



THE BLYMYER IRON WORKS CO.  
CINCINNATI · O

CANE MILLS  
AND  
EVAPORATORS

RICHARD BAHMANN,  
Pres't and Mgr.

ROBT. F. BAHMANN,  
Secretary.

# The Blymyer Iron Works Co.

SPRING GROVE AVENUE, CINCINNATI, OHIO

MANUFACTURERS OF IMPROVED STANDARD

## Cane Mills and Evaporators

For Sorghum and Sugar Cane

$\begin{array}{r} 835 \\ 1193 \\ \hline 1928 \end{array}$	$\begin{array}{r} 855 \\ 1342 \\ \hline 2197 \\ 1928 \\ \hline 269 \end{array}$
-----------------------------------------------------------	---------------------------------------------------------------------------------

OUR MACHINERY IS NOT GOTTEN UP TO COMPETE IN PRICE WITH INFERIOR, CHEAPLY  
CONSTRUCTED MACHINERY, BUT IS STRICTLY FIRST-CLASS IN EVERY  
RESPECT, EQUAL TO THE BEST, AND IN SOME  
FEATURES SUPERIOR TO ANY

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

TO WHOM IT MAY CONCERN:

We have selected the Blymyer Iron Works Co., of Cincinnati, Ohio, the Case File and Engineering Institute of which is under the supervision of a Board of Engineers, Agricultural Works, of Louisville, Ky., for the sole and exclusive right to manufacture, sell and distribute all the best machinery required hereafter mentioned by this Company.

As The Blymyer Iron Works Co., is a well-known and successful business, having a large and long standing reputation with the public, we hereby certify that the same should receive the same benefits from the Government as any other business of the kind.



AMERICAN STEERING MACHINE CO.  
Manufactured by  
Blymyer Iron Works  
Cincinnati, Ohio.

Cincinnati, O., January 25, 1896.

TO THE PUBLIC:

Having made of the Agricultural Works, of Louisville, Ky., the Case File and Engineering Institute of which is under the supervision of a Board of Engineers, Agricultural Works, of Louisville, Ky., we shall devote our best efforts to the manufacture of the Case File, Engineering Institute, and other machinery by this Company.

The business will be conducted by the Blymyer Iron Works Co., of Cincinnati, Ohio, and all Machinery and Engineering will be made and sold by Cincinnati, Ohio. We hereby certify that the same should receive the same benefits from the Government as any other business of the kind.

Cincinnati, O., January 25, 1896.

THE BLYMYER IRON WORKS CO.



## TO WHOM IT MAY CONCERN:

We have sold to the BLYMYER IRON WORKS CO., of Cincinnati, Ohio, the Cane Mill and Evaporator business, of which we were the successors of Brennan & Co., Southwestern Agricultural Works, of Louisville, Ky., the sale including the good-will, patterns, patents, etc., of all the cane machinery business heretofore controlled by that Company.

As The Blymyer Iron Works Co., is under able management, favorably known to the general trade, and being thoroughly conversant with all the details of this business, we bespeak for them the same liberal patronage which has heretofore been extended to us.

AMERICAN SEEDING MACHINE CO.,  
SUCCESSORS TO  
Brennan & Co., Southwestern Agricultural Works,  
Louisville, Ky.

Springfield, O., January 25, 1904.

## TO THE PUBLIC:

Having bought of the American Seeding Machine Co., of Springfield, Ohio, the good-will, patterns, patents, etc., of the Cane Machinery Business of the Brennan & Co., Southwestern Agricultural Works, of Louisville, Ky., we shall devote our best attentions to the manufacture and sale of the Cane Mills, Evaporators, etc., heretofore made by that Company.

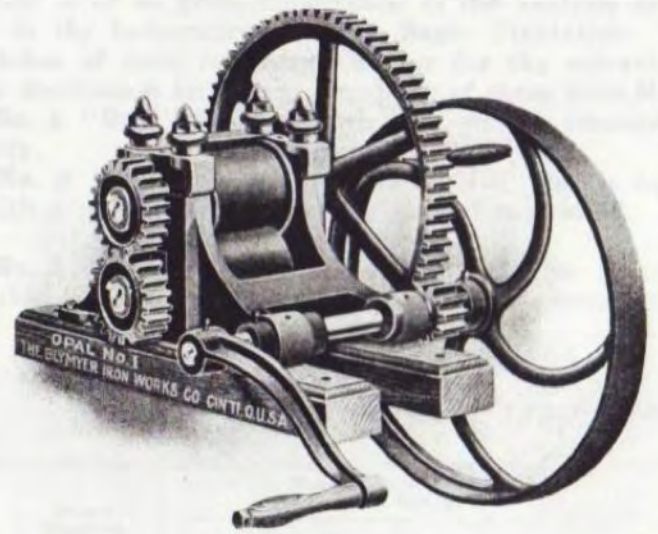
The business will henceforth be under absolute control of the undersigned, and all Mills and Evaporators built in our new shops in Cincinnati, Ohio. Special care will be taken to keep constantly in stock, ready for prompt shipment, a full line of all sizes of "Kentucky" and "New Live Oak" cane mills, evaporators, etc. We expect to maintain the reputation of these special brands and also hope to enjoy the same liberal patronage from the trade, as has been extended to our predecessors.

THE BLYMYER IRON WORKS CO.

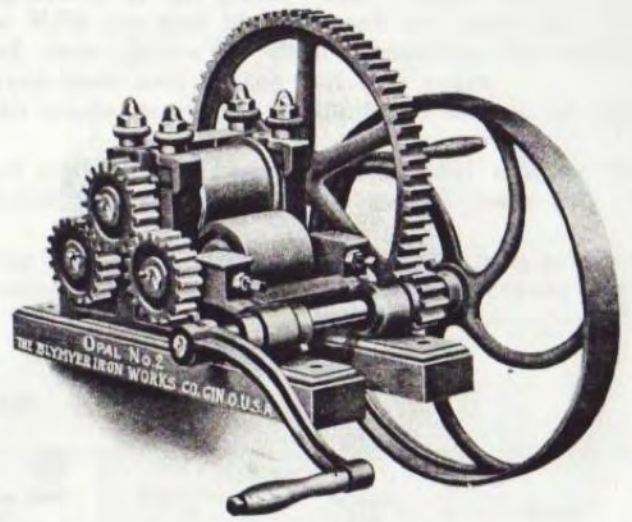
Cincinnati, O., January 25, 1904.

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

THE "OPAL" HORIZONTAL CANE MILL,  
FOR HAND AND POWER.



No. 1.



No. 2.

## THE "OPAL" CANE MILL FOR HAND POWER.

THE cuts on opposite page represent the "Opal" Cane Mill Nos. 1 and 2, which can be driven by hand or power. These Mills are employed in nearly every Experimental Station and Plantation Laboratory in this country for the purpose of obtaining with accuracy the percentage of juice from certain varieties of cane, which is of as great importance as the analysis or composition of the juice. Our "Opal" Mills are a necessity in the Laboratory of every Sugar Plantation. These Mills are also largely used by those who raise small patches of cane for family use or for the extraction of cane juices in small quantities for making syrup for distillation into rum. Hundreds of these little Mills have been sold in the last few years.

**The No. 1 "Opal"** has only two rolls, and is arranged with single gearing. It should be driven by hand power only.

**The No. 2 "Opal"** is a three roller Mill, and is equipped with single gearing. This Mill can be furnished with a pulley to be driven by belt, if so desired. An additional charge of \$5.00 net is made for the pulley.

**The No. 3 "Opal"** is in all respects like the No. 2, excepting that, instead of single gearing, it is provided with double gearing, viz., two gears and two pinions, and instead of having the fly wheel with crank, it has a pulley, making it a power mill exclusively.

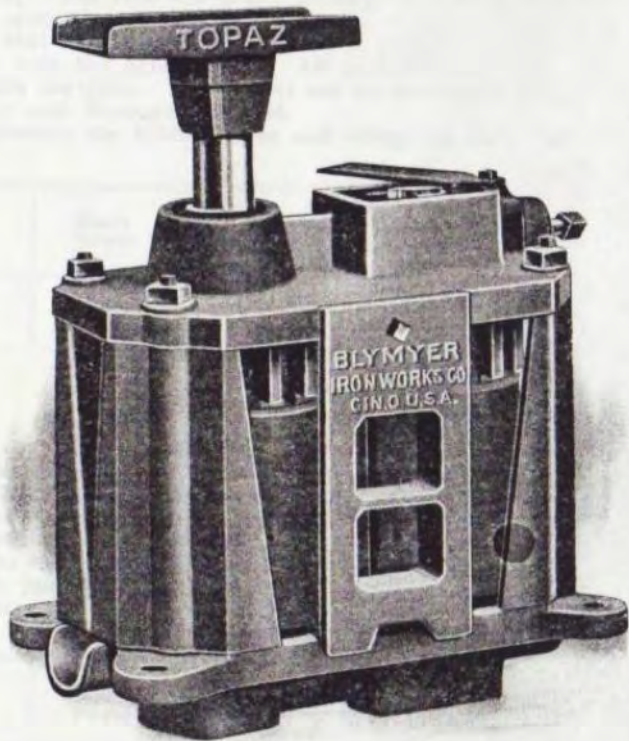
TABLE OF DETAILS.

No.	Power Required	Dimensions of all Rolls in Inches		Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Weight Lbs.	Price
		Length	Diameter				
1	1 Man	4	4	100	$\frac{3}{8}$	225	\$25.00
2	2 Men	5	5	175	$1\frac{1}{4}$	350	40.00
3	$\frac{1}{2}$ h. p.	5	5	175	$1\frac{1}{4}$	400	50.00

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

## THE "TOPAZ" MILL.

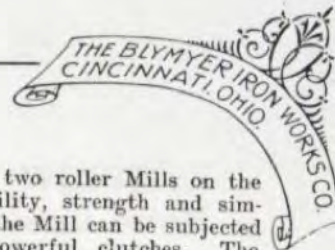
ALL IRON TWO ROLLER CANE MILL—THREE SIZES.



## THE "GEM" MILL.

ALL IRON TWO ROLLER MILL—ONE SIZE.





## THE "TOPAZ" MILL FOR ANIMAL POWER.

ON the opposite page we illustrate the Vertical "Topaz" two roller Cane Mill for animal power. Of all two roller Mills on the market, the "Topaz" is in every respect the best, due to its perfect proportions and design, its durability, strength and simplicity. The rolls are firmly attached to the heavy wrought iron shafts, and the hardest work to which the Mill can be subjected will not cause them to get loose. The gears, being independent of the rolls, engage these by means of powerful clutches. The "Topaz" Mill has no rubber cushions to protect it against breakages, but is made amply strong to stand a rigid adjustment of the rolls with the heaviest feed. All journals have brass liners and covers, the latter preventing the lubricating oil from becoming mixed with the juice. Easy access can be had to all journals for oiling. This Mill is open on all sides, and, consequently, it can be quickly and thoroughly cleaned.

We provide the holding down and sweep cap bolts, improved feed box, wrench and oil can.

TABLE OF DETAILS.

No.	Horse Power	Dimensions both Rolls in Inches		Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Weight lbs.	Price
		Length	Diameter				
1	1	6	6	200	2	250	\$25.00
2	1	8	8	300	3	450	35.00
3	2	10	8	400	4	500	40.00

## THE "GEM" MILL FOR ANIMAL POWER.

IN our purchase of the Cane Machinery business of Messrs. Brennan & Co., of Louisville, Kentucky, we secured the sole right of manufacture of the "Gem" Mill, and now offer it to such of our customers who prefer that style to our "Topaz." It is a good little Mill, strong and well made, and extremely low in price. This Mill has steel shafts, steel set screws, brass lined boxes and reversible feed guide. The gears are covered and cast separate from the rolls.

A circular recess surrounding the shaft is cast in the top of both rolls. Oil ways in the rolls along the shaft lead from these recesses to the lower journals. When the top boxes are oiled, the surplus oil flows into these recesses and along the oil ways to the lower journals. Suitable over-flow openings are provided in the lower boxes, allowing any excess oil to escape. The oil can not get into the juice.

This Mill is offered in one size only.

TABLE OF DETAILS.

No.	Horse Power	Dimensions both Rolls in Inches		Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Weight Lbs.	Price
		Length	Diameter				
1	1	8	7½	250	2½	275	\$25.00



THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.



THE "GREAT WESTERN"  
CANE MILL FOR ANIMAL POWER.

## THE "GREAT WESTERN" MILL FOR ANIMAL POWER.

THE "Great Western" Mill, whose illustration appears on the opposite page, has established for itself a splendid reputation. It is one of the first Mills we designed, when, almost fifty years ago, we embarked in business, and during this very long time thousands upon thousands of these Mills have been sold. While not as heavy, and, consequently, not as expensive a Mill as some of our others of more recent design, still it may be depended upon to do very good work, especially when the cane is not of the hardest of the tropical variety.

The gears are separate from the rolls, which they engage by means of strong clutches. These, due to their construction, take a firm hold upon the corresponding ones of the rolls, and do not allow the gears to rise, no matter how heavily the Mill is fed. Oil ducts, made of sheet iron, and running next to and parallel with the shafts, permit of the lower journals being conveniently lubricated without danger of the oil mingling with the juice. As an additional precaution, the lower journals are covered. The upper ones also have cast iron covers to keep them free from dirt and particles of bagasse. In brief, while the "Great Western" is not a new Mill, it includes many valuable, modern features, and is, indeed, the best vertical animal power Mill of medium weight on the market.

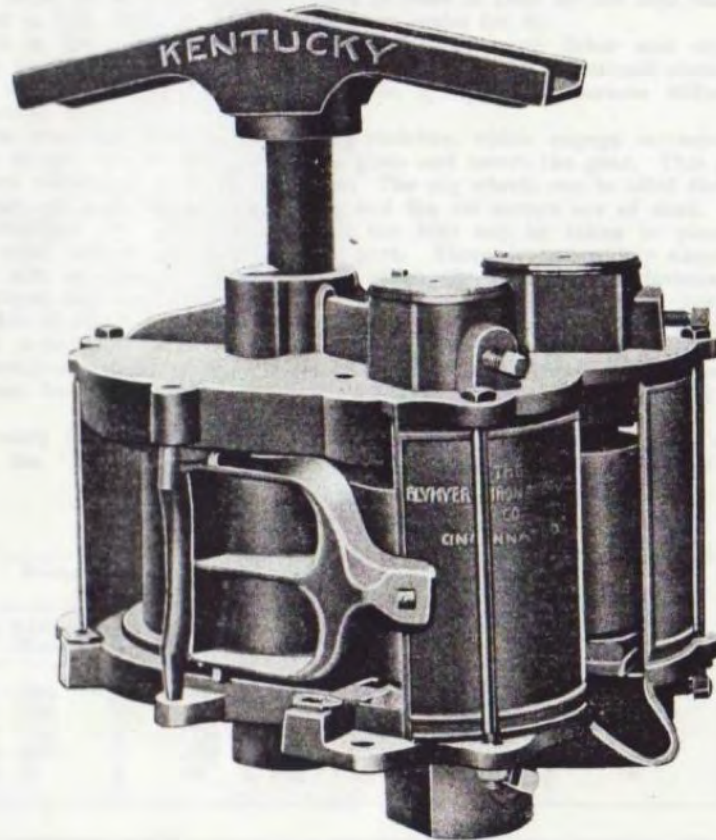
Bolts for the sweep cap and for fastening the Mill to its posts, an oil can and wrench are included in its prices.

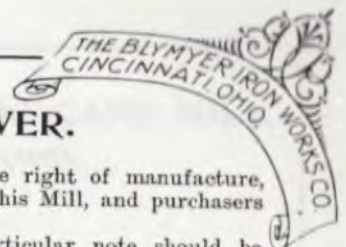
TABLE OF DETAILS.

No.	Horse Power	Dimensions of Rolls in Inches				Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Weight Lbs.	Price
		Main Roll Length	Main Roll Diameter	Minor Roll Length	Minor Roll Diameter				
0	1	5	x 9 $\frac{1}{4}$	5	x 6 $\frac{1}{4}$	400	2	370	\$30.00
1	1	5 $\frac{5}{8}$	x 10	5 $\frac{5}{8}$	x 7	500	2 $\frac{1}{2}$	470	40.00
2	1	6 $\frac{1}{2}$	x 12	6 $\frac{1}{2}$	x 7	600	3	570	50.00
3	2	7 $\frac{3}{8}$	x 14	7 $\frac{3}{8}$	x 8	850	4	875	80.00
4	2	9	x 16	9	x 8	1000	5	975	90.00

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

## THE IMPROVED "KENTUCKY" CANE MILL FOR ANIMAL POWER.





## THE IMPROVED "KENTUCKY" MILL FOR ANIMAL POWER.

**T**HIS Mill was formerly made by Messrs. Brennan & Co., of Louisville, Ky., we having secured the sole right of manufacture, by purchase of all of their Cane Machinery business. We propose to keep up the high standard of this Mill, and purchasers are assured that they will get a Mill fully up to the claims we make for it.

