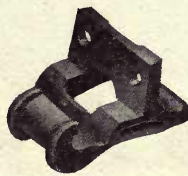
F 1



F 4



F 6



F 8

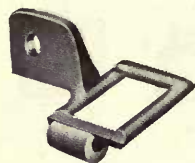


G 1



G 6

# Attachments for Detachable Sprocket Chain



G 27



H 1



H 9



I 6

K  $\frac{1}{2}$ 

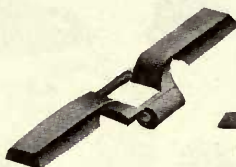
K 1



K 2



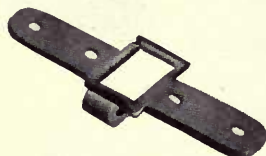
K 3

K  $3\frac{1}{2}$ 

K 4



K 5



K 6



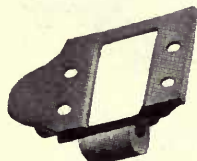
K 7



K 8



K 11



K 12



K 34



K 40



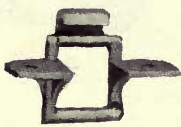
K 44



K 48—Longer than K 3 on No. 45,  
otherwise K 3 and K 48 the same



L 3

L  $4\frac{1}{2}$ 

L 9



M 0



M 1



M 3



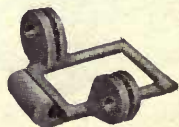
M 11



S 1



S 2

S  $3\frac{1}{2}$ 

S 4



Swivel



Socket



Tube Link

No. 40 Special  
No. 45 Pitch

Scraper No. 1

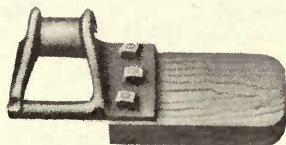


Hod Link

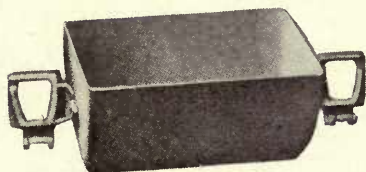


## Attachments for Detachable Sprocket Chain

### Showing the Manner in Which Various Attachments are Applied



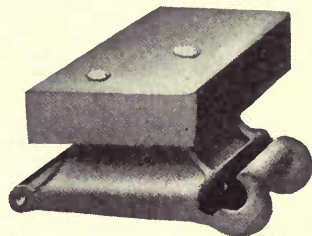
A 11—Right and Left, attached to Slat



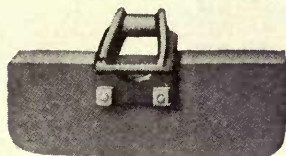
G 6—Right and Left attached to Bucket, centrally hung—two lines of chain



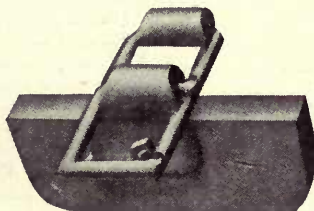
K 1—Attached to Bucket—one line of chain



E 2—Attached to Slat



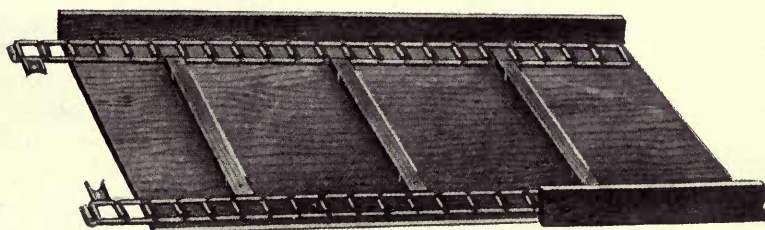
F 2



C 1—Attached to Flight

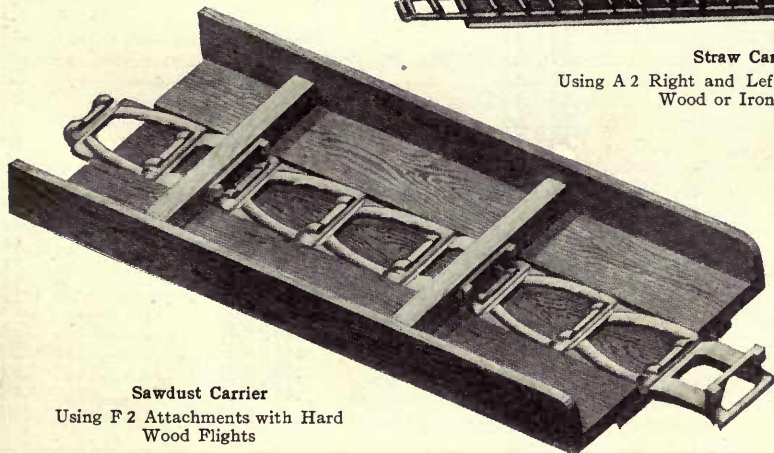


S 2—Attached to Flight



Straw Carrier

Using A 2 Right and Left Attachments with Wood or Iron Flights



Sawdust Carrier

Using F 2 Attachments with Hard Wood Flights

# Partial List of Various Special or Attachment Links

Price per Foot not Included in Regular Price List

<b>No. 22</b>		<b>No. 027</b>		<b>No. 34</b>		<b>No. 42—Con.</b>	
R38	\$0.35	A1	\$0.28	A1	\$0.24	K10	\$0.25
R39	.35	A8	.25	A2	.30	L6	.79
		K1	.28	C1	.37	R9	.35
				C2	.41	S1	.30
<b>No. 23</b>		<b>No. 29</b>		C21	.51	S3½	.79
H2	\$0.39	K1	\$0.58	E0	.48	Scraper No. 2, each	.07
K1	.32			E1	.27	Scraper No. 6, each	.16
No. 2 Stud	.18			K1	.32		
		<b>No. 31</b>		K6	.43		
		S9	\$0.82	K37	.54		
<b>No. 024</b>		S10	.75	K37½	.54	<b>No. 43 ( 3 Bar)</b>	
C1	\$0.30			K38½	.59	K3	\$0.60
A25	.91	<b>No. 32</b>		L1	.27	K5	.68
B25	.88	A1	\$0.27				
		A2	.28	<b>No. 35</b>		<b>No. 44</b>	
<b>No. 025</b>		A3	.24	A1	\$0.26	A3	\$0.28
A3	\$0.36	A12	.30	A2	.36	I31	.54
C1	.40	A12½	.41	A13	.30	K1	.33
		C1	.36	A14	.30	K6	.43
<b>No. 25</b>		C5	.42	A29	.30		
A1	\$0.24	D3	.30	AM	.37	A1	\$0.22
A3	.25	D46	.18	CI	.36	A2	.28
A39	.22	E1	.24	DK Roller	1.82	A3	.31
A50	.66	ED	.65	E1	.28	A10	.22
A399	.20	G1	.28	K1	.36	A12	.28
C¼	.24	I3	.33	K3¼	.43	A13	.28
C½	.26	K0	.47	K5	.33	A14	.35
C1	.32	K1	.33	S1	.30	A15	.29
C26	.48	K3	.43	Scraper No. 1, each	.09	A29	.25
10-C-66	.28	K5	.26			A33	.43
D3	.29	K6	.42	<b>No. 36½</b>		A37-LA	.35
D8	.79	K36	.36	K5	\$0.37	Strap	.25
D28	.19	K40	.69			C1	.30
D34	.27	L1	.30	<b>No. 37</b>		C9	.31
D46	.28	L2	.26	K5	\$0.30	C15	.38
E1	.24	M1	.36	L3	.28	C20	.42
E3	.40	O1	.24	L14	.36	C22	.58
E16	.31	O2	.28	<b>No. 39 (4 Bar)</b>		C27	.42
G1	.31	R9	.38	L3	\$0.50	C28	.47
G13	.65	S1	.29	S15	1.05	D1	.64
H2	.31	S9	.46			D3	.38
H16	.46	U	.21	<b>No. 042</b>		D5	.36
H22	.27	U1	.21	A1	\$0.32	D6	.36
HO2	.46			E1	.30	D17	.54
HO5	.38	<b>No. 33</b>		L2	.31	D42	.28
HHH	.26	A1	\$0.19			D43	.33
I3	.38	A3	.22	<b>No. 42</b>		D45	.25
IK	.28	A6	.25	A1	\$0.26	DK with Roller	1.32
K1	.29	A13	.25	A1 Coupler, per pair	.29	E1	.24
K5	.26	A14	.30	A3	.39	E2	.27
K6	.32	A29	.29	A3 Coupler, per pair	.36	E4	.20
L1	.24	C1	.29	A6	.26	E12	.16
L2	.22	D3	.43	A14	.41	F2	.30
M1	.30	D5	.22	A15	.32	FK	.43
O1	.26	D16	.80	A29	.30	G1	.26
O2	.30	D33	.28	C1	.35	G27	.36
R4	.32	E1	.20	DK Roller	1.53	H1	.36
R16	.36	G1	.24	D3	.47	H2	.39
R26	.22	I3	.37	E1	.24	I3	.33
R27	.27	K1	.28	I13	.27	I12	.31
R28	.34	K3	.43	K1	.32	I15	.31
R29	.27	K5	.28	K3	.45	I16	.28
S1	.30	K6	.39	K3½	.84	K1	.29
S9	.68	K11	.46	K5	.29	K3	.38
U	.22	K12	.28	K6	.45	K5	.28
U1	.26	L2	.26	K6½	.97	K34	.29
W3	.27	M1	.32			K40	.48
W30	.21	S1	.28			K40½	.50



# Partial List of Various Special or Attachment Links

Price per Foot not Included in Regular Price List

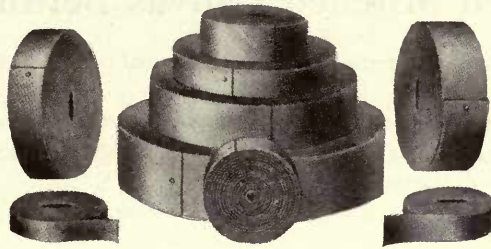
No. 45—Con.		No. 52—Con.		No. 55 Keeper		No. 062	
K44	\$0.30	DK Roller	\$1.25	A2	\$0.38	C1	\$0.77
K45½	.77	E1	.37	A41	.49	No. 65	
K48	.38	E3	.35	No. 55½		B1	\$0.59
L2	.25	F2	.48	A25	\$0.37	B2	.63
L3	.27	G1	.36	A41	.48	No. 66	
L4	.21	I20	.37	No. 56½		C1	\$0.44
M0	.29	K½	.37	A25	\$0.47	K1	.47
M1	.28	K1	.39	A41	.63	No. 67	
M5	.39	K5	.36	A95	.60	A1	\$0.36
P4	.43	K46	.36	No. 057		A7	.41
P4½	.39	K50	1.40	L3	\$0.28	A7 Coupler, pair	.53
S1	.26	R20	.35	L4	.41	A11	.38
S5	.27	S1	.36	No. 57		A72	.57
S6	.27	S2½	.48	A1	\$0.33	D5	.48
Scraper No. 1, each	.09	Scraper, each	.20	A3	.37	D26	.50
Scrpr. No. 2, 4 in., ea.	.08	Scraper, 1½x7½, ea.	.29	C1	.33	E1	.41
Scraper, 5 in., each	.09	Scraper, No. 19, ea.	.11	C4	.24	EM	.46
Scraper, 6 in., each	.10	No. 53		D5	.41	F1	.43
Scraper No. 3, each	.07	C1	\$0.36	D25	.28	F2	.53
Scraper No. 4, each	.11	E1	.31	EA1	.43	FF	.54
Scraper No. 6, each	.13	S1	.33	EA2	.37	FF½	.55
Picker	.49	No. 55		E1	.30	G1	.55
K1 Coupler, pair	.35	A1	\$0.28	E2	.30	H1	.55
Tube, each	.06	A2	.36	F1	.49	K1 Coupler, pair	.49
No. 47		A3	.36	F2	.48	K1	.44
L2	\$0.28	A12½	.50	H1	.46	K3	.59
L3	.27	A14	.39	H2	.49	S2	.39
L4	.41	A15	.32	K1	.39	Tube, each	.07
No. 48		A41	.47	K1 Coupler, pair	.49	No. 70	
A3	\$0.30	AD5	.50	K2	.43	A7	\$0.43
B1	.63	C1	.35	K2 Coupler, pair	.53	No. 71	
B2	.57	C5	.48	M3	.46	K1	\$0.57
C29	.36	C8	.50	M5	.46	K40	1.10
K1	.43	C17	.63	S2	.36	Scraper, each	.13
No. 50		C18	.47	Tube, each	.06	No. 71½	
A1	\$0.27	C20	.62	No. 59		A1	\$0.49
A61	.36	CH	.35	A23	\$0.30	No. 072	
A70	.43	D3	.59	No. 62		L4½	\$0.76
AJ	.48	D5	.39	A½	\$0.38	No. 72½	
K3½	.74	D41	.84	A1	.36	K1	\$0.59
No. 51		DK Roller	1.18	A2	.37	No. 73	
A1	\$0.28	E1	.28	A3	.38	K8	\$0.62
C1	.38	ES	.39	A12	.43	Cup	.36
C14	.58	F2	.39	A33	.42	No. 75	
D4	.76	G1	.39	C1	.43	A2	\$0.53
I5	.47	G16	.33	C8	.39	C4	.32
I6	.36	G27	.39	D5	.50	E1	.40
K1	.36	I51	.43	G1	.51	F2	.58
K5	.37	KS3	.38	G27	.43	G1	.58
K7	.48	K1 Coupler, pair	.39	G28	.47	H1	.50
R18	.36	K1	.31	I3	.48	H1 3¼	.60
S1	.31	K5	.33	K½	.39	H2	.50
No. 52		K9	.35	K1	.39	H3	.57
AA	\$0.37	K40 4½	.58	K1 Coupler pair	.55	H4	.69
A1	.31	K40 5¼	.62	K5	.37	H4½	1.25
A3	.38	K52	.36	K40	.66	H4¾	1.46
A14	.65	L2	.28	L4½	.48		
C1	.37	L21	.33	Loop, each	.07		
D3	.43	L2½	.31	S1	.36		
D4	.70	M0	.33	S2½	.53		
D5	.50	M1	.32	No. 62½			
D12	.41	M5	.61	A3	\$0.38		
D13	.44	S1	.28	A52	.48		
		S5	.33				
		Scraper, each	.12				

