

RECEIVED JUN 1 1932

HERTZLER & ZOOK

CO.

MANUFACTURERS
OF
WOOD SAWING
MACHINERY
AND
FARM
IMPLEMENTS



BELLEVILLE. PENNSYLVANIA
U. S. A.

THE H. & Z.

CONCRETE AND ALL PURPOSE MIXER—A MOST USEFUL MACHINE

Here is a machine that will pay for itself within a very short time mixing concrete alone, and in addition there are almost innumerable uses for it on every farm mixing dairy and poultry feeds, fertilizers, etc.

Saves Cement and Insures Better Concrete Eliminates Much Hard Work and Does a Better Job

Hand mixing is a hard, back-breaking job, and because it is difficult it is often slighted—the concrete is poorly mixed, cracks, crumbles and goes to pieces. To insure a good job the concrete should be mixed with an H & Z Mixer—and that is the most economical way in the end, because

HAND MIXING IS WASTEFUL

It is estimated that at least 25 per cent. of the cement is wasted by hand mixing. With the H & Z Mixer no cement is wasted. Water is first poured into the drum, then cement and the action of the machine, which is mixing while it is being loaded, thoroughly mixes the cement and water so that when the sand and gravel are put in every particle is coated with this cement and water solution. There is no chance for the cement to be wasted—no possibility of an uneven, wasteful mixture. The H & Z Mixer insures a good job of concreting, and at the least cost.

A FAST WORKING MACHINE

The H & Z Mixer will mix a batch of thoroughly mixed concrete in a minute or less. The drum is always revolving and as soon as any material is put into it the mixing begins. The revolving discharge insures a quick pouring of the entire contents of the drum, throwing out the heavy and lighter materials in an even flow and not draining off the water and sand first as would be the case in a stationary discharge.

SIMPLEST AND BEST DESIGN—LOADS ON ONE SIDE DUMPS ON THE OTHER

The H. & Z. Mixer is built on the most approved, up-to-date plan of mixer construction. It can be loaded and dumped on either side. This permits piling the materials close to the side on which you wish to load and the concrete can be dumped directly into a wheelbarrow or forms on the other side. The drum is in a semi-upright position while being loaded. It is easy to shovel into as the drum has a large opening and is at a convenient height. The curved mixing blades or paddles are set at the correct angle and give the materials a folding, churning action, insuring a most complete mixture in the shortest possible time. The paddles are raised off the surface of the drum, which makes them self-cleaning, as the concrete flows through and under them.

BUILT TO LAST—BABBIT AND BALL BEARINGS

Instead of plain iron bearings such as most mixers have, we equip the main bearings of the H. & Z. Mixer with babbitt bearings, which will last much longer. If they ever do wear out, instead of buying a whole new yoke casting you simply re-babbit them. The drum rotates on ball bearings, reducing friction, and requires less power to operate. The



Loading and Mixing Position

(No. 1 and No. 2)



drive used on the H. & Z. Mixer is the simplest known as can be seen from the illustration. The lower half of the drum is a solid casting and the upper half heavy gauge steel with a reinforcing band at the mouth. The whole machine is very strongly built to stand up under the severe service given a concrete mixer, and it will give satisfactory service for a very long time.

AN ALL-PURPOSE MIXER

In addition to adding to the value of your property by concrete improvements, the H & Z Mixer will pay for itself in a short time by mixing various feeds—bran, corn meal, oil meal, cotton seed meal and all rations, feeds for cattle as well as slops for stock feeding; for mixing fertilizers and for washing vegetables, wool and other products. On account of its many uses you can readily see that you cannot afford to be without one of these valuable machines. Nos. 1 and 2 mixers are the same except as to size.

The No. 1 Mixer is the one we recommend for general purposes and individual use. No. 2 is built for contractors and those who want a mixer with larger capacity. Both machines are the same except as to size.

SPECIFICATIONS

No. 1

CAPACITY— $2\frac{1}{2}$ cu. ft. of loose material or a wheelbarrow load of mixed concrete per batch, and a batch per minute.

INSIDE MEASUREMENT OF DRUM—Opening 18", diameter at bottom 22". Depth, 26".

FRAME— $1\frac{1}{2} \times 1\frac{1}{2}$ " Angle Steel, well braced and bolted. The machine is mounted on strong hardwood skids, making it easy to move from place to place.

PULLEY—16" diameter, 3" face. Handle can be attached for operating by hand. We include a handle with each machine.

SPEED OF PULLEY—125 to 175 R. P. M.

POWER REQUIRED—As the drum runs on ball bearings the H & Z Mixer requires very little power and can be operated by hand or a one-horse power engine.

Shipping Weight—256 lbs.



No. 2 Mixer

OUR No. 2 MIXER is similar to No. 1, but is $3\frac{1}{2}$ foot capacity, and is, of course, built larger and stronger throughout and is equipped with ratchet dump which permits filling and dumping from either side without adjustment. The drum has an $18\frac{1}{2}$ " opening, is 23" in diameter at the bottom and 28" deep. It can be operated by hand or a $1\frac{1}{2}$ H. P. engine. Shipping Weight, 285 lbs.

WE DO NOT ATTEMPT TO COMPETE IN PRICE with the cheap, poorly constructed mixers that are offered. We have been manufacturing farm machinery for more than twenty years and have every facility for turning out first class machinery at the lowest possible prices consistent with quality.

When our customers buy the H & Z Mixers we know that they will be pleased when they receive them, and that our Mixers will continue to give satisfaction long after the low grade mixers will be worn out.

In selecting a Mixer it will pay you to make certain that it has the following necessary features:

- Babbit Bearings.
- Grease Cup Lubrication.
- Proper size Pulley, with Crank.
- Few Gears.
- Self Cleaning Mixing Blades.
- Strong Drum.
- Well Braced Frame.
- Hardwood Skid Mounting.