The improved "Kentucky" Mill is the result of many experiments and much labor and expense. Particular note should be made of our *covered oil channels in bottom plate*. It is very important that the journals should be well and properly oiled without the oil getting into the juice, and thus impair the quality of the syrup. This serious difficulty is entirely overcome by the covered oil channels cast in the bottom plate.

The roll gears are cast separate from the rolls, having strong clutches, which engage corresponding clutches on the rolls. All top plates are made with a wide flange, which strengthens the plate and covers the gear. This effectually prevents cane, etc., from getting between the cogs, and insures entire safety to the operator. The cog wheels can be oiled through a small hole in the top plate. The shafts are made of selected steel, all boxes have brass lining, and the set screws are of steel. The Mills are simple in construction, but of great strength and durability. By removing four nuts the Mill can be taken to pieces in five minutes for repairs or cleaning. Every journal can be oiled without removal of any part. There is not a key about the Mill. The top and bottom plates have extensions beyond the side or upright plates, and to which the tie bolts are fastened, as shown in cut. These extensions are made strong enough to stand any strain the bolts may subject them to. The feed guides on the "Kentucky" are made reversible, to be worked on either side of the Mill. It is peculiarly shaped, and has a division which aids in feeding, keeps the stalks in place and prevents lapping and crowding.

By the use of our improved double angle sweep cap a straight sweep can be used instead of having to rig a bent one. The main shaft is heavy and strong, and just long enough to enable the Mill to be set near the ground without any liability to twisting or bending the shaft.

By reason of accurate workmanship in their construction and in their freedom from clogging, combined with the ease with which the bottom journals can be oiled, the "Kentucky" Mills are the lightest running Cane Mills of their class.

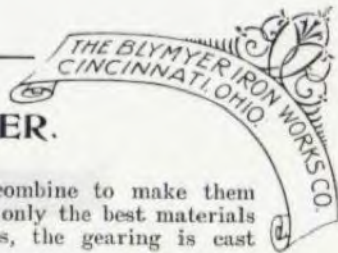
**TABLE OF DETAILS.**

No.	Horse Power	Dimensions of Rolls in Inches				Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Weight Lbs.	Price
		Main Roll		Minor Roll					
		Length	Diameter	Length	Diameter				
0	1	5½ x	10½	5½ x	6½	400	2	400	\$ 30.00
1	1	6¼ x	11¾	6¼ x	6¾	600	2¾	500	40.00
2	2	7½ x	13½	7½ x	7½	800	4	725	60.00
3	2	9¾ x	14¾	9¾ x	8	1000	5	925	80.00
4	2	12 x	16	12 x	9¾	1200	6	1300	100.00

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

## THE "NEW LIVE OAK" CANE MILL FOR ANIMAL POWER.





## THE "NEW LIVE OAK" CANE MILL FOR ANIMAL POWER.

THESE Mills, like the "Kentucky," described on preceding pages, possess the same special features which combine to make them the best vertical Mills of their class. They are generously proportioned throughout, and being made of only the best materials and workmanship, purchasers are assured of thoroughly up-to-date Mills. Like all Mills of this class, the gearing is cast separate from the rolls.

The feed guides are reversible, and can be worked on either side of the Mill. This is a very important feature. When the cogs wear off on one side, the feed guide can be placed on the other side of the Mill, reversing the action and bringing new surfaces of the cogs into play. This greatly increases the durability of the Mills and gives them an important advantage over others.

The top plate is made with a flange, which strengthens the plate, and at the same time covers the gear, so that all danger to the operator is obviated. A small hole is provided in the top plate to introduce oil or lard to the gears when required.

Every part of the Mill is made in the strongest manner and of the best material; the metal being distributed in the most judicious manner for strength. The shafts are made of the best open hearth selected steel, and the castings of the best pig iron. The top and bottom boxes are of easy access for oiling, and if kept properly oiled will last for years without any cost for repairs. The boxes are all brass lined. The Mills are simple in construction. By simply removing four nuts with the wrench provided, the Mill can be taken to pieces and access had to any part of it for cleaning or repairs. Every journal can be oiled without removal of any part. There is not a key about the Mill.

The new angling sweep cap used on the "Live Oak" is a great improvement. By this plan you can not only use a straight sweep cap, but with the straps the boring of holes in sweep is unnecessary. This feature, taken in connection with the long main shaft, makes it possible to set the Mill near the ground, so that it is more convenient for the operator to feed, and requiring shorter posts of frame, thus improving the running of the Mill, as it stands firmer and runs steadier the nearer it is to the ground.

Being free from all clogging between the teeth and rolls, and having their bearings in a lubricated box in the bottom plate, the "New Live Oak" is thereby relieved from the friction common to other Mills, and, consequently, runs with much lighter draft.

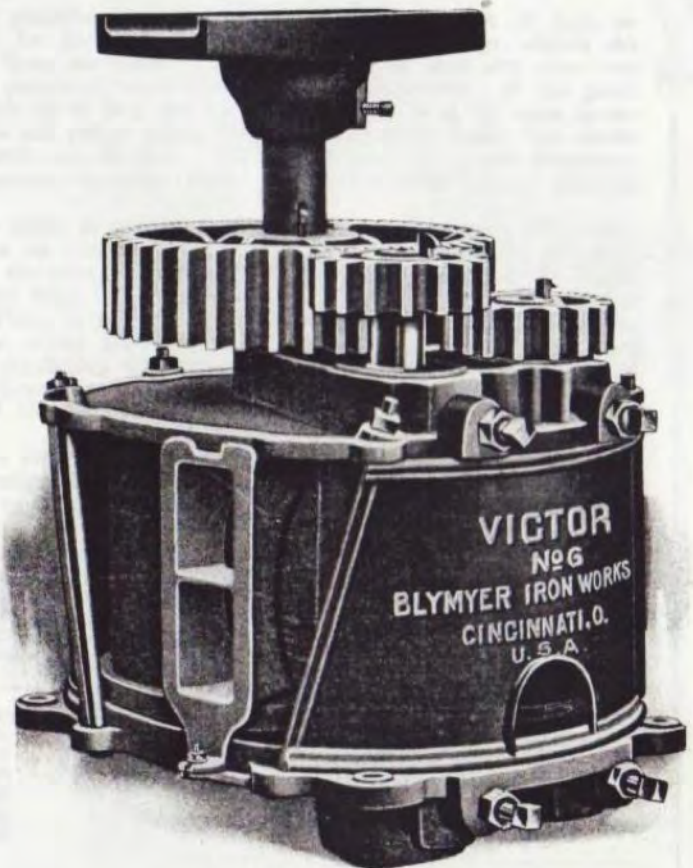
TABLE OF DETAILS.

No.	Horse Power	Dimensions of Rolls in Inches				Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Weight Lbs.	Price
		Main Roll		Minor Roll					
		Length	Diameter	Length	Diameter				
0	1	5¼	10½	5¼	6¼	400	2	400	\$ 30.00
1	1	6¼	11½	6¼	6¾	600	2¾	500	40.00
2	1	7½	13½	7½	7½	800	4	725	60.00
3	2	9¾	14¾	9¾	8	1000	5	925	80.00
4	2	12	16	12	9¾	1200	6	1300	100.00

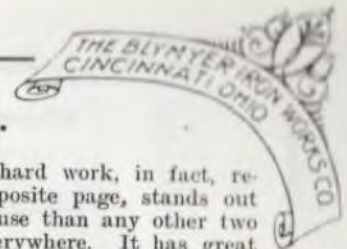
THE VERTICAL "VICTOR" CANE MILL  
FOR ANIMAL POWER.



VICTOR MILL, SIZES 0 TO 4 INCLUSIVE.



VICTOR MILL No. 6.



## THE VERTICAL "VICTOR" MILL FOR ANIMAL POWER.

COMPARED to all Mills of its type, be it in regard to design, working qualities, capacity, resistance to hard work, in fact, regarding each and all essential points, the vertical "Victor" cane mill for animal power, shown on opposite page, stands out pre-eminently superior to all. Without exaggeration, we can say that there are more "Victor" Mills in use than any other two makes combined. Features, peculiarly its own, have made it the choice of practical, experienced planters everywhere. It has great strength. This is secured by the amount of metal, the "Victor" being from 15 to 20% heavier than other Mills of the same horsepower; by its quality and by the correct proportions of all parts; the shafts are rolled steel; the boxes are brass lined; the shafts and rolls are all turned true. It presses the cane dry—only a strong Mill can do this. The shafts being of proper diameters, and securely fastened to the rolls, they can not work loose, which is so common in other Mills. All other parts are of generous proportions, and the Mill rigidly adjusted and bolted together.

It can not choke. The clogging and choking, so troublesome in other Mills, is caused by the knife or guide between the rolls. This guide is necessary in all other Mills, and hence they choke. By means of the lapped gearing, this cane knife is dispensed with in the "Victor," and as there is nothing between the rolls to obstruct the cane, it passes through as easily as it enters. Being free from all clogging between the rolls, and the rolls themselves being lifted from the bottom plate, so as to touch only at the ends of the shafts, it is free from most of the friction common to other Mills. There is protection against wear in the perfect arrangement for oiling the lower journals. Oil tubes extend alongside of the shafts, which are in no way exposed, but of easy access, and therefore can not become clogged with dirt or bagasse. The feed box for regulating the entrance of the cane is the best made, and the grooved rolls are of great advantage. All Mills are supplied with steel set screws, with heavy square nuts for regulating the positions of the minor rolls. These set screws do not get loose, as keys do, but hold the rolls to their exact position, no matter how hard the pressure may be.

Our No. 6 "Victor" is the same as the other sizes, except that the gears are cast separate from the rolls. This is a very powerful Mill, and we consider it in all respects the best large horsepower Vertical Mill made. The main roll is 20" in diameter, and the net weight of the Mill is 1750 pounds. To work this Mill to its full capacity requires four large horses.

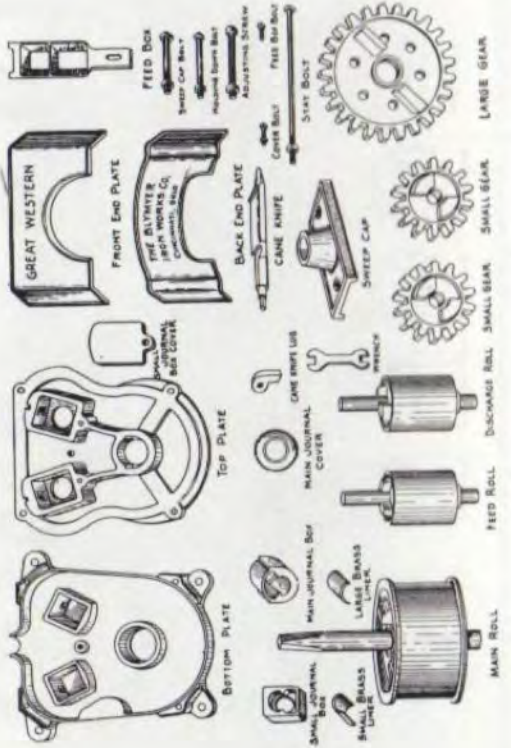
**TABLE OF DETAILS.**

No.	Horse Power	Dimensions of Rolls in Inches				Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Weight Lbs.	Price
		Main Roll		Minor Rolls					
		Length	Diameter	Length	Diameter				
0	1	5½	x 9¼	5½	x 6	450	2	400	\$ 35.00
1 Jr	1	5¾	x 10	5¾	x 7¼	600	3	600	50.00
1	1	6	x 12	6	x 8	800	4	750	65.00
2	2	8	x 12	8	x 8	900	5	850	80.00
3	2	10	x 14	10	x 8	1200	6½	1250	110.00
4	2	12	x 14	12	x 8	1300	8½	1350	120.00
6	4	12¼	x 20	12¼	x 8	1700	12	1750	160.00





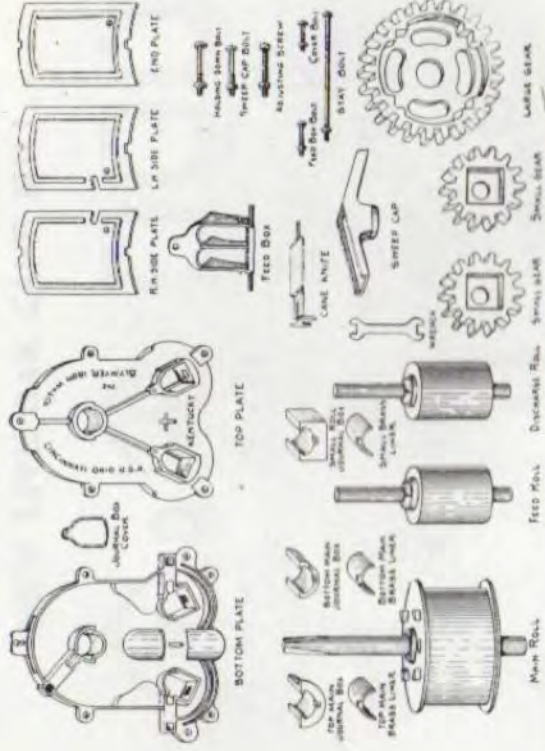
PRICE LIST OF REPAIR PARTS  
GREAT WESTERN CANE MILL.



Name of Piece	No. 0 Mill		No. 1 Mill		No. 2 Mill		No. 3 Mill		No. 4 Mill	
	Castling Mark	Price	Castling Mark	Price	Castling Mark	Price	Castling Mark	Price	Castling Mark	Price
Top Plate.....	321	\$4.00	338	\$6.00	353	\$8.00	366	\$9.00	381	\$10.00
Bottom Plate.....	320	6.00	337	8.00	352	10.00	365	11.00	380	12.00
Main Roll.....	315	10.00	330	13.50	345	15.00	378	21.00	391	25.00
Feed Roll.....	336	5.00	351	6.00	364	8.00	379	11.00	392	12.00
Discharge Roll.....	334	5.00	349	6.00	362	8.00	377	11.00	390	12.00
Large Gear, each.....	332	2.50	347	3.00	360	4.00	375	5.00	388	6.00
Small Gear, each.....	333	1.50	348	2.00	361	3.00	376	4.00	389	5.00
Sweep Cap.....	359	1.75	358	2.00	357	2.25	356	2.50	355	2.75
Front End Plate.....	322	2.00	340	3.00	355	4.00	372	5.00	385	6.00
Back End Plate.....	323	1.25	341	1.75	354	2.00	371	2.50	384	3.00
Cane Knife.....	324	.50	344	.75	357	1.00	372	1.50	385	2.00
Feed Box.....	328	.40	343	.60	356	.70	369	.80	384	1.00
Small Journal Box Cover, each.....	330	.75	345	1.00	358	1.25	373	1.50	386	1.75
Main Journal Box Cover, each.....	331	.75	346	1.00	359	1.25	374	1.50	387	1.75
Top and Bottom Main Journal Box, each.....	325	.40	342	.50	352	.60	370	.80	374	1.00
Top and Bottom Small Journal Box, each.....	327	.40	343	.50	353	.60	371	.80	375	1.00
Large Journal Brass Liner, each.....	697	.40	699	.50	700	.60	702	.75	701	.75
Small Journal Brass Liner, each.....	698	.30	700	.40	701	.50	703	.60	702	.60
Cane Knife Lug.....	334	.25	354	.35	374	.45	394	.55	414	.65
Wrench.....	325	.15	345	.20	365	.25	385	.30	405	.35
Adjusting Screws, each.....	320	.15	340	.20	360	.25	380	.30	400	.35
Stay Bolts, each.....	320	.15	340	.20	360	.25	380	.30	400	.35
Sweep Cap Bolts, each.....	320	.15	340	.20	360	.25	380	.30	400	.35
Feed Box Bolt.....	320	.10	340	.15	360	.20	380	.25	400	.30
Cover Bolt.....	320	.10	340	.15	360	.20	380	.25	400	.30
Holding Down or Post Bolts, each.....	320	.15	340	.20	360	.25	380	.30	400	.35

† For a complete Brass Lined Box, add price of Box and Brass together. Always give Casting Number with accurate description of old piece. Important—All orders for repairs must be accompanied with cash. REPAIRS WILL NOT BE SENT C. O. D.

