

H. H. Moseley

OHIO

ENSILAGE CUTTERS
FEED CUTTERS
AND
SHREDDERS

1899



45TH
YEAR

HORSE POWERS, ENGINES,
FEED MILLS
AND
STEAM COOKERS.

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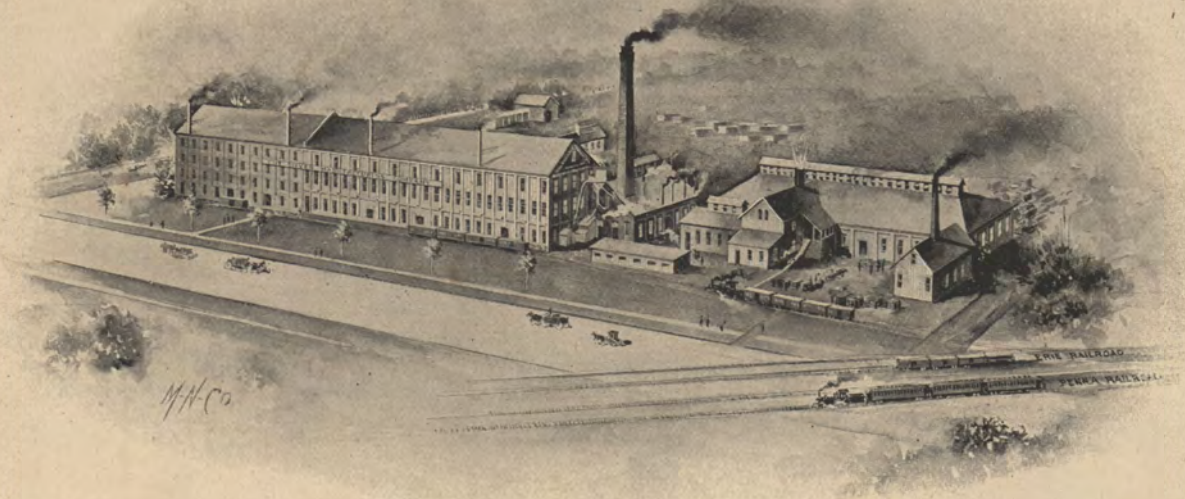


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VIEW OF NEW WORKS WHERE "OHIO" ENSILAGE CUTTERS ARE MANUFACTURED.

Introduction.

In presenting this edition of our *Ensilage* and *Fodder Cutter Catalogue*, we have omitted the usual accompanying testimonials and endeavored to furnish with the illustration of each machine such information as will aid the uninformed to select a machine best adapted to his requirements.

Our machines are all made to one pattern, which is covered by letters patent, March 25, 1890, and as the description of one will answer for all, we desire to call attention to the following

Points of Superiority.

1. **Our New Solid Knife Head** is the most perfect thing of the kind in use. The knives are adjusted with facility to the cutter bar by means of set screws, and are firmly bolted to position on the knife heads.

2. **The Upper Feed Roller**, as it raises, moving in a curve inclined backward, enables the rollers to obtain a better hold on the material, thus making it an *easy and rapid feeding machine*.

3. **The System of Gearing** which operates the upper or adjusting feed roller is such that the gears are always in mesh, thus giving a *uniform motion* to the roller.

4. **Our Safety Fly Wheel** (arranged with a frictional device in connection with the hub) *prevents accidents from over-feeding*; or, in case any hard substance should pass in with the material while being fed, the knives will stop and the momentum of the fly wheel will be arrested gradually by friction against the hub, thus *preventing breakage* of the machine and *insuring safety* to the operator. Safety fly wheels furnished with all power machines.

5. **The Lever for Stopping the Feed Rollers** assists also in changing the lengths of cut. In connection with the safety fly wheel it is an additional safeguard against accidents. The four lengths of cut are made by means of detached gears.

6. **The Knife Shaft** is made long enough to attach the pulley or fly wheel to either end of the same, on all sizes above No. 9. This will often save delay in locating the engine or horse-power.