THE "H & Z" CONCRETE MIXERS

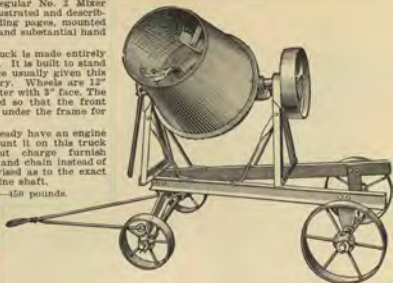
No. 3—3½ cu. ft. Mixer on Truck Without Engine

This is our regular No. 2 Mixer which is fully illustrated and described on the preceding pages, mounted on a convenient and substantial hand truck.

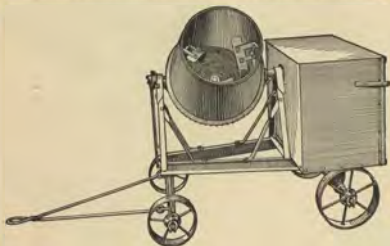
TRUCK—The truck is made entirely of iron and steel. It is built to stand the severe service usually given this kind of machinery. Wheels are 12" and 16" in diameter with 3" face. The truck is designed so that the front wheels will pass under the frame for short turning.

Note—If you already have an engine and want to mount it on this truck we will without charge furnish sprocket, pinion and chain instead of the pulley if advised as to the exact size of your engine shaft.

Shipping weight—450 pounds.



No. 4—3½ Cu. Ft. MIXER ON TRUCK WITH ENGINE AND HOUSING



This is a complete outfit, can be taken anywhere and is ready for work the minute it arrives.

TRUCK—Made of metal throughout and built so that it will give satisfactory service for a long time. Wheels are 12" and 16" in diameter with 3" face. The truck is designed so that the front wheels will pass under the frame for short turning.

HOUSING—Strongly made of 18 gauge metal. Insures complete protection of the engine.

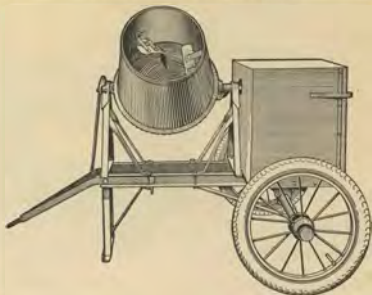
ENGINE—We furnish as standard equipment the dependable 1½ HP. "H. & Z." Engine.

SHIPPING WEIGHT—760 pounds.

THE "H & Z" CONCRETE MIXERS

No. 5—3½ Cu. Ft. MIXER ON PNEUMATIC TIRE TRAILER

WITH ENGINE AND HOUSING



A complete outfit specially designed for quick and easy moving from place to place, for attaching to an automobile or truck, etc. It is so balanced that any person can move it about as easily as a loaded wheelbarrow without connecting it to a wagon or auto. It is just like our No. 4 outfit with the exception of the truck, and includes a dependable 1½ H. P. Engine.

SHIPPING WEIGHT—725 pounds.

FEATURES OF "H & Z" MIXERS

- 1—High grade babbit bearings.
- 2—Drum runs on ball bearings.
- 3—Load or dump on either side.
- 4—Perfect balance of drum makes it easy to discharge full load.
- 5—Mixing blades raised off the sides of the drum, making them self-cleaning.
- 6—The mixture is always in plain view.
- 7—Grease cups on all bearings insure positive lubrication.
- 8—Pulley is located outside of the frame so belt may be easily attached to any farm engine.
- 9—Simplest construction.
- 10—Mounted on substantial hardwood skids—easy to move.
- 11—In addition to concrete it will mix mortar, plaster, feeds and fertilizers, etc.
- 12—Fully Guaranteed.

No. 1 "H & Z" SAW FRAME

Our No. 1 Ripping Attachment Can Be Used With This Machine

The most popular little machine ever made. Built on the same general style as our heavier machines, but is lighter in weight and designed for smaller power and lighter work. Cordwood blades up to and including 22" can be used. Will cut wood up to eight or ten inches in diameter. Can be operated with as little as one horse power.

MANDREL—Cold rolled steel shafting, 41" long, 1 5-16" diameter, 1 3-4" arbor. The washers are large and accurately machined.

PULLEY—Iron, 5" diameter, 5" crowned face.

FLY WHEEL—35 lb., 13" in diameter. Carefully machined and balanced, which insures a smooth running machine.

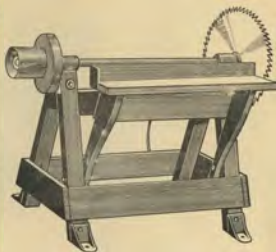
BEARINGS—Solid, safety type, carefully fitted. Lined with high speed bearing metal.

TABLE—Ample size, works at a convenient angle. Located so that the saw helps to pull the wood in.

WOOD PARTS—Seasoned hardwood.

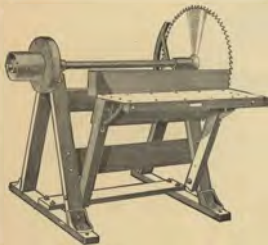
H. P. REQUIRED—One to six.

SHIPPING WEIGHT—135 lbs.



No. 4 "H & Z" SAW FRAME

Our No. 2 Ripping Attachment can be used with this machine.



A strong, general purpose machine adapted for cordwood blades up to and including 32" and rip blades up to and including 26". Recommended for from four to ten horse power. The frame is made of seasoned hardwood securely braced and bolted.

MANDREL—Cold rolled steel shafting 49" long, 1 7-16" diameter, 1 3-8" arbor. The washers are large and accurately machined.

PULLEY—Iron, 6" diameter, 6" crowned face.

FLY WHEEL—50 lbs., 12" diameter. Carefully machined and balanced which insures a smooth running machine.

BEARINGS—Solid, safety type. Carefully fitted. Lined with high speed bearing metal.

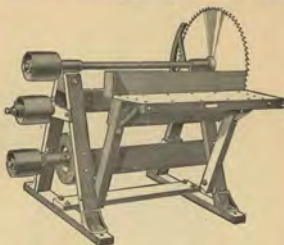
TABLE—Steel on wood framework. Ample size. Located so that the saw helps to pull the wood in.

H. P. REQUIRED—Three or more.

SHIPPING WEIGHT—225 lbs.