### Price per Foot not Included in Regular Price List

No. 75—Con.		No. 83		No. 88—Con.		No. 103—Con.	
K1	\$0.43	A11	\$0.61	H14	\$0.92	M11	\$1.07
KB1	.74	D5	.74	H15	1.29	R1	.91
R1	.32	E1	.63	H16	.80	W1	1.21
R2	.32	E2	.63	K1	.68	W2	1.21
R8	.38	FF	.97	K5	1.01	Scraper, each	.68
No. 75½		F2	1.02	K8	.83	No. 104½	
H2	\$0.46	F15	.73	M3	.95	F2	\$1.55
No. 77		G1	.82	M5	1.22	K2	1.42
A1	\$0.41	G24	.82	R1	.57	No. 105	
A12	.61	K1	.70	R2	.57	F1	\$0.76
A23	.54	M3	.83	R8	.60	H4—8-in.	1.71
D5¾	.60	M4	.92	R30	.59	H22	1.90
DK Roller	.93	M11	.84	S2	.69	H24	1.68
E1	.42	No. 85		S2½	.65	K2	1.07
E2	.37	EO	\$1.06	Scraper, each	.36	M3	1.26
F1	.55	E1	.76	No. 88½		R1	.96
F2	.71	E2	.80	F2	\$1.10	No. 108	
G1	.53	F1	1.08	F8	1.28	F2	\$1.30
G6	.57	F2	1.02	G6	1.02	FF	1.24
G19	.57	F5	1.02	G10	1.74	G1	1.07
H1	.53	FF	.90	G20	1.62	H2	1.05
H9	.64	FF½	.98	H1	1.27	K2	1.13
K1	.47	F8	1.17	K1	.92	K2 Coupler, pair	1.46
K1 Coupler, pair	.49	G6	.79	R1	.75	K5	1.54
K3	.60	H1	.80	S2	.96	R2	.91
K8	.50	H2	.86	No. 93		No. 110	
M1	.75	K2	.80	G1	\$1.00	F2	\$1.40
M3	.60	K3	.94	No. 94		K2	1.24
R1	.36	K4	.88	K2	\$1.30	No. 114	
R3	.40	K7	.81	No. 95		A2	\$1.32
S2	.43	M3	.86	F2	\$1.21	A11	1.17
No. 78		S1	.98	H1	.95	DD	1.71
A1	\$0.51	S2	.71	H2	1.06	F2	1.50
A3	.65	S5	.99	K2	.93	F8	1.47
A11	.55	K2 Coupler	.77	No. 103		F12	1.83
A11½	.62	No. 88		A1	\$1.01	G6	1.83
A16	.94	A1	\$0.77	A4	1.04	K1	1.34
A33	.69	A3	.77	A4 Coupler, pair	1.07	L2	1.62
A63	.68	A7	.70	A11	1.01	M1	1.56
D5	.72	A11	.66	A11½	1.23	N1	1.41
D12	.96	C1	.85	A24	1.08	No. 122	
E1	.52	D5	.74	D5	1.13	F2	\$1.74
E1	.52	DH	1.43	DD	1.54	K2	1.83
F2	.77	DF12 Roller	1.60	DDM3	1.90	No. 124	
F4	.79	DF14 Roller	1.51	E1	1.04	A4	\$1.54
F8	.82	DK Roller	1.52	F2	1.23	A4 Coupler, pair	1.74
FF	.81	E1	.71	F3	1.57	A11	1.60
G1	.65	F1	.66	F8	1.39	D5	1.91
G6	.75	F2	.88	F20	1.41	F2	1.70
G19	.73	F4	.79	G6	1.25	F8	2.03
G60	.66	F8	.98	G10	1.25	G1	1.62
H1	.73	F12	.96	G18	1.75	G6	1.74
H2	.77	F14	.85	G19	1.20	K1	1.72
H6	1.26	GX	.99	G22	1.84	KM3	2.26
H22	1.14	G1	.73	H1	1.05	M3	1.75
K1	.52	G6	.81	H2	1.13	R1	1.34
K3	.73	G8	.80	H3	1.36	No. 146	
K111	.95	G10	1.36	H14	1.49	E2	\$1.51
M3	.77	G19	.90	K1	1.05	F2	1.64
R1	.47	H1	.84	K1 Coupler, pair	1.07	F5	1.61
R1½	.49	H2	.86	K2	1.09	K2	1.94
R3	.55	H5	1.02	K8	1.39	K4	1.61
R8	.50	H6 Plain Links with-		L2	1.28		
R20	.69	out Top	.83	M3			
RR	.68	H6	1.43				
S2	.58	H9	.71				



## Leather Belting



Our Leather Belting is made expressly for us by a manufacturer who has made a reputation through the purchase of high grade hides, uniform and skillful tanning, conscientious selection of the best parts of the hide for belting purposes and final manufacture with care and up-to-date methods.

### Price List, Per Lineal Foot

Width Inches	Single	Double	Width Inches	Single	Double	Width Inches	Single	Double
½	\$0.12	\$0.24	7	\$1.68	\$3.36	29	\$ 6.96	\$13.92
⅝	.15	.30	8	1.92	3.84	30	7.20	14.40
¾	.18	.36	9	2.16	4.32	32	7.68	15.36
⅞	.21	.42	10	2.40	4.80	34	8.16	16.32
1	.24	.48	11	2.64	5.28	36	8.64	17.28
1¼	.30	.60	12	2.88	5.76	38	9.12	18.24
1½	.36	.72	13	3.12	6.24	40	9.60	19.20
1¾	.42	.84	14	3.36	6.72	42	10.08	20.16
2	.48	.96	15	3.60	7.20	44	10.56	21.12
2¼	.54	1.08	16	3.84	7.68	46	11.04	22.08
2½	.60	1.20	17	4.08	8.16	48	11.52	23.04
2¾	.66	1.32	18	4.32	8.64	50	12.00	24.00
3	.72	1.44	19	4.56	9.12	52	12.48	24.96
3¼	.78	1.56	20	4.80	9.60	54	12.96	25.92
3½	.84	1.68	21	5.04	10.08	56	13.44	26.88
3¾	.90	1.80	22	5.28	10.56	60	14.40	28.80
4	.96	1.92	23	5.52	11.04	64	15.36	30.72
4½	1.08	2.16	24	5.76	11.52	68	16.32	32.64
5	1.20	2.40	25	6.00	12.00	72	17.28	34.56
5½	1.32	2.64	26	6.24	12.48	76	18.24	36.48
6	1.44	2.88	27	6.48	12.96	80	19.20	38.40
6½	1.56	3.12	28	6.72	13.44	84	20.16	40.32

### Cut Lace

#### Price per 100 Feet

¼-inch	-----	\$1.25
⅕-inch	-----	1.50
⅜-inch	-----	1.75
½-inch	-----	2.00
⅝-inch	-----	2.25
¾-inch	-----	3.00
¾-inch	-----	3.75

### Twist Belting

#### Price Per Lineal Foot

⅜-inch	-----	\$0.06
⅕-inch	-----	.10
¼-inch	-----	.14
⅜-inch	-----	.18
½-inch	-----	.22
⅝-inch	-----	.30
¾-inch	-----	.36
¾-inch	-----	.46
¾-inch	-----	.60

Raw Hide Lace Leather, per square foot, \$0.60.

## Red Stitched Canvas Belting

It is made especially for us from a prepared cotton duck treated by a special process which makes it proof against water, steam or heat.

It is recommended for many purposes where it is not advisable to use leather or rubber belting.

Endless belts can be made to order in from three to five days, for which an extra charge is made for splicing, equal to the price of three feet, subject to regular discount.

Well adapted for heavy work in wet or hot places where leather or rubber belting will not last.

### Price List, Per Lineal Foot

Width of Belt Inches	4-Ply Equal to Single Leather	5-Ply Equal to Light Double Leather	6-Ply Equal to Double Leather	8-Ply Equal to Heavy Double Leather	10-Ply Equal to Triple Leather
1	\$0.12				
1½	.18				
2	.24	\$0.30	\$0.36		
2½	.30	.38	.45		
3	.35	.44	.53		
3½	.39	.49	.59		
4	.43	.54	.65	\$0.86	
4½	.47	.59	.71	.94	
5	.51	.64	.77	1.02	
6	.60	.75	.90	1.20	
7	.70	.88	1.05	1.40	
8	.80	1.00	1.20	1.60	
9	.90	1.13	1.35	1.80	
10	1.00	1.25	1.50	2.00	
11	1.10	1.38	1.65	2.20	
12	1.20	1.50	1.80	2.40	\$3.00
13	1.43	1.79	2.15	2.86	3.58
14	1.54	1.93	2.31	3.08	3.85
15	1.65	2.06	2.48	3.30	4.13
16	1.76	2.20	2.64	3.52	4.40
18	1.98	2.48	2.97	3.96	4.95
20	2.20	2.75	3.30	4.40	5.50
22	2.42	3.03	3.63	4.84	6.05
24	2.64	3.30	3.96	5.28	6.60
26	3.12	3.90	4.68	6.24	7.80
28	3.36	4.20	5.04	6.72	8.40
30	3.60	4.50	5.40	7.20	9.00
32	3.84	4.80	5.76	7.68	9.60
34	4.08	5.10	6.12	8.16	10.20
36	4.32	5.40	6.48	8.64	10.80
38	4.94	6.18	7.41	9.88	12.35
40	5.20	6.50	7.80	10.40	13.00
42	5.46	6.83	8.19	10.92	13.65
44	5.72	7.15	8.58	11.44	14.30
46	5.98	7.48	8.97	11.96	14.95
48	6.24	7.80	9.36	12.48	15.60



## Rubber Belting

### Price List, Per Lineal Foot

Width Inches	2-Ply	3-Ply	4-Ply	5-Ply	6-Ply	7-Ply	8-Ply
1	\$0.09	\$0.11	\$0.13				
1 ¼	.11	.13	.16				
1 ½	.13	.15	.19	\$0.23			
1 ¾	.15	.17	.22	.27			
2	.18	.20	.25	.31	\$0.37		
2 ¼	.22	.25	.31	.38	.46		
3	.26	.30	.37	.45	.55		
3 ¼	.30	.35	.43	.53	.65		
4	.34	.40	.50	.61	.75	\$0.86	
4 ½	.38	.45	.55	.69	.84	.96	
5	.42	.50	.61	.76	.91	1.06	
6	.50	.60	.72	.89	1.08	1.25	\$1.44
7	.59	.70	.84	1.04	1.25	1.46	1.68
8	.67	.80	.96	1.19	1.44	1.68	1.92
9	.76	.90	1.07	1.34	1.60	1.88	2.16
10	.84	1.00	1.20	1.49	1.77	2.09	2.40
11	.92	1.10	1.32	1.63	1.96	2.29	2.62
12	1.00	1.20	1.43	1.78	2.15	2.50	2.85
13	1.10	1.30	1.56	1.95	2.34	2.73	3.12
14	1.19	1.40	1.69	2.11	2.54	2.96	3.39
15	1.28	1.52	1.83	2.28	2.74	3.19	3.65
16	1.37	1.65	1.96	2.44	2.94	3.42	3.92
18	1.55	1.87	2.22	2.77	3.33	3.88	4.44
20	1.74	2.09	2.49	3.10	3.73	4.35	4.97
22	1.94	2.33	2.77	3.47	4.16	4.85	5.54
24	2.16	2.60	3.08	3.85	4.62	5.39	6.16
26	2.38	2.86	3.39	4.23	5.08	5.93	6.78
28	2.60	3.12	3.70	4.62	5.54	6.47	7.39
30	2.82	3.39	4.00	5.00	6.00	7.00	8.00
32	3.04	3.65	4.31	5.39	6.47	7.55	8.62
34	3.26	3.92	4.62	5.78	6.93	8.09	9.24
36	3.48	4.18	4.93	6.16	7.39	8.62	9.86
38	3.70	4.44	5.24	6.55	7.85	9.16	10.47
40	3.92	4.71	5.55	6.93	8.32	9.70	11.09
42	4.14	4.97	5.85	7.32	8.78	10.24	11.70
44	4.36	5.24	6.16	7.70	9.24	10.78	12.32
46	4.58	5.50	6.47	8.08	9.70	11.32	12.94
48	4.80	5.76	6.73	8.47	10.16	11.86	13.55
50	5.02	6.03	7.08	8.85	10.63	12.40	14.17
52	5.22	6.29	7.39	9.24	11.09	12.94	14.78
54	5.46	6.56	7.70	9.63	11.55	13.48	15.40
56	5.68	6.82	8.01	10.01	12.01	14.01	16.02
58	5.90	7.08	8.32	10.40	12.47	14.55	16.63
60	6.12	7.35	8.62	10.78	12.94	15.09	17.25

## Balata Belting

### Price List, Per Lineal Foot

Width Inches	3-Ply	4-Ply	5-Ply	6-Ply	7-Ply	8-Ply	10-Ply
1	\$0.18	\$0.24	\$0.30				
1 ¼	.23	.30	.38				
1 ½	.27	.36	.45				
1 ¾	.32	.42	.53	\$0.63			
2	.36	.48	.60	.72			
2 ¼	.41	.54	.68	.81			
2 ½	.45	.60	.75	.90			
2 ¾	.50	.66	.83	.99			
3	.54	.72	.90	1.08			
3 ¼	.59	.78	.98	1.17			
3 ½	.63	.84	1.05	1.26			
3 ¾	.68	.90	1.13	1.35			
4	.72	.96	1.20	1.44			
4 ¼	.77	1.02	1.28	1.53			
4 ½	.81	1.08	1.35	1.62			
4 ¾	.86	1.14	1.43	1.71			
5	.90	1.20	1.50	1.80			
5 ¼	.99	1.32	1.65	1.98			
6	1.08	1.44	1.80	2.16	\$2.52	\$2.88	
6 ¼	1.17	1.56	1.95	2.34	2.73	3.12	
7	1.26	1.68	2.10	2.52	2.94	3.36	
8	1.44	1.92	2.40	2.88	3.36	3.84	\$ 4.80
9	1.62	2.16	2.70	3.24	3.78	4.32	5.40
10	1.80	2.40	3.00	3.60	4.20	4.80	6.00
11	1.98	2.64	3.30	3.96	4.62	5.28	6.60
12	2.16	2.88	3.60	4.32	5.04	5.76	7.20
13	-----	-----	3.90	4.68	5.46	6.24	7.80
14	-----	-----	4.20	5.04	5.88	6.72	8.40
15	-----	-----	4.50	5.40	6.30	7.20	9.00
16	-----	-----	4.80	5.76	6.72	7.68	9.60
18	-----	-----	5.40	6.48	7.56	8.64	10.80
20	-----	-----	6.00	7.20	8.40	9.60	12.00
22	-----	-----	6.60	7.92	9.24	10.56	13.20
24	-----	-----	7.20	8.64	10.08	11.52	14.40

Other widths and plies at proportionate prices.