# PRICE LIST OF REPAIR PARTS KENTUCKY CANE MILL.



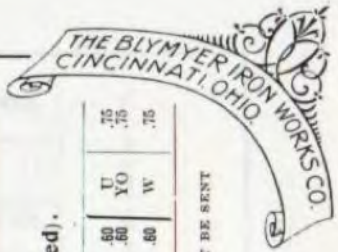
Name of Piece	No. 0 Mill		No. 1 Mill		No. 2 Mill		No. 3 Mill		No. 4 Mill	
	Cast- ing Mark	Price	Cast- ing Mark	Price	Cast- ing Mark	Price	Cast- ing Mark	Price	Cast- ing Mark	Price
Top Plate.....	O T	\$5.00	No. 1	\$5.50	No. 2	\$10.00	No. 3	\$12.00	No. 4	\$15.00
Bottom Plate.....	M L	6.50	15	15.00	N N	13.50	T E	14.00	E A	18.00
Main Roll.....	L L	6.50	7	8.00	G G	25.00	D E	30.00	G L	40.00
Feed Roll.....	L L	6.50	3	8.00	G G	12.00	C E	14.50	L L	20.00
Discharge Roll.....	F H	2.50	7	2.75	K K	2.00	C E	4.50	L L	5.00
Large Gear.....	H H	2.50	12	2.75	V V	2.25	A V	4.50	L L	5.00
Small Gear.....	H H	2.50	14	2.75	V V	2.25	B M	4.50	L L	5.00
Wrench.....	W X	2.50	14	2.75	V V	2.25	B M	4.50	L L	5.00
Adjusting Screws.....	Y X	50	18	75	A E	1.00	I M	1.50	O	2.50
Stay Bolts.....	D D	40	11	50	C D	1.00	M O	1.00	O	2.50
Sweep Cap Bolts.....	G G	50	19	50	S G	.75	A D	1.00	J X	.75
Feed Box Bolts.....	J J	15	10	20	L F	.75	T U	1.00	X X	.75
Bottom Main Journal Box.....	I D B	40	10	20	L F	.75	Q	1.00	X X	.75
Top Main Journal Box.....	A B	40	10	20	L F	.75	E H B	.60	U B	.75
Bottom Main Brass Liner.....	O T	30	11	30	F L B	.50	X V B	.45	V B	.75
Top Main Brass Liner.....	O B L	30	11	30	F L B	.50	X V B	.45	V B	.75
Small Brass Liner.....	O B S	25	18	30	S T	.50	Z L	.50	4 B L	.75
Wrench.....		25	18	30	S T	.50	Z L	.50	4 B L	.75
Adjusting Screws.....		25	18	30	S T	.50	Z L	.50	4 B L	.75
Stay Bolts.....		25	18	30	S T	.50	Z L	.50	4 B L	.75
Sweep Cap Bolts.....		30	25	30	S T	.50	Z L	.50	4 B L	.75
Feed Box Bolt.....		30	25	30	S T	.50	Z L	.50	4 B L	.75
Cover Bolts.....		10	10	10	S T	.50	Z L	.50	4 B L	.75
Holding Down or Post Bolts.....		30	25	30	S T	.50	Z L	.50	4 B L	.75

\* For a complete Brass Lined Box, add price of Box and Brass together.

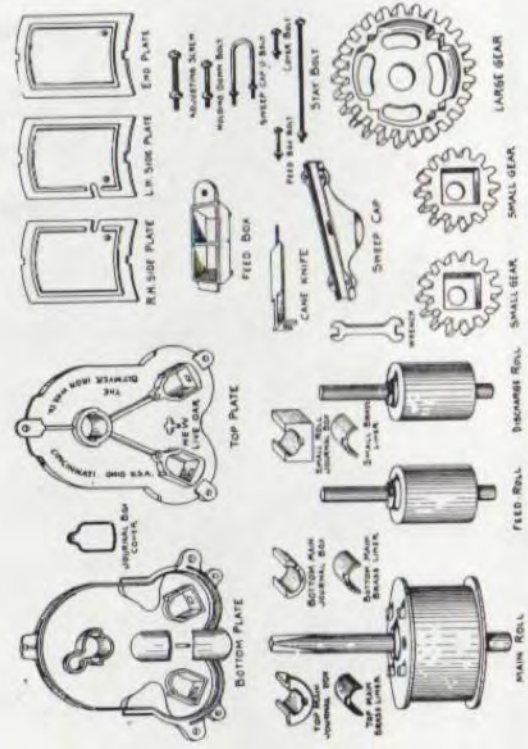
## ALL IRON JOURNAL BOXES (no Brass Liners required).

Top Box Main Shaft.....	D	30	11	40	E H	60	U	75
Bottom Box Main Shaft.....	A	30	16	40	J T	60	Y O	75
Top and Bottom Boxes for Small Shafts each.....	Y	30	13	35	X V	60	W	75

Always give Casting Number and Letter, with accurate description of old piece.  
Important!—All orders for repairs must be accompanied with cash. REPAIRS WILL NOT BE SENT C. O. D.



PRICE LIST OF REPAIR PARTS  
NEW LIVE OAK CANE MILL.



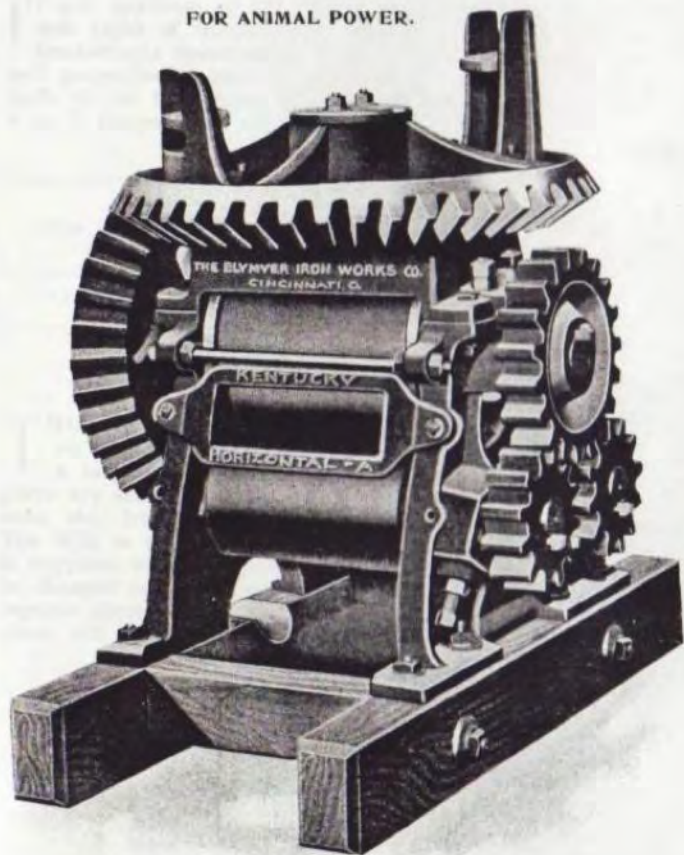
NAME OF PIECE	No. 0 Mill		No. 1 Mill		No. 2 Mill		No. 3 Mill		No. 4 Mill	
	Cast- ing Mark	Price	Cast- ing Mark	Price	Cast- ing Mark	Price	Cast- ing Mark	Price	Cast- ing Mark	Price
Top Plate.....	OM	\$5.00	No. 1B	\$5.50	No. 2A	\$10.00	3K	\$12.00	4P	\$16.00
Bottom Plate.....	BP	6.50	1C	7.50	WW	13.50	13L	14.00	14R	18.00
Main Roll.....	P	13.50	15	15.00	B	23.00	DE	30.00	G	40.00
Discharge Roll.....	L	6.50	7	8.00	G	12.00	CE	14.50	L	20.00
Feed Roll.....	E	2.50	8	3.00	KK	3.50	CF	4.50	N	5.00
Journal Box Cover, each.....	H	1.50	12	2.00	KK	3.50	WV	4.50	N	5.00
Top Main Journal Box, each.....	OD	2.50	13	3.00	2H	4.50	WV	4.50	K	5.00
Bottom Main Journal Box, each.....	W	5.00	14	5.50	FF	1.00	LM	1.50	4W	6.50
Top Main Brass Liner.....	V	5.00	15	5.50	AB	1.00	LO	1.00	DC&P	1.50
Bottom Main Brass Liner.....	Y	5.00	16	5.50	CD	1.00	OT	1.00	J	2.00
Small Brass Liner, each.....	D	5.00	17	5.50	Z	.75	AD	.75	24V	2.50
Large Brass Liner, each.....	P	5.00	18	5.50	YX	.75	AD	.75	24V	2.50
Journal Box Cover, each.....	J	1.15	19	1.20	YX	.75	AD	.75	24V	2.50
Top Main Journal Box, each.....	11B	.40	20	.40	YX	.75	AD	.75	24V	2.50
Bottom Main Journal Box, each.....	AB	.40	11B	.50	YX	.75	AD	.75	24V	2.50
Top Main Brass Liner.....	11B	.40	16B	.50	YX	.75	AD	.75	24V	2.50
Bottom Main Brass Liner.....	11B	.40	16B	.50	YX	.75	AD	.75	24V	2.50
Small Brass Liner, each.....	11B	.40	16B	.50	YX	.75	AD	.75	24V	2.50
Large Brass Liner, each.....	11B	.40	16B	.50	YX	.75	AD	.75	24V	2.50
Adjusting Screws, each.....	OS	.25	18	.25	28	.25	28	.25	28	.25
Adapt. Screws, each.....	OS	.25	18	.25	28	.25	28	.25	28	.25
Stay Bolts, each.....	OS	.30	30	.35	28	.25	28	.25	28	.25
Sweep Cap U Bolts, each.....	OS	.40	30	.40	28	.25	28	.25	28	.25
Feed Box Bolt.....	OS	.10	30	.10	28	.25	28	.25	28	.25
Cover Bolts, each.....	OS	.10	30	.10	28	.25	28	.25	28	.25
Holding Down or Post Bolts, each.....	OS	.30	30	.30	28	.25	28	.25	28	.25

\*For a complete Brass Lined Box, add price of Box and Brass together.  
Always give Casting Number and Letter, with accurate description of old piece.  
Important: All orders for repairs must be accompanied with cash. REPAIRS WILL NOT BE SENT C. O. D.



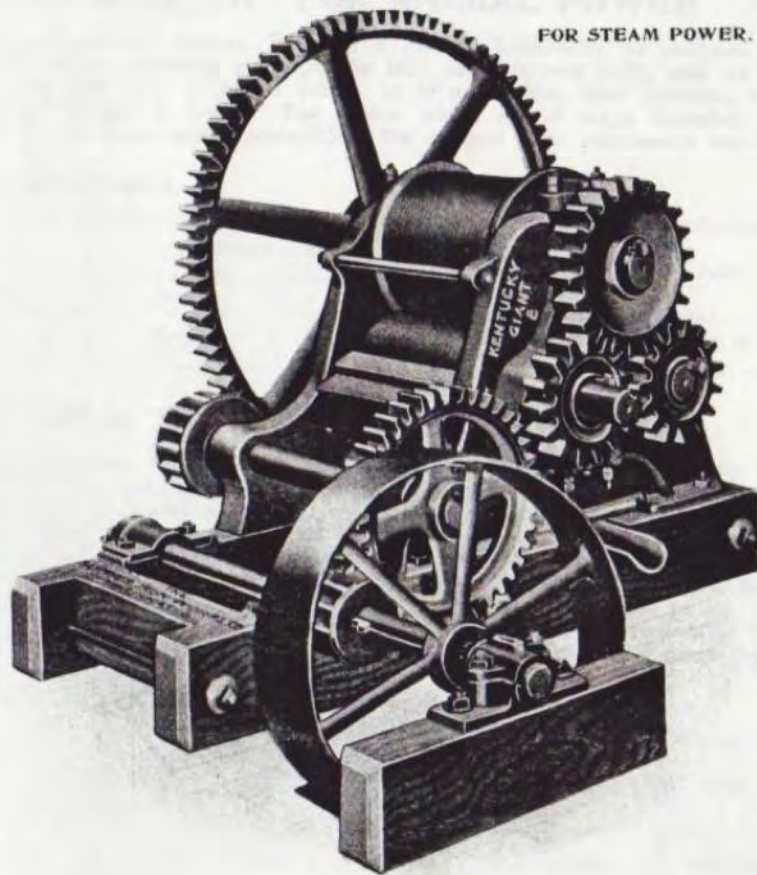
# THE KENTUCKY HORIZONTAL CANE MILL "A".

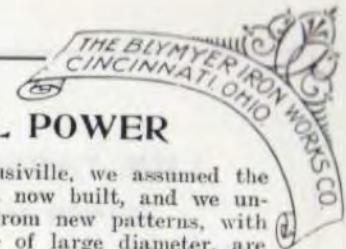
FOR ANIMAL POWER.



# THE KENTUCKY GIANT CANE MILL "B".

FOR STEAM POWER.





## THE KENTUCKY HORIZONTAL CANE MILL "A" FOR ANIMAL POWER

IN our purchase of the Cane Machinery business, heretofore controlled by Messrs. Brennan & Co., of Louisville, we assumed the sole right of manufacture of this Mill. The cut on opposite page accurately portrays the Mill as it is now built, and we unhesitatingly recommend it as a good, serviceable, easy running Mill at a moderate price. It is made from new patterns, with well proportioned gearing, so as to guard against breakages when the feed is heavy. The shafts, which are of large diameter, are made of the best grade of iron; all boxes are brass lined and the oil ways easily accessible. We suggest that purchasers use No. 6 or 7 Evaporators with this Mill.

TABLE OF DETAILS.

Size	Horse Power	Estimated Capacity Per Hour Galls. Juice	Diameter of Rolls		Length of Rolls		Weight	Price
			Large	Small	Large	Small		
"A"	2	100 to 150	11 in.	6½ in.	12 in.	11½ in.	1150 lbs.	\$125.00

## THE KENTUCKY GIANT CANE MILL "B" FOR STEAM POWER.

THIS Mill, like the one described above, was formerly made by Messrs. Brennan & Co., of Louisville. As will be noticed by cut on opposite page, it is heavier and stronger than the Kentucky horsepower Mill, having been designed for Planters having a larger acreage of cane and wishing to grind it themselves, or to travel about and grind for a neighborhood. The different parts are strongly made and well braced. Both upper and lower rolls have scrapers, that keep them clean and prevent pieces of cane, etc., from getting into the juice pan. All shafts are of the best materials, of large diameter, and all boxes are brass lined. The Mill is always furnished with double gearing to belt direct to engine. A standard pulley, 30 inches in diameter by 6 inch face, is supplied with each Mill, and it should make not over 100 revolutions per minute. When specially ordered, this size pulley can be changed to suit speed of engine. The pulley shaft is reversible, so pulley can be placed on either side of Mill. A feed table and begasse chute is included in price of Mill, but if a 10-foot begasse carrier is preferred, complete with driving chain and connections, there will be an extra price of \$50.00.

TABLE OF DETAILS.

Size	Power	Estimated Capacity		Diameter Rolls		Length of Rolls Between Flanges		Weight	Price
		Per Hour Galls. Juice	Per 12 Hours. Tons Cane	Large	Small	Large	Small		
No. B	4 to 6	150 to 200	8 to 10	12½ in.	8½ in.	14 in.	14 in.	1800 lbs.	\$200.00

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.



THE "AURORA" MILL  
FOR ANIMAL POWER.

## THE "AURORA" MILL FOR ANIMAL POWER.

THE "Aurora" Horizontal Cane Mill for animal power is shown on the opposite page. Its many improvements, making it so very superior to every competitive Mill of similar design, are fully protected by letters patent. Chief among these improvements is the arched support extending over the main roll from one housing to the other. In the center of this support a brass, cup shaped journal box is placed, for the lower extremity of the vertical sweep cap shaft. This shaft also has a brass removable journal box located in the top plate. The horizontal bevel wheel is keyed to the vertical shaft. It will, therefore, be observed that the said arched support carries the vertical shaft, the horizontal bevel gear and the sweep cap. Similar competitive Mills have all these heavy pieces hung on a small pin passing through the hub of the sweep cap, and through the vertical shaft. If this pin slightly changes its position, or bends, as it sooner or later must by reason of the great weight it carries, the horizontal bevel wheel falls, putting it out of mesh with the bevel pinion, and thereby causes one or more pieces to break. The principal defect, however, of this old fashioned arrangement is that the vertical sweep shaft has no separate bearings or journals, but revolves in the cast iron top plate. The shaft, being of steel, quickly wears out its cast iron journals, and it is then wholly impossible to run the Mill. A complete new top plate is required on an average of one every two seasons, while the "Aurora's" two brass journals last many years, and can then be replaced at an insignificant cost.

The roll shafts of the smaller sizes are square, those of the larger sizes round and keyed at both ends. These latter shafts are forced into the rolls by hydrostatic pressure. All shafts are of large diameter, gear and crown wheels of broad face and heavy pitch, rolls of close-grained cast iron, and all journals, without exception of brass. The cane knife is adjusted by means of a malleable iron lever, placed at each extremity, and it can be dropped without so much as changing the position of the rolls. The bed plate is one solid, heavy casting, which is far better than a bed plate having the juice pan made of light sheet iron.