No. 5 "H & Z" WOOD SAW FRAME

Ripping
Attachments
Can Be Used on
This Frame



Shipping Weight 320 lbs.

Strong and well constructed, a very popular frame, suitable for sawing cordwood and long poles. Cast Iron Guard is made adjustable to fit any blade up to and including 32". Made right handed unless otherwise specified.

MANDREL—Cold Rolled Steel 1 7/16" diameter, 49" long. Fitted for saw having 1 3/8" Arbor.

FLY WHEEL—70 lbs. or 90 lbs. If not specified 70 lbs. will be shipped. 12" diameter.

PULLEY—6" face, 6" diameter.

BOXES—Solid pattern lined with High Speed Bearing Metal.

GUARANTEED CORDWOOD AND RIP SAW BLADES



Cordwood Blade



Rip Blade

All H & Z Saws are made of best quality of crucible steel. They have superior finish; the temper of the teeth is uniform even to the very points and the tension is exact. All H & Z saws are guaranteed to be free from flaws, cracks, splits or defects of any kind. The teeth are set and filed, ready for use. Attractive prices.

No. 1605 "H & Z" WOOD SAW FRAME

Ripping
Attachments
Can Be Used on
This Frame



This Frame is especially adapted for heavy work, will swing blade up to and including 30". Ripping and Shingle Table can be attached to this frame.

MANDREL—Cold Rolled Steel 1 7-16" diameter, 49" long. Fitted for saw with 1 1/2" Arbor.

FLY WHEEL—70 lbs., 12" diameter.

PULLEY—6" face, 6" diameter.

BOXES—Split pattern, the lower half runs the length of the frame, being a part of it making it impossible to get out of alignment with the Mandrel. Having liner adjustment features. Lined with High Speed Bearing Metal.

No. 1607 "H & Z" WOOD SAW FRAME WITH POLE EXTENSION



This Frame meets the requirements where long pole wood is to be sawed.

MANDREL—Cold Rolled Steel 1 7-16" diameter, 49" long. Fitted for saw with 1 1/2" Arbor.

FLY WHEEL—70 lbs., 12" diameter.

PULLEY—6" face, 6" diameter.

BOXES—Split pattern, the lower half runs the length of the frame, being a part of it making it impossible to get out of alignment with the Mandrel. Having liner adjustment features. Lined with High Speed Bearing Metal.

No. 1603 "H & Z" WAGON WOOD SAW FRAME



Shipping Weight 235 lbs.

Interchangeable to fit most any wagon. Made left-handed unless otherwise ordered.

MANDREL—Cold Rolled Steel, 1 7/16" diameter, 49" long. Fitted for saw with 1 3/4" Arbor.

FLY WHEEL—70 lbs., 12" diameter.

PULLEY—6" face, 8" diameter.

BOXES—Split pattern, heavy duty. Lined with High Speed Bearing Metal. Having liner adjustment features.

No. 1619 "H & Z" WOOD SAW



Ripping
Attachments
Can Be Used on
This Frame

Shipping Weight 400 lbs.

This Frame is made expressly for sawing pole or cordwood. Fly Wheel placed underneath out of the way. Ripping and shingle tables can be attached to this frame.

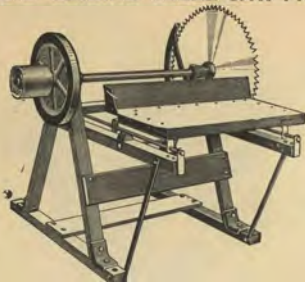
MANDREL—Cold Rolled Steel, 1 7/16" diameter, 49" long. Fitted for saw with 1 3/4" Arbor.

FLY WHEEL—70 lbs., 12" diameter.

PULLEY—6" face, 6" diameter.

BOXES—Split pattern, the lower half runs the length of the frame, being a part of it making it impossible to get out of alignment with the Mandrel. Having liner adjustment features. Lined with High Speed Bearing Metal.

No. 11 "H & Z" SLIDING TABLE SAW FRAME



Ripping
Attachments
Can Be Used on
This Frame

Shipping Weight 243 lbs.

This machine is a favorite when a sliding or rolling table is preferred and is far superior to any rolling table machine. Table will not bind or catch. Will swing saws up to and including 32" diameter; rip blades up to and including 26" diameter.

MANDREL—Cold Rolled Steel, 1 7-16" diameter, 49" long. Fitted for saw with 1 1/2" Arbor.

FLY WHEEL—68 lbs., 12" diameter.

BOXES—Solid Pattern, lined with High Speed Bearing Metal.

No. 12 "H & Z" SLIDING TABLE WOOD SAW



Ripping
Attachments
Can Be Used on
This Frame

Shipping Weight 356 lbs.

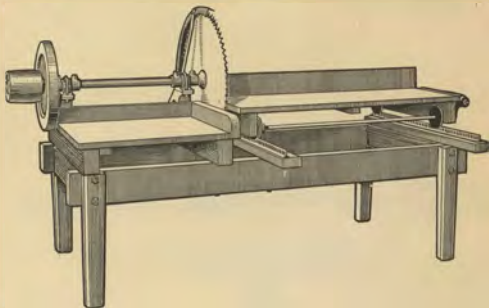
The Fly Wheel is mounted underneath the table and is entirely out of the way when sawing long poles or slabwood.

MANDREL—Cold Rolled Steel, 1 7-16" diameter, 49" long. Fitted for saw with 1 1/2" Arbor.

FLY WHEEL—70 lbs. or 90 lbs. 70 lbs. shipped unless otherwise specified.

BOXES—Solid Pattern, lined with High Speed Bearing Metal.

NO. 16 "H & Z" HEAVY SERVICE ROLLER TABLE MACHINE



Shipping Weight 425 lbs.

This is a very desirable and efficient machine and especially so for heavy work. It is thoroughly reliable, easy running, strong and substantial.

Frame and table are made of hard wood securely bolted together and finished in a durable manner.

The Rolling Table is mounted on cast iron grooved wheels, running on iron tracks. These wheels are fitted to steel rods running the entire length of the table.

A roller is placed at the outer end of the table to allow large pieces of lumber to be drawn up to the saw.