7. **The Gearing is Very Simple** and is arranged to secure the greatest ease of movement. No very small pinions are used, and the adjusting cluster of gearing which operates the upper feed roller runs with a *minimum of friction*. There are but six gears on our cutters—a less number than used in any other power feed cutter.

8. **Angle Carriers** for our Power Cutters are made *reversible, i. e.*, so that they can be set to deliver straight, to the right or to the left of the machine, as the case may require.

9. **Every part** of these machines is constructed with a view to *durability and ease of operation*. The shaft bearings are *babbitted* and shafts are made of *steel*.

10. **The Gearing and Adjusting Device** for the upper feed roller, the *stop feed lever* and *gear guards* are all arranged to take up the least possible space, making them the *most compact* and substantial cutters manufactured.

11. **Our Machines have Larger Throat**, in proportion to length of knives, than any other cutters, which in point of capacity makes them *superior* to any similar machine with equal cutting surface.

12. **The Above Qualities of Excellence** combined, make our feed cutters the *strongest, the simplest, the fastest cutting, the lightest running, the easiest feeding, the most convenient*, and in every way the *best and most powerful* cutters of equal size in the market.

We have been manufacturing feed cutters for twenty-five years and our machines have attained an enviable reputation for capacity and durability.

In conclusion, we invite investigation and comparison with other makes.

Electric Lever Cutter.

Eleven-Inch Knife.



Fig. 798.

This machine is exactly as shown by the engraving—a plain, simple lever cutter, yet is strong and substantial. The construction is very similar to Fig. 778, the principal difference being in grade of timber used and the finish.

It has eleven-inch oil-tempered sickle knife adjustable to take up wear, thus giving a perfect shear cut at all times.

SIZE AND PRICE.

11-Inch Knife; weight, K. D., 40 pounds \$4.00—Rytidosie.

“Ohio” Lever Cutter.

Eleven-Inch Knife.



Fig. 778.

This machine is so well known it needs no description, except that it is well made of best material and very attractive in appearance.

Made only in one size, with an eleven-inch oil-tempered sickle knife, which can be adjusted to take up all wear, thus giving a perfect shear cut at all times.

Will cut corn stalks, hay, straw, etc., any desired length, which can be regulated by the gauge plate.

Always shipped with lever and legs packed in the feed box, to secure lowest freight rate.

SIZE AND PRICE.

11-Inch Knife; weight, K. D., 55 pounds \$5.00—Rusturen.

“Pony” Hand Feed Cutter.



Fig. 783. No. 11 $\frac{1}{4}$.

This cutter is for hand use only, and is a strong, light-running machine. It is adapted to cutting hay, straw and corn fodder, and is suitable for parties keeping from one to four or five animals.

There is only one size, and it is made so it can be knocked down and packed for shipment, thus securing lower freight rate; has 11 $\frac{1}{4}$ -inch knife, and by very simple changes makes four lengths of cut.

Cuts $\frac{1}{2}$, 1, 1 $\frac{1}{2}$ and 2 inches.

Weight, K. D., 160 pounds.

SIZE AND PRICE.

No. 11 $\frac{1}{4}$. One knife, 11 $\frac{1}{4}$ inches long \$15.00—Rustoeer.

“Ohio” Hand Feed Cutter.

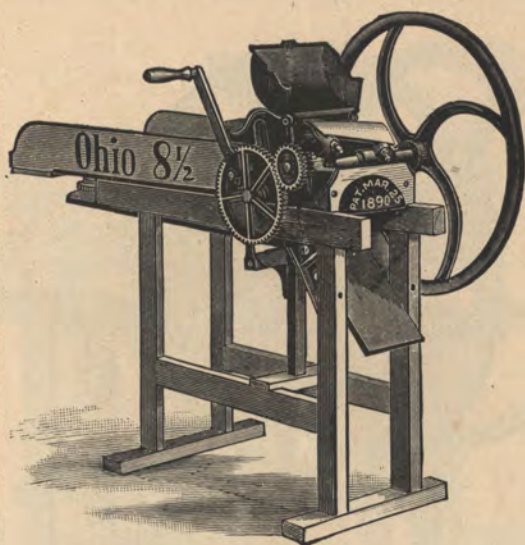


Fig. 779. Nos. $8\frac{1}{2}$ and $10\frac{1}{2}$.