For endless belts, charge 3 feet extra up to 20 inches wide; 4 feet extra for 21 inches and above. Widths below 1 inch at list price for 1 inch. Two-ply belts at list price for 3-ply.

# Horse Power Transmitted by Leather Belts

We give below a conservative estimate of the horse power transmitted by oak-tanned leather belting. Conditions under which belts are operated, however, may either increase or diminish the efficiency of the belt. These tables are based on the arc of contact on driving pulley being at least 180 degrees. For sizes not given, figure proportionately.

## Single

Speed in Feet Per Minute	WIDTH OF BELT IN INCHES										
	2	3	4	5	6	8	9	10	12	14	16
	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.
600	2	3	4	5	6	7	8	9	11	13	15
1200	4	5	7	9	11	15	16	18	22	25	29
1800	6	8	11	14	16	22	25	27	33	38	44
2400	7	11	15	18	22	29	33	36	44	51	58
3000	9	14	18	23	27	36	41	45	55	64	73
3600	11	16	22	27	33	44	49	55	65	76	87
4200	13	19	25	32	38	51	57	64	76	89	102
4800	15	22	29	36	44	58	65	73	87	102	116
5400	16	25	33	41	49	65	74	82	98	115	131
6000	18	27	36	45	55	73	82	91	109	127	145

## Double

Speed in Feet Per Minute	WIDTH OF BELT IN INCHES										
	4	6	8	10	12	16	20	24	30	36	40
	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.	H. P.
400	4	6	8	10	12	16	19	23	29	35	39
800	8	12	16	20	23	31	39	47	58	70	78
1200	12	18	23	29	35	47	58	70	87	105	116
1600	16	23	31	39	47	62	78	93	116	140	155
2000	19	29	39	49	58	78	97	116	145	175	194
2400	23	35	47	58	70	93	116	140	175	209	233
2800	27	41	54	68	81	109	136	163	204	244	271
3200	31	47	62	78	93	124	155	186	233	279	310
3600	35	52	69	87	105	139	175	209	262	314	350
4000	39	58	78	97	116	155	194	233	291	349	388
5000	48	73	97	121	145	194	242	291	364	436	485

## Rule for Determining Horse Power of Leather Belting

Based on 180 Degrees Contact

- Let "D" = Diameter of Pulley.  
"R" = Revolutions per minute.  
"W" = Width of belt in inches.  
"O" = Ounces of belt per square foot.

Then  $\frac{D \times R \times W \times O}{X}$  = Horse power of belt.

- X { 46000 for pulleys 48 inches in diameter and over.  
48300 for pulleys 36 inches to 47 inches in diameter.  
50600 for pulleys 24 inches to 35 inches in diameter.  
53000 for pulleys 12 inches to 23 inches in diameter.  
57000 for pulleys 6 inches to 11 inches in diameter.

Example:—To find the horse power of a 12-inch belt weighing 15 ounces per square foot, and running on a 20-inch pulley which makes 500 revolutions per minute.

$\frac{20 \times 500 \times 12 \times 15}{53,000} = \frac{1,800,000}{53,000} = 34 \text{ Horse Power.}$

## Rule for Finding Length of Belts

Find circumference of pulleys by multiplying the diameter by 3.1416. Add circumference of the two pulleys divide by 2, reduce the result to feet by dividing by 12, add twice the distance between centers of shafts and allow for splicing.



## Solid Woven Cotton Belting

Practical mill men are too well acquainted with the merits, durability and serviceable qualities of good cotton belting to make any comments necessary here. Suffice it to say we always furnish the best belting made for elevator and other kindred purposes.

### Price List

Width Inches	2-Ply	3-Ply	4-Ply	5-Ply	6-Ply	8-Ply	10-Ply
1	\$0.04	\$0.06	\$0.09	\$0.15	\$0.20		
1 1/4	.04 1/2	.06 1/2	.10	.16	.22		
1 1/2	.05	.07 1/2	.11	.18	.24		
1 3/4	.05 1/2	.08 1/2	.12	.19	.29		
2	.06	.09 1/2	.13	.21	.30	\$0.36	
2 1/2	.07 1/2	.11	.15	.23	.32	.38	
3	.08 1/2	.13	.18	.26	.34	.41	
3 1/2	.10	.15	.20	.29	.36	.45	
4	.11 1/2	.17	.23	.31	.38	.50	
4 1/2	.13	.19	.26	.33	.41	.55	
5	.14 1/2	.21	.28	.36	.44	.58	\$0.80
5 1/2	.16	.23	.30	.38	.47	.61	.85
6	.18	.25	.33	.41	.50	.65	.95
7	.21	.29	.38	.48	.58	.75	1.10
8	.23	.33	.44	.55	.65	.85	1.20
9	.26	.37	.50	.61	.73	1.00	1.40
10	.29	.42	.56	.69	.82	1.15	1.60
12	.35	.50	.66	.83	1.00	1.35	1.80
14	.43	.62	.78	.98	1.20	1.60	2.20
16	.49	.72	.90	1.15	1.40	1.95	2.45
18	.57	.82	1.00	1.28	1.55	2.15	2.70
20	.61	.90	1.15	1.45	1.75	2.35	2.95
22	.65	1.00	1.35	1.65	1.95	2.60	3.25
24	.69	1.10	1.55	1.85	2.16	2.85	3.60
26	.77	1.35	1.75	2.00	2.36	3.10	3.90
28	.85	1.50	1.90	2.15	2.60	3.35	4.20
30	.90	1.60	2.10	2.40	2.85	3.60	4.50
32	1.00	1.70	2.25	2.60	3.00	3.85	4.80
34	1.10	1.80	2.40	2.80	3.25	4.10	5.10
36	1.20	1.90	2.50	3.00	3.50	4.35	5.40
38	1.30	2.05	2.65	3.20	3.70	4.60	5.70
40	1.40	2.15	2.80	3.40	3.90	4.85	6.00
42	1.50	2.25	2.90	3.60	4.05	5.10	6.30
44	1.60	2.35	3.00	3.75	4.20	5.45	6.60
48	1.80	2.50	3.20	4.00	4.80	5.80	7.20

### Belt Buckles

Width, Inches...	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2	7	8
Price, net.....	\$0.30	\$0.35	\$0.40	\$0.45	\$0.50	\$0.55	\$0.60	\$0.65	\$0.70

#### Belt Awl



Style "A"

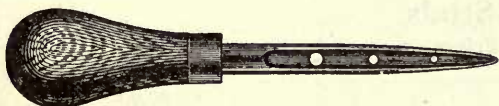
Round Blade, Belt Awls, Price, each.....\$0.50

#### Belt Borer



Price, each.....\$0.50

#### Belt Awl



Style "B"

Price, each.....\$0.50

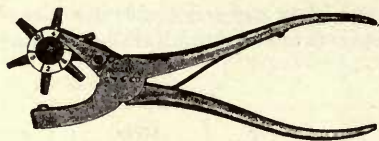
#### Combination Punch



Style "C"

Price, each.....\$1.50

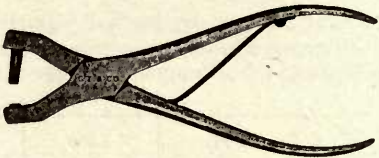
Revolving Spring Punch



Style "D"

Price with Four Tubes, Nos. 6, 8, 9, 10.....\$1.25  
Price with Six Tubes, Nos. 2, 4, 6, 8, 9, 10.....\$1.50

Spring Punch



Style "E"

Price with Screw Tubes, Each.....\$0.75  
Price Extra Screw Tubes, Each......20

Drive Punches



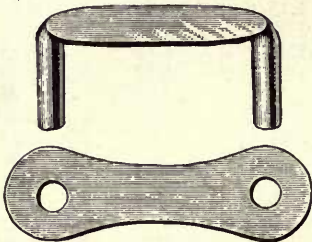
Style "F"



Style "G"

Numbers and Prices		Style "G"	
Number		ROUND Price	OVAL Price
1, 2, 3, 4, 5.....		\$0.20	\$0.35
6, 7, 8, 9.....		.20	.45
10, 11, 12.....		.25	.50
13, 14, 15, 16.....		.50	.85

Smith's Patent Belt Fasteners



Sizes, Prices, Etc.

No.	Length of Rivets Inches	Price Per 100
1	1/2	\$2.00
2	1/2	1.75
3	7/16	1.50
3	1/2	1.50
3	3/4	1.50
4	1/4	1.25
4	1/2	1.25

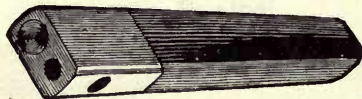
Copper Rivets and Burrs



Prices Per Pound

No.	Price Per Pound	No.	Price Per Pound
7	\$0.49	12	\$0.58
8	.50	13	.60
9	.52	14	.65
10	.54	15	.70
11	.56		

Rivets all lengths from 1/4 to 1 1/2 inches, with equal number of burrs in 1/2 and 1-pound boxes.



Rivet Set and Header

Numbers, Prices, Etc.

Number.....	00	0	1	2	3	4	5	6	7	8
For Iron Rivets, Pounds.....	14	10-12	8	6	4-5	2 1/2-3	2	1 1/2	1 1/4	3/4
For Copper Rivets, No.....		5	6	7	8	9	10-11	12	13	14
Price Each.....	\$0.75	\$0.75	\$0.65	\$0.65	\$0.50	\$0.50	\$0.40	\$0.40	\$0.35	\$0.35

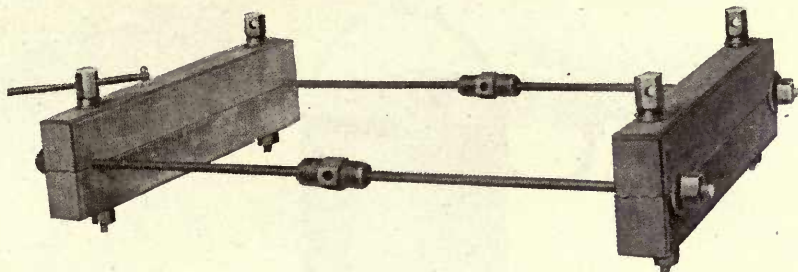
Blakes Belt Studs

Numbers and Prices

No.	Price Per 100	No.	Price Per 100
00	\$2.50	3	\$0.90
0	2.00	4	.80
1	1.65	5	.70
2	1.25	6	.60



## Improved Belt Clamp



The frame of this clamp is of rock maple with beveled corrugated jaws. Rods and bolts are of wrought iron. Screws are of rapid pitch.

**Price List**

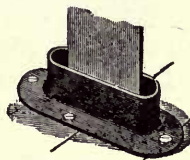
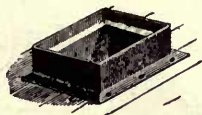
Number	For Belt Width	Price	Number	For Belt Width	Price
270	6 to 14	\$ 8.00	272	18 to 24	\$12.00
271	12 to 18	10.00	273	24 to 36	18.00

## Hartford Patent Belt Clamp

**Price List**

Widest Belt, Inches	Weight, Pounds	Price	Widest Belt, Inches	Weight, Pounds	Price
8	26	\$14.00	24	107	\$30.00
12	45	18.00	28	153	34.00
16	60	22.00	32	165	38.00
20	82	26.00	36	215	44.00

## Belt Guards

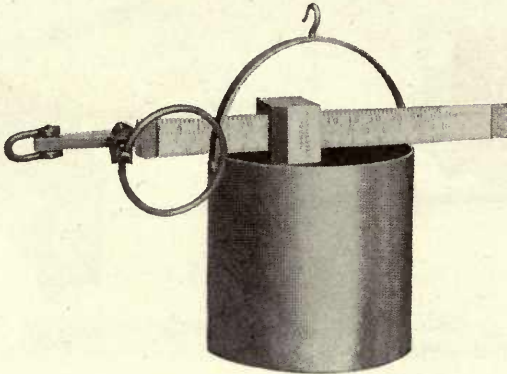


These guards are cast iron and are made for belts from 3 to 24 inches wide. By keeping sweepings, etc., away from belts they add much to the cleanliness of a mill.