MANDREL—Cold rolled steel 48" long, 1 7-16" diameter.

BOXES—Are of an approved pattern, lined with High Speed Bearing Metal.

Outside Dimensions—7' 6" long, 3' 10".

Table—4' long.

Fly Wheel—12" diameter, weight 70 lbs.

Pulley—6" face, 6" diameter.

Size of Saw Blade—Up to and including thirty inch.

RIPPING ATTACHMENTS



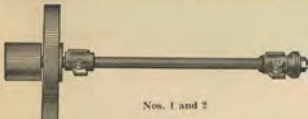
The ripping attachment is one of the greatest features of our machines. Most farmers first saw their cordwood, then they remove the cordwood blade, attach the rip table and a rip blade, which enables them to rip all kinds of lumber, such as making roofing lath, palling, pickets, crating

lumber, etc., out of refuse that would otherwise be wasted and lost.

Again for hewing and pointing posts it has no equal, and can be used in this way twelve months in the year. A rip blade is required for ripping. No one should attempt to do ripping with a cordwood blade, or saw cordwood with a rip blade.

The No. 1 Rip Table is designed for rip blades up to and including 20". The Nos. 2 and 1600 up to and including 26". Rip Tables are furnished complete with the necessary bolts for attaching them. Blades are extra.

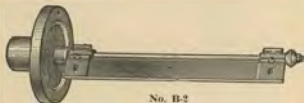
SHIPPING WEIGHT—No. 1, 25 lbs. No. 2, 50 lbs. No. 1600, 50 lbs.



Nos. 1 and 2

MANDREL SETS

For our customers who wish to build their own machines, we offer these well made mandrel sets. Nos. 1 and 2 are regularly furnished with plain flat bearings of the split type, but we can substitute our solid safety bearing if preferred without extra charge.



No. B-2

SPECIFICATIONS

No.	MANDREL			PULLEY		FLY WHEEL		Ship. Wt.
	Length	Diam.	Arbor	Dis.	Face	Wt.	Diam.	
1	41"	1-5/16"	1 1/2"	5"	5"	35lb	13"	65lb
2	49"	1-7/16"	1 3/4"	6"	6"	50lb	12"	100lb
B-2	49"	1-7/16"	1 3/4"	6"	6"	70lb	12"	140lb

ROLL AND ENDLESS CANVAS

BELTING

Our Stitched Canvas Belts are made from especially prepared heavy cotton duck, thoroughly stretched, and sewed from end to end under heavy tension, making a very strong yet pliable fabric. Not affected by water, heat, steam or atmospheric changes and fully guaranteed under fair usage. Interesting prices.



THE No. 60 "H & Z" SAW

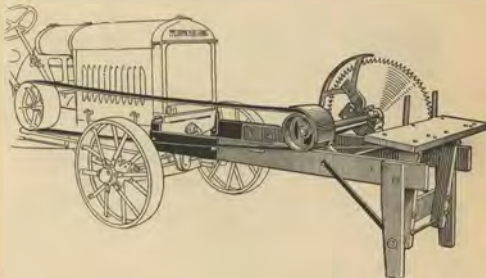
BUILT FOR THE

10-20 I. H. C. MCCORMICK-DEERING TRACTOR

BY

HERTZLER & ZOOK COMPANY

BELLEVILLE, MIFFLIN Co., PA.



SPECIFICATIONS

Mandrel—Cold rolled steel shafting, 36" long by 1 7-16" in diameter, arbor machined for saws with 1 3/4" arbor hole. The mandrel washers are large and accurately machined.

Bearings—Yoke type—extra large. The lower halves of the boxes are cast in a unit, being connected by a heavy yoke, which prevents any possibility of their getting out of alignment. The bearings are fitted with liners, and caps are fastened by four bolts. Grease cups insure positive lubrication.

Belt—We furnish as regular equipment a 5" belt 19' 6" long, of the best grade. When necessary it can be tightened or any belt alignment made very easily by drawing up two nuts.

Pulley—Eight inches in diameter with six inch crown face. This is the correct size to give a thirty inch blade the proper speed with the tractor running at its normal speed. A pulley guard is provided which prevents any possibility of wood getting against the belt.

Blade—We furnish as regular equipment a 39" blade, filed and set, ready for use. It is fully guaranteed.

Any I. H. C. dealer will be glad to get the H & Z Wood Sawing attachment for you.

HERTZLER & ZOOK COMPANY

BELLEVILLE, PA.

THE No. 60 "H & Z" SAW

The McCormick-Deering Tractor is one of the outstanding examples of modern labor saving devices. In order, however, that a tractor shall be a profitable investment for the average farm owner, it is necessary to make the fullest possible use of its adaptability. The H & Z Saw is one of the most popular of the family of labor saving machinery intended to increase the usefulness of the McCormick-Deering Tractor.

SIMPLE AND STRONG

The H & Z Saw Attachment is very simple and so strongly made that it will last a life-time. There is nothing weak or flimsy about it, and all parts are of liberal dimensions. We use only the best grade of hardwood, and all castings are made in our own foundry. The whole machine is thoroughly braced and bolted, which makes it a rigid, enduring unit that will give many years of the hardest kind of service.

EASILY AND QUICKLY MOVED FROM JOB TO JOB

One of the outstanding features of the machine is its portability—it is an attachment, moves with the tractor and is ready for work the minute it arrives at the job. It is not necessary to fasten down a frame, align belts, etc. Therefore, hilly, stony or frozen ground does not interfere with its usefulness. It is a real portable wood sawing outfit in every way. To move it is simply tilted up and hooked in the upper radiator tank where it is securely held by the weight of the frame.

INSTALLATION

When first installed two attachment irons are bolted to the engine bed or body of the tractor—one on each side—by the bolt that holds the lower radiator tank to the engine bed. To connect or disconnect this saw it is only necessary to put in or take out two $\frac{1}{2} \times 1\frac{1}{2}$ " bolts. It is not necessary to drill any holes, or in any way change the tractor to attach this saw. The frame of the saw is connected to the hitch by the bolts, which act as coupling pins and pivots on which the saw swings when being tilted up.

