

"Good equipment makes a good farmer better"



Specifications subject to change without notice.



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McCORMICK - DEERING  
**Chattanooga**  
**Cane Mills**  
For  
Animal, Belt and Water-Power



They Get All the Juice

**INTERNATIONAL HARVESTER COMPANY**

180 NORTH MICHIGAN AVE.

CHICAGO, ILLINOIS

*The Company reserves the right to change the materials and specifications of the machines described herein in the event it becomes necessary to make such changes as a result of the war.*



## A Quality Line

The Chattanooga line of cane mills is designed for those growers who require strong, dependable, well-constructed mills of medium capacities and moderate cost, *giving the maximum of juice extraction.*

The Chattanooga line includes both animal and mechanical-power types of cane mills, ranging in size from the No. 7 two-roll mill, requiring but one small horse to operate, to the No. 192-A belt-power mill requiring a 10 h.p. engine to operate at full capacity. In addition several of the belt-power mills can be equipped for water power. All of these mills are quality-built throughout and have the essential weight and strength necessary to stand up to the full amount of power for which they are recommended.

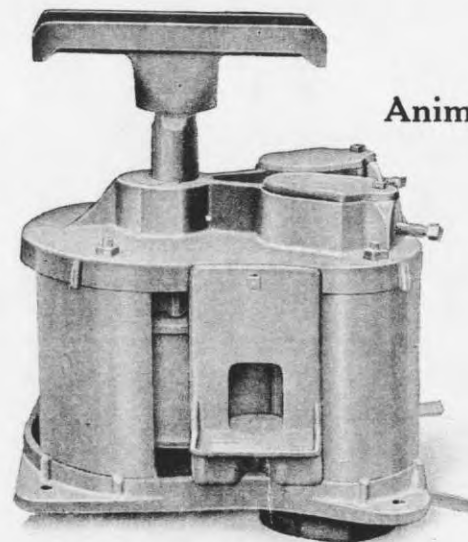
With a wide range of sizes and types available it is a simple matter to select a Chattanooga mill exactly suited to your requirements. No matter how much or how little cane you grow, it will pay you to own a Chattanooga mill and do your own grinding. If you raise two or more acres of cane, it will pay you to invest in a Chattanooga belt or water-power mill. Because of the excellent design of Chattanooga mills, you will be able to secure the highest possible extraction and the greatest profit from your cane.



Buy a  
*Chattanooga Cane Mill*

## CHATTANOOGA CANE MILLS

Three-Roll  
Vertical



Animal-Power

Illust. 1. Chattanooga No. 122 three-roll, animal-power cane mill. Notice the heavy construction throughout.

### Seven Sizes

The Nos. 11, 12, 13, 14, 111, 112, 113 and 114 Chattanooga cane mills are suitable for grinding sorghum or light to medium sugar cane. The Nos. 22, 23, 24, 122, 123 and 124 are heavy, powerful mills which will grind the heaviest tropical sugar cane and give a very high rate of extraction. They are exceptionally light-running mills, correctly proportioned and finely finished. These are the most popular animal-power mills made.

### High Extraction

For mills of their type, Chattanooga animal-power cane mills give unusually high juice extraction. This is due to their rugged construction and design, which permits adjusting and *maintaining* the rolls at the desired distance apart to obtain the most effective results. Steel set screws, readily adjustable from the outside of the mill, regulate the pressure. They will not give way nor burr at the ends.

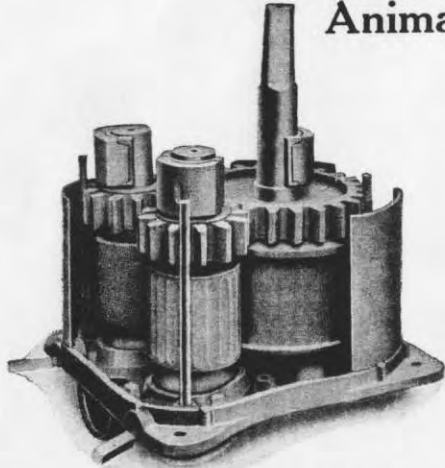
### Shipping Specifications and Data

Mill Number		No. of Rolls	Power Required	Roll Dimensions				Capacity Gallons of Juice per Hour	Capacity Tons Cane per 12 Hours	Weight, Pounds Largest Piece	Weight in Pounds		Cubic Feet
Plain Feed Roll	Fluted Feed Roll			Large Roll		Small Roll					Net	Gross	
				Diameter Inches	Length Inches	Diameter Inches	Length Inches						
11	111	3	1-horse.....	10	5	5	5	30-45	2-3	46	385	402	5-7/12
12	112	3	1-horse, heavy	12	6	6	6	40-55	3-4	97	556	580	8-1/12
13	113	3	2-horse.....	14	7	7	7	50-70	4-5	106	866	893	12-3/12
14	114	3	2-horse, heavy	16	8	8	8	75-95	5-7	184	1158	1178	16-4/12
22	122	3	1-horse, heavy	12	6	6	6	45-60	3-4	124	690	710	9-2/12
23	123	3	2-horse.....	14	7	7	7	60-75	4-5	215	959	987	13-3/12
24	124	3	2-horse, heavy	16	8	8	8	75-100	5-7	298	1470	1540	20-1/12

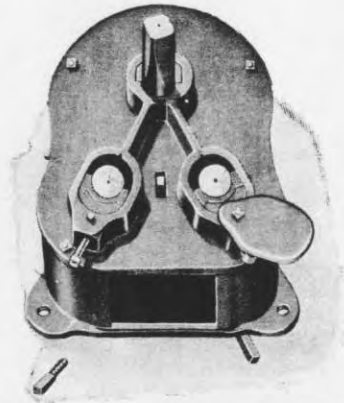
All weights and measurements are approximate.