**Dimensions, Prices, Etc.**

Width of Belt Inches	Over-all Length of Guard Inches	Over-all Width of 90° Guard Inches	Over-all Width of 60° Guard Inches	Over-all Height of Guard Inches	Length of Opening Inches	Width of Opening Inches	Price
3	7	4	4 $\frac{1}{8}$	1 $\frac{3}{4}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	\$0.72
4	8	4	4 $\frac{1}{8}$	1 $\frac{3}{4}$	5 $\frac{1}{2}$	1 $\frac{1}{2}$	.81
5	9	4	4 $\frac{1}{8}$	1 $\frac{3}{4}$	6 $\frac{1}{2}$	1 $\frac{1}{2}$	.95
6	10 $\frac{3}{4}$	4 $\frac{3}{4}$	4 $\frac{3}{4}$	1 $\frac{7}{8}$	7 $\frac{3}{4}$	1 $\frac{3}{4}$	1.04
7	11 $\frac{3}{4}$	4 $\frac{3}{4}$	4 $\frac{3}{4}$	1 $\frac{7}{8}$	8 $\frac{3}{4}$	1 $\frac{3}{4}$	1.17
8	13	5	5 $\frac{1}{4}$	2	10	2	1.26
9	14	5	5 $\frac{1}{4}$	2	11	2	1.40
10	15	5	5 $\frac{1}{4}$	2	12	2	1.53
11	16 $\frac{1}{4}$	5 $\frac{1}{4}$	5 $\frac{1}{2}$	2 $\frac{1}{4}$	13 $\frac{1}{4}$	2 $\frac{1}{4}$	1.60
12	17 $\frac{1}{2}$	5 $\frac{1}{2}$	6	2 $\frac{1}{4}$	14 $\frac{1}{2}$	2 $\frac{1}{2}$	1.66
13	18 $\frac{3}{4}$	5 $\frac{3}{4}$	6 $\frac{1}{4}$	2 $\frac{1}{4}$	15 $\frac{3}{4}$	2 $\frac{3}{4}$	1.73
14	20	6	6 $\frac{1}{2}$	2 $\frac{1}{4}$	17	3	1.80
16	22 $\frac{3}{4}$	6 $\frac{3}{4}$	7 $\frac{1}{4}$	2 $\frac{1}{2}$	19 $\frac{1}{4}$	3 $\frac{1}{4}$	2.07
18	25 $\frac{1}{4}$	7 $\frac{1}{4}$	7 $\frac{3}{4}$	2 $\frac{1}{2}$	21 $\frac{3}{4}$	3 $\frac{3}{4}$	2.21
20	28	8	8 $\frac{1}{2}$	2 $\frac{3}{4}$	24	4	2.34
24	33	9	9 $\frac{1}{2}$	3	29	5	3.06

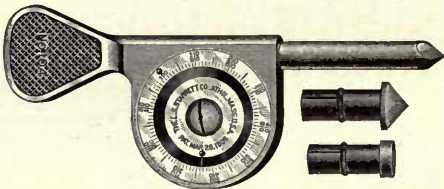
Grain Tester



Price List

1 pint.....\$13.00      1 quart.....\$14.00      2 quart.....\$15.00

Starrett Speed Indicators

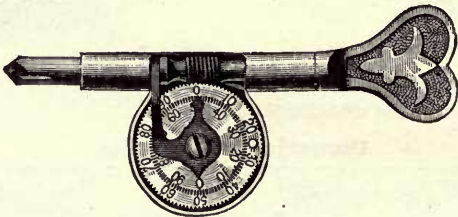


Price List

No.	Description	Price in Pasteboard Box	Leatherette Case
104	High Speed Indicator.....	\$1.00	\$1.50
106	Improved Speed Indicator.....	1.50	2.00
107	Registering Speed Indicator.....	8.00	3.50

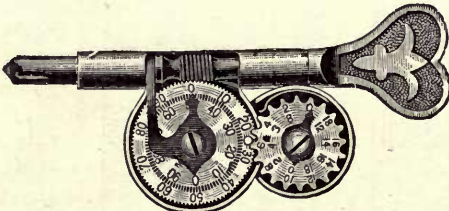
Equipped with rubber tips for pointed and centered shafts.

The Tabor Speed Indicator with Stop Motion



Price, \$2.00

Fulton Speed Indicators



Price List

Double Indicator, Registers from 1 to 1000. Price each.....\$1.50  
Single Indicator, Registers from 1 to 1000. Price each......75



## Champion Flour Scoop



**Price List**

Length Inches	Tin	Steel
8	\$0.60	\$0.75
10	.65	.85
12	.75	1.00
14	1.00	1.25

## Heavy Tin Flour Scoop



**Price List**

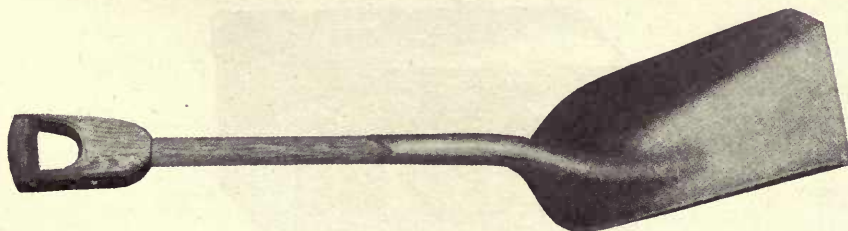
No.	Length Inches	Price	No.	Length Inches	Price
2	6¼	\$0.60	4	9½	\$0.80
3	7¾	.70	5	11½	1.00

## Hercules Steel Scoops



Bushel Scoop, price each.....\$3.00  
 Half-bushel Scoop, price each.....2.50

## Grain Trimmer's Steel Scoops



Size, 11 x 15½ inches, per dozen.....\$18.00

Mill Brushes and Dusters

These Brushes are all made of the best grade of bristles and are intended for general factory service. They are far superior to the brushes ordinarily carried in stock by dealers, and on account of their durability are the cheapest that can be used.

Extra Dusters—Russia Bristles



Style "A"

Price List

Trade Number	Price, Each	Price, Per Dozen	Trade Number	Price, Each	Price, Per Dozen
4	\$1.70	\$17.00	6	\$2.50	\$26.00
5	2.00	21.50	Tampico Fibre 7	1.00	8.00

Extra Brushes—Russia Bristles



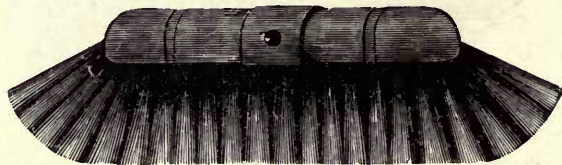
Style "B"

No. 4

Price, each.....\$ 1.70

Per dozen.....17.00

Floor Brushes—Russia Bristles

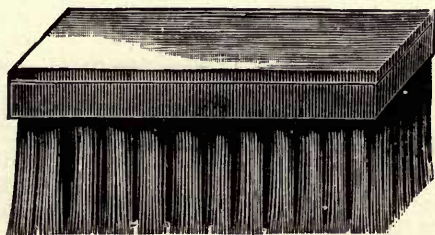


Style "C"

Price List

Trade Number	Length, Inches	Price, Each	Price, Per Dozen
3	12	\$5.00	\$45.00
4	13	6.00	60.00
6	14	8.00	84.00

Wire Brushes for Cleaning Screens



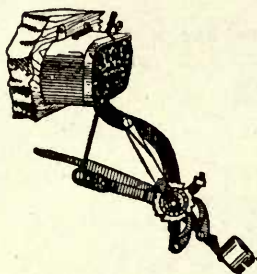
Style "D"

Price, each.....

\$1.50



## Durant's Flour Tally



### Price List Tally with Friction Attachment

Attachment for $\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{1}{2}$ , bbls, 140-lb. sacks.....	\$10.00
Attachment complete and No. 1 Tally.....	18.00
Attachment complete and No. 2 Tally.....	20.00
No. 1 Tally and Lever Attachment.....	9.00
No. 2 Tally and Lever Attachment.....	11.00

### Price List Tally Without Attachments

No. 1 Four Dials Registering 10,000.....	\$ 8.00
No. 2 Five Dials Registering 100,000.....	10.00
No. 2 With Four-inch Gong to give alarm at each 100.....	15.00

Every machine warranted to give satisfaction.

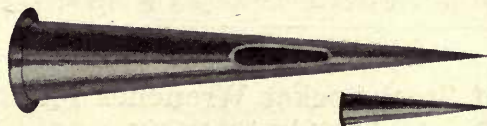
Tally with Friction Attachment

## The Monarch Flour Triers



Polished Steel Flour Trier, size 6 x 2, each.....\$1.00

## The Monarch Bag Samplers



These samplers are used for sampling in sacks, grain seeds of all kinds, coffee, etc.  
Prices complete with sheath for protecting point: 6-inch, \$1.00; 8-inch, \$1.25; 10-inch, \$1.50.

## The Monarch Steel Tube Grain Samplers



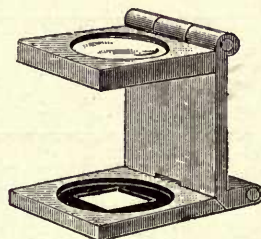
### Price List

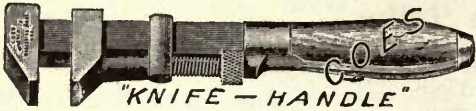
1 $\frac{5}{8}$ inches diameter x 48 inches long.....	\$10.00
1 $\frac{5}{8}$ inches diameter x 52 inches long.....	12.00

## The Monarch Bolting Cloth Glasses

### Price List

No.	Size of Opening Inches	Finish	Price
1	$\frac{1}{4}$	Brass	\$0.50
2	$\frac{1}{2}$	Brass	.75
3	1	Brass	2.00

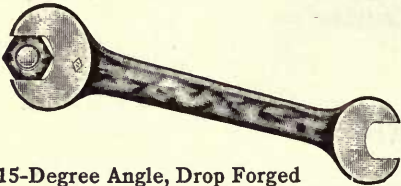




Coes' Knife Handle Wrench

Sizes, Prices, Etc.

Length Inches	Opens Inches	Price	Length Inches	Opens Inches	Price
6	$\frac{7}{8}$	\$1.10	15	$2\frac{5}{8}$	\$2.50
8	$1\frac{1}{4}$	1.40	18	3	3.00
10	$1\frac{3}{4}$	1.75	21	$4\frac{1}{8}$	3.50
12	$2\frac{1}{8}$	1.90			



Double End Wrenches

15-Degree Angle, Drop Forged

List Prices, Dimensions, Etc.

No.	For U. S. Standard Nuts Size Bolts	Openings Milled	Extreme Length	Thickness Heads	Price Unfinished	Price Semi- finished	Price Finished
30	$\frac{3}{8}$ and $\frac{1}{2}$	$\frac{11}{16}$ and $\frac{7}{8}$	$7\frac{3}{4}$	$\frac{5}{16}$ and $\frac{13}{32}$	\$0.28	\$0.42	\$0.56
31	$\frac{7}{16}$ and $\frac{1}{2}$	$\frac{25}{32}$ and $\frac{7}{8}$	$7\frac{3}{4}$	$\frac{11}{32}$ and $\frac{3}{8}$	.30	.45	.60
32	$\frac{7}{16}$ and $\frac{9}{16}$	$\frac{25}{32}$ and $\frac{31}{32}$	$8\frac{3}{4}$	$\frac{11}{32}$ and $\frac{7}{16}$	.34	.51	.68
33	$\frac{1}{2}$ and $\frac{9}{16}$	$\frac{7}{8}$ and $\frac{31}{32}$	$8\frac{3}{4}$	$\frac{13}{32}$ and $\frac{7}{16}$	.36	.54	.72
34	$\frac{1}{2}$ and $\frac{5}{8}$	$\frac{7}{8}$ and $\frac{11}{16}$	$9\frac{3}{4}$	$\frac{13}{32}$ and $\frac{1}{2}$	.41	.61	.82
35	$\frac{9}{16}$ and $\frac{5}{8}$	$\frac{31}{32}$ and $\frac{11}{16}$	$9\frac{3}{4}$	$\frac{7}{16}$ and $\frac{1}{2}$	.43	.65	.86
36	$\frac{9}{16}$ and $\frac{3}{4}$	$\frac{31}{32}$ and $1\frac{1}{4}$	$11\frac{1}{2}$	$\frac{7}{16}$ and $\frac{9}{16}$	.50	.75	1.00
37	$\frac{5}{8}$ and $\frac{3}{4}$	$\frac{11}{16}$ and $1\frac{1}{4}$	$11\frac{1}{2}$	$\frac{9}{16}$ and $\frac{1}{2}$	.53	.80	1.06
38	$\frac{5}{8}$ and $\frac{7}{8}$	$\frac{11}{16}$ and $\frac{17}{16}$	$13\frac{1}{2}$	$\frac{1}{2}$ and $\frac{21}{32}$	.62	.93	1.24
39	$\frac{3}{4}$ and $\frac{7}{8}$	$1\frac{1}{4}$ and $\frac{17}{16}$	$13\frac{1}{2}$	$\frac{9}{16}$ and $\frac{3}{4}$	.65	.98	1.30
40	$\frac{3}{4}$ and 1	$1\frac{1}{4}$ and $1\frac{5}{8}$	$15\frac{1}{2}$	$\frac{9}{16}$ and $\frac{3}{4}$	.78	1.17	1.56
41	$\frac{7}{8}$ and 1	$\frac{17}{16}$ and $1\frac{5}{8}$	$15\frac{1}{2}$	$\frac{21}{32}$ and $\frac{3}{4}$	.82	1.23	1.64

Forged Steel Socket Wrenches for Bolters

Made Any Size to Order

Dimensions, Prices, Etc., of Standard Sizes

Size of Socket	Extreme Length, Inches	Kind of Nut	Price
$\frac{3}{4}$ Short Diameter $\frac{1}{2} \times \frac{1}{2}$	25 $27\frac{1}{4}$	Hexagon Square	\$0.25 .25