Each Mill is shipped complete with sweep cap and foundation bolts, oil can and wrench, feed box and foundation timbers.

### TABLE OF DETAILS.

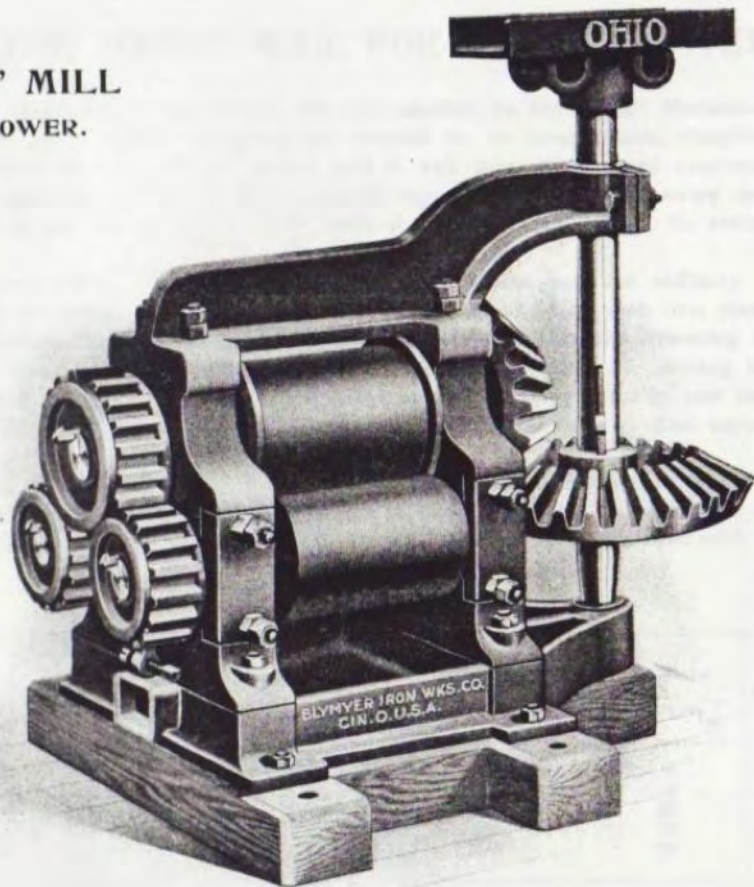
No.	Horse Power	Dimensions of Rolls in Inches				Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Approximate Shipping Weight Lbs.	Price
		Main Roll Diameter	Main Roll Length	Minor Roll Diameter	Minor Roll Length				
1	1	8	9	6	9	675	5	1250	\$100.00
2	2	10	10	8	10	1000	8	1750	130.00
3	2	10	12½	8	12½	1350	10	1900	160.00
4	4	12	16	10	16	2100	15	4100	300.00
5	8	12	20	10	20	2700	20	5300	450.00

See page 28 for fixtures to change "Aurora" Mills into steam or water power driven mills.



THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

## THE "OHIO" MILL FOR ANIMAL POWER.



## THE "OHIO" MILL FOR ANIMAL POWER.

THE latest improvements in sugar mill construction are all embodied in the "Ohio" Horizontal Animal Power Cane Mill, represented by cut on opposite page. These improvements, coupled to its compactness, simplicity and durability, make it the most excellent Mill of its type on the market. Every part is well proportioned and accurately machined wherever necessary. The goose neck, or top plate, is especially strong, and forms a rigid support for the vertical sweep cap shaft. The length of this shaft is such that the sweep does not molest the operator. It is made of wrought iron, turned its entire length and the top is squared for the sweep cap.

The housings are of the French pattern. The advantages that they possess over the ordinary closed type of housing are, first, that the strains are taken up by the heavy horizontal and vertical bolts instead of by cast iron pieces, and, secondly, that the minor rolls can be removed without taking the Mill apart. They also greatly facilitate the mounting and dismounting of the Mill.

All roll journals, as well as those of the vertical sweep shaft, have brass liners. All housing bolts have double lock nuts. The shafts are of wrought iron, those of the smaller sizes of Mills being square, and very securely cast in the rolls, and those of the larger sizes being round, turned to a driving fit, and then additionally secured in the rolls by steel keys. The bed plate is a single solid casting, with planed surfaces.

The Mill is open, so that all parts can be easily inspected and cleaned, and the journals oiled. The amount of clearance between the bottom of the minor rolls and the bed plate, as is clearly shown in the cut, should especially be noted.

The sweep cap bolts, foundation bolts, oil can and wrench, also bed timbers, are furnished with each Mill.

TABLE OF DETAILS.

No.	Horse Power	Dimensions of Rolls in Inches				Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Approximate Shipping Weight Lbs.	Price
		Main Roll Diameter	Main Roll Length	Minor Rolls Diameter	Minor Rolls Length				
1	1	8	9	6	9	675	5	1500	\$130.00
2	2	10	10	8	10	1000	8	2050	175.00
3	2	10	12½	8	12½	1350	10	2150	200.00
4	4	12	16	10	16	2100	16	4700	350.00
5	6	12	20	10	20	2700	20	5000	450.00

See page 28 for fixtures to change "Ohio" Mills into steam or water power driven mills.

THESE DIAGRAMS ILLUSTRATE SEVERAL DIFFERENT  
ARRANGEMENTS OF THE

## DOUBLE BACK GEARING

FOR

"GARLAND", "COLON" AND "EUREKA" MILLS.

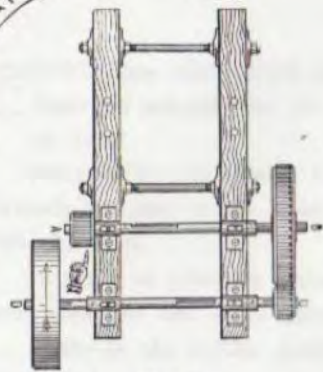


Fig. 1.

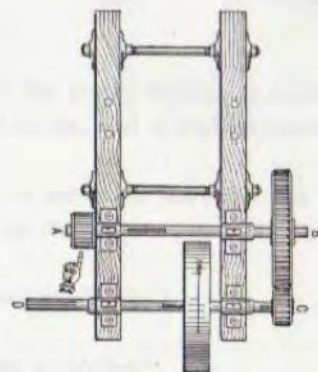


Fig. 2.

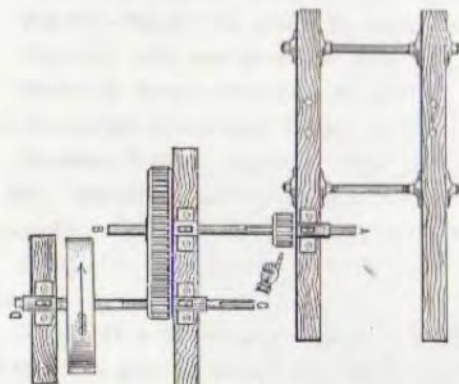


Fig. 3.

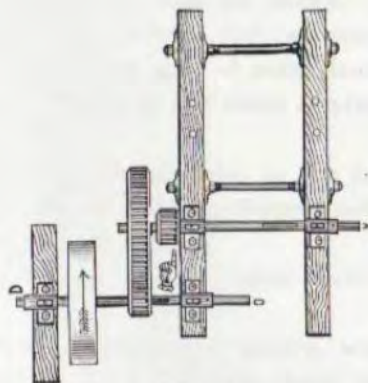


Fig. 4.

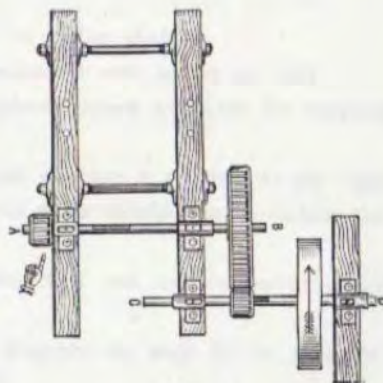
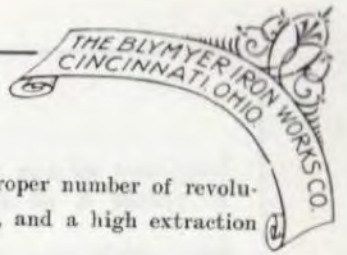


Fig. 5.

The hands (☛) point to the pinion which meshes into the large spur gear on the main roll shaft of the mill. Our clients when ordering will please state the arrangement they prefer, also the speed, diameter and face of pulley that will transmit the power to the mill.  
We furnish for the shaft C-D, a pulley of requisite dimensions for amount of power and speed required to drive the mill.



## GEARING FOR CANE MILLS.

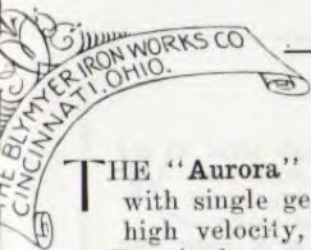
EVERY Cane Mill should have its gearing arranged to suit the motive power. The rolls must make the proper number of revolutions per minute, and the power driving the Mill must be ample to insure a correct capacity in tonnage, and a high extraction in juice.

When Mills are ordered from us, together with their engines, turbines or other motive powers, we see to it that the one is correctly adapted to the other. For this reason it is very advisable that our clients purchase from us the motive power, together with the Mill.

In order to establish proper connections between a Cane Mill and the motive power, when the latter is already installed, we require complete and exact answers to the following:

- First—Is the motive power an engine, water wheel, turbine or Pelton wheel, and what H. P. does it develop?
- Second—Give dimensions of engine cylinder, diameter of turbine or Pelton wheel, or diameter and face of water wheel.
- Third—The number of revolutions the engine, water wheel, etc., make per minute.
- Fourth—Should the power be transmitted to Mill by belt, or should Mill be connected direct to motor shaft?
- Fifth—If belt connection is wanted, give diameter, face and speed of pulley that will be connected with pulley on Mill.
- Sixth—If direct connection is wanted, give diameter of shaft at end where coupling will be placed, space available for coupling and dimensions of key-seat, if any, in coupling end of shaft.
- Seventh—State if engine is right or left hand, if it runs over or under, or if a turbine is used whether it revolves to the right or left. The name and factory number of engine and turbine, name of manufacturer and when it was made should also be stated, and, if possible, a plan of the engine, turbine, etc., should be sent us.
- Eighth—It is advisable to send a sketch, showing the approximate relative positions that the Mill and motive power should occupy.
- Ninth—If a double geared Mill is wanted, state which arrangement of gearing, according to diagram on page 26, is preferred, whether the gearing should be placed to the right or left of the Mill when facing the feed roll.

The above questions should be answered in detail whenever a "Garland," "Colon," "Eureka" or "Niles" Mill, either single or double geared, is ordered.



## GEARING FOR "AURORA" AND "OHIO" MILLS.

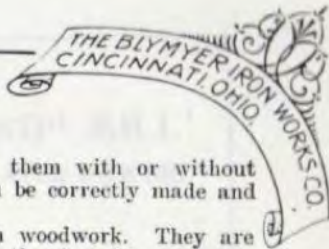
THE "Aurora" and "Ohio" Mills, shown on pages 22 and 24, are animal power Mills, but can be equipped with single gearing, to be driven by a water wheel, or with double gearing, to be driven by a motor of high velocity, namely, an engine, turbine, or Pelton Water Wheel.

The single gearing consists of the main gear, pinion and pinion shaft, with journal boxes and bolts, and either a pulley or coupling to make direct connection to the water wheel shaft. If pulley is wanted, the diameter, face and speed of the driving pulley should be sent us. If coupling is wanted, we must know the exact diameter of water wheel shaft at coupling end, length available for coupling, and the number of revolutions the shaft makes per minute. A sketch of the water wheel shaft should accompany this data.

The double gearing consists of the main gear and pinion, intermediate gear and pinion, main and intermediate shafts, each with two journal boxes and bolts, and a pulley or coupling. Orders should state whether pulley or coupling is wanted; also according to which diagram on page 26 the gearing should be arranged. The diameter, face and speed of driving pulley, or else the diameter and length of motor shaft, its revolutions per minute and a sketch of the shaft should be sent us, if coupling for direct connection is wanted instead of pulley. We especially request that all of the information called for on page 27 be given us.

**TABLE OF DETAILS.**

Name of Mill	Price		Name of Mill	Price	
	Single Gearing	Double Gearing		Single Gearing	Double Gearing
For "Aurora" Mill No. 1			For "Ohio" Mill No. 1		
" " " No. 1		\$ 60.00	" " " No. 1		\$ 60.00
" " " No. 2	Prices		" " " No. 2	Prices	
" " " No. 2		80.00	" " " No. 2		80.00
" " " No. 3			" " " No. 3		
" " " No. 3	on	80.00	" " " No. 3	on	80.00
" " " No. 4			" " " No. 4		
" " " No. 4		120.00	" " " No. 4		120.00
" " " No. 5	Application		" " " No. 5	Application	
" " " No. 5		140.00	" " " No. 5		140.00



## CANE AND BAGASSE CARRIERS.

**W**E build Cane and Bagasse Carriers of any lengths for all of our horizontal power Mills, and furnish them with or without wood work, as desired. When the wood work is not ordered, we provide a drawing for it, so that it can be correctly made and put in place on the plantation.

The prices in table of details No. 1 are for bagasse carriers only, 12 or 15 feet long, as specified, with woodwork. They are used when it is desired to discharge the bagasse into a cart. Their outer extremities are raised sufficiently for this purpose. An iron feed table is also included in these prices.

The Cane and Bagasse Carriers specified in table of details No. 2 are 50 and 30 feet long respectively. We will quote special prices on shorter or longer carriers. The cane carrier is provided with an improved friction clutch, so that it can be stopped without stopping the Mill. The web and driving chains are of wrought iron. Take-up boxes at the extremities of both carriers, and all connections to Mill are furnished. The prices include all necessary woodwork.

**TABLE OF DETAILS No. 1.**

Name of Mill	Price	Name of Mill	Price
For "Garland" Mill No. 1—12 feet long	\$25.00	For "Colon" Mill No. 4—12 feet long	\$40.00
" " " No. 2—12 " "	25.00	" " " No. 5—12 " "	50.00
" " " No. 3—12 " "	25.00	" " " "Eureka" No. 1—12 " "	40.00
" " " No. 4—12 " "	40.00	" " " " " No. 1A 12 " "	40.00
" " " No. 5—15 " "	60.00	" " " " " No. 2—15 " "	50.00
" " " "Colon" No. 1—12 " "	25.00	" " " " " No. 2A 15 " "	50.00
" " " " " No. 2—12 " "	25.00	" " " " " No. 3—15 " "	60.00
" " " " " No. 3—12 " "	25.00	" " " " " No. 4—15 " "	75.00

If woodwork is not wanted, deduct 15 percent from above prices.

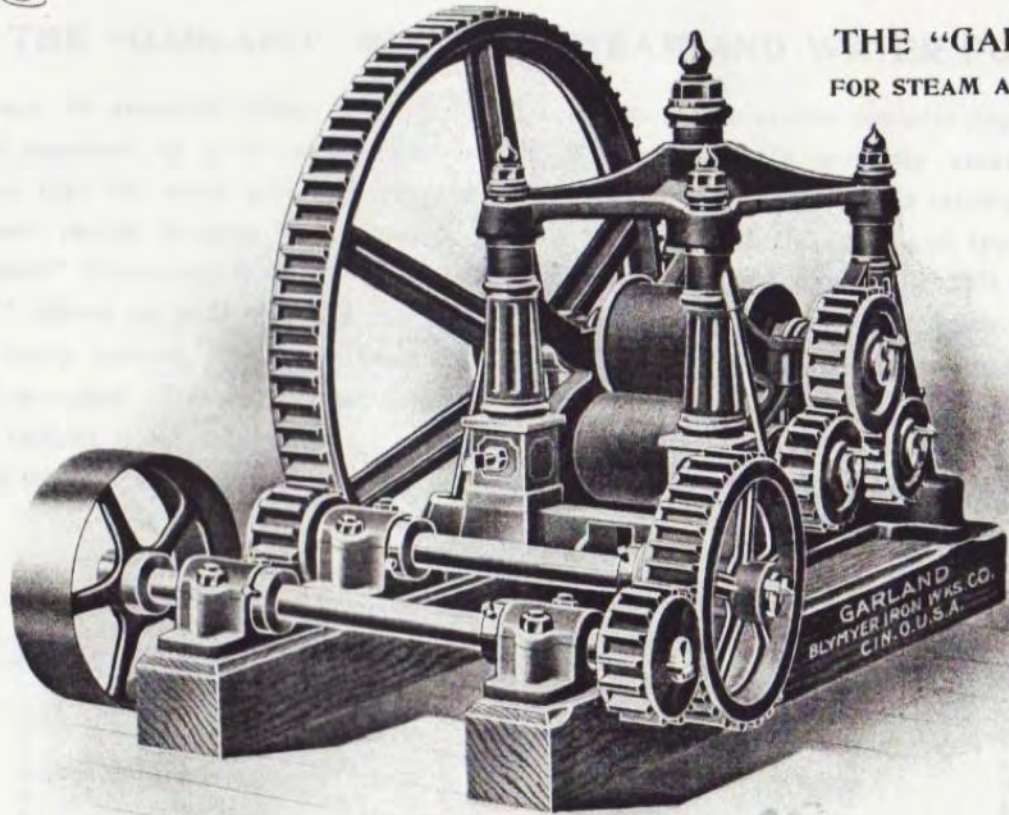
**TABLE OF DETAILS No. 2.**

Name of Mill	Price	Name of Mill	Price
For "Eureka" Mill No. 3	\$450.00	For "Niles" Mill No. 9	Prices on Application
" " " No. 4	500.00	" " " No. 10	
" " " "Niles" No. 3	400.00	" " " No. 11	
" " " " " No. 4	450.00	" " " No. 12	
" " " " " No. 5	500.00	" " " No. 13	
" " " " " No. 6	500.00	" " " No. 14	
" " " " " No. 7	600.00	" " " No. 15	
" " " " " No. 8	600.00		

If woodwork is not wanted, deduct 15 percent from above prices.