## CHATTANOOGA CANE MILLS

### Three-Roll Vertical Animal-Power



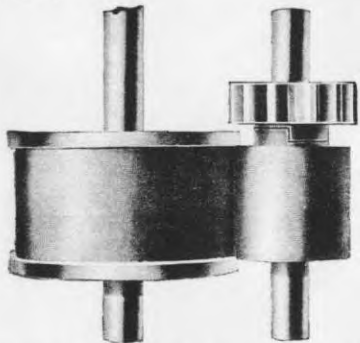
Illust. 2. View of the 3-roll, fluted-feed cane mill with top and part of sides removed to show heavy gearing and rolls. The front feed roll has vertical grooves that aid in drawing in the cane.



Illust. 3. Top view of the 3-roll cane mill with lever cap and one of the bearing caps removed. Note the construction of the bearings with their separate brass bushings which make the mill run smoothly and take the wear off the shafts.

#### Rolls

All rolls are made of the finest cast iron free from flaws of any kind. They are securely keyed to steel shafts. The main roll has flanges on both ends which project over the small rolls and keep the cane traveling straight through the mill. These mills are available with either plain or fluted feed rolls (see table at bottom of page 3).



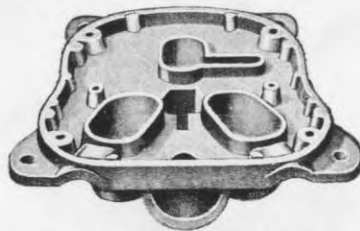
Illust. 4. Main roll and one of the small rolls. The flanges on the main roll project over the small roll. Note also the separate gear and solid clutch.

#### Bearings

The shaft bearings have separate brass bushings which can be economically replaced. Upper bearings are protected by bearing caps. The lower bearings are lubricated by the excess oil which flows from the upper bearings down the channels to the lower oil boxes.

#### Gears

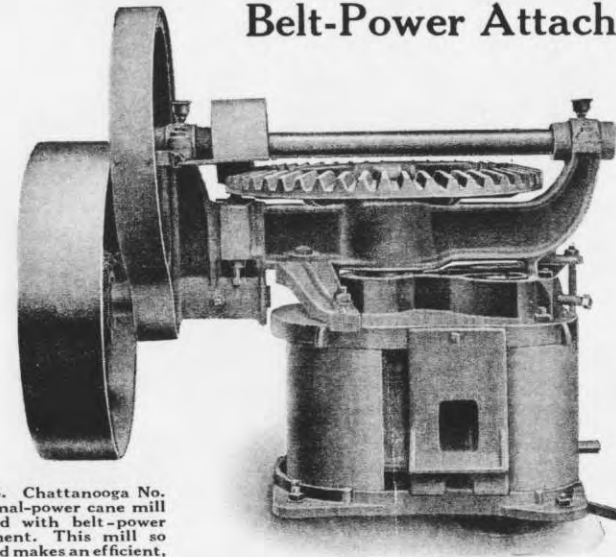
The gears are cast separately from the rolls, making it possible to replace them at little cost. Rolls and gears are connected by solid clutches. The bottom plate is made with high edges to prevent juice from wasting or getting into oil boxes.



Illust. 5. The bottom plate has a high wall around the outer edge and around the bearings. This prevents juice from wasting or getting into the oil boxes.

## CHATTANOOGA CANE MILLS

### Belt-Power Attachments



Illust. 6. Chattanooga No. 122 animal-power cane mill equipped with belt-power attachment. This mill so equipped makes an efficient, economical power mill.

For  
Nos. 22, 122,  
23 and 123  
Animal-Power  
Mills

#### Made In Two Sizes

Chattanooga belt-power attachments are made in two sizes—one size for use with the Nos. 22 and 122 three-roll mills and the other for use with the Chattanooga Nos. 23 and 123, which are larger animal-power mills. The Nos. 22 and 122 cane mills, equipped with belt-power attachment, require a 3-h.p. engine to operate at full capacity, while the Nos. 23 and 123 cane mills, so equipped, require a 6-h.p. engine. The use of mechanical power with these mills results in steadier operation, giving uniformly high extraction as well as practically doubling their capacities.

#### Sturdily Constructed

The belt-power attachment consists of a large bevel gear, reduction gears, 24-inch belt pulley, and necessary shafting, etc., all held in proper alignment by a heavy bracket. This bracket attaches to the mill by three accessible bolts. The bevel gear fits over the square end of the main roll shaft of the cane mill in place of the regular lever cap used with animal power. This bevel

gear is driven through the pinion gear on the drive shaft, which in turn is driven from the pulley shaft through reduction gears.

#### Shipping Specifications

No.	Description	Weight Pounds		Cubic Feet
		Net	Gross	
22 and 122	Belt-power Attachment	419	572	16-3/12
23 and 123	Belt-power Attachment	426	582	16-5/12



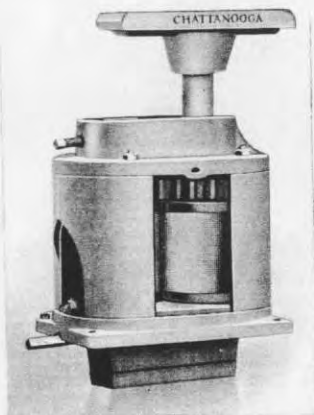
The belt-power attachment increases the capacity and efficiency of the mill.