Double Head Cast Iron Wrenches

Dimensions and Prices

Number	WIDTH OPENINGS, INCHES		Length Wrench Over All Inches	Price
	Large	Small		
6	$\frac{5}{8}$	$\frac{9}{16}$	$7\frac{3}{4}$	\$0.11
7	$2\frac{3}{8}$	$1\frac{9}{16}$	$12\frac{3}{8}$	.13
9	$2\frac{5}{8}$	$1\frac{5}{8}$	$12\frac{1}{8}$	.13

Single Head Cast Iron Wrenches

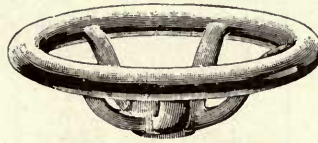
Dimensions and Prices

Number	Size Opening Inches	Length Over All Inches	Price
7	$1\frac{5}{8}$	$12\frac{1}{8}$	\$0.10
9	2	$12\frac{3}{4}$	.10



## Basket Hand Wheels

Tapped, Bored and Set Screwed or Key Seated



Dimensions and Prices

Diameter Inches	Price	Thickness of Rim Inches	Number of Arms	Diameter of Hub Inches	Length of Hub Inches	Diameter Inches	Price	Thickness of Rim Inches	Number of Arms	Diameter of Hub Inches	Length of Hub Inches
4	\$1.00	$\frac{3}{4}$	3	$2\frac{3}{8}$	$1\frac{1}{4}$	14	\$3.50	$1\frac{3}{8}$	4	2	$2\frac{1}{2}$
5	1.25	$\frac{3}{4}$	4	$1\frac{1}{2}$	$1\frac{1}{4}$	16	4.00	$1\frac{3}{8}$	6	$2\frac{1}{2}$	$2\frac{3}{8}$
6	1.50	$\frac{3}{4}$	4	$1\frac{3}{8}$	$1\frac{1}{2}$	18	5.00	$1\frac{1}{2}$	6	$2\frac{1}{2}$	3
7	1.75	$\frac{7}{8}$	6	$1\frac{1}{2}$	$1\frac{1}{2}$	20	6.00	$1\frac{1}{2}$	6	$2\frac{3}{4}$	$2\frac{3}{4}$
8	2.00	1	4	2	$1\frac{3}{4}$	22	7.00	$1\frac{5}{8}$	6	3	$2\frac{1}{2}$
10	2.50	$1\frac{1}{4}$	4	2	$2\frac{5}{8}$	24	9.00	$1\frac{5}{8}$	6	3	$3\frac{1}{2}$
12	3.00	$1\frac{3}{8}$	4	2	$2\frac{1}{16}$	28	11.00	$1\frac{5}{8}$	6	$3\frac{1}{4}$	$2\frac{1}{2}$

## Open Drop-Forged Turnbuckles



Dimensions and Prices

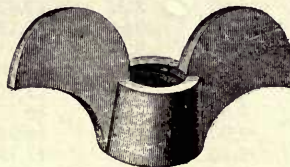
Size of Rod Inches	Weight Without Ends Pounds	Weight with Ends Pounds	Total Length of Buckle Inches	Clear Between Heads Inches	Diameter of Side Bar Inches	Width of Turn-Buckles Inches	Length of Stub Ends Inches	Price Each Without Ends	Price Each With Ends
$\frac{3}{8}$	0.63	1	$6\frac{7}{8}$	5	$\frac{3}{8}$	$1\frac{1}{2}$	6	\$0.50	\$0.65
$\frac{7}{16}$	0.63	$1\frac{1}{4}$	$6\frac{7}{8}$	5	$\frac{3}{8}$	$1\frac{1}{2}$	7	.55	.70
$\frac{1}{2}$	1.06	2	$8\frac{1}{4}$	6	$\frac{1}{2}$	$1\frac{1}{2}$	8	.60	.80
$\frac{9}{16}$	1.06	$2\frac{1}{4}$	$8\frac{1}{4}$	6	$\frac{1}{2}$	$1\frac{1}{2}$	8	.65	.85
$\frac{5}{8}$	1.37	$2\frac{3}{4}$	$8\frac{1}{4}$	6	$\frac{9}{16}$	$1\frac{7}{8}$	9	.70	.95
$\frac{3}{4}$	1.83	$4\frac{1}{4}$	$8\frac{1}{2}$	6	$\frac{5}{8}$	$2\frac{1}{8}$	10	.80	1.15
$\frac{7}{8}$	2.53	$6\frac{1}{4}$	9	6	$\frac{3}{4}$	$2\frac{3}{8}$	11	.95	1.40
1	3.96	$9\frac{1}{4}$	9	6	$\frac{3}{4}$	$2\frac{7}{8}$	12	1.10	1.60
$1\frac{1}{8}$	4.23	$11\frac{1}{2}$	$9\frac{1}{2}$	6	$\frac{7}{8}$	3	13	1.25	1.90
$1\frac{1}{4}$	5.46	15	$9\frac{1}{2}$	6	$\frac{7}{8}$	$3\frac{3}{8}$	14	1.50	2.35
$1\frac{3}{8}$	5.61	$18\frac{3}{4}$	$9\frac{3}{4}$	6	1	$3\frac{5}{8}$	16	1.70	2.70
$1\frac{1}{2}$	7.50	$23\frac{1}{4}$	$10\frac{1}{4}$	6	$1\frac{1}{8}$	4	16	1.90	3.30
$1\frac{5}{8}$	8.75	$28\frac{1}{4}$	$10\frac{3}{2}$	6	$1\frac{3}{8}$	$4\frac{1}{2}$	17	2.30	3.80
$1\frac{3}{4}$	8.75	33	$10\frac{3}{4}$	6	$1\frac{3}{8}$	$4\frac{1}{2}$	18	2.30	4.10
$1\frac{7}{8}$	10	39	$11\frac{1}{4}$	6	$1\frac{3}{8}$	$4\frac{7}{8}$	19	2.90	4.90
2	10	44	$11\frac{1}{4}$	6	$1\frac{3}{8}$	$4\frac{7}{8}$	19	3.10	5.35

With Upset Ends, designated by diameter of screw, 30 per cent additional.

These Turnbuckles are made without a weld, from a single piece of iron, have a smooth finish, and the ends are tapped perfectly true in line.

Special prices for quantity will be quoted.

## Malleable Iron Thumb Nuts



Price Per One Hundred

Diameter, Inches	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Threads per Inch	40	24	20	18	16	14	12	11	10
Per 100 Threaded	\$1.45	\$1.45	\$1.60	\$1.80	\$2.25	\$2.80	\$4.00	\$6.00	\$7.00
Blanks per Pound	.30	.30	.15	.12	.12	.12	.10	.10	.10

Common Carriage Bolts  
Price Per Hundred

Length in Inches	¼	⅝	¾	⅞	½	⅞ and ⅝	¾
1	\$1.00	\$1.40	\$1.90	\$2.20			
1½	1.00	1.40	1.90	2.20			
2	1.10	1.52	2.06	2.40			
2½	1.20	1.64	2.22	2.60	\$3.25	\$5.75	\$8.50
3	1.30	1.76	2.38	2.80	3.53	6.13	9.00
3½	1.40	1.88	2.54	3.00	3.81	6.51	9.50
4	1.50	2.00	2.70	3.20	4.09	6.89	10.00
4½	1.60	2.12	2.86	3.40	4.37	7.27	10.50
5	1.70	2.24	3.02	3.60	4.65	7.65	11.00
5½	1.80	2.36	3.18	3.80	4.93	8.03	11.50
6	1.90	2.48	3.34	4.00	5.21	8.41	12.00
6½	2.00	2.60	3.50	4.20	5.49	8.79	12.50
7	2.10	2.72	3.66	4.40	5.77	9.17	13.00
7½	2.20	2.84	3.82	4.60	6.05	9.55	13.50
8	2.30	2.96	3.98	4.80	6.33	9.93	14.00
8½	2.40	3.08	4.14	5.00	6.61	10.31	14.50
9	2.50	3.20	4.30	5.20	6.89	10.69	15.00
9½	2.60	3.32	4.46	5.40	7.17	11.07	15.50
10	2.70	3.44	4.62	5.60	7.45	11.45	16.00
11	2.90	3.68	4.94	6.00	8.01	12.21	17.00
12	3.10	3.92	5.26	6.40	8.57	12.97	18.00
13	3.30	4.16	5.58	6.80	9.13	13.73	19.00
14	3.50	4.40	5.90	7.20	9.69	14.49	20.00
15	3.70	4.64	6.22	7.60	10.25	15.25	21.00
16	3.90	4.88	6.54	8.00	10.81	16.01	22.00
17	4.10	5.12	6.86	8.40	11.37	16.77	23.00
18	4.30	5.36	7.18	8.80	11.93	17.53	24.00
19	4.50	5.60	7.50	9.20	12.49	18.29	25.00
20	4.70	5.84	7.82	9.60	13.05	19.05	26.00

Bolts with hexagon nuts, 15 per cent extra. Intermediate lengths take next longer list. Larger diameters take Machine Bolt List.

Machine Bolts  
Manufacturers' Standard List  
Price Per Hundred, with Square Heads and Nuts

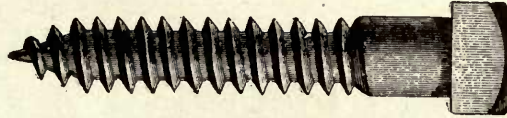
Length in Inches	¼	⅝	¾	⅞	½	⅞ and ⅝	¾	⅞	1
¾ to 1½	\$1.70	\$2.00	\$2.40	\$2.80	\$3.60	\$5.20	\$ 7.20	\$10.50	\$15.10
2	1.78	2.12	2.56	3.00	3.86	5.58	7.70	11.20	16.00
2½	1.86	2.24	2.72	3.20	4.12	5.96	8.20	11.90	16.90
3	1.94	2.36	2.88	3.40	4.38	6.34	8.70	12.60	17.80
3½	2.02	2.48	3.04	3.60	4.64	6.72	9.20	13.30	18.70
4	2.10	2.60	3.20	3.80	4.90	7.10	9.70	14.00	19.60
4½	2.18	2.72	3.36	4.00	5.16	7.48	10.20	14.70	20.50
5	2.26	2.84	3.52	4.20	5.42	7.86	10.70	15.40	21.40
5½	2.34	2.96	3.68	4.40	5.68	8.24	11.20	16.10	22.30
6	2.42	3.08	3.84	4.60	5.94	8.62	11.70	16.80	23.20
6½	2.50	3.20	4.00	4.80	6.20	9.00	12.20	17.50	24.10
7	2.58	3.32	4.16	5.00	6.46	9.38	12.70	18.20	25.00
7½	2.66	3.44	4.32	5.20	6.72	9.76	13.20	18.90	25.90
8	2.74	3.56	4.48	5.40	6.98	10.14	13.70	19.60	26.80
9	2.90	3.80	4.80	5.80	7.50	10.90	14.70	21.00	28.60
10	3.06	4.04	5.12	6.20	8.02	11.66	15.70	22.40	30.40
11	3.22	4.28	5.44	6.60	8.54	12.42	16.70	23.80	32.20
12	3.38	4.52	5.76	7.00	9.06	13.18	17.70	25.20	34.00
13	3.54	4.76	6.08	7.40	9.58	13.94	18.70	26.60	35.80
14	3.70	5.00	6.40	7.80	10.10	14.70	19.70	28.00	37.60
15	3.86	5.24	6.72	8.20	10.62	15.46	20.70	29.40	39.40
16	4.02	5.48	7.04	8.60	11.14	16.22	21.70	30.80	41.20
17	4.18	5.72	7.36	9.00	11.66	16.98	22.70	32.20	43.00
18	4.34	5.96	7.68	9.40	12.18	17.74	23.70	33.60	44.80
19	4.50	6.20	8.00	9.80	12.70	18.50	24.70	35.00	46.60
20	4.66	6.44	8.32	10.20	13.22	19.26	25.70	36.40	48.40

Bolts with hexagon heads or hexagon nuts, 10% extra. With both hexagon heads and hexagon nuts, 20% extra.

All bolts are cut with United States Standard Thread, unless otherwise ordered.  
Bolts of irregular shape or style, made to order, will be charged extra at our discretion.