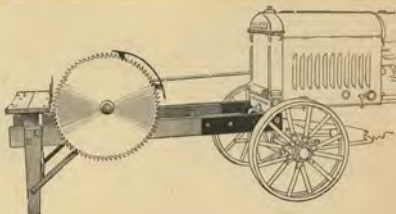
AUTOMATIC TABLE

Our automatic table is one of the particular features. It is equipped with a return spring, which automatically brings the table back after the cut has been made. In this way we are able to so locate our table that the wood, as it is being fed in the saw, goes down, and therefore, the weight of the wood helps to feed the saw. This makes a great difference, especially when sawing heavy wood. The machine must be used to fully appreciate this improvement over the old style tables.

THE No. 60 "H & Z" SAW

YOKE BEARING

The bearings are equipped with liners for taking up wear as it occurs, and the bearing caps are fastened by four bolts. In addition, the lower halves of the bearings are cast solid, being joined by a heavy yoke, which eliminates all possibility of their getting out of alignment. In the bearings, especially is reflected our idea to make everything on the machine safe and durable. A pulley guard is provided, which prevents any chance of the wood getting against the belt.



RESTS ON THE GROUND WHEN SAWING—NO VIBRATION OR STRAIN ON TRACTOR

Another particular advantage of this saw is the fact that it cannot injure the tractor. In moving the saw from place to place our hitch is so designed that the weight of the machine is carried by the engine bed, or body of the tractor. When the saw is being operated it rests on the ground, on two stout legs, and is only anchored to the tractor. The tractor does not have to support the weight of the wood that is being sawed, nor of the machine.

CRANKING

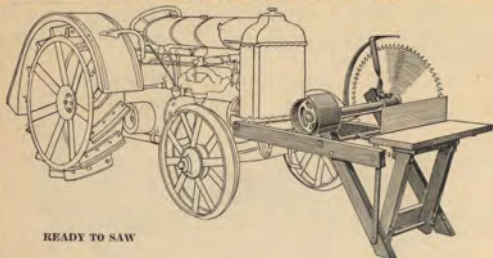
This attachment is designed so that the tractor can be cranked without inconvenience when the saw is in the working position, or when it is folded up to move.

SIX POINTS OF EXCELLENCE

- 1—Moved from place to place with the tractor—ready for work when you get there—no settling—no stakes—no braces.
- 2—Automatic table.
- 3—Four bolt bearings—connected by yoke.
- 4—Completely guarded pulley.
- 5—Cannot injure the tractor.
- 6—Extremely simple—nothing to break or get out of order—strong and substantial—Guaranteed.

Any I. H. C. Dealer will be glad to get the H & Z Wood Sawing Attachment for you.

THE "H & Z" No. 75 SAWING ATTACHMENT FOR THE FORDSON TRACTOR



READY TO SAW

The H & Z Saw Attachment is very simple and so strongly made that it will last a life-time. There is nothing weak or flimsy about it, and all parts are of liberal dimensions. We use only the best grade of hardwood, and all castings are made in our own foundry. The whole machine is thoroughly braced and bolted, which makes it a rigid, enduring unit that will give many years of the hardest kind of service.

EASILY AND QUICKLY MOVED FROM JOB TO JOB

One of the outstanding features of the machine is its portability—it is an attachment, moves with the tractor and is ready for work the minute it arrives at the job. It is not necessary to fasten down a frame, align belts, etc. Therefore, hilly, stony or frozen ground does not interfere with its usefulness. It is a real portable sawing outfit in every way. To move it is simply tilted up and hooked over the upper radiator tank where it is securely held by a chain.

INSTALLATION

All that is necessary to install this attachment to the tractor is to remove two of the cap screws that hold the bottom of the radiator to the frame. Put the hitch in place and bolt fast. To connect or disconnect this saw it is only necessary to put in or take out one bolt $\frac{1}{2} \times 26"$. It is not necessary to drill any holes, or in any way change the tractor to attach this saw. The frame of the saw is connected to the hitch by the bolt, which acts as a coupling pin and pivot on which the saw swings when tilted.

TABLE

Table is 12x32", strongly braced and ironed, equipped with hooks and sheet iron table back which makes it easy to move wood along on this table, located at a convenient angle so that saw helps to pull the wood in.

YOKE BEARING

The bearings are equipped with liners for taking up wear as it occurs, and the bearing caps are fastened by four bolts. In addition, the lower halves of the bearings are cast solid, being joined by a heavy yoke, which eliminates all possibility of their getting out of alignment. In the bearings especially, is reflected our idea to make everything on the machine safe and durable. A pulley guard is provided, which prevents any chance of wood getting against the belt.

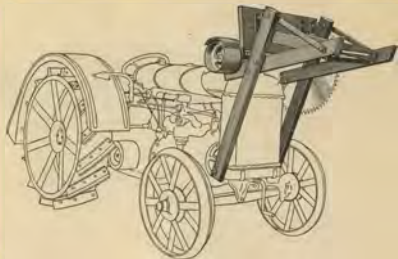
RESTS ON THE GROUND WHEN SAWING—NO VIBRATION OR STRAIN ON TRACTOR

Another particular advantage of this saw is the fact that it cannot injure the tractor. In moving the saw from place to place our hitch is so designed that the weight of the machine is carried by the engine bed, or body of the tractor. When the saw is being operated it rests on the ground, on two stout legs, and is only anchored to the tractor. The tractor does not have to support the weight of the wood that is being sawed, nor of the machine.

CRANKING

This attachment is designed so that the tractor can be cranked without inconvenience when the saw is in the working position, or when it is folded up to move.

THE "H & Z" No. 75 SAWING ATTACHMENT FOR THE FORDSON TRACTOR



Ready to Move

SPECIFICATIONS

MANDREL—Cold rolled steel shafting, 36" long by 1 7/16" in diameter, arbor machined for saws with 1 3/4" arbor hole. The mandrel washers are large and accurately machined.