This cut represents our new “Ohio” Hand Feed Cutter, made in two sizes, Nos. $8\frac{1}{2}$ and $10\frac{1}{2}$, the numbers corresponding with the length of knives in inches. These machines are light, but very strong and serviceable, and have large capacity. The frames are solid and substantial, and all sizes are adapted to cutting hay, straw and all kinds of fodder, green or dry. They are especially adapted to the requirements of those keeping from two to six animals, and also livery stables and like places, where all of the cutting is done by hand.

We recommend the use of two-knife machines, for the reason that double the quantity of feed may be cut a given length.

We always send two-knife machines, unless otherwise ordered.

SIZES AND PRICES.

No.	Length of Knife, Inches	No. of Knives	Cuts, Inches	Price	Cipher
$8\frac{1}{2}$	$8\frac{1}{2}$	1	$\frac{1}{2}$, $\frac{3}{4}$, $1\frac{1}{2}$	\$18.00	Rutabaga
$8\frac{1}{2}$	$8\frac{1}{2}$	2	$\frac{1}{4}$, $\frac{3}{8}$, $\frac{3}{4}$	20.00	Rutabula
$10\frac{1}{2}$	$10\frac{1}{2}$	1	$\frac{1}{2}$, $\frac{3}{4}$, $1\frac{1}{2}$	23.00	Rutabulis
$10\frac{1}{2}$	$10\frac{1}{2}$	2	$\frac{1}{4}$, $\frac{3}{8}$, $\frac{3}{4}$	25.00	Rutabulum

“Plantation” Standard Feed Cutter.

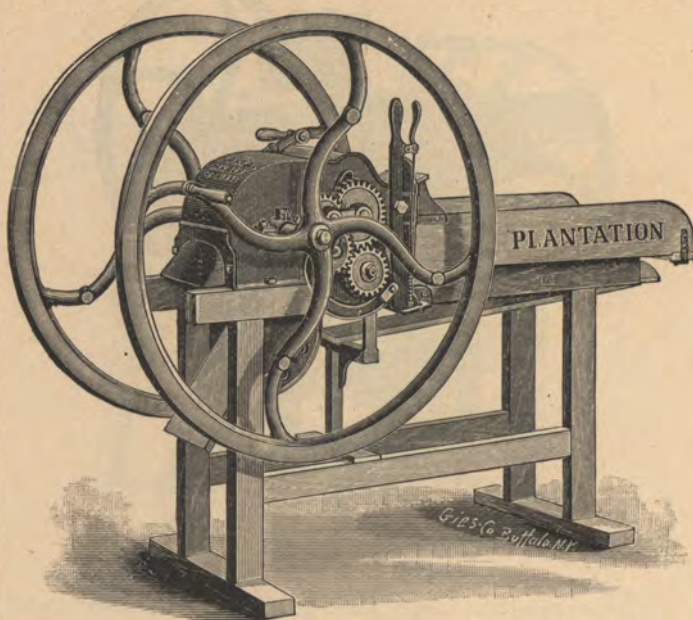


Fig. 777. Nos. 9 and 11.

The construction of this machine is similar to the “Ohio” Standard, excepting that it is provided with two 42-inch fly wheels, with handles 12 and 15 inches from centers, which adapts it to hand use for one or two men. The increased power gained by the momentum of the large fly wheels makes it possible to cut more fodder by hand with this machine than with any other. We recommend it for stock farms and plantations where large quantities of fodder, chaff and other materials are to be cut without the aid of steam or horsepower. It is adapted to cutting all kinds of material, including large corn stalks with ears on.

It is made in two sizes, as below, and is for hand use only.

Shaft is long enough to admit safety fly wheel and pulley instead of large wheels.

SIZES AND PRICES.

- | | | |
|---------|--|-------------------|
| No. 9. | With four 9-inch knives, cuts $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 inch; weight,
500 pounds | \$45.00—Rutazeas. |
| No. 11. | With four 11-inch knives, cuts $