# Wood or Lag Screws, with Square Heads



## Price Per Hundred

Length in Inches	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$ and $\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
1½	\$2.25	\$2.70	\$3.15	\$3.75				
2	2.45	2.96	3.47	4.11	\$ 5.00			
2½	2.65	3.22	3.79	4.47	5.50	\$ 7.90		
3	2.85	3.48	4.11	4.83	6.00	8.60	\$12.50	
3½	3.05	3.74	4.43	5.19	6.50	9.30	13.50	\$18.20
4	3.25	4.00	4.75	5.55	7.00	10.00	14.50	19.50
4½	3.45	4.26	5.07	5.91	7.50	10.70	15.50	20.80
5	3.65	4.52	5.39	6.27	8.00	11.40	16.50	22.10
5½	3.85	4.78	5.71	6.63	8.50	12.10	17.50	23.40
6	4.05	5.04	6.03	6.99	9.00	12.80	18.50	24.70
6½	4.25	5.30	6.35	7.35	9.50	13.50	19.50	26.00
7	4.45	5.56	6.67	7.71	10.00	14.20	20.50	27.30
7½	4.65	5.82	6.99	8.07	10.50	14.90	21.50	28.60
8	4.85	6.08	7.31	8.43	11.00	15.60	22.50	29.90
9	5.25	6.60	7.95	9.15	12.00	17.00	24.50	32.50
10	5.65	7.12	8.59	9.87	13.00	18.40	26.50	35.10
11	6.05	7.64	9.23	10.59	14.00	19.80	28.50	37.70
12	6.45	8.16	9.87	11.31	15.00	21.20	30.50	40.30

# Iron Set Screws

## Price Per Hundred

Diameter of Screw Inches	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	1½	1¾
¾	\$2.00	\$2.20	\$2.50	\$2.90	\$3.40	\$4.25	\$ 5.00					
1	2.15	2.35	2.65	3.10	3.60	4.25	5.00	\$ 7.00				
1¼	2.30	2.50	2.80	3.30	3.80	4.50	5.25	7.00	\$11.30			
1½	2.45	2.65	2.95	3.50	4.00	4.75	5.50	7.50	11.30	\$14.90		
1¾	2.60	2.80	3.10	3.70	4.20	5.00	5.75	8.00	12.00	15.90	\$19.50	
2	2.80	3.00	3.30	3.95	4.45	5.30	6.05	8.60	12.90	17.00	21.10	\$25.30
2¼	3.05	3.25	3.55	4.25	4.75	5.65	6.40	9.30	13.80	18.40	22.90	27.40
2½	3.30	3.55	3.85	4.60	5.10	6.05	6.80	10.00	14.80	19.80	24.70	29.60
2¾	3.55	3.85	4.20	5.00	5.50	6.50	7.25	10.80	15.90	21.40	26.70	32.00
3	3.80	4.15	4.55	5.45	5.95	7.00	7.75	11.70	17.10	23.00	28.80	34.60
3¼	----	4.45	4.90	5.90	6.45	7.55	8.35	12.70	18.40	24.70	31.00	37.40
3½	----	----	5.25	6.35	6.95	8.10	8.95	13.70	19.70	26.40	33.20	40.20
3¾	----	----	----	6.80	7.45	8.65	9.55	14.70	21.00	28.10	35.40	43.00
4	----	----	----	----	7.95	9.20	10.15	15.70	22.30	29.80	37.60	45.80
4¼	----	----	----	----	----	9.75	10.75	16.70	23.60	31.50	39.80	48.60
4½	----	----	----	----	----	----	11.35	17.70	24.90	33.20	42.00	51.40
4¾	----	----	----	----	----	----	----	18.70	26.20	34.90	44.20	54.20
5	----	----	----	----	----	----	----	----	27.50	36.60	46.40	57.00
Threads to Inch	20	18	16	14	12	12	11	10	9	8	7	7
Add for each ¼ inch	\$0.25	\$0.30	\$0.35	\$0.45	\$0.50	\$0.55	\$0.60	\$1.00	\$1.30	\$1.70	\$2.20	\$2.80



Hexagon Head Cap Screws  
Price Per Hundred

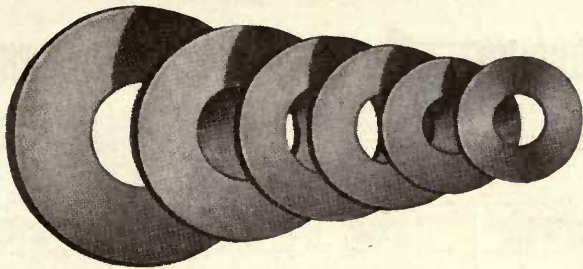
Diameter of Head, Inches	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$
Length of Head, Inches	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
Diameter of Screw, Inches	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
Length Under Head to Extreme Point, Inches	$\frac{3}{4}$	\$3.00	\$3.25	\$3.75	\$4.40	\$5.50	\$7.00					
	1	3.25	3.50	4.00	4.70	5.70	7.00	\$ 9.50				
	$1\frac{1}{4}$	3.50	3.75	4.25	5.00	6.00	7.50	9.50	\$12.20			
	$1\frac{1}{2}$	3.75	4.00	4.50	5.30	6.30	8.00	10.00	12.20	\$16.00		
	$1\frac{3}{4}$	4.00	4.25	4.75	5.60	6.60	8.50	10.60	12.80	16.60	\$21.20	
	2	4.25	4.60	5.05	5.95	7.00	9.10	11.20	13.40	17.20	22.30	\$29.00
	$2\frac{1}{4}$	4.55	5.00	5.40	6.35	7.50	9.70	11.90	14.10	17.90	23.60	30.50
	$2\frac{1}{2}$	4.85	5.40	5.80	6.80	8.00	10.40	12.70	14.90	18.80	25.10	32.30
	$2\frac{3}{4}$	5.15	5.80	6.30	7.30	8.60	11.20	13.60	15.90	20.00	26.90	34.40
	3	5.45	6.20	6.80	7.90	9.30	12.10	14.70	17.00	21.80	29.00	37.00
	$3\frac{1}{4}$	-----	6.60	7.30	8.50	10.10	13.10	16.00	18.60	23.80	31.40	40.00
	$3\frac{1}{2}$	-----	-----	7.80	9.10	10.90	14.10	17.30	20.20	25.80	33.80	43.00
	$3\frac{3}{4}$	-----	-----	-----	9.70	11.70	15.10	18.60	21.80	27.80	36.20	46.00
	4	-----	-----	-----	-----	12.50	16.10	19.90	23.40	29.80	38.60	49.00
	$4\frac{1}{4}$	-----	-----	-----	-----	-----	17.10	21.20	25.00	31.80	41.00	52.00
	$4\frac{1}{2}$	-----	-----	-----	-----	-----	-----	22.50	26.60	33.80	43.40	55.00
	$4\frac{3}{4}$	-----	-----	-----	-----	-----	-----	-----	28.20	35.80	45.80	58.00
	5	-----	-----	-----	-----	-----	-----	-----	-----	37.80	48.20	61.00
Threads to Inch	20	18	16	14	12	12	11	10	9	8	7	7
Add for Each $\frac{1}{4}$ Inch	\$0.30	\$0.40	\$0.50	\$0.60	\$0.80	\$1.00	\$1.30	\$1.60	\$2.00	\$2.40	\$3.00	\$4.00

Standard Wrought Iron and Steel Steam,  
Gas and Water Pipe  
Black and Galvanized

Nominal Inside Diameter Inches	Price Per Foot	Thickness Inches	Normal Weight Per Foot Pounds	Number of Threads per Inch of Screw
$\frac{1}{8}$	\$0.05 $\frac{1}{2}$	.068	0.24	27
$\frac{1}{4}$	.06	.088	0.42	18
$\frac{3}{8}$	.06	.091	0.56	18
$\frac{1}{2}$	.08 $\frac{1}{2}$	.109	0.84	14
$\frac{3}{4}$	.11 $\frac{1}{2}$	.113	1.12	14
1	.17	.134	1.67	11 $\frac{1}{2}$
$1\frac{1}{4}$	.23	.140	2.24	11 $\frac{1}{2}$
$1\frac{1}{2}$	.27 $\frac{1}{2}$	.145	2.68	11 $\frac{1}{2}$
2	.37	.154	3.61	11 $\frac{1}{2}$
$2\frac{1}{2}$	.58 $\frac{1}{2}$	.204	5.74	8
3	.76 $\frac{1}{2}$	.217	7.54	8
$3\frac{1}{2}$	.92	.226	9.00	8
4	1.09	.237	10.66	8
$4\frac{1}{2}$	1.27	.246	12.49	8
5	1.48	.259	14.50	8
6	1.92	.280	18.76	8
7	2.38	.301	23.27	8
8	2.88	.322	28.18	8
9	3.45	.344	33.70	8
10	4.12	.366	40.00	8
11	4.63	.375	45.00	8
12	5.07	.375	49.00	8

Unless otherwise ordered this pipe will be shipped in random lengths, including thread and coupling. For cut lengths an extra charge will be made above random lengths.

Wrought Iron Washers



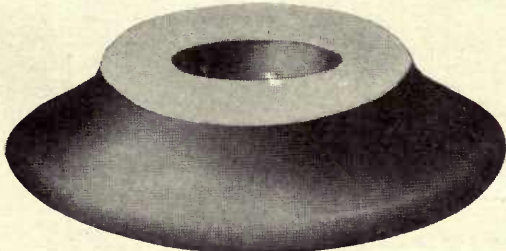
Sizes and Prices

Diameter Inches	Hole Inches	Thickness of Wire Gauge No.	Bolt Inches	Price per Pound in 200-lb. Kegs Cents	Number in 100 Pounds
$\frac{9}{16}$	$\frac{1}{4}$	18	$\frac{3}{16}$	14.	39400
$\frac{3}{4}$	$\frac{5}{16}$	16	$\frac{1}{4}$	12.2	15600
$\frac{7}{8}$	$\frac{3}{8}$	16	$\frac{5}{16}$	11.4	11250
1	$\frac{7}{16}$	14	$\frac{3}{8}$	10.5	6800
$1\frac{1}{4}$	$\frac{1}{2}$	14	$\frac{7}{16}$	9.8	4300
$1\frac{3}{8}$	$\frac{9}{16}$	12	$\frac{1}{2}$	9.4	2600
$1\frac{1}{2}$	$\frac{5}{8}$	12	$\frac{9}{16}$	9.3	2250
$1\frac{3}{4}$	$\frac{11}{16}$	10	$\frac{5}{8}$	9.2	1300
2	$\frac{13}{16}$	9	$\frac{3}{4}$	9.1	900
$2\frac{1}{4}$	$\frac{15}{16}$	8	$\frac{7}{8}$	9.	782
$2\frac{1}{2}$	$1\frac{1}{16}$	8	1	9.	568
$2\frac{3}{4}$	$1\frac{1}{4}$	8	$1\frac{1}{8}$	9.	473
3	$1\frac{3}{8}$	8	$1\frac{1}{4}$	9.2	364
$3\frac{1}{4}$	$1\frac{1}{2}$	7	$1\frac{3}{8}$	9.2	275
$3\frac{1}{2}$	$1\frac{5}{8}$	7	$1\frac{1}{2}$	9.2	256
$3\frac{3}{4}$	$1\frac{3}{4}$	7	$1\frac{5}{8}$	9.5	220
4	$1\frac{7}{8}$	7	$1\frac{3}{4}$	9.5	197
$4\frac{1}{4}$	2	7	$1\frac{7}{8}$	9.5	174
$4\frac{1}{2}$	$2\frac{1}{8}$	7	2	9.5	160
$4\frac{3}{4}$	$2\frac{3}{8}$	5	$2\frac{1}{4}$	10.5	122
5	$2\frac{5}{8}$	4	$2\frac{1}{2}$	10.5	106

For less than keg lots (200 lbs.) of a size, add:  
10c per cwt. per 100-lb. kegs  
20c " " " 50 to 100-lb. boxes  
30c " " " 25 to 50-lb. boxes

50c per cwt. for 5-lb. boxes  
\$1.00 " " " 1-lb. boxes

Cast Iron Washers



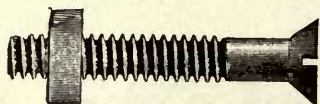
Price per pound.....\$0.05

Stay Rods

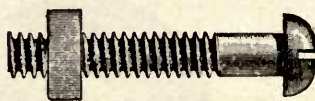
We are prepared to furnish promptly Stay Rods any length and diameter and made in any style desired; also the necessary special cast and wrought iron washers. Close prices quoted upon receipt of specifications.



## Stove Bolts



Flat Head

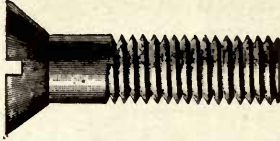


Round Head

### List Price Per Hundred

Length Inches	Diameter $\frac{1}{8}$ and $\frac{1}{4}$ Inch	Diameter $\frac{3}{8}$ inch	Diameter $\frac{1}{2}$ and $\frac{3}{4}$ Inch	Diameter $\frac{1}{2}$ Inch	Diameter $\frac{3}{4}$ Inch
$\frac{3}{8}$	\$0.85	\$0.85			
$\frac{1}{2}$	.85	.85	\$1.20		
$\frac{5}{8}$	.85	.85	1.20		
$\frac{3}{4}$	.85	.85	1.20	\$1.75	\$2.65
$\frac{7}{8}$	.90	.90	1.25	1.80	2.70
1	.90	.90	1.30	1.85	2.75
$1\frac{1}{8}$	.95	.95	1.35	1.90	2.85
$1\frac{1}{4}$	1.00	1.00	1.40	1.95	2.90
$1\frac{3}{8}$	1.05	1.05	1.45	2.00	3.00
$1\frac{1}{2}$	1.10	1.10	1.50	2.05	3.10
$1\frac{3}{4}$	1.15	1.15	1.55	2.15	3.20
2	1.20	1.20	1.60	2.30	3.40
$2\frac{1}{4}$	-----	1.25	1.70	2.40	3.60
$2\frac{1}{2}$	-----	1.30	1.80	2.50	3.80
$2\frac{3}{4}$	-----	1.40	1.90	2.60	4.00
3	-----	1.50	2.00	2.70	4.20
$3\frac{1}{4}$	-----	1.60	2.10	2.85	4.40
$3\frac{1}{2}$	-----	1.70	2.20	3.00	4.60
$3\frac{3}{4}$	-----	1.80	2.30	3.15	4.80
4	-----	1.90	2.40	3.30	5.00
$4\frac{1}{4}$	-----	2.00	2.50	3.45	5.20
$4\frac{1}{2}$	-----	2.10	2.60	3.60	5.40
$4\frac{3}{4}$	-----	2.20	2.70	3.75	5.60
5	-----	2.30	2.85	3.90	5.80
$5\frac{1}{4}$	-----	2.40	3.00	4.10	6.00
$5\frac{1}{2}$	-----	2.50	3.15	4.30	6.20
$5\frac{3}{4}$	-----	2.60	3.30	4.50	6.40
6	-----	2.75	3.45	4.70	6.60
$6\frac{1}{4}$	-----	2.90	3.60	4.90	6.80
$6\frac{1}{2}$	-----	3.05	3.75	5.10	7.00