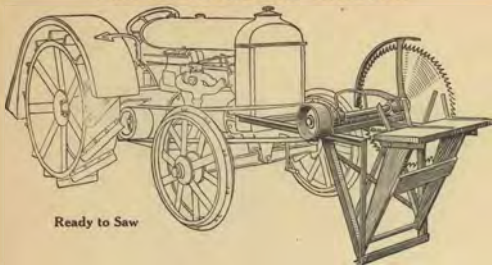
BEARINGS—Yoke type—extra large. The lower halves of the boxes are cast in a unit, being connected by a heavy yoke, which prevents any possibility of their getting out of alignment. The bearings are fitted with liners, and caps are fastened by four bolts. Grease cups insure positive lubrication.

BELT—We furnish when specified a 4 inch belt 14 feet 7 inches long, of the best grade. When necessary it can be tightened or any belt alignment made very easily by adjusting holes in frame.

PULLEY—Eight inches in diameter with six inch crown face. This is the correct size to give a 30 inch blade the proper speed with the tractor running at its normal speed. A pulley guard is provided which prevents any possibility of wood getting against the belt.

BLADE—When specified we can furnish cordwood blades in any size up to and including 36 inches. They are filed and set, ready for immediate use, and are fully guaranteed. We recommend the 30 inch size, which will be found most satisfactory for average conditions.

THE "H & Z" No. 50 SAWING ATTACHMENT FOR THE FORDSON TRACTOR



Ready to Saw

In response to the demand for a machine similar to our No. 46 Saw Attachment but with tilting table, we designed our No. 50 machine, which certainly makes a splendid outfit for those of our customers who prefer a tilting table.

STRONGLY BUILT

This machine also is made entirely of metal with the exception of the table, which is hardwood. The entire outfit is well made of strong materials and will stand much hard usage.

SELF ALIGNING BEARINGS

The bearings used on this machine are of the latest self aligning ball and socket type. They are lined with high speed bearing metal and can be adjusted to take up wear.

EASY TO ATTACH

This machine can be attached to a Fordson tractor ready for work in less than five minutes, and it is not necessary to do any machine work nor move any bolts on the tractor. It cannot injure the tractor in any way.

Rests on the ground in operation. Folds up to move.

With this outfit the tractor does not have to support the weight of the wood, nor of the machine when it is in use, as the outfit rests on the ground and is only anchored to the tractor. To move, the machine is folded over the tractor where it is securely held. It can be elevated for transportation quite easily by one man.

Can be cranked when up or down.

There is plenty of room to crank the tractor directly with the regular tractor crank when the saw is in the working or moving position.

CONVENIENT BELT TIGHTENER

A simple device is provided for tightening the belt when necessary.

SPECIFICATIONS

Mandrel—Cold rolled steel shafting, 36" long, 1 7-16" diameter with arbor machined for saws having 1 3/4" hole. The mandrel washers are large and accurately machined.

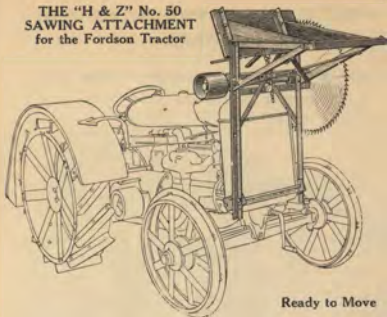
Bearings—Ball and socket type. Self aligning. Can be adjusted to take up wear.

Pulley—Eight inches in diameter with 5 inch crown face. This pulley was designed especially for use with our Fordson Saw Attachments.

Belt—When specified we furnish a high grade rubber belt 15' 2" long, which gives splendid satisfaction. A simple arrangement is provided for tightening belt when necessary.

Blade—When specified we can furnish cordwood blades in any size up to and including 20". They are filed and set ready for immediate use, and are fully guaranteed. We recommend the 30" size, which will be found most satisfactory for average conditions.

**THE "H & Z" No. 50
SAWING ATTACHMENT
for the Fordson Tractor**



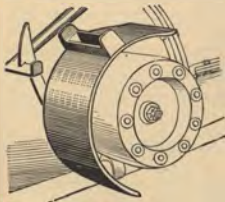
Ready to Move

We equip the No. 50 Saw with four m. rubber belt to give the best results, and 30 inch blade, which will be found satisfactory for average conditions.

NOTE—When a 26 inch or smaller saw blade is used, the pulley should be correspondingly smaller. If our customers have their own saw blades and will tell us what size, we will be glad to furnish the correct size pulley without extra cost.

THE FORDSON PULLEY FENDER AND CLUTCH HOOK

A Convenient and Necessary Attachment for Every Fordson Tractor



A simple, one-piece casting made of the best quality gray iron, that is attached to the pulley housing by three of the regular cap screws.

Its convenience and value can readily be seen. It protects the pulley from the dirt and stones, etc., that come around on the drive wheel, that otherwise injure the edge of the pulley and are dangerous to the operator.

Every exposed pulley should be guarded. This Pulley Fender prevents all possibility of the operator setting his foot down on the pulley while it is in motion, or getting it caught between the pulley and crank case.

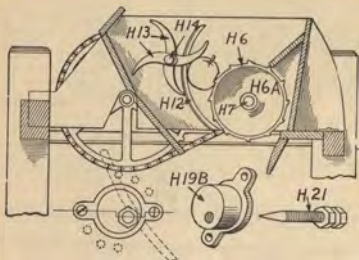


The Pulley Fender is equipped with a clutch hook which is controlled by the instep of the operator's foot and a stirrup which is in just the right position to provide a very comfortable foot rest, without interfering with the clutch hook, that will be greatly appreciated during a long day's work in the field.

Shipping weight, 22 lbs.

"H & Z" FORCE FEED CIDER MILLS AND FRUIT PRESSES

INTERIOR VIEW SHOWING THE WORKING PARTS AND
PATENT FEATURES



H 6 is the grating or grinding cylinder. H 12 is the concave. H 19 and H 21 are the eccentric adjusting nut and screw which adjust the concave to the cylinder as shown at left.

H 13 are the force feed arms that force the apples down.

This mechanism insures a positive feed at all times, regardless of size, kind or condition of apples. Therefore, the cylinder and concave may be adjusted to do finer work than would be possible without this force feed equipment, and as a result more juice will be obtained. Our machines must be used to fully appreciate this great improvement.