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

THE "GARLAND" MILL  
FOR STEAM AND WATER POWER.



## THE "GARLAND" MILL FOR STEAM AND WATER POWER.

THIS Mill can be arranged either with double gearing, as shown on the opposite page, or with single gearing, to be operated by an overshot water wheel. To enable us to correctly arrange the gearing, it is quite necessary that the order give the information called for on page 27 of this catalogue. Many a Mill fails to give its best results because its gearing is not in harmony with the speed and type of the motive power.

The "Garland" Horizontal Mill is of admirable construction and design. The Mill proper is identical to the "Aurora," shown on page 22, with the same improvements in shafts, cane knife, bed plate, etc. The gearing is of heavy pattern. The main gear is dished, and it, together with the secondary gear and all pinions, are half shrouded. The countershafts are of steel, turned their entire length, and revolve in boxes lined with genuine babbitt metal.

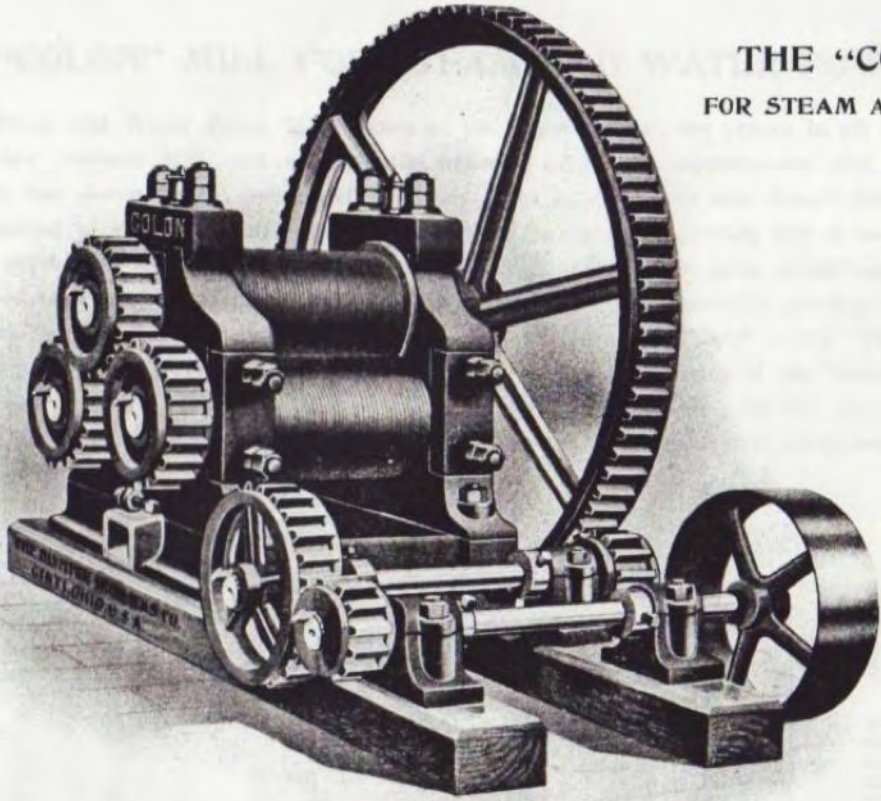
A feed guide, all foundation bolts, oil can and wrench are furnished with each Mill.

TABLE OF DETAILS.

No.	Horse Power	Dimensions of Rolls in Inches				Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Approximate Shipping Weight Lbs.	Price Double Geared
		Main Roll Diameter	Main Roll Length	Minor Roll Diameter	Minor Roll Length				
1	1	8	9	6	9	675	5	1700	\$125.00
2	2	10	10	8	10	1000	8	2150	155.00
3	2	10	12	8	12	1350	10	2300	185.00
4	4	12	16	10	16	2100	16	4150	340.00
5	8	12	20	10	20	2700	20	5000	475.00



THE BLYMYER IRON WORKS CO.  
CINCINNATI, OHIO.



**THE "COLON" MILL**  
FOR STEAM AND WATER POWER.

## THE "COLON" MILL FOR STEAM AND WATER POWER.

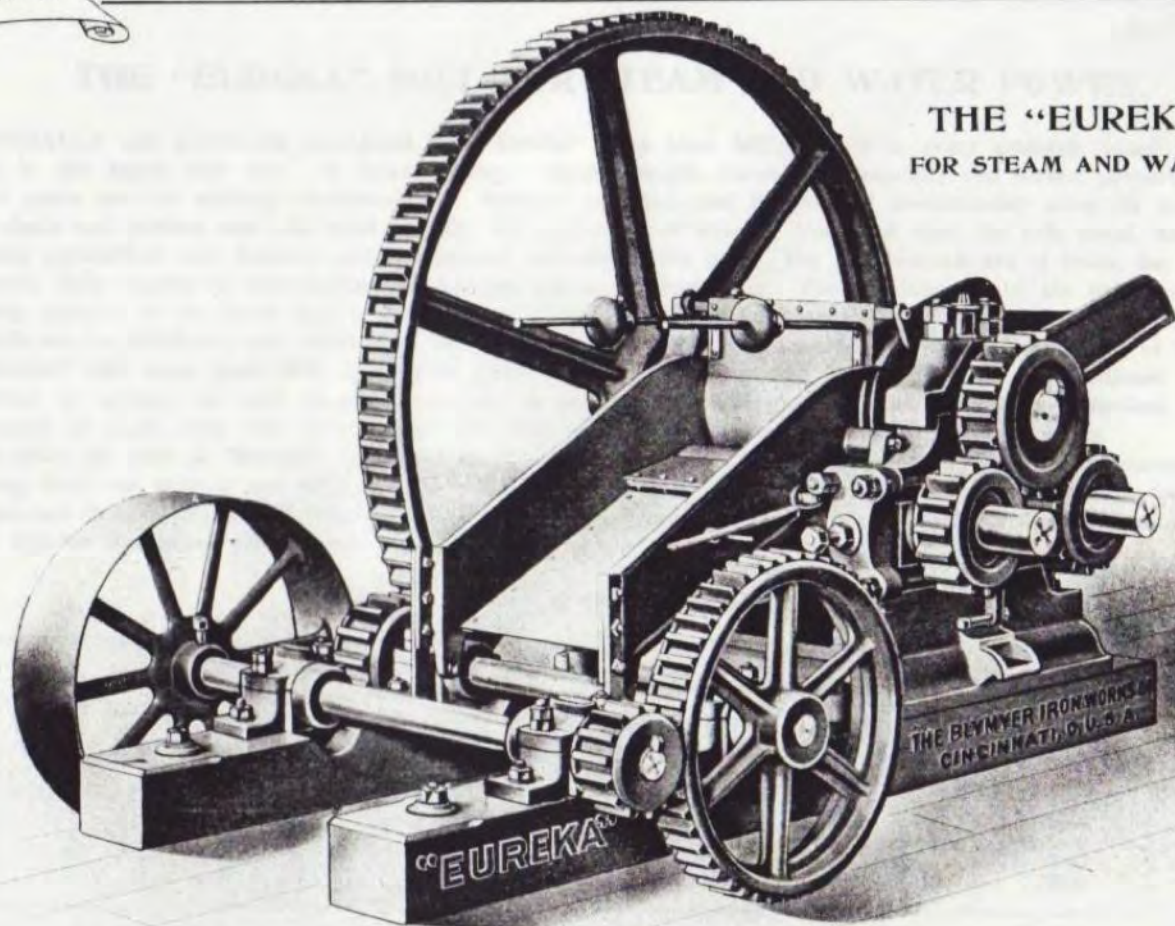
THE "Colon" Horizontal Steam and Water Power Mill, shown on the opposite page, has proven in all respects satisfactory to its many users. It is a new, modern Mill, and consequently embodies all of the improvements that our half a century of experience as Mill builders has shown to be useful and necessary. The small planter who doesn't need, or can't afford, a large and costly Mill, should be enabled to grind his cane just as economically as the large planter, and it was with the idea of giving him a simple, powerful and rigid Mill of suitable sizes that proportionately extract the same percentage of juice from the cane as a large Mill that we designed the "Colon." Our efforts have been appreciated, as the constantly growing demand for "Colon" Mills attests. We invite attention to the description of the "Ohio" Mill on page 25, for the "Colon" is the "Ohio" converted into a mechanical power mill. All the good traits of the one are possessed by the other. The gearing of the "Colon" Mill is of exceptionally good proportions, as the cut clearly shows. Single or double gearing is furnished, depending on the class and speed of the motive power. To insure the gearing being properly arranged to suit the motive power, we advise that every order for a "Colon" Mill be accompanied by the information called for on page 27.

TABLE OF DETAILS.

No.	Horse Power	Dimensions of Rolls in Inches				Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Approximate Shipping Weight Lbs.	Price Double Geared
		Main Roll Length	Roll Diameter	Minor Roll Length	Roll Diameter				
1	1	9	x 8	9	x 6	675	5	2000	\$160.00
2	2	10	x 10	10	x 8	1000	8	2300	200.00
3	2	12½	x 10	12½	x 8	1350	10	2650	220.00
4	4	16	x 12	16	x 10	2100	16	5000	390.00
5	6	20	x 12	20	x 10	2700	20	5200	500.00

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

THE "EUREKA" MILL  
FOR STEAM AND WATER POWER.



## THE "EUREKA" MILL FOR STEAM AND WATER POWER.

**T**HEORETICALLY and practically considered, the "Eureka" is an ideal Mill, correct in every principle based on modern engineering in the sugar mill line. It lacks nothing. Great strength, durability, simplicity and correct proportions of even the smallest parts are its striking characteristics. Selected materials and the best of workmanship enter its construction. The roll crown wheels and pinions are solid steel castings, the shafts are of wrought iron (not steel, for this metal, when used in mill shafts, quickly crystallizes and breaks) and are pressed securely in the rolls. The roll journals are of brass, the housing bolts of large diameters, fully capable of withstanding the hardest strains of overfeeding. The housings are of the well known French pattern, so vastly superior to the closed type of housings which necessitate the wrecking of the entire Mill in order to remove a roll. The cane knife can be withdrawn and returned to its place without causing even an alteration in the adjustment of the rolls.

The "Eureka," like every good Mill, is built to grind thoroughly all the cane fed into it. No old fashioned devices, such as rubber cushions or springs, are used to allow the cane to pass through half ground. These are ruinous devices, having in some instances wasted so much juice that what would otherwise have been a profitable crop, proved a losing one.

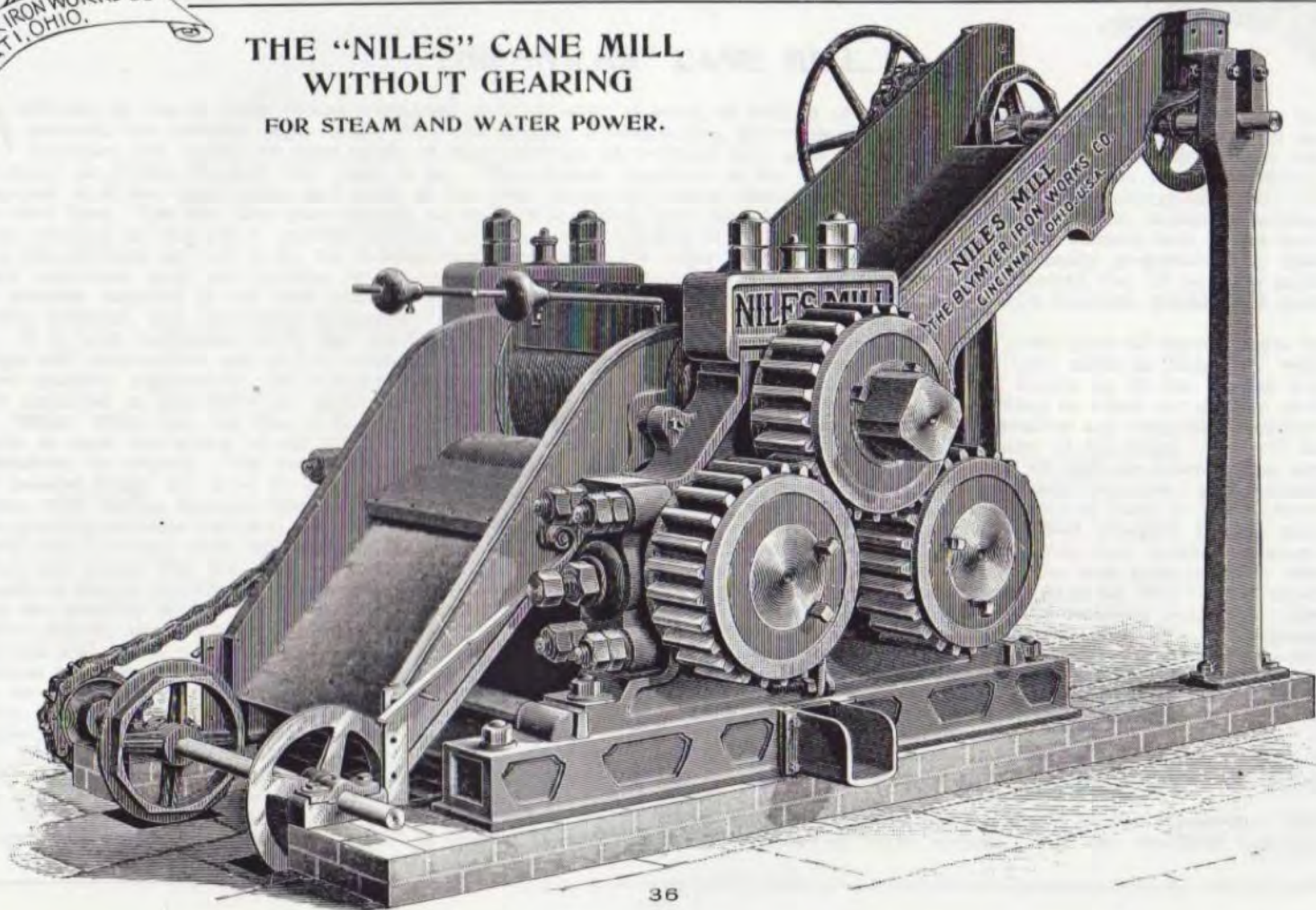
We now build six sizes of "Eureka" Mills instead of four, as formerly. To prevent errors, we ask our customers to specify, when ordering, both the number and size of rollers of the Mill wanted. We recommend that when sufficient space is available, the double gearing be arranged per diagram 3, page 26, but in any event, we should be given all of the information requested on page 27. A detailed foundation plan is sent with each Mill.

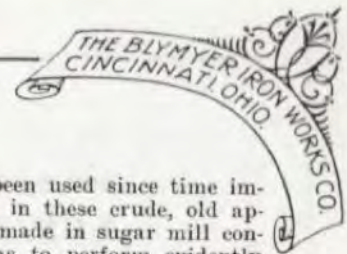
TABLE OF DETAILS.

No.	Horse Power	Dimensions of Rolls in Inches				Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Approximate Shipping Weight Lbs.	Price Double Geared
		Main Roll Diameter	Main Roll Length	Minor Roll Diameter	Minor Roll Length				
1	4	12	x 15	9	x 15	2400	18	4400	\$350.00
1 A	4	12	x 15	12	x 15	2500	19	4600	400.00
2	6	12	x 18	9	x 18	2700	20	5100	450.00
2 A	6	12	x 18	12	x 18	2800	21	5400	500.00
3	10	15	x 22	15	x 22	4050	30	9300	700.00
4	12	15	x 24	15	x 24	4800	36	9600	875.00

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

THE "NILES" CANE MILL  
WITHOUT GEARING  
FOR STEAM AND WATER POWER.