# Iron Machine Screws



Flat Head



Round Head

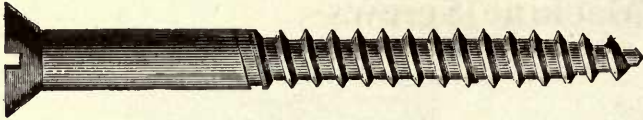


Fillister Head

## List Price Per Gross

OUR STANDARD THREADS PER INCH																	
	48 56 64	48 56	32, 36, 40		30 32 36	30 32	30 32 36	24, 30, 32		20 24	18 20 24	16, 18, 20		16 18	14 16 18	14 16	13
No.	2	3	4	5	6	7	8	9	10	12	14	16	18	20	24	30	34
Inches																	
1/8	\$0.30	\$0.30	\$0.30	\$0.35	\$0.35	\$0.40	\$0.40										
9/16	.30	.30	.30	.35	.35	.40	.40	\$0.60	\$0.60								
1/4	.30	.30	.30	.35	.35	.40	.40	.60	.60	\$0.70	\$0.85						
5/16	.32	.32	.32	.37	.37	.44	.44	.65	.65	.75	.90	\$1.15					
3/8	.32	.32	.32	.37	.37	.44	.44	.65	.65	.75	.90	1.15	\$1.50	\$1.90	\$ 2.30		
7/16	.34	.34	.34	.39	.39	.48	.48	.70	.70	.80	.95	1.20	1.60	2.00	2.40		
1/2	.34	.34	.34	.39	.39	.48	.48	.70	.70	.80	.95	1.20	1.60	2.00	2.40		
5/8	.37	.37	.37	.42	.42	.52	.52	.75	.75	.85	1.00	1.25	1.70	2.10	2.50		
3/4	.37	.37	.37	.42	.42	.52	.52	.75	.75	.85	1.00	1.25	1.70	2.10	2.50		
7/8	.41	.41	.41	.46	.46												
1 1/8	.41	.41	.41	.46	.46	.56	.56	.80	.80	.90	1.05	1.30	1.80	2.20	2.60	\$ 4.00	\$ 5.10
1 1/4	.45	.45	.45	.50	.50												
1 1/2	.45	.45	.45	.50	.50	.60	.60	.85	.85	.95	1.15	1.40	1.90	2.30	2.70	4.25	5.85
1 3/4	---	---	.50	.55	.55												
2	---	---	.50	.55	.55	.65	.65	.90	.90	1.00	1.25	1.50	2.00	2.40	2.80	4.50	6.60
2 1/8	---	---	.55	.60	.60	.70	.70	1.00	1.00	1.10	1.35	1.60	2.20	2.60	3.00	5.00	7.00
2 1/4	---	---	.60	.65	.65	.75	.75	1.10	1.10	1.20	1.45	1.75	2.40	2.80	3.20	5.25	7.35
2 3/8	---	---	.65	.70	.70	.80	.80	1.20	1.20	1.30	1.55	1.90	2.60	3.00	3.40	5.75	8.00
2 1/2	---	---	.70	.75	.75	.85	.85	1.30	1.30	1.40	1.65	2.10	2.80	3.20	3.60	6.00	8.00
2 3/4	---	---	.80	.85	.85	.95	.95	1.40	1.40	1.50	1.75	2.30	3.00	3.40	3.80	6.35	---
3	---	---	.90	.95	.95	1.05	1.05	1.50	1.50	1.60	1.85	2.50	3.20	3.60	4.20	6.65	8.60
3 1/8	---	---	1.00	1.05	1.05	1.15	1.15	1.60	1.60	1.70	2.00	2.70	3.40	3.80	4.40	7.00	---
3 1/4	---	---	1.10	1.15	1.15	1.25	1.25	1.70	1.70	1.80	2.20	2.90	3.60	4.00	4.60	7.35	9.40
3 1/2	---	---	---	1.25	1.25	1.45	1.45	1.90	1.90	2.20	2.60	3.30	4.00	4.40	4.80	8.00	10.30
3 3/4	---	---	---	---	---	1.65	1.65	2.20	2.20	2.50	2.80	3.50	4.40	4.90	5.30	8.90	11.50
4	---	---	---	---	---	1.90	1.90	2.50	2.50	2.90	3.20	4.00	4.90	5.40	5.90	9.85	---
5	---	---	---	---	---	2.30	2.30	2.90	2.90	3.50	3.80	4.50	5.60	6.00	7.40	11.00	---
5 1/8	---	---	---	---	---	---	---	3.30	3.30	4.25	4.50	5.50	6.50	7.00	8.80	13.00	---
5 1/4	---	---	---	---	---	---	---	3.75	3.75	5.00	5.25	6.50	7.50	8.50	10.10	15.00	---
5 1/2	---	---	---	---	---	---	---	---	---	---	6.00	7.50	8.50	9.25	12.20	17.50	---
5 3/4	---	---	---	---	---	---	---	---	---	---	6.75	8.50	9.60	10.25	13.50	20.50	---





Patent

Iron Wood Screws

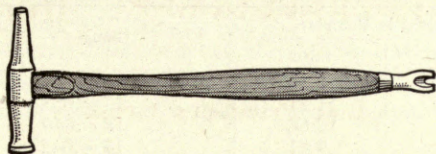
List Price Per Gross

¼ Inch			¾ Inch—Cont.			1¼ Inch—Cont.			2 Inch—Cont.			2¾ Inch—Cont.			4 Inch—Cont.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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\*The number of gross in a bundle is indicated by small figures on the side, divided by a star (\*).

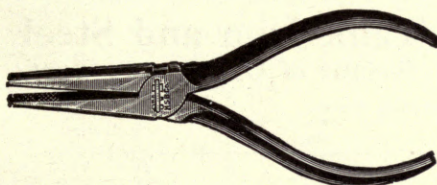
The following varieties of Iron Screws are invoiced from this list at varying discounts: Flat, Round, Fillister and Oval Head Screws, Dowel, Winged, Headless, Pinched Bung Head and Felloe Screws; Bright Blued, Nickel Plated, Silver Plated, Brassed, Bronzed, Coppered, Japanned, Lacquered and Tinned, also Drive Screws.

## Magnetic Tack Hammers



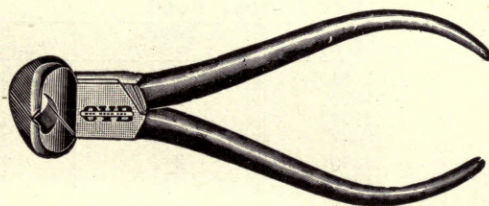
Made of magnetic steel, of medium length, and have steel claws for removing tacks. Weight, 5 ounces.  
 Price, each.....\$0.30

## Hand Forged Pliers



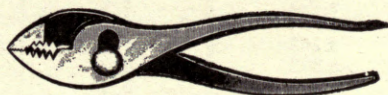
These Pliers are 5½ inches long with polished jaws, lock joint and gun metal finish handles. Weight, 3 ounces.  
 Price, each.....\$0.75

## End Cutting Nippers



Hand forged from special Swedish steel. Box joint, polished jaws and gun metal finish handles. Weight, 3 ounces.  
 Price, each.....\$0.80

## Combination Pliers



Cast steel, combining Gas Plier, Wire Cutter, Wrench and Screw Driver. Weight, 8 ounces.  
 Price, each.....\$1.25



Sheet Iron and Steel

Weight of One Square Foot, Birmingham Gauge

Gauge	Weight in Pounds		Gauge	Weight in Pounds	
	Iron	Steel		Iron	Steel
No.1 =.3	12.12	12.36	No. 16 =.065	2.63	2.68
2 =.284	11.48	11.71	17 =.058	2.34	2.39
3 =.259	10.47	10.68	18 =.049	1.98	2.02
4 =.238	9.62	9.81	19 =.042	1.70	1.73
2 =.22	8.89	9.07	20 =.035	1.56	1.59
6 =.203	8.20	8.36	21 =.032	1.40	1.43
7 =.18	7.27	7.42	22 =.028	1.25	1.28
8 =.165	6.67	6.80	23 =.025	1.12	1.14
9 =.148	5.98	6.10	24 =.022	1.00	1.02
10 =.134	5.42	5.53	25 =.02	.9	.92
11 =.12	4.85	4.95	26 =.018	.8	.82
12 =.109	4.41	4.50	27 =.016	.72	.73
13 =.095	3.84	3.92	28 =.014	.64	.65
14 =.083	3.35	3.42	29 =.013	.56	.57
15 =.072	2.91	2.97	30 =.012	.5	.51

Tank Iron and Steel

Weight of One Square Foot

Thickness in Inches	Weight in Pounds		Thickness in Inches	Weight in Pounds	
	Iron	Steel		Iron	Steel
$\frac{1}{32}$ =.03125	1.27	1.30	$\frac{5}{16}$ = .3125	12.63	12.88
$\frac{1}{16}$ =.0625	2.52	2.57	$\frac{3}{8}$ = .375	15.16	15.46
$\frac{3}{32}$ =.09375	3.79	3.87	$\frac{7}{16}$ = .4375	17.68	18.03
$\frac{1}{8}$ =.125	5.05	2.15	$\frac{1}{2}$ = .5	20.21	20.61
$\frac{5}{32}$ =.15625	6.32	6.45	$\frac{9}{16}$ = .5625	22.73	23.19
$\frac{3}{16}$ =.1875	7.58	7.73	$\frac{5}{8}$ = .625	25.26	25.77
$\frac{7}{32}$ =.21875	8.84	9.02	$\frac{3}{4}$ = .75	30.31	30.92
$\frac{1}{4}$ =.25	10.10	10.30	$\frac{7}{8}$ = .875	35.37	36.08
$\frac{9}{32}$ =.28123	11.38	11.61	1 =1.000	40.42	41.23

Weights of Round and Square Iron

Per Lineal Foot

Size in Inches	Round Weight in Pounds	Square Weight in Pounds	Size in Inches	Round Weight in Pounds	Square Weight in Pounds
$\frac{3}{16}$	.0930	.1184	$1\frac{3}{4}$	8.101	10.31
$\frac{7}{32}$	.1266	.1612	$1\frac{7}{8}$	9.300	11.84
$\frac{1}{4}$	.1653	.2105	2	10.58	13.47
$\frac{9}{32}$	.2093	.2665	$2\frac{1}{8}$	11.95	15.21
$\frac{5}{16}$	.2583	.3290	$2\frac{1}{4}$	13.39	17.05
$\frac{11}{32}$	.3126	.3980	$2\frac{3}{8}$	14.92	19.00
$\frac{3}{8}$	.3720	.4736	$2\frac{1}{2}$	16.53	21.05
$\frac{13}{32}$	.4365	.5558	$2\frac{5}{8}$	18.23	23.21
$\frac{7}{16}$	.5063	.6446	$2\frac{3}{4}$	20.01	25.47
$\frac{1}{2}$	.6613	.8420	$2\frac{7}{8}$	21.87	27.84
$\frac{9}{16}$	.8370	1.066	3	23.81	30.31
$\frac{5}{8}$	1.033	1.316	$3\frac{1}{4}$	27.94	35.57
$\frac{11}{16}$	1.250	1.592	$3\frac{1}{2}$	32.41	41.26
$\frac{3}{4}$	1.488	1.895	$3\frac{3}{4}$	37.20	47.37
$\frac{13}{16}$	1.746	2.223	4	42.33	53.89
$\frac{7}{8}$	2.025	2.579	$4\frac{1}{4}$	47.78	60.84
$\frac{15}{16}$	2.325	2.960	$4\frac{1}{2}$	53.57	68.20
1	2.645	3.368	$4\frac{3}{4}$	59.69	75.99
$1\frac{1}{16}$	2.986	3.803	5	66.13	84.20
$1\frac{1}{8}$	3.348	4.263	$5\frac{1}{4}$	72.91	92.83
$1\frac{3}{16}$	3.730	4.750	$5\frac{1}{2}$	80.02	101.9
$1\frac{1}{4}$	4.133	5.263	$5\frac{3}{4}$	87.46	111.4
$1\frac{5}{16}$	4.557	5.802	6	95.23	121.3
$1\frac{3}{8}$	5.001	6.368	$6\frac{1}{2}$	111.8	142.3
$1\frac{7}{16}$	5.466	6.960	7	129.6	165.0
$1\frac{1}{2}$	5.952	7.578	$7\frac{1}{2}$	148.8	189.5
$1\frac{9}{16}$	6.458	8.223	8	169.3	215.6
$1\frac{5}{8}$	6.985	8.893	$8\frac{1}{2}$	191.1	243.4



## **Belt Dressing**

### **Black Diamond Belt Dressing**

We guarantee that Black Diamond Belt Dressing will preserve the belts, stop slipping, increase power, and overcome the trouble caused by belts stretching and shrinking in wet and dry weather.

Our dressings are made to preserve the materials from which belts are made, such as leather, rubber, cotton, etc., and to suit the conditions under which they run, such as dusty belts, dry belts, wet belts, oily belts, etc.

Put up in pound cans. Price per pound.....\$0.80

### **Red Canvas Belt Dressing**

Red Canvas Belt Dressing. Put up in 5-pound cans. Price per can.....\$2.80

## **Cement**

### **Giant Belt Cement**

Giant Belt Cement. Is put up for our special use and is the finest and best cement on the market. A belt can be made endless or spliced in fifteen to twenty minutes. Will go farther and make a better joint than any cement made. Put up in pound cans. Price per pound.....\$2.00

### **Monarch Belt Cement**

Price per pound.....\$2.00

### **Burr Stone Cement**

Burr Stone Cement. For filling holes, seams, etc., in Burr Stones. If properly used will get as hard as the burr itself. Will save the price of new burr. Put up in 5-pound cans. Price per pound.....\$0.50

### **Metal Cement**

Metal Cement. Price per pound.....\$0.60

## **Le Page's Glue**

Le Page's Glue. Price per pint.....\$1.00

## **Miller's Spectacles**

Miller's Spectacles. Clear glass, each.....\$0.60

## **Mosher Bag Holder**

This is the only bag holder adapted for all sizes of bags from a 48-pound flour sack to a 6-bushel gunny bag.

It does not tear the bag. It is well made, with malleable iron jaws, wrought-iron pipe standards and steel spring. Weight, 20 pounds.