# CHATTANOOGA CANE MILLS

## No. 7 Two-Roll Vertical



Illust. 7. Chattanooga No. 7 two-roll cane mill.



Illust. 8. The No. 7 is a well-built, sturdy, little mill that will give a good percentage of extraction.

### Simple and Reliable

The No. 7 cane mill is the smallest of the Chattanooga mills and can be operated easily by one horse. Though simple in design, the No. 7 is strictly a high-grade mill. The rolls are corrugated horizontally, flatten the cane and extract the juice effectively without breaking the cane. The king roll is flanged on both ends, the flanges extending over the other roll to keep the cane traveling straight.

### Accurately Made

The gears are separate from the rolls and are fitted with a special clutch. The bearings are brass lined and can be economically replaced. The driven roll can be adjusted by means of steel set screws. The upper bearings are protected from dust by covering plates. The feed box may be attached to either side.

The high walled bottom plate prevents loss of juice.

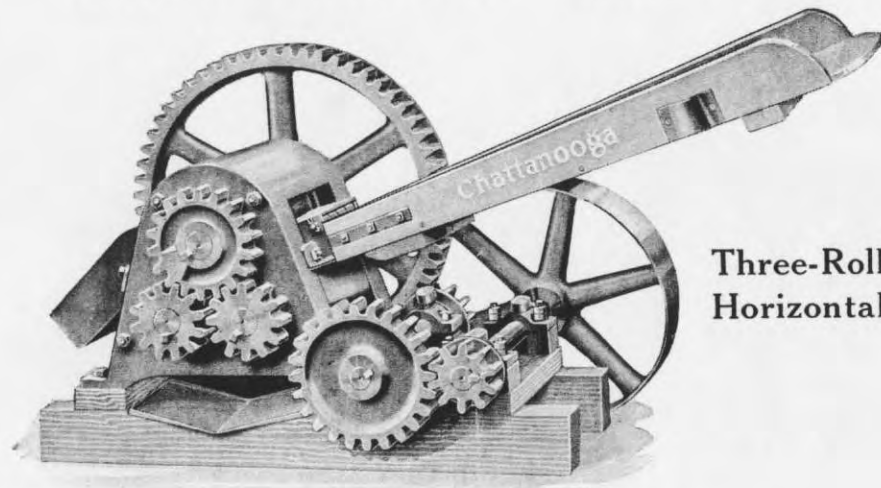
### Shipping Specifications and Data

Description	Size of Rolls Inches	Capacity Gallons Juice per Hour	Capacity Tons Cane per 12 Hours	Weight Pounds Largest Piece	Weight in Pounds		Cubic Feet
					Net	Gross	
No. 7—One-horse, Two-roll	7 by 7	25 to 40	1 $\frac{3}{4}$ -3	105	499	527	5-8/12



# CHATTANOOGA CANE MILLS

## Nos. 44-A and 144-A—Belt-Power



Three-Roll  
Horizontal

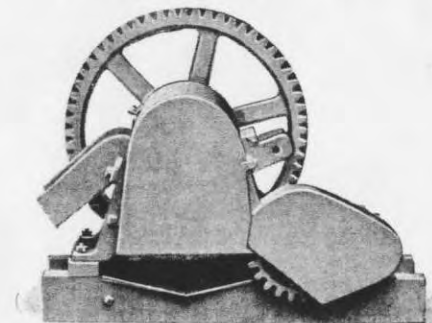
Illust. 9. Chattanooga No. 144-A double geared three-roll horizontal, belt-power cane mill. When equipped with plain feed roll instead of fluted feed roll it is known as the No. 44-A.

### Double Geared

The Nos. 44-A and 144-A are the simplest of the Chattanooga belt-power mills, well built and of good capacity. They are double geared and can be operated by any engine developing 6 horse power or over. The pulleys on the mills should run 154 revolutions per minute for full capacity and best extraction.

### Horizontal Rolls

The rolls are made of the finest cast iron, and are securely keyed to the shaft with steel keys. The king roll is flanged, the flanges projecting over the small rolls to keep the cane traveling straight through the mill. The roll shafts have double bearings with brass bushings which can be replaced economically when worn out.



Illust. 10. No. 144-A mill showing safety guards over gears.