## THE "NILES" CANE MILL.

A SERIES of two or more rollers sometimes made of wood, of stone, of iron, or of other materials, have been used since time immemorial for crushing sugar cane. With the advance of civilization, improvements were naturally made in these crude, old apparatuses, yet, during no other epoch of these centuries of evolution have such decided betterments been made in sugar mill construction as during the past fifty years or so. The apparent simplicity of the work that the sugar mill has to perform evidently deprived it of the consideration and study of the great mechanical minds, who, during the past decades, have accomplished wonders in other lines. The past fifty years though, as we have remarked, have brought about a great change. Now the factors of extraction, economy in the power applied, friction, feed, capacity according to roll speed, etc., are all taken into account, both by the modern manufacturer as well as by the well-informed purchaser. The sugar mill of today must be scientifically proportioned so that each individual part will perform its proper duty without hindrance to others, and it is equally important that all parts be made of suitable material of the best quality. The mill must be of simple design, so that it can be easily mounted, quickly and positively adjusted, and thoroughly inspected.

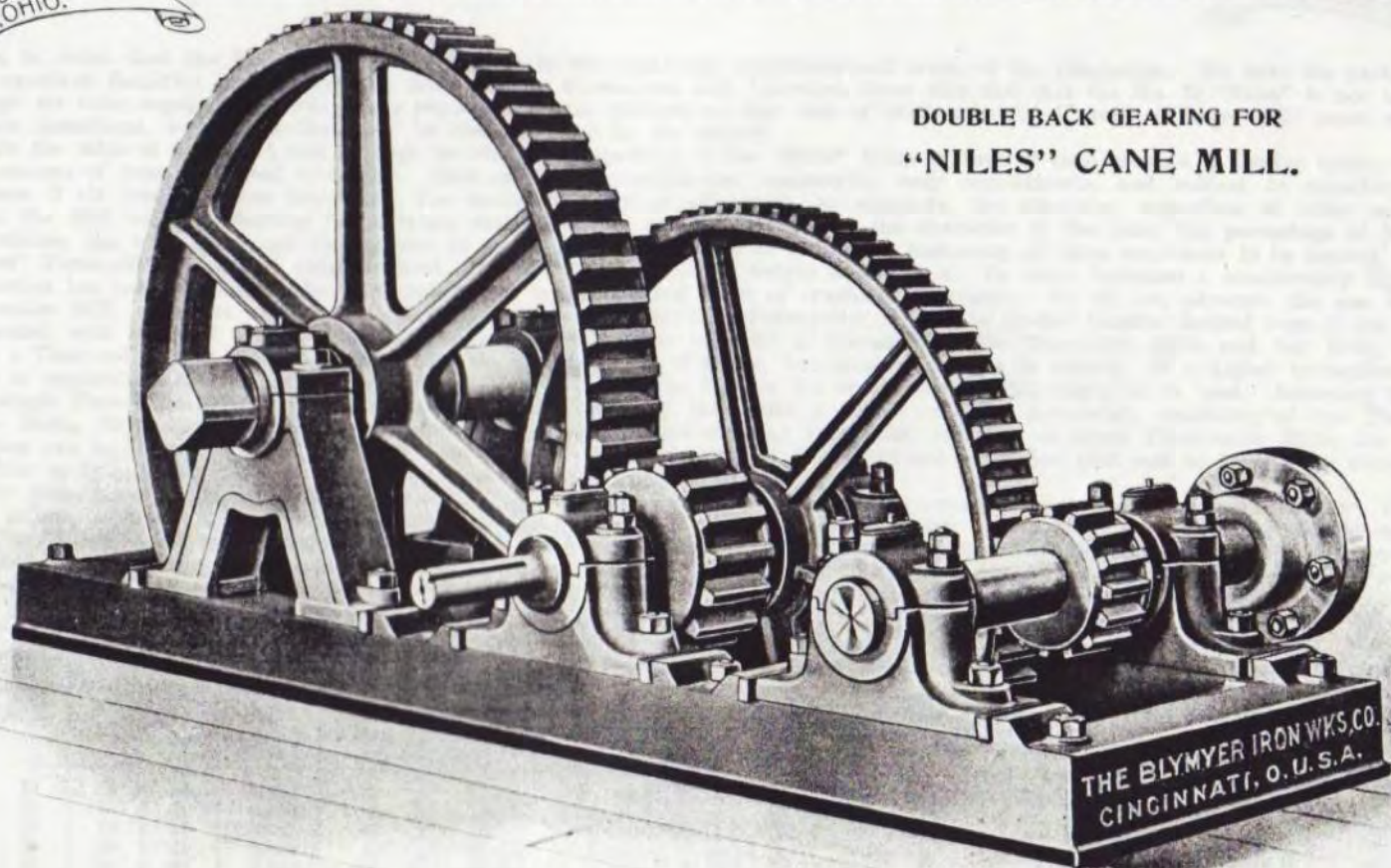
It is with pardonable pride that we point to the significant extent of our contributions to the great total of improvements in sugar mill construction, and in this connection we must also do full justice to our many friends who have aided us materially with their practical suggestions. Other improvements will, perforce, be made in the future, but all those known up to the present day are embodied in one Mill—our celebrated "Niles." We give the following brief specifications, according to which our smaller sizes of "Niles" Mills, viz., the Nos. 3 to 9, inclusive, are usually constructed, but we are prepared to introduce any reasonable modifications to meet the wishes of our clients. Complete specifications of the above mentioned sizes, and also of the larger ones, will be submitted on request. The housings are of the French or open pattern, permitting the easy removal of all three rollers. They are of massive design and have all bearing surfaces accurately machined. They are traversed by extra heavy horizontal and vertical bolts, with double wrought iron nuts at both extremities. The rolls are made of a hard, tough mixture of irons to insure durable grinding surfaces that will not prematurely wear off or become glazed. The roll brasses are of the best phosphor bronze, carefully fitted to their seats and shafts. The shafts are of selected hammered wrought iron, with long roll and journal bearings. They are forced into the rolls by hydrostatic pressure and additionally secured by broad steel keys. The cane knife is of our own improved design, permitting adjustments to be made from the outside of the Mill, and its total removal from the Mill without altering the position of the rolls. The bed plate is a single, solid casting, that is, it has no separate juice receiving pan. The roller crown wheels, also the pinions of the gearing, are solid steel castings, without any cores except for shafts. The teeth of all gears, pinions and crown wheels are of extra heavy pitch, broad face, and half flanged almost to pitch line. Under our standard specifications we make all gears in one piece, but are prepared to quote on any size "Niles" Mill, with either or both of the gears made in two or more sections. The gear shafts are also of selected wrought iron, and rest in massive pedestals of box pattern with wide journal bearings. The pedestals are carefully planed to fit the bed plate. The latter is of deep section with all surfaces planed, and is made of the best grade of iron.

We advise that the double gearing be always mounted on an iron bed plate, but for which there is an extra charge equal to 10% of the price of the double geared Mill. Ordinarily we furnish the double gearing mounted on sole plates, and our list prices on the double geared Mills are based on furnishing sole plates instead of the iron bed.

In the table of details we list only thirteen sizes of our "Niles" Mills. Our experience has shown us that whenever a Mill larger than the No. 15 "Niles" is required it becomes necessary to deviate, in one or more respects, from the standard specifica-

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

DOUBLE BACK GEARING FOR  
"NILES" CANE MILL.



tions, in order that the Mill may exactly conform to the particular conditions and needs of the plantation. We have the patterns and excellent facilities for constructing Mills of any dimensions, and, therefore, those who find that the No. 15 "Niles" is not large enough for their requirements will please request a special estimate on any size of Mill wanted. If such a larger Mill must meet certain conditions, we request that they be clearly stated in the inquiry.

In the table of details at foot of page we state the capacities of the "Niles" Mills in tons of cane crushed in twelve hours, and the amount of juice extracted therefrom. Both of these capacities are, necessarily, only approximate, and subject to considerable increase if all conditions are favorable. The motive power must, of course, be adequate, for otherwise, regardless of other conditions, the Mill will not develop its complete capacity. The varying factors are the character of the cane, the percentage of juice it contains, the roll speed, and the manner in which the cane is fed into the Mill. Assuming all these conditions to be normal, our "Niles" Three-roller Mill will extract about 65% of the juice on the weight of the cane. In many instances a considerably higher extraction has been obtained. The Three-roller Mill is the simplest form of crushing apparatus. We do not advocate the use of a Two-roller Mill, either as an independent unit or as an adjunct to a Three-roller Mill. The limited benefits derived from it are not in accord with the cost of first installation, or with the power required to operate it. The Two-roller Mills cost but little less than a Three-roller Mill, and requires almost the same amount of power, but gives much less in return. If a higher extraction of juice is required than can possibly be obtained from a Three-roller Mill, a Six or Nine-roller Mill ought to be used. Assuming that the single Three-roller Mill gives an extraction of 65% of juice, then with a double crushing apparatus, consisting of two Three-roller Mills, 70% extraction can be obtained, and with a triple crushing apparatus, composed of three Three-roller Mills, the extraction can be increased to 75%. These figures do not take into account the additional extraction that can be secured by using a shredder or by spraying the cane as it passes from one Mill to the other.

In these times, when competition has entered all markets and industries, economy must be practiced wherever possible. How this, in one important regard, can be practiced in the manufacture of sugar, the foregoing figures of extractions must clearly show.

The "Niles" Mills are furnished complete with all foundation bolts and washers, special wrenches, and either with a pulley or coupling, as preferred, for connection to motive power. The top roller is provided with a scraper having counter-weights, and when neither cane nor bagasse carriers are ordered we supply, without extra charge, a substantial cast iron feed table and bagasse chute.

TABLE OF DETAILS.

No.	Horse Power	Dimensions of All Rolls in Inches Diam. Length	Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Approximate Shipping Weight, Lbs.	Price Double Geared	No.	Horse Power	Dimensions of All Rolls in Inches Diam. Length	Gallons Juice in 12 Hours	Tons Cane in 12 Hours	Approximate Shipping Weight Lbs.	Price Double Geared
3	10	16 x 16	2,970	22	12,500	\$ 900.00	10	40	22 x 42	11,475	85	58,000	Prices on Application
4	12	16 x 20	4,050	30	15,000	1,050.00	11	50	24 x 42	13,500	100	66,000	
5	15	16 x 24	5,000	37	16,600	1,200.00	12	60	24 x 48	14,850	110	76,000	
6	18	20 x 24	6,070	45	26,000	2,000.00	13	70	26 x 48	16,200	120	86,000	
7	25	20 x 30	8,100	60	31,200	2,400.00	14	85	28 x 54	17,500	130	105,000	
8	30	22 x 30	8,775	65	42,000	3,000.00	15	115	30 x 60	24,300	180	145,000	
9	35	22 x 36	10,530	78	48,000	3,500.00							



## THE COOK ROCKER FURNACE WITH GRATE AND STACK. (No Pan.)



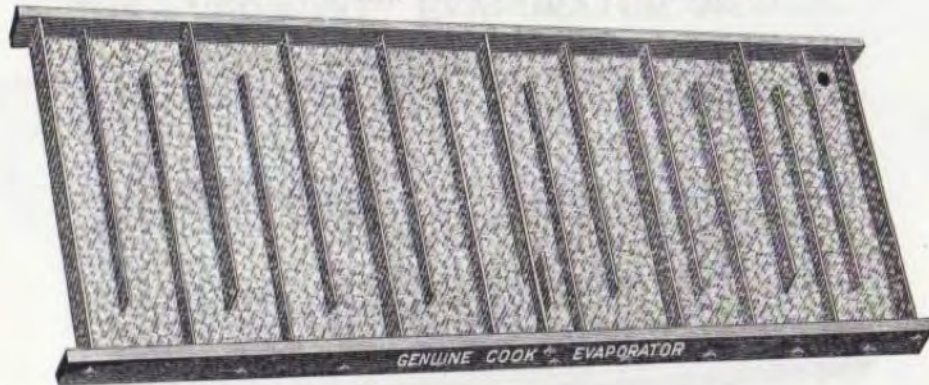
OUR Cook Rocker Furnaces are made of cast iron and sheet steel, heavily bound and riveted, strongly made, and the whole mounted upon rockers of angle iron—thus furnishing a complete portable furnace of iron and brick, combined in one, with all the advantages of both, and yet so light that it can be easily handled by two men. This is the most convenient arrangement for small home operations, and for custom work is well-nigh indispensable. With it the operator can move from field to field, and thus avoid the labor and expense of hauling the cane.

TABLE OF DETAILS.

Cook Rocker Furnace with Grate and Stack. (No Pan.)					Cook Rocker Furnace with Grate and Stack. (No Pan.)				
No.	Size out. to out. Length    Width	For Pan	Shipping Weight lbs.	Price	No.	Size out. to out. Length    Width.	For Pan	Shipping Weight lbs.	Price
2	6½ ft. x 31 in.	No. 2-6 ft. x 44 in.	190	\$25.00	5	11 ft. x 31 in.	No. 5-10½ ft. x 44 in.	240	\$40.00
3	8 ft. x 31 in.	No. 3-7½ ft. x 44 in.	210	30.00	6	12½ ft. x 31 in.	No. 6-12 ft. x 44 in.	265	45.00
4	9½ ft. x 31 in.	No. 4-9 ft. x 44 in.	220	35.00	7	15½ ft. x 31 in.	No. 7-15 ft. x 44 in.	290	50.00

NOTE.—To get the list price of an Evaporator complete, *i. e.*, Rocker Furnace with Galvanized or Copper Pan, add to the list price of Furnace, the list price of Pan on opposite page.

## THE "IMPROVED" COOK PAN.



THE above cut illustrates our Improved Cook Pan for Rocker Furnaces or stationary brick or stone arches. Among the numerous machines and implements used by the planter and farmer there is not one in the selection of which he should be more careful than in buying his Evaporator. A good, well-made Evaporator, at a fair price, is far cheaper than a poorly made and inferior article for nothing. The waste in juice in one season by leakage and discoloration and loss in price on account of the inferior quality of syrup made on a pan constructed of shoddy material carelessly put together, would more than buy one of our Improved Cook's Evaporators.

Our Pans are made of the very best quality of **galvanized steel** or hard rolled **copper**, and none but skilled and high-priced workmen are employed in their construction.

In our **Improved Cook's Pans** the bottoms are absolutely tight. By a recent invention we do away with all punching of holes and riveting of bolts to the bottom. These bolt-holes (and there are from twenty to forty in all other makes of pans) cause leaks and no end of trouble. By our device our pans are much stronger and can not leak or pull apart. **The bottoms** of all our pans are made with **close crimps**. This takes metal of the very best quality and more of it. Our pan sides are made of selected seasoned stock, and are thicker than the sides of most of the other pans on the market.

Standard pans are built as follows:

No. 2 pans have 3 high ledges, no gates.

No. 4 pans have 5 high ledges, 1 gate.

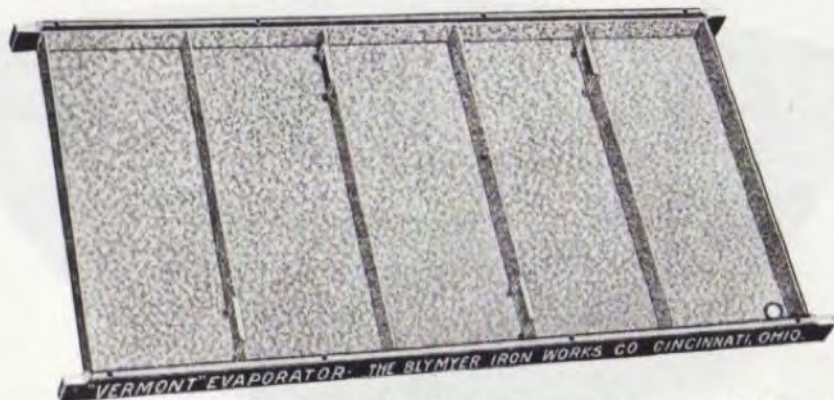
No. 6 pans have 7 high ledges, 2 gates.

Additional ledges or gates are extra charge.

TABLE OF DETAILS.