Price.....\$5.00



# Metric Weights and Measures with Equivalents

## Weights

Units	Equivalents
Milligram (1-1000 gram).....	0.0154 grain.
Centigram (1-100 gram).....	0.1543 grain.
Decigram (1-10 gram).....	1.5432 grains.
Gram.....	15.432 grains.
Decagram (10 grains).....	0.3527 oz. avoirdupois.
Hectogram (100 grams).....	3.5274 oz. avoirdupois.
Kilogram (1,000 grams).....	2.2046 lbs. avoirdupois.
Myriagram (10,000 grams).....	22.046 lbs. avoirdupois.
Quintal (100,000 grams).....	220.46 lbs. avoirdupois.
Millier or tonneau—ton	
(1,000,000 grams).....	2,204.6 lbs. avoirdupois.

## Dry Measure

Milliliter (1-1000 liter).....	0.061 cubic inch.
Centiliter (1-100 liter).....	0.6102 cubic inch.
Deciliter (1-10 liter).....	6.1023 cubic inches.
Liter.....	0.908 quart.
Decaliter (10 liters).....	9.08 quarts.
Hectoliter (100 liters).....	2.838 bushels.
Kiloliter (1,000 liters).....	1.308 cubic yards.

## Liquid Measure

Units	Equivalents
Milliliter (1-1000 liter).....	0.0338 fluid ounce.
Centiliter (1-100 liter).....	0.338 fluid ounce.
Deciliter (1-10 liter).....	0.845 gill.
Liter.....	1.0567 quarts.
Decaliter (10 liters).....	2.6418 gallons.
Hectoliter (100 liters).....	26.418 gallons.
Kiloliter (100 liters).....	264.18 gallons.

## Measures of Length

Millimeter (1-1000 meter).....	0.0394 inch.
Centimeter (1-100 meter).....	0.3937 inch.
Decimeter (1-10 meter).....	3.937 inches.
Meter.....	39.37 inches.
Decameter (10 meters).....	393.7 inches.
Hectometer (100 meters).....	328 feet 1 inch.
Kilometer (1,000 meters).....	0.62137 mi. (3,280 ft. 10 in.)
Myriameter (10,000 m.).....	6.2137 miles.

## Surface Measure

Centare (1 square meter).....	1,550 square inches.
Are (100 square meters).....	119.6 square yard.
Hectare (10,000 sq. meters).....	2.471 acres.

# Metric Conversion Table

Millimetres $\times .03937$ = inches.	Litres $\div 28.316$ = cubic feet.
Millimetres $\div 25.4$ = inches.	Hectolitres $\times 3.531$ = cubic feet.
Centimetres $\times .3937$ = inches.	Hectolitres $\times 2.84$ = bushels (2150.42 cubic inches).
Centimetres $\div 2.54$ = inches.	Hectolitres $\times .131$ = cubic yards.
Metres $\times 39.37$ = inches.	Hectolitres $\div 26.42$ = gallons (231 cubic inches).
Metres $\times 3.281$ = feet.	Grammes $\times 15.432$ = grains.
Metres $\times 1.094$ = yards.	Grammes $\div 981$ = dynes.
Kilometres $\times .621$ = miles.	Grammes (water) $\div 29.57$ = fluid ounces.
Kilometres $\div 1.6093$ = miles.	Grammes $\div 28.35$ = ounces avoirdupois.
Kilometres $\times 3280.7$ = feet.	Grammes per cu. cent. $\div 27.7$ = lbs. per cubic inch.
Square Millimetres $\times .0155$ = square inches.	Joule $\times .7373$ = foot pounds.
Square Millimetres $\div 645.1$ = square inches.	Kilo-grammes $\times 2.2046$ = pounds.
Square Centimetres $\times .155$ = square inches.	Kilo-grammes $\times 35.3$ = ounces avoirdupois.
Square Centimetres $\div 6.451$ = square inches.	Kilo-grammes $\div 1102.3$ = tons (2000 pounds).
Square Metres $\times 10.764$ = square feet.	Kilo-grammes per sq. cent. $\times 14.223$ = lbs. per sq. in.
Square Kilometres $\times 247.1$ = acres.	Kilo-gram-metres $\times 7.233$ = foot pounds.
Hectare $\times 2.471$ = acres.	Kilo per Metre $\times .672$ = pounds per foot.
Cubic Centimetres $\div 16.383$ = cubic inches.	Kilo per Cubic Metre $\times .026$ = pounds per cu. ft.
Cubic Centimetres $\div 3.69$ = fl. drachms (U.S.P.).	Kilo per Cheval $\times 2.235$ = pounds per H. P.
Cubic Centimetres $\div 29.57$ = fl. ounces (U.S.P.).	Kilo-Watts $\times 1.34$ = Horse Power.
Cubic Metres $\times 35.315$ = cubic feet.	Watts $\div 746$ = Horse Power.
Cubic Metres $\times 1.308$ = cubic yards.	Watts $\div .7373$ = foot pounds per second.
Cubic Metres $\times 264.2$ = gallons (231 cubic inches).	Calorie $\times 3.968$ = B. T. U.
Litres $\times 61.022$ = cubic inches.	Cheval vapeur $\times .9863$ = Horse Power.
Litres $\times 33.84$ = fluid ounces. (U. S. Phar.)	(Centigrade $\times 1.8$ ) $+ 32$ = degree Fahrenheit.
Litres $\times .2642$ = gallons (231 cubic inches).	Franc $\times .193$ = Dollars.
Litres $\div 3.78$ gallons (231 cubic inches).	Gravity Paris = 980.94 centimetres per second.



# Table of Decimal Equivalents of Millimetres and Fractions of Millimetres

mm.	Inches	mm.	Inches	mm.	Inches	mm.	Inches	mm.	Inches	mm.	Inches
1-100 = .00039		22-100 = .00866		43-100 = .01693		64-100 = .02520		85-100 = .03346		7 = .27559	
2-100 = .00079		23-100 = .00906		44-100 = .01732		65-100 = .02559		86-100 = .03386		8 = .31496	
3-100 = .00118		24-100 = .00945		45-100 = .01772		66-100 = .02598		87-100 = .03425		9 = .35433	
4-100 = .00157		25-100 = .00984		46-100 = .01811		67-100 = .02638		88-100 = .03465		10 = .39370	
5-100 = .00197		26-100 = .01024		47-100 = .01850		68-100 = .02677		89-100 = .03504		11 = .43307	
6-100 = .00236		27-100 = .01063		48-100 = .01890		69-100 = .02717		90-100 = .03543		12 = .47244	
7-100 = .00276		28-100 = .01102		49-100 = .01929		70-100 = .02756		91-100 = .03583		13 = .51181	
8-100 = .00315		29-100 = .01142		50-100 = .01969		71-100 = .02795		92-100 = .03622		14 = .55118	
9-100 = .00354		30-100 = .01181		51-100 = .02008		72-100 = .02835		93-100 = .03661		15 = .59055	
10-100 = .00394		31-100 = .01220		52-100 = .02047		73-100 = .02874		94-100 = .03701		16 = .62992	
11-100 = .00433		32-100 = .01260		53-100 = .02087		74-100 = .02913		95-100 = .03740		17 = .66929	
12-100 = .00472		33-100 = .01299		54-100 = .02126		75-100 = .02953		96-100 = .03780		18 = .70866	
13-100 = .00512		34-100 = .01339		55-100 = .02165		76-100 = .02992		97-100 = .03819		19 = .74803	
14-100 = .00551		35-100 = .01378		56-100 = .02205		77-100 = .03032		98-100 = .03858		20 = .78740	
15-100 = .00591		36-100 = .01417		57-100 = .02244		78-100 = .03071		99-100 = .03898		21 = .82677	
16-100 = .00630		37-100 = .01457		58-100 = .02283		79-100 = .03110		1 = .03937		22 = .86614	
17-100 = .00669		38-100 = .01496		59-100 = .02323		80-100 = .03150		2 = .07874		23 = .90551	
18-100 = .00709		39-100 = .01535		60-100 = .02362		81-100 = .03189		3 = .11811		24 = .94488	
19-100 = .00748		40-100 = .01575		61-100 = .02402		82-100 = .03228		4 = .15748		25 = .98425	
20-100 = .00787		41-100 = .01614		62-100 = .02441		83-100 = .03268		5 = .19658		26 = 1.02362	
21-100 = .00827		42-100 = .01654		63-100 = .02480		84-100 = .03307		6 = .23622		-----	

## Metric Equivalents

Size	Meters	Size	Meters	Size	Meters	Size	Meters	Size	Meters	Size	Meters
1"	.025	3' 9"	1.143	13' 3"	4.038	22' 9"	6.934	32' 3"	9.830	41' 9"	12.725
2"	.051	4' 0"	1.219	13' 6"	4.115	23' 0"	7.010	32' 6"	9.905	42' 0"	12.801
3"	.076	4' 3"	1.295	13' 9"	4.191	23' 3"	7.086	32' 9"	9.982	42' 3"	12.877
4"	.101	4' 6"	1.372	14' 0"	4.267	23' 6"	7.163	33' 0"	10.058	42' 6"	12.954
5"	.127	4' 9"	1.448	14' 3"	4.343	23' 9"	7.239	33' 3"	10.134	42' 9"	13.030
6"	.152	5' 0"	1.524	14' 6"	4.419	24' 0"	7.315	33' 6"	10.211	43' 0"	13.106
7"	.178	5' 3"	1.600	14' 9"	4.496	24' 3"	7.391	33' 9"	10.287	43' 3"	13.182
8"	.203	5' 6"	1.676	15' 0"	4.572	24' 6"	7.467	34' 0"	10.363	43' 6"	13.258
9"	.228	5' 9"	1.753	15' 3"	4.648	24' 9"	7.544	34' 3"	10.440	43' 9"	13.335
10"	.254	6' 0"	1.829	15' 6"	4.724	25' 0"	7.620	34' 6"	10.515	44' 0"	13.411
11"	.279	6' 3"	1.905	15' 9"	4.800	25' 3"	7.697	34' 9"	10.592	44' 3"	13.487
1' 0"	.304	6' 6"	1.982	16' 0"	4.877	25' 6"	7.772	35' 0"	10.668	44' 6"	13.563
1' 1"	.330	6' 9"	2.057	16' 3"	4.953	25' 9"	7.848	35' 3"	10.744	44' 9"	13.640
1' 2"	.356	7' 0"	2.134	16' 6"	5.029	26' 0"	7.924	35' 6"	10.820	45' 0"	13.716
1' 3"	.381	7' 3"	2.210	16' 9"	5.105	26' 3"	8.000	35' 9"	10.897	45' 3"	13.792
1' 4"	.406	7' 6"	2.286	17' 0"	5.182	26' 6"	8.077	36' 0"	10.973	45' 6"	13.868
1' 5"	.432	7' 9"	2.362	17' 3"	5.258	26' 9"	8.153	36' 3"	11.049	45' 9"	13.944
1' 6"	.457	8' 0"	2.438	17' 6"	5.334	27' 0"	8.229	36' 6"	11.125	46' 0"	14.020
1' 7"	.483	8' 3"	2.525	17' 9"	5.410	27' 3"	8.306	36' 9"	11.201	46' 3"	14.097
1' 8"	.508	8' 6"	2.591	18' 0"	5.486	27' 6"	8.381	37' 0"	11.277	46' 6"	14.173
1' 9"	.533	8' 9"	2.667	18' 3"	5.563	27' 9"	8.458	37' 3"	11.354	46' 9"	14.249
1' 10"	.559	9' 0"	2.743	18' 6"	5.638	28' 0"	8.534	37' 6"	11.430	47' 0"	14.325
1' 11"	.584	9' 3"	2.819	18' 9"	5.715	28' 3"	8.610	37' 9"	11.506	47' 3"	14.401
2' 0"	.609	9' 6"	2.896	19' 0"	5.791	28' 6"	8.688	38' 0"	11.582	47' 6"	14.478
2' 1"	.635	9' 9"	2.972	19' 3"	5.867	28' 9"	8.763	38' 3"	11.658	47' 9"	14.554
2' 2"	.667	10' 0"	2.048	19' 6"	5.943	29' 0"	8.839	38' 6"	11.735	48' 0"	14.630
2' 3"	.686	10' 3"	3.124	19' 9"	6.020	29' 3"	8.915	38' 9"	11.810	48' 3"	14.706
2' 4"	.711	10' 6"	3.200	20' 0"	6.096	29' 6"	8.991	39' 0"	11.887	48' 6"	14.783
2' 5"	.744	10' 9"	3.286	20' 3"	6.172	29' 9"	9.068	39' 3"	11.963	48' 9"	14.859
2' 6"	.762	11' 0"	3.353	20' 6"	6.248	30' 0"	9.144	39' 6"	12.039	49' 0"	14.935
2' 7"	.787	11' 3"	3.429	20' 9"	6.324	30' 3"	9.220	39' 9"	12.116	49' 3"	15.011
2' 8"	.820	11' 6"	3.505	21' 0"	6.400	30' 6"	9.296	40' 0"	12.192	49' 6"	15.087
2' 9"	.838	11' 9"	3.581	21' 3"	6.477	30' 9"	9.372	40' 3"	12.268	49' 9"	15.164
2' 10"	.864	12' 0"	3.658	21' 6"	6.553	31' 0"	9.448	40' 6"	12.344	50' 0"	15.240
2' 11"	.896	12' 3"	3.734	21' 9"	6.629	31' 3"	9.524	40' 9"	12.420	-----	-----
3' 0"	.914	12' 6"	3.810	22' 0"	6.705	31' 6"	9.600	41' 0"	12.496	-----	-----
3' 3"	.991	12' 9"	3.886	22' 3"	6.781	31' 9"	9.677	41' 3"	12.573	-----	-----
3' 6"	1.067	13' 0"	3.962	22' 6"	6.858	32' 0"	9.753	41' 6"	12.649	-----	-----

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