### Gears

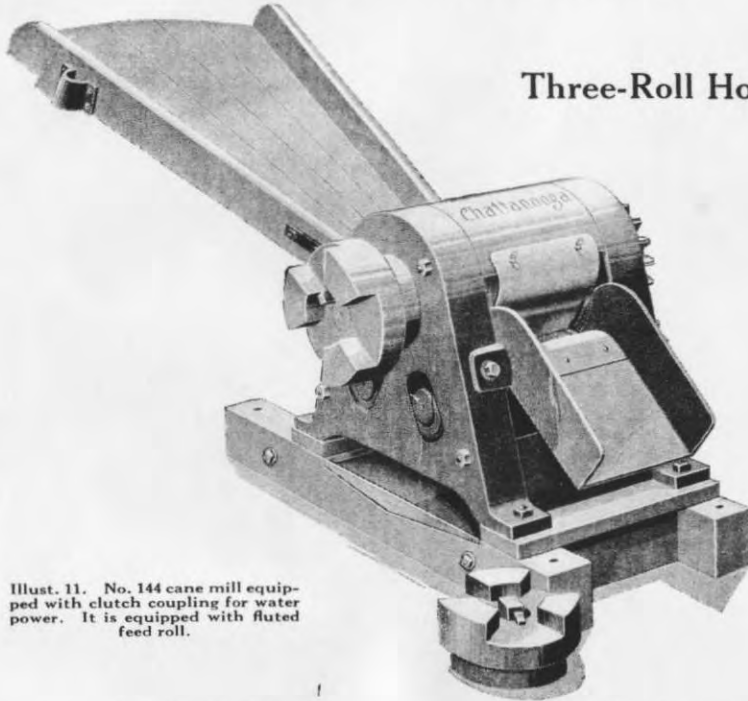
The gears are located outside the mill and are covered with sheet steel guards to protect the operators. All gears are securely keyed to the shafts and are of the correct design to insure smooth running. The mill is mounted on heavy skids which form a rigid foundation and make it easy to set the mill.

The drive shaft and countershaft are accurately set in babbitted boxes and supplied with oil by waste boxes on the bearing caps. A heavy juice pan on the mill delivers the juice to the side of the mill.

## CHATTANOOGA CANE MILLS

### No. 144—Water-Power

#### Three-Roll Horizontal



Illust. 11. No. 144 cane mill equipped with clutch coupling for water power. It is equipped with fluted feed roll.

#### For Water Power

The No. 144 cane mill can be supplied with equipment for water power (see Illust. 11) or the necessary clutch couplings can be supplied as extras (see page 13). Water wheel irons can also be supplied as extra equipment. Clutch couplings weigh 130 pounds per set; water wheel irons, 80 pounds per set.

#### Regular Equipment

Nos. 44-A, 144 and 144-A mills are regularly equipped with feed table and safety gear covers. 6 by 24-inch belt pulley on belt-power mills.

#### Special Equipment

Couplings and wheel irons for water power (see details on page 13). Juice pump. Bagasse carriers are not supplied for these mills.

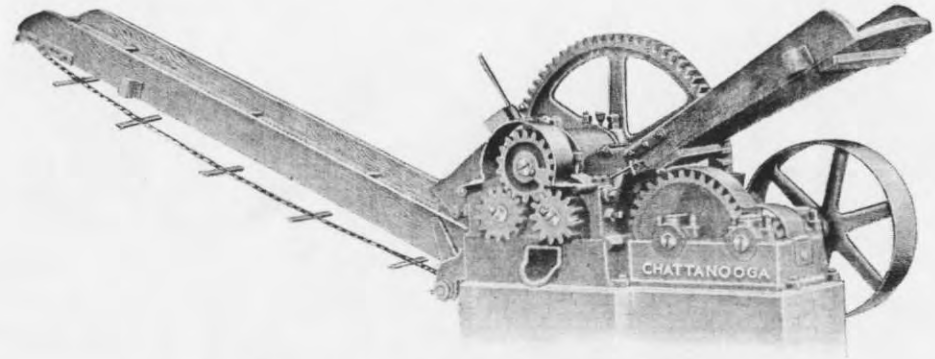
#### Shipping Specifications and Data

Mill Number		Size Large Roll Inches		Size Small Roll Inches		Horse Power Required	Capacity Gallons Juice per Hour	Capacity Tons Cane per 12 Hrs.	Weight Pounds Largest Piece	Weight Pounds		Cubic Feet
Plain Feed Roll	Fluted Feed Roll	Dia.	Length	Dia.	Length					Net	Gross	
No. 44-A Belt Power	No. 144-A Belt Power	9	9	6	9	5.19	175-200	12-14	198	1288	1516	33-10/12
	No. 144 Water Power	9	9	6	9	5.19	175-200	12-14	198	981	1162	26- 2/12

All weights and measurements are approximate.

## CHATTANOOGA CANE MILLS

### Nos. 45-A, 145-A, 71 and 171—Belt-Power



Illust. 12. Chattanooga No. 145-A belt-power cane mill with bagasse carrier. The bagasse carrier is supplied on special order at extra cost. No. 145-A mill has fluted feed roll. No. 45-A is same mill with plain feed roll.

#### Solid Iron Bedplates

The Nos. 45-A, 145-A, 71 and 171 Chattanooga belt-power cane mills are horizontal three-roll power mills built on heavy cast-iron bedplates which prevent friction by holding every shaft and shaft bearing in exact alignment under strain of heaviest work. These mills give a very high percentage of extraction, leaving the bagasse so dry that it can be burned soon after it comes from the mill.

#### Rolls

The rolls are securely keyed to the shafts and are accurately turned and grooved to take hold of the cane and insure continuous feeding.

Any roll can be removed without disturbing the others. The roll shaft bearings are fitted with brass bushings; the countershaft boxes are babbitted and fitted with brass liners, or shims, of varying thickness to adjust for wear. Hard oilers are provided on all main bearings. All pinions in the counter gearing have bearings on each side.

#### Guide Knife

Easy means is provided for adjusting the guide knife to adapt it to any position of the rolls. The guide knife accelerates the flow of the juice from the mill. Juice splashers on the feed side of the mill protect the operator and prevent waste.