No	Dimensions		Gallons Juice in 12 Hours	Weight Galvanized Pan	Price Galvanized Steel	Weight Heavy Copper	Price Heavy Copper
	Length	Width					
2	6 ft.	x 44 in.	30 to 40	70 lbs.	\$ 25.00	80 lbs.	\$ 60.00
3	7 ½ ft.	x 44 in.	40 to 50	90 lbs.	30.00	100 lbs.	75.00
4	9 ft.	x 44 in.	50 to 70	110 lbs.	35.00	125 lbs.	85.00
5	10 ½ ft.	x 44 in.	70 to 100	125 lbs.	45.00	140 lbs.	110.00
6	12 ft.	x 44 in.	100 to 130	150 lbs.	55.00	175 lbs.	130.00
7	15 ft.	x 44 in.	130 to 170	190 lbs.	65.00	225 lbs.	150.00
8	15 ft.	x 54 in.	150 to 200	250 lbs.	100.00	275 lbs.	200.00
9	20 ft.	x 54 in.	200 to 250	400 lbs.	125.00	450 lbs.	250.00

## THE "VERMONT" EVAPORATOR OR PAN.



THE "Vermont" Evaporator illustrated above can be operated on either a portable Furnace, similar to our "Cook," or on a brick or stone arch, as may be preferred. They are made of an exceptionally good quality of galvanized steel or heavy copper, the whole constituting a series of sections or distinct pans, each 39" x 16" x 4" deep, the number of sections depending on the size pan desired or capacity required. These sections are made of a single sheet, without seams and entirely independent of the wood sides. Each section, therefore, forms a pan in itself, and as each has its own gate, which is arranged on alternate sides, the flow of juice can be regulated to a nicety. In most Evaporators now on the market the wood sides form part of the pan, which, after becoming soaked with the juices and allowed to sour, not only taint and impair the quality of a subsequent charge, but often warp and twist, causing serious trouble and expense. These annoyances are entirely obviated in the "Vermont" Pan. The wood sides are never exposed to the juices, with the result that a better article of syrup is assured and the pan easily kept clean and sweet. There are no seams or soldered joints exposed to the fire. In short our "Vermont" is practically an all metal Evaporator, possessing all the advantages claimed by others, but being stronger, more durable, requiring less attention and producing a superior quality of syrup. We furnish two large skimmers with each pan.

TABLE OF DETAILS.

The "Vermont" Portable Furnace with Grate and Stack—(No Pan)				The "Vermont" Pan with two Skimmers.					
No.	For Pan	Weight	Price	No	Dimensions in Inches	Gallons Juice in 12 Hours	Weight Gal. Pan	Price Galvanized	Price Copper
2	42 x 64	160 lbs	\$25.00	2	42 x 64	30 to 40	75 lbs.	\$25.00	\$ 60.00
3	42 x 80	190 lbs	30.00	3	42 x 80	40 to 60	90 lbs.	30.00	75.00
4	42 x 96	200 lbs	35.00	4	42 x 96	60 to 80	100 lbs.	35.00	90.00
5	42 x 112	215 lbs	40.00	5	42 x 112	80 to 100	115 lbs.	40.00	110.00

NOTE.—To get price on Evaporator Complete (Furnace and Pan), add price of Furnace to price of Galvanized or Copper Pan.  
Prices larger sizes furnished on application.

## CAST IRON AND COPPER KETTLES.



**T**HE Cast Iron Kettles are made of a special mixture of iron and steel, capable of resisting the violent action of fire, without cracking. They are, therefore, greatly superior to and more durable than kettles made of ordinary scrap iron. They have no imperfections either in rim or bottom. Being cast from iron patterns, a uniform thickness of metal at all points is obtained. Our Copper Kettles are hammered out of a solid circle of copper. They are entirely free from flaws, cracks or seams. They are formed under a powerful steam hammer with such care that the bottom of the kettle retains the original thickness of the sheet. We make copper kettles of any thickness and of any dimensions, but those quoted in the table of details below are standard. The cut above accurately shows the shape of our kettles, and also the way in which copper kettles can be nested for shipment.

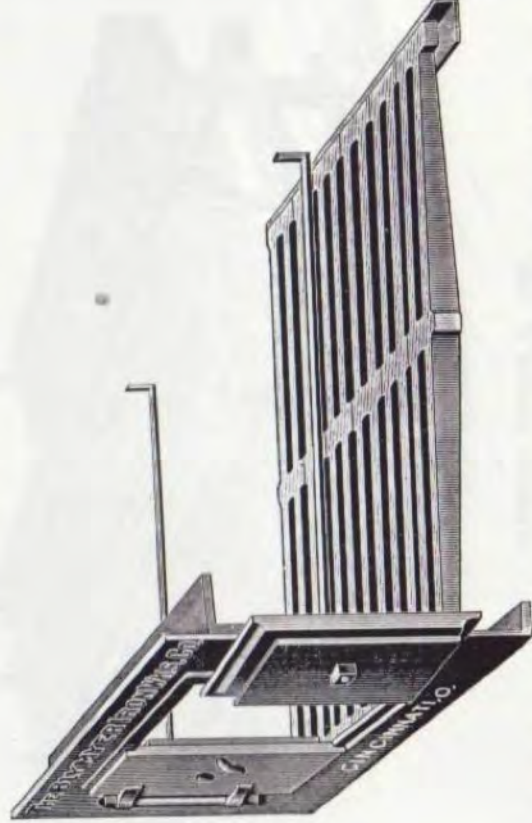
**TABLE OF DETAILS.**

Cast-Iron Kettles	Price	Cast-Iron Kettles	Price	Copper Seamless Kettles	Price	Copper Seamless Kettles	Price
20 Gallons Capacity	\$3.00	60 Gallons Capacity	\$11.00	25 Gallons Capacity	\$ 36.00	100 Gallons Capacity	\$125.00
25 " "	4.00	80 " "	15.00	30 " "	44.00	125 " "	140.00
30 " "	5.00	100 " "	20.00	40 " "	58.00	150 " "	175.00
35 " "	6.00	150 " "	40.00	50 " "	73.00	200 " "	225.00
40 " "	7.00	200 " "	60.00	60 " "	88.00	250 " "	340.00
50 " "	9.00			80 " "	110.00		

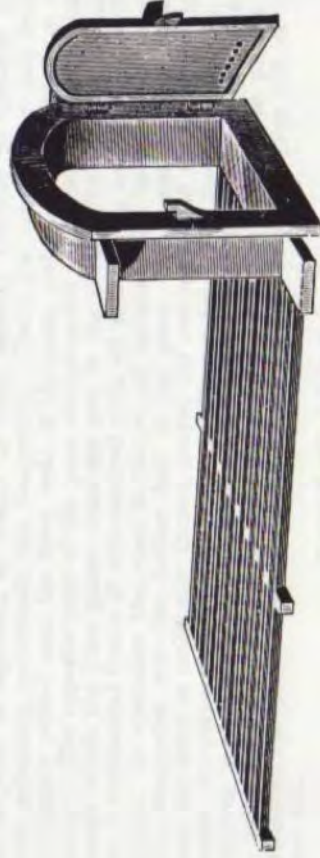
Approximate weight, Cast Iron Kettles,  $4\frac{1}{2}$  to  $5\frac{1}{2}$  pounds per Gallon.

" " Copper Seamless Kettles,  $2\frac{1}{2}$  to 3 pounds per Gallon.

## FURNACE DOORS AND GRATES. FOR BRICK OR STONE FURNACES.



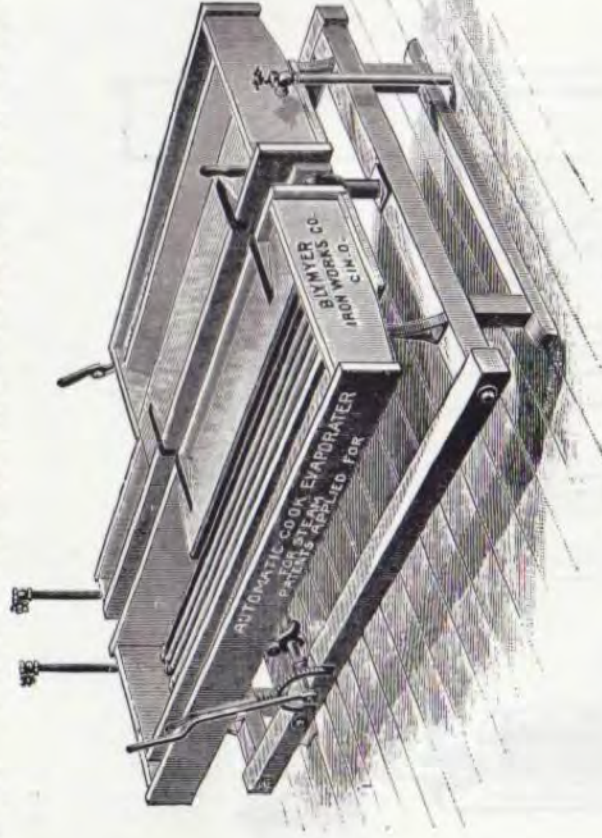
- No. 1.** Heavy double door and frame, opening 10 x 22 in. Weight 105 lbs.. \$10.00  
Six (6) heavy grate bars, each 4 in. wide by 42 in. long, with bearing-bar.  
Weight 200 lbs..... 15.00
- No. 2.** Medium double door and frame, opening 10 x 22 in. Weight 70 lbs.. 7.00  
Six medium grate bars, each 4 in. wide by 36 in. long, with bearing-bar. Weight  
150 lbs. .... 10.00



- No. 3.** Medium Light single door and frame, opening 13 x 16 in. Weight  
65 lbs. .... \$6.50  
Single grate for same, 20 x 42 in. Weight 90 lbs..... 6.00
- No. 4.** Light furnace door and frame, opening 12 x 12 in. Weight 40 lbs.... 4.00  
Grate for same, 18 x 36 in. Weight 50 lbs..... 4.50

**NOTE.**—All iron parts for Furnace Arches are made from a specially mixed quality of iron, calculated to resist as much as possible all warping or burning out. We recommend set No. 1 for Nos. 6 and 7 Pans, set No. 2 for No. 4 and 5 Pans, and set Nos. 3 and 4 for the smaller size Pans.

# THE "COOK" AUTOMATIC STEAM EVAPORATOR.



PATENTED OCTOBER 8, 1889.

IN these Evaporators the principles of **Automatic Working** are adapted to **steam**; that is, the processes of defecation, clarification, and finishing are systematically carried on, without interruption, to the end. The Evaporator consists of two distinct pans—an evaporating pan and a finishing pan, each having its separate steam coil, and each coil being supplied with an independent steam supply pipe. The body of the Evaporator is made of well-seasoned pine, one and a half inches thick. The bottoms and sides of the pans are *lined with galvanized steel or copper*, as ordered. The *coils are copper*, and all fittings first class in every respect. The flow of juice is regulated by means of cans securely fastened to wrought iron shafts extending underneath the Evaporator. These are actuated by two levers, conveniently placed near the front ends of the pans, and within easy reach of the operator. The opposite ends of the pans are connected by a flexible joint, or tube, through which the juice passes from one pan to the other. The whole is mounted upon a substantial frame of well-seasoned pine, all joints being well knit and bolted together. In operation the scum is thrown off automatically by means of wooden covers suspended over the farther half of the pans. By means of these wooden covers the scum is constantly thrown toward the cooling side of the pans, and into troughs extending along the sides of the Evaporator. The troublesome labor of skimming is almost entirely dispensed with. There is no danger of scorching, and the juice is reduced so rapidly that the syrup is light in color. The process is continuous, the juice constantly flowing into one end and the syrup out of the other end.

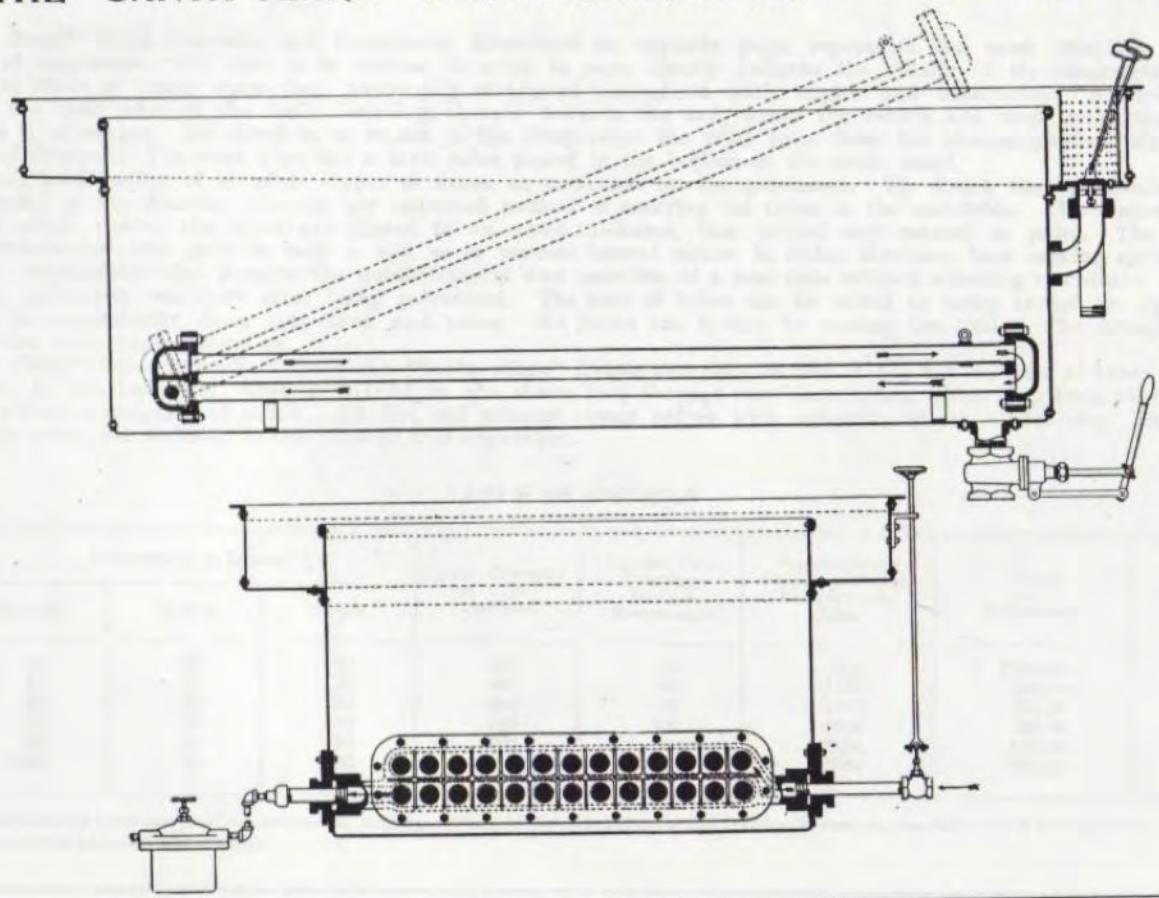
TABLE OF DETAILS.

No.	Length in feet	Width in feet	Depth in inches	Working Capacity at One Half the Depth	Square Feet Heating Surface	Weight Packed lbs.	Price, with Gal. Steel Lining	Price, with Copper Lining
A.	6½	4½	8	40 gals.	15	700	\$100	\$175
B.	8	6½	9½	60 gals.	25	900	150	225
C.	10	6½	9½	85 gals.	35	1100	200	300
D.	12	6½	9½	110 gals.	40	1300	250	350

THE BLYMYER IRON WORKS CO.  
CINCINNATI, OHIO

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

# THE "SANTA CLARA" STEAM DEFECATOR AND EVAPORATOR.



## THE "SANTA CLARA" STEAM DEFECATOR AND EVAPORATOR.

THE "Santa Clara" Steam Defecator and Evaporator, illustrated on opposite page, represents the most complete development in this class of apparatus. We show it in outline, in order to more clearly indicate the details of its construction. The tank, or vessel, is made of heavy sheet steel, thoroughly reinforced throughout with angles and band iron. A broad, wide scum canal encircles the four sides of the tank, decliaing sharply towards the end, where the return and wash connections are located. The return pipe is of copper. Its object is to return to the Evaporator the clear juice from the skimmings that filter through the copper perforated strainer. The wash pipe has a tank valve placed in the bottom of the scum canal.

The tubes are made either of seamless copper or brass, as preferred by the purchaser. We desire that particular attention be given to that detail of the drawing showing our improved method of securing the tubes in the manifolds. The surfaces of the inner manifold plates which receive the tubes are planed to an exact thickness, then drilled and reamed in pairs. The tubes are expanded and double-beaded into place in such a way as to prevent lateral motion in either direction, thus making an absolutely tight steam fit. This construction also permits the quick removal and insertion of a new tube without affecting the others. The manifolds are of cast iron, accurately machined after being galvanized. The nest of tubes can be raised by being turned on steam-tight trunnions, in order to conveniently clean both tank and tubes. No joints are broken by raising the tubes. The dotted lines indicate the position of the tubes when raised up.