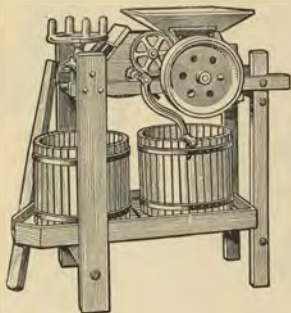
Illustration and description on next page.

THE "H & Z" FORCE FEED CIDER MILLS

BUILT IN TWO SIZES

The "H & Z" Cider Mills are strongly built of selected hard wood, and are securely braced and bolted.

Built for Service and Long Life



SEVEN POINTS OF EXCELLENCE

- 1.—Positive Force Feed Grinder; cannot choke.
- 2.—Oversize yoke.
- 3.—Large balance wheel, makes turning easy. Wide crown face for belt.
- 4.—Strong and durable, long service.
- 5.—Very efficient—gets a high percentage of cider from any kind or condition of apples.
- 6.—Built in modern, up-to-date factory.
- 7.—Fully guaranteed.

YOKE—The yoke is cast iron and made oversize, so that it will withstand great pressure. The screw is steel, carefully machined and runs freely. Hand wheel and follower are cast iron.

GRINDER—Our grinder is so designed that it will grind apples very fine and rapidly, crushing the little globules that contain the juice. It is equipped with a force feed device, and will handle all sizes, kinds and conditions of apples without clogging or being forced.

BALANCE WHEEL—Both mills are equipped with a large balance wheel that gives the grinder momentum and makes turning easier. It has a special wide crowned face, so that a belt can run on it, and either size mill driven by a small engine if desired. All bearings are of liberal dimensions and are lined with high speed bearing metal.

CRIBS—We furnish plain cribs as shown in illustration as standard equipment on both mills. Hinged cribs can be supplied at a slight additional cost. Slats of cribs are riveted at both ends.

RACK AND CLOTH EQUIPMENT can be furnished instead of cribs at additional cost.

TROUGHS—Troughs are made light, deep and wide. They are jointed together by special wide tongue and groove to take care of the swelling and drying conditions that exist in any cider mill.

Specifications	Medium	Senior
Screw	1 7-16x20½"	1 15-16x23½"
Height of Legs	40"	43"
Outside measurement of cribs	12x14"	14x17"
Diameter of Belt Wheel	13½"	13½"
Width of Belt Wheel	3½"	3½"
Shipping weight	256 lbs.	337 lbs.

"H & Z" SINGLE TUB CIDER MILL

A splendid mill for those who do not have a very large quantity of fruit to grind. This mill will handle large or small apples and does very nice work. It is equipped with large balance wheel which makes it easy to turn. Can be cleaned very easily, enabling it to be kept sweet and clean with little effort.

It is made of the same high grade materials as our larger machines. The frame is hardwood and is securely bolted. The yoke is cast iron—extra heavy, and has machine cut threads. The screw is made of cold rolled steel with machine cut threads. It is 1 1/2" in diameter and 24" long. The tub is 10 inches high and 10 inches wide, inside measurement. Capacity, five to seven bushels per hour.

Shipping weight, 130 lbs.



"H & Z" JUNIOR CIDER MILL



Six Points of Excellence

- 1.—Oversize yoke.
- 2.—Balance wheel makes turning easy.
- 3.—Strong and durable, long service.
- 4.—Very efficient, gets a high percentage of cider from any kind or condition of apples.
- 5.—Built in modern, up-to-date factory.
- 6.—Fully guaranteed.

A friend of the farmer—just the mill for the farmer or gardener who has a few apples to turn into cider, but does not have the time or care to go to the trouble of going to the public press. All of the fallen and rejected apples can be quickly and cheaply turned into a profit by making into cider by the use of this sturdy little press.

YOKE—The yoke is cast iron and made exceptionally heavy, so that it will withstand great pressure. The screw is steel, accurately machined and runs freely. Head and follower, are cast iron.

GRINDER—Our grinders are so designed that it will grind apples very fine and rapidly, crushing the little globules that contain the juice.

BALANCE WHEEL—This mill is equipped with a balance wheel that gives the grinder momentum and makes turning easier. The bearings are of liberal dimensions, carefully machined and fitted which insures perfect alignment and easy running.

CRIBS—We furnish plain cribs as shown in illustration as standard equipment on this mill. Slats of cribs are securely riveted at both ends to a heavy gauge hoop.

TROUGHS—Troughs are made with liberal dimensions to conform with the balance of the mill. They are joined together by a special wide tongue and groove to take care of the swelling and drying conditions that exist in any cider mill.

SPECIFICATIONS

Height of Legs.....	35"
Screw	1 1/2x20"
Outside measurement of cribs.....	10x12"
Shipping weight	135 lbs.

HOUSEHOLD FRUIT PRESS



A durable, well made Table Fruit Press suitable for home use. Frame: Made entirely of hardwood. Cylinder: Tub Slats are riveted to heavy steel bands. Machine cut screw $\frac{3}{4}$ x 15"; has a clean cut thread and operates through a heavy nut. Two long bolts running through side members from stand to cross head prevent the "wobble" usually found in small presses. Drain Board: Made in one piece and has deep groove for juice. Will not leak. Juice comes in contact with wood only.

Round Wood Follower: has beveled piece on top serving as support and a handle for removing follower. Has steel plate on top of support against which press screw operates.

Height of Frame, 18 ins., width $14\frac{1}{2}$ ins., depth of press 10 ins., size of tub $9 \times 9\frac{1}{4}$; capacity about 8 quarts; weight 23 lbs.

CIDER PRESSES

STRONG AND DURABLE—BUILT FOR SERVICE

The "H & Z" Presses are built to do the work just a little better than the average.

The frame is sturdily built of native hardwood.

The cross head is extra heavy cast iron securely bolted to legs.

The legs, sills and under cross piece are firmly held together by bolts.

The under cross piece is reinforced by a steel rod underneath which extends through each of the legs and is also given additional support at each end by a cast iron plate.