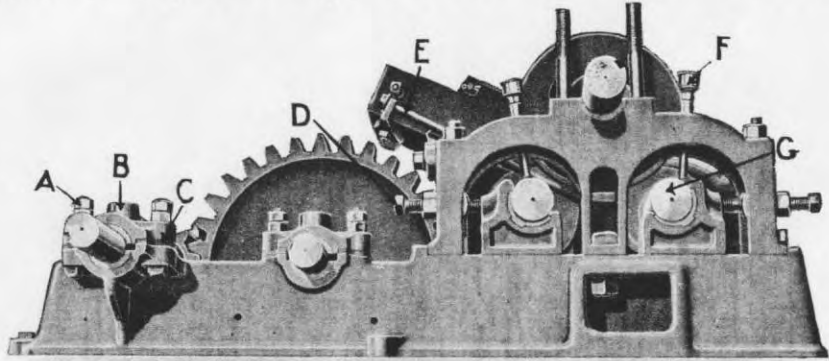
#### Shipping Specifications and Data

Mill Number		Size Large Roll Inches		Size Small Roll Inches		Horse Power Required	Capacity Gallons Juice per Hour	Capacity Tons Cane per 12 Hrs.	Weight Pounds Largest Piece	Weight Pounds		Cubic Feet
Plain Feed Roll	Fluted Feed Roll	Dia.	Length	Dia.	Length					Net	Gross	
45-A	145-A	9	9	6	9	4.53	175-200	12-14	299	1388	1627	38-1/12
	71	171	9	12	6	12	5.11	200-225	16-18	271	1805	2034

All weights and measurements are approximate.

## CHATTANOOGA CANE MILLS

### Nos. 45-A, 145-A, 71 and 171—Belt-Power



Illust. 13. No. 171 Chattanooga belt-power cane mill partly assembled. A, shows the lock nut with which bolts are equipped; B, oil cup on journal box; C, bearing shims for taking up wear; D, roll adjusting screw; E, guide knife adjusting bolt; F, grease cup supplying hard oil to roll shafts; G, steel shafts accurately turned and revolving on brass bearings. Notice also the heavy bedplate.

#### Will Not Choke

Chattanooga Nos. 45-A, 145-A, 71 and 171 cane mills are built along similar lines, with the Nos. 71 and 171 having a somewhat greater capacity due to the rolls being longer. The speed at which the gears and rolls of these mills operate is such that it is practically impossible to choke these mills by overfeeding. The gears are carefully made and accurately meshed. They are keyed to the shafts with steel keys. All gears are covered by steel guards. The bolts and set screws are steel, extra heavy, and accessibly located.

#### Regular Equipment

Nos. 45-A, 145-A, 71 and 171 mills are regularly equipped with feed table, special wrench, safety gear covers, and 6 by 24-inch belt pulley. Nos. 45-A and 71 have plain feed rolls. Nos. 145-A and 171 have fluted feed rolls.

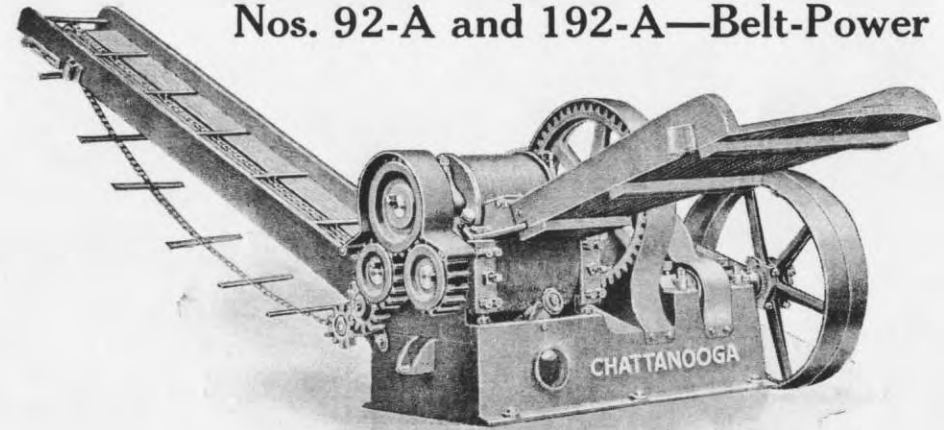
#### Special Equipment

Special equipment supplied at extra cost includes bagasse carriers, 5, 6, 8, 10 and 12-foot; pulleys in standard sizes as required; and juice pump.



## CHATTANOOGA CANE MILLS

### Nos. 92-A and 192-A—Belt-Power



Illust. 14. Chattanooga No. 192-A fluted-feed cane mill equipped with bagasse carrier which costs extra. No. 92-A is same mill with plain feed roll.

#### Powerfully Built Mill

The Nos. 92-A and 192-A are heavily built mills, intended for those who grow a comparatively large acreage of cane. They are built on a heavy cast-iron bedplate which holds all the working parts in rigid relation with each other, thereby preventing friction and making a light-running mill.

#### Main Shaft Has Three Bearings

The large roll and master gear shaft has three large bearings supplied with hard oil by compression grease cups. The tops of the boxes are fitted with thin plates of brass. Wear is bound to occur after continued hard usage, and

by removing one or more of these brass plates, or shims, the bearings can be kept tight. The bottoms of the gear shaft bearings are bab-bitted.

#### Master Roll is 12 by 12 Inches

The master roll is 12 inches in diameter with 12-inch face, and is equipped with flanges which project over the edges of the small rolls. This feature and the grooving of the rolls insure proper feeding of the cane to the mill. The rolls are keyed to the shafts and cannot work loose. The small rolls can be adjusted to get the highest possible extraction. The roll-shaft bearings are equipped with removable brass bushings.

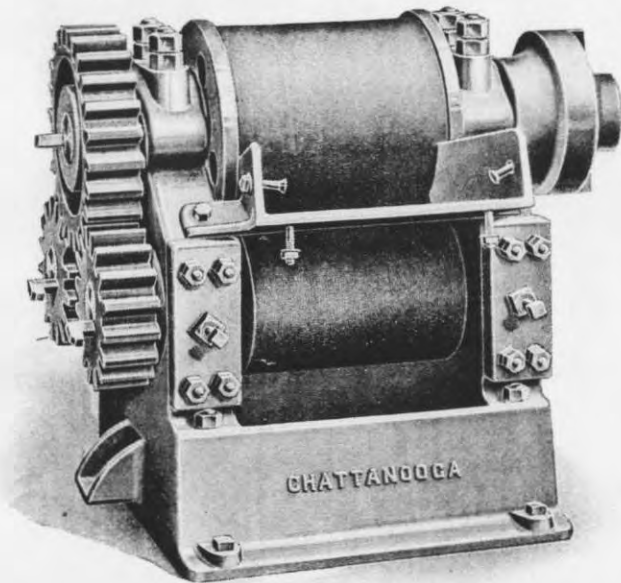
#### Shipping Specifications and Data

Mill Number		Size Large Roll Inches		Size Small Roll Inches		Horse Power Required	Capacity Gallons Juice per Hour	Capacity Tons Cane per 12 Hrs.	Weight Pounds Largest Piece		Cubic Feet
Plain Feed Roll	Fluted Feed Roll	Dia.	Length	Dia.	Length				Net	Gross	
92-A Belt Power	192-A Belt Power	12	12	8	12	7.65	250-285	18-20	188	2732 3063	50-2/12
	192 Water Power	12	12	8	12	7.65	250-285	18-20	188	1681 1895	27

All weights and measurements are approximate.

## CHATTANOOGA CANE MILLS

### No 192—Water-Power



Illust. 15. Chattanooga No. 192 cane mill equipped with clutch coupling for water power. Feed table and safety gear covers, not shown in the above illustration, are also supplied with this mill.

#### Adjustable Guide Knife

The No. 192 is equipped with a malleable guide knife which can be readily adjusted by means of a small hand wheel conveniently placed on the feed side of the mill. The guide knife is so constructed that it adapts itself to any position of the rolls and permits juice to flow freely from the mill. Juice splashes on the feed side of the mill protect the operator and save the juice.

#### Gears

The gears are accurately made from machine-cut patterns and are keyed to the shafts with steel keys. The mill is double-gearred with the counter gearing at the end of the mill, out of the way of the operator. All gears are covered with steel guards which can be quickly removed if necessary.

#### Can Be Equipped For Water Power

The No. 192 cane mill can be supplied with clutch couplings for water power when so ordered. (See Illust. 15.) Water-wheel flanges, journals, etc., can also be supplied as shown on page 13. Because of its sturdy construction, large capacity, and high extraction, these mills are well suited for permanent installation whether operated by water power or engine.

#### Regular Equipment

Feed table. Safety gear covers. 8 by 30-inch belt pulley. Wrenches. Fluted feed roll on Nos. 192 and 192-A mills; plain feed roll on No. 92-A mill.

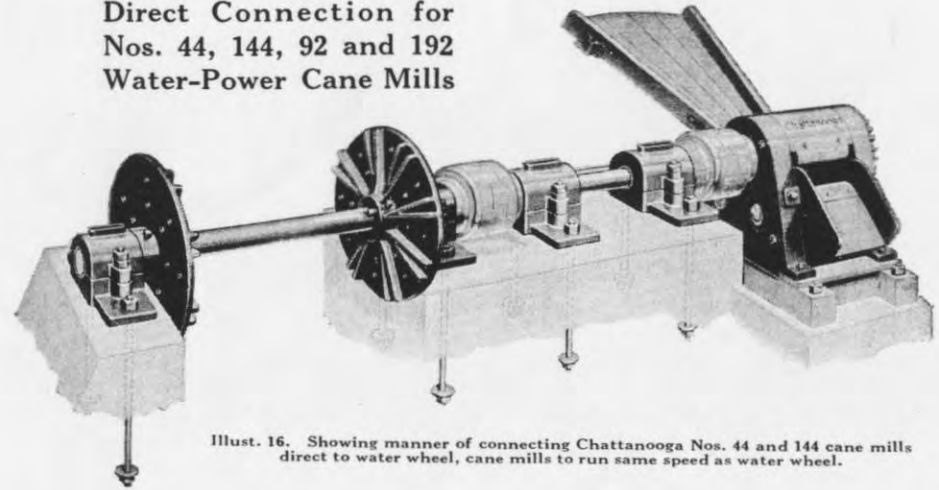
#### Special Equipment

Bagasse carrier, 5, 6, 8, 10, or 12-foot; juice pump; clutch coupling and water-wheel irons for water power.

## CHATTANOOGA CANE MILLS

### Cane Mill Water-Power Connections

Direct Connection for Nos. 44, 144, 92 and 192 Water-Power Cane Mills



Illust. 16. Showing manner of connecting Chattanooga Nos. 44 and 144 cane mills direct to water wheel, cane mills to run same speed as water wheel.

Water-power connections can be supplied for Nos. 44, 92, 144, and 192 Chattanooga cane mills equipped for water power. The water-power connections are available in two styles—direct connection as shown in illustration 16, where cane mill is intended to run at same speed as water wheel, and geared connection as shown in illustration 17 on page 14, where cane mill is geared to run one revolution to two revolutions of the water

wheel. Gears can be ordered specially bored for reversing their position so as to obtain two revolutions of the cane mill to one of the water wheel.

Illustrations 16 and 17 are intended to show only the equipment commonly required for connecting the Nos. 44, 92, 144, and 192 Chattanooga water-power cane mills. Any of the equipment shown in the illustrations can be supplied in any quantity ordered.

#### Shipping Specifications and Data

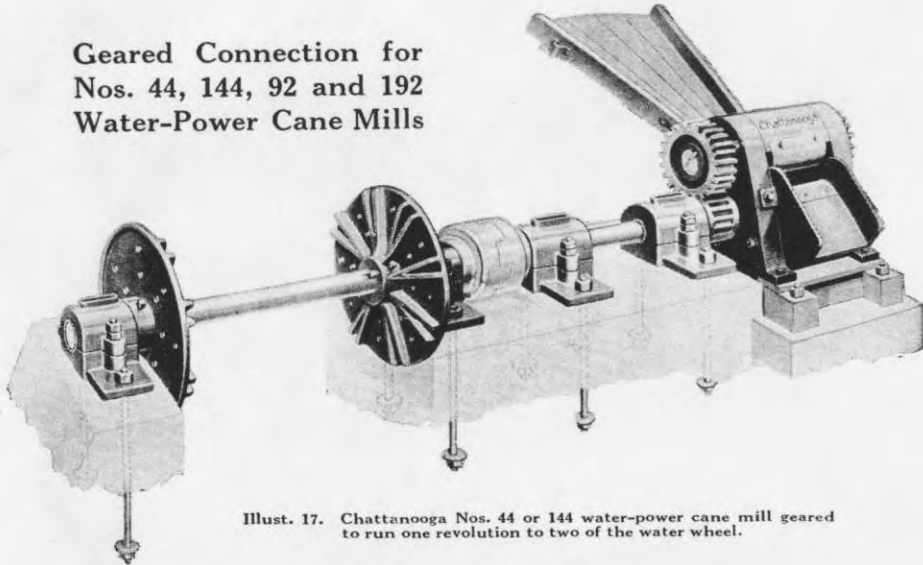
No.	DESCRIPTION	For Mill Nos.	Weight Pounds		Cubic Feet
			Net	Gross	
DC4492-4	Direct connection, with 6-ft. connecting shaft and 4½-ft. water wheel shaft.....	44, 92, 144 and 192	831	1005	10-2/12
DC4492-6	Same as above but with 6-ft. water wheel shaft.....	44, 92, 144 and 192	891	1035	10-2/12
DC4492-9	Same as above but with 9-ft. water wheel shaft.....	44, 92, 144 and 192	936	1145	11-9/12
GC44-4	Geared connection, with 6-ft. connecting shaft and 4½-ft. water wheel shaft.....	44 and 144	934	1128	10-2/12
GC44-6	Same as above but with 6-ft. water wheel shaft.....	44 and 144	967	1161	10-2/12
GC44-9	Same as above but with 9-ft. water wheel shaft.....	44 and 144	982	1176	11-9/12
GC92-4	Geared connection, with 6-ft. connecting shaft and 4½-ft. water wheel shaft.....	92 and 192	934	1128	10-2/12
GC92-6	Same as above but with 6-ft. water wheel shaft.....	92 and 192	967	1161	10-2/12
GC92-9	Same as above but with 9-ft. water wheel shaft.....	92 and 192	982	1176	11-9/12

Specify style of connection and length of connecting shaft wanted. All weights and measurements are approximate.

# CHATTANOOGA CANE MILLS

## Cane Mill Water-Power Connections

Geared Connection for Nos. 44, 144, 92 and 192 Water-Power Cane Mills



Illust. 17. Chattanooga Nos. 44 or 144 water-power cane mill geared to run one revolution to two of the water wheel.

### Water-Power Connections

When Nos. 44, 92, 144 and 192 Chattanooga cane mills are ordered equipped for water power, one pair of clutch couplings is always supplied with each of these mills. In addition, any of the equipment shown in illustrations 16 and 17 can be supplied in any quantity ordered. A set of water-wheel irons includes the following: 2 flanges with keys and set screws; 2 set collars with set screws; 2 babbitted boxes; 1 pair of clutch couplings; 1 shaft (specify length required); 32 bolts for water wheel.

### Made in Two Styles—Direct and Geared Connections

If the cane mill is to be driven at the same speed as the water wheel, a direct connection is ordered as shown in table on page 13. This

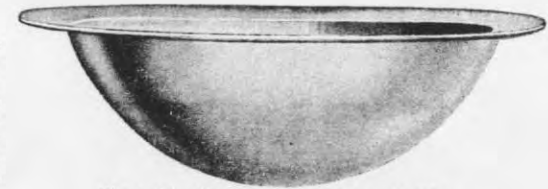
consists of water wheel irons, a shaft of any specified length and 2 babbitted boxes. When the mill is to be driven at one-half the speed of the water wheel, a geared connection is ordered. This includes water wheel irons, 2 gears (2 to 1 ratio), a shaft of any specified length and 2 babbitted boxes. Shafts longer than 12 feet require an additional box. Order from table on page 13 and specify lengths of two shafts required.

To figure the approximate power of the water wheel, multiply the circumference of the wheel in feet by the number of revolutions per minute, by the width of the face in feet, by depth of flow in feet, by fall in feet, by 62.3 (weight of a cubic foot of water). Then divide the product by 33000. The power actually delivered to the mill will be from  $\frac{2}{3}$  to  $\frac{3}{4}$  of the result for overshot wheels,  $\frac{1}{2}$  for breast wheels, and from  $\frac{1}{4}$  to  $\frac{1}{3}$  for undershot wheels.

# CHATTANOOGA CANE MILLS

## Cast-Iron Kettles

Chattanooga cast-iron kettles are made from the right quality of iron to stand the fire and are of uniform thickness. They are made in a wide range of sizes, and if the purchaser desires to use them in series, he can select the proper sizes from the accompanying table. All kettles are heavy, smooth, and of full capacity.



Illust. 18. Chattanooga cast-iron kettle.

## Shipping Specifications and Data—Kettles

Capacity	Diameter Over All	Inside Diameter	Depth	Thickness	Width Flange	Net Weight	Export Package Contains		
							Quantity	Gross Weight	Cubic Feet
20 gals.	37 -in.	29 $\frac{3}{4}$ -in.	11 -in.	$\frac{3}{16}$ -in.	3 $\frac{1}{2}$ -in.	95 lbs.	3	332 lbs.	13-4/12
25 gals.	38 -in.	31 -in.	12 -in.	$\frac{1}{4}$ -in.	3 $\frac{1}{2}$ -in.	114 lbs.	3	412 lbs.	15-7/12
30 gals.	39 $\frac{1}{2}$ -in.	31 $\frac{3}{4}$ -in.	13 $\frac{1}{2}$ -in.	$\frac{5}{16}$ -in.	3 $\frac{3}{4}$ -in.	131 lbs.	2	320 lbs.	17-7/12
40 gals.	41 -in.	33 $\frac{1}{2}$ -in.	15 $\frac{1}{2}$ -in.	$\frac{3}{8}$ -in.	3 $\frac{3}{4}$ -in.	178 lbs.	2	440 lbs.	20-5/12
50 gals.	48 $\frac{1}{2}$ -in.	42 -in.	14 $\frac{1}{2}$ -in.	$\frac{7}{16}$ -in.	3 $\frac{3}{8}$ -in.	248 lbs.	2	591 lbs.	27-1/12
60 gals.	51 $\frac{1}{2}$ -in.	44 -in.	15 $\frac{1}{2}$ -in.	$\frac{1}{2}$ -in.	3 $\frac{3}{4}$ -in.	318 lbs.	2	699 lbs.	31-4/12
80 gals.	55 $\frac{1}{2}$ -in.	48 $\frac{1}{2}$ -in.	17 $\frac{1}{2}$ -in.	$\frac{11}{16}$ -in.	3 -in.	435 lbs.	2	948 lbs.	39-11/12
100 gals.	59 $\frac{1}{2}$ -in.	51 $\frac{1}{2}$ -in.	18 $\frac{1}{2}$ -in.	$\frac{1}{2}$ -in.	4 -in.	518 lbs.	2	1115 lbs.	48-4/12
150 gals.	67 $\frac{1}{2}$ -in.	59 -in.	21 -in.	$\frac{13}{16}$ -in.	4 $\frac{1}{2}$ -in.	845 lbs.	1	995 lbs.	67

All weights and measurements are approximate.

## Saccharometer

When syrup is too thin it sours; when too thick it tends to crystalize. By using a saccharometer you know exactly when the syrup is right. This is a delicate instrument, consisting of a weighted bulb and a stem 5 or 6 inches long, graduated according to the Baume scale so as to indicate in figures the strength and density of any solution. When dropped into a liquid it will sink to a certain point and there remain at rest. The number of degrees of the scale which appear above the surface of the fluid mark the density. In soft water the saccharometer will sink to zero; in cane juice it will mark from 5 to 10 degrees, according to the richness of the juice. The higher figures indicate the richer juice. In syrup, it will mark 6 to 40 degrees. Boiling hot juice will show from 2 to 3 degrees less than cold juice, and boiling hot syrup about 4 degrees less density than cold. The temperature for which the scale is graduated is 60 degrees

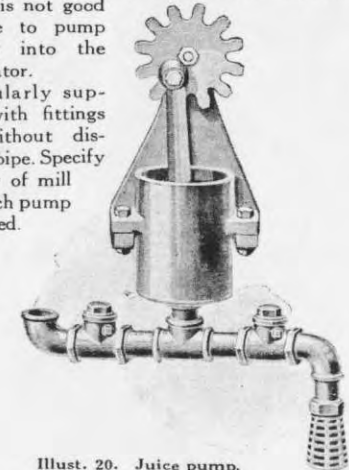


Illust. 19. Saccharometer.

## Juice Pump

Juice pumps can be supplied for all Chattanooga belt power cane mills. They are easily attached to the mills and are a decided advantage, pumping the juice from the receptacle at the mill to the receptacle at the evaporator. Since the rate of evaporation varies with the fire, it is not good practice to pump directly into the evaporator.

Regularly supplied with fittings but without discharge pipe. Specify number of mill for which pump is wanted.



Illust. 20. Juice pump.