The "Santa Clara" Defecator differs from the "Santa Clara" Evaporator only in that it has but one row of tubes instead of two. The condensation in the Defecator tubes is carried to the steam trap through small iron pipes, which keep them thoroughly drained and produce a perfect circulation of steam. All live and exhaust steam valves with extension stems, steam trap, and large, quick opening discharge valve, are included in the price of this apparatus.

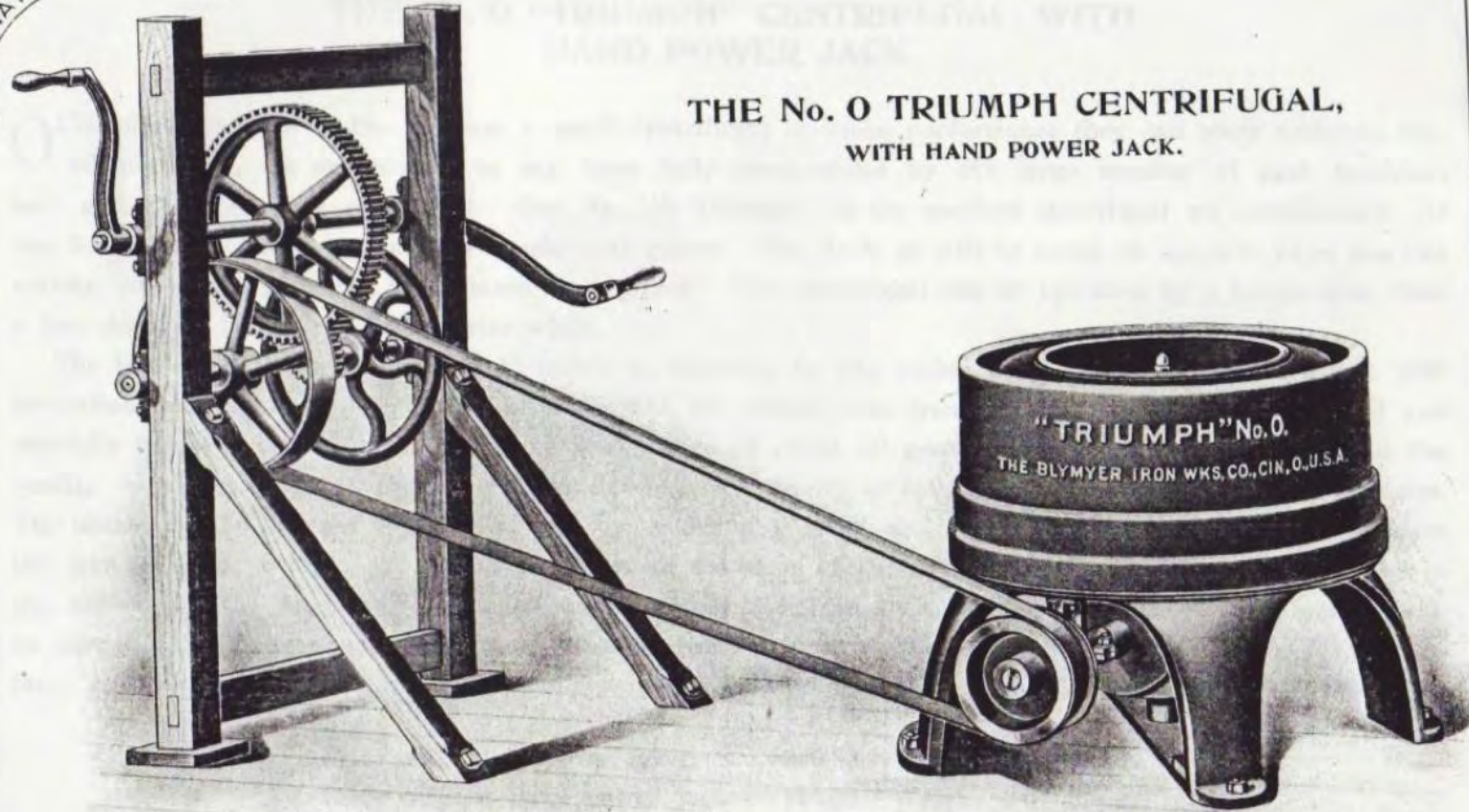
TABLE OF DETAILS.

No.	Dimensions in Inches			Total Capacity of Tank, Gallons	Square Feet Heating Surface Evaporator	Approximate Shipping Weight Evaporators, Lbs.	Prices of Defecators	Prices of Evaporators
	Length	Width	Depth					
1	48	36	30	230	34	900	\$160.00	\$200.00
2	72	36	30	340	44	1100	200.00	250.00
3	72	48	32	440	60	1400	250.00	315.00
4	96	48	32	750	100	1600	320.00	400.00
5	96	60	34	860	120	2250	375.00	470.00
6	120	60	36	1120	150	2500	450.00	560.00

NOTE.—The Defecators have one-half the amount of heating surface of the Evaporators and require, therefore, one-half of the horsepower. Weight of Defecators about 20 percent less.



THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.



THE No. 0 TRIUMPH CENTRIFUGAL,  
WITH HAND POWER JACK.

"TRIUMPH" No. 0.  
THE BLYMYER IRON WKS. CO., CIN. O., U.S.A.



## THE No. 0 "TRIUMPH" CENTRIFUGAL, WITH HAND POWER JACK.

OUR efforts to give to the planters a small centrifugal in whose performance they can place complete confidence, have, we are pleased to say, been fully compensated by the large number of such machines sold and their growing popularity. Our No. "0 Triumph" is the smallest centrifugal we manufacture. It can be operated either by hand or mechanical power. The Jack, as will be noted on opposite page, has two cranks, either of which can be replaced by a pulley. The centrifugal can be operated by a horsepower, from a line shaft, or by an engine or water wheel.

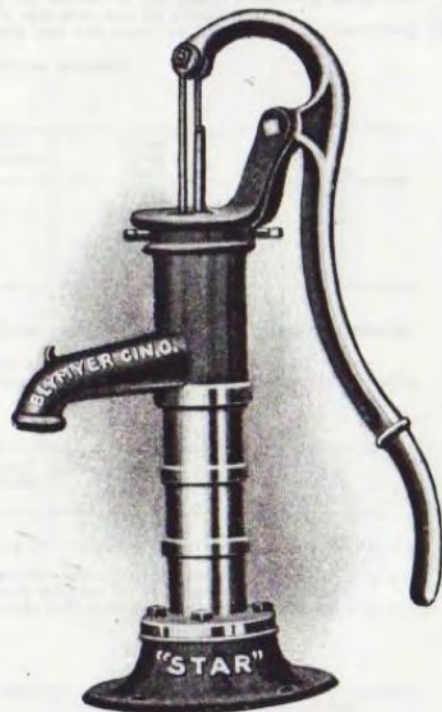
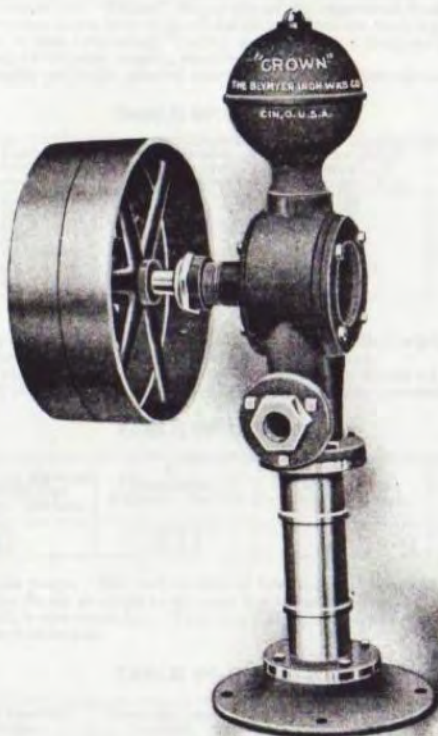
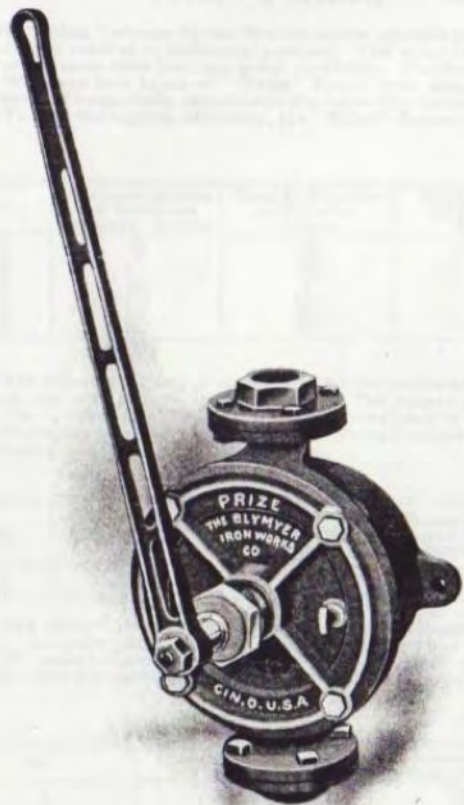
The basket of the centrifugal is 15 inches in diameter by 6½ inches deep, and should make about 1800 revolutions per minute. The basket is made with the utmost care from the best materials, well hooped and carefully balanced before shipment. It holds a charge of about 30 pounds of masse-cuite. According to the quality of the masse-cuite the centrifugal develops a capacity of 600 to 1000 pounds of sugar in 12 hours. The basket can be lowered or raised at will by means of a lever, and this operation disengages and engages the friction cone pulleys. By reason of the small diameter of the basket, it is impossible to put a valve in the bottom for the discharge of purged sugar, which, therefore, must be removed by means of a small wooden shovel. The flanged pulley on the horizontal friction cone shaft is 4 inches in diameter by 2¾ inches face, and should make about 1800 revolutions per minute.

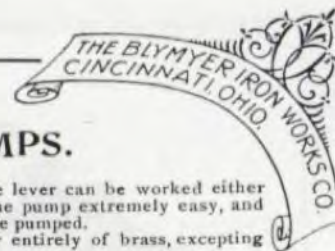
Price with hand power jack. . . . . \$200.00. Weight 750 pounds.

Price without hand power jack. . . . 160.00. Weight 450 pounds.

THE BLYMYER IRON WORKS CO  
CINCINNATI, OHIO.

# IMPROVED PUMPS, "PRIZE", "CROWN" AND "STAR."





## THE "PRIZE," "CROWN" AND "STAR" IMPROVED PUMPS.

THE "Prize," shown by the first cut on the opposite page, is a hand power double acting force pump. It can be so placed that the lever can be worked either from a vertical or horizontal position. The wing valves of the "Prize" Pump are of an improved design, making the action of the pump extremely easy, and at the same time insuring great durability. Furthermore, since this type of valve requires no packing, hot liquids, oils, etc., can be pumped. We make two kinds of "Prize" Pumps, both listed in the following Table; one with iron body and brass valves and the other entirely of brass, excepting the lever. We especially recommend the latter for pumping cane juice, mash, alcohol, etc. To give the highest efficiency, the "Prize" Pumps ought not to be placed more than twenty feet above the liquid to be pumped.

TABLE OF DETAILS.

No.	Diameters Suction and Discharge Openings. Inches.	Outside Diameter of Cylinder. Inches.	Inside Diameter of Cylinder. Inches.	Approximate Capacity per minute. Gallons.	Total height of Suction and Discharge. Feet.	Approximate Shipping Weight. Lbs.	Price Iron Body	Price all Brass
0	$\frac{1}{2}$	$5\frac{1}{4}$	$4\frac{1}{8}$	4	150	20	\$ 8.00	\$14.00
1	$\frac{3}{8}$	$6\frac{1}{8}$	$4\frac{1}{2}$	5	150	30	9.00	17.00
2	1	$7\frac{1}{8}$	$5\frac{1}{8}$	6	125	40	10.25	22.50
3	$1\frac{1}{4}$	9	$6\frac{1}{2}$	9	125	50	12.00	28.00
4	$1\frac{3}{8}$	$10\frac{1}{4}$	$7\frac{1}{4}$	13	100	65	14.25	33.75
5	$1\frac{1}{2}$	$11\frac{1}{4}$	$8\frac{1}{8}$	19	100	80	17.25	40.50
6	$1\frac{3}{4}$	$12\frac{1}{2}$	$9\frac{1}{8}$	22	100	100	20.00	48.00

The "Crown" Pump is represented by the center engraving on the opposite page. It is supplied with tight and loose pulleys for power, and, when especially ordered, also with a crank for hand power. The pulleys should make about 50 revolutions per minute.

The cylinder is made either of iron or completely of brass. The prices of the pump with both kinds of cylinders are quoted in the following Table. We highly recommend the "Crown" Pump because it is so very compact, durable and so easily operated. The pump with brass cylinder is especially suitable for pumping cane juice, mash, alcohol, etc.

TABLE OF DETAILS.

No.	Cylinder.		Diameter of Suction and Discharge Openings. Inches.	Dimensions of Pulleys. Inches.	Capacity per Hour. Gallons.	Approximate Shipping Weight. Lbs.	Price Iron Cylinder	Price Brass Cylinder
	Diameter. Inches.	Stroke. Inches.						
1	3	5	$1\frac{1}{4}$	16 x 3	365	175	\$30.00	\$42.50
2	$2\frac{1}{2}$	5	$1\frac{1}{2}$	16 x 3	500	200	35.00	60.00

The "Star" Pump is the right hand one on the opposite page. The valves are of brass, and, consequently, these pumps are admirably adapted for pumping hot liquids, cane juice, molasses, etc. It is advisable to place the pump as close to the hot liquid as possible, so that the vacuum will not be destroyed by the steam.

We make these pumps either with iron cylinder or with brass cylinder. The latter should be used for pumping liquids that contain acids, for in addition to the cylinder, all other parts coming in contact with the liquid are of brass.

TABLE OF DETAILS.

No.	Diameter of Cylinder. Inches.	Diameter of Suction Pipe. Inches.	Capacity per minute 50 Strokes. Gallons.	Approximate Shipping Weight. Lbs.	Price Iron Cylinder	Price Brass Cylinder
1	$2\frac{1}{2}$	$1\frac{1}{4}$	6	40	\$10.00	\$18.75
2	3	$1\frac{1}{2}$	8	45	12.00	22.00
3	$3\frac{1}{2}$	$1\frac{3}{4}$	13	50	14.00	27.00
4	4	2	17	60	17.00	34.00
5	$4\frac{1}{2}$	$2\frac{1}{8}$	20	70	20.00	38.00

## THE ZIMMERMAN FRUIT EVAPORATOR.

FOR THE DRYING AND CURING OF ALL KINDS OF FRUITS AND VEGETABLES.

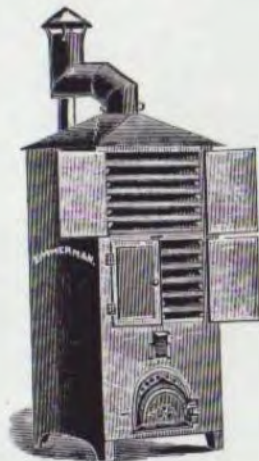
Portable, Durable, Economical and Cheap.

Made substantially of galvanized iron, and absolutely fire-proof. The only combined dryer and baker in the market.

FOUR SIZES.



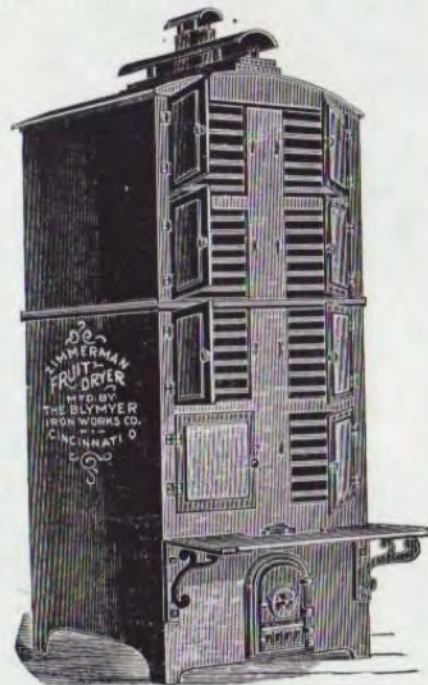
No. 1. Weight 275 lbs.  
List Price \$30.00.



No. 2. Weight 365 lbs.  
List Price \$50.00.



No. 3. Weight 1040 lbs.  
List Price \$100.00.



No. 4. Weight 1465 lbs.  
List Price \$165.00.

These Evaporators are constructed on correct and scientific principles; made almost entirely of galvanized iron (a sheet metal that will not rust or corrode, requires no painting, and is a nonconductor of heat). Portable, durable, economical and cheap. The products of the evaporators are unsurpassed as to quality or color, and command the highest price. For further particulars address **THE BLYMYER IRON WORKS CO., CINCINNATI, OHIO, U. S. A.** Write for catalogue and discounts.