Legs are securely braced to sills by special cast iron brackets.

The screws are steel with accurate machine cut threads. Hand wheel and follower are cast iron.

Troughs are made tight, deep and wide and jointed together by a special wide tongue and groove to prevent splitting and to take care of the swelling and drying condition which exists in any press.

Tubs have hard wood slats firmly machine riveted to the hoops. Hinged tubs furnished at small additional cost. Hinges are malleable, securely riveted through hoops and slats. Rear hinges are fastened with long steel rod.

Owing to strong construction "H & Z" Presses will withstand great pressure enabling the user to get all the juice from the fruit.



	Height Legs	Size of Screw	Size Tub Inside	Wgt.
No. 1	35 $\frac{1}{2}$ "	1 1-16x18 $\frac{3}{4}$ "	10x10"	70 lbs.
No. 2	29 $\frac{1}{2}$ "	1 7-16x20 $\frac{1}{4}$ "	12x12"	98 lbs.
No. 3	46"	1 15-16x23 $\frac{1}{2}$ "	16x14"	166 lbs.



FRUIT CRUSHER

The "H & Z" Fruit Crusher is suitable for crushing grapes and berries. It is substantially built and braced. The hopper is 16x18x5" deep. Capacity, one-half bushel. Rolls $3\frac{1}{4}$ x 5" and are designed to force the grapes through.

The Famous

"H

and

Z"

Line

No. 4—3½ Cu. Ft. MIXER ON TRUCK WITH ENGINE AND HOUSING



This is a complete outfit, can be taken anywhere and is ready for work the minute it arrives.

TRUCK—Made of metal throughout and built so that it will give satisfactory service for a long time. Wheels are 12" and 16" in diameter with 3" face. The truck is designed so that the front wheels will pass under the frame for short turning.

HOUSING—Strongly made of 18 gauge metal. Insures complete protection of the engine.

ENGINE—We furnish as standard equipment the dependable 1½ HP. "H. & Z." Engine.

SHIPPING WEIGHT—760 pounds.

**No. 5—3½ Cu. Ft. MIXER ON PNEUMATIC TIRE TRAILER
WITH ENGINE AND HOUSING**



A complete outfit specially designed for quick and easy moving from place to place, for attaching to an automobile or truck, etc. It is so balanced that any person can move it about as easily as a loaded wheelbarrow without connecting it to a wagon or auto. It is just like our No. 4 outfit with the exception of the truck, and includes a dependable 1½ H. P. Engine.

SHIPPING WEIGHT—725 pounds.

FEATURES OF "H & Z" MIXERS

- 1—High grade babbit bearings.
- 2—Drum runs on ball bearings.
- 3—Load or dump on either side.
- 4—Perfect balance of drum makes it easy to discharge full load.
- 5—Mixing blades raised off the sides of the drum, making them self-cleaning.
- 6—The mixture is always in plain view.
- 7—Grease cups on all bearings insure positive lubrication.
- 8—Pulley is located outside of the frame so belt may be easily attached to any farm engine.
- 9—Simplest construction.
- 10—Mounted on substantial hardwood skids—easy to move.
- 11—In addition to concrete it will mix mortar, plaster, feeds and fertilizers, etc.
- 12—Fully Guaranteed.

THE H. & Z.

CONCRETE AND ALL PURPOSE MIXER, A MOST USEFUL MACHINE

Here is a machine that will pay for itself within a very short time mixing concrete alone, and in addition there are almost innumerable uses for it on every farm mixing dairy and poultry feeds, fertilizers, etc.

Saves Cement and Insures Better Concrete, Eliminates Much Hard Work and Does Better Job.



No. 1 Mixer

SPECIFICATIONS

No. 1

CAPACITY— $2\frac{1}{2}$ cu. ft. of loose material or a wheelbarrow load of mixed concrete per batch, and a batch per minute.

INSIDE MEASUREMENT OF DRUM—Opening 18", diameter at bottom 22", Depth, 26".

FRAME— $1\frac{1}{2} \times 1\frac{1}{2}$ " Angle Steel, well braced and bolted. The machine is mounted on strong hardwood skids, making it easy to move from place to place.

PULLEY—16" diameter, 2" face. Handle can be attached for operating by hand. We include a handle with each machine.

SPEED OF PULLEY—125 to 175 R. P. M.

POWER REQUIRED—As the drum runs on ball bearings the H & Z Mixer requires very little power and can be operated by hand or a one-horse power engine.

Shipping Weight—250 lbs.

Hand mixing is a hard, back-breaking job, and because it is difficult it is often alighted—the concrete is poorly mixed, cracks, crumbles and goes to pieces. To insure a good job the concrete should be mixed with an H. & Z. Mixer—and that is the most economical way in the end, because

HAND MIXING IS WASTEFUL

It is estimated that at least 25 per cent. of the cement is wasted by hand mixing. With the H. & Z. Mixer no cement is wasted. Water is first poured into the drum then cement and the action of the machine, which is mixing while it is being loaded, thoroughly mixes the cement and water so that when the sand and gravel is put in every particle is coated with this cement and water solution. There is no chance for the cement to be wasted—no possibility of an uneven, wasteful mixture. The H. & Z. Mixer insures a good job of concreting, and at the least cost.

A FAST WORKING MACHINE

The H. & Z. Mixer will mix a batch of thoroughly mixed concrete in a minute or less. The drum is always revolving and as soon as any material is put into it the mixing begins. The revolving discharge insures a quick pouring of the entire contents of the drum, throwing out the heavy and lighter materials in an even flow and not draining off the water and sand first as would be the case in a stationary discharge.



No. 2 Mixer

OUR No. 2 MIXER is similar to No. 1, but is $3\frac{1}{2}$ foot capacity, and is, of course, built larger and stronger throughout and is equipped with ratchet dump which permits filling and dumping from either side without adjustment. The drum has an $18\frac{1}{2}$ " opening, is 23" in diameter at the bottom and 28" deep. It can be operated by hand or a $1\frac{1}{2}$ H. P. engine. **Shipping Weight**, 285 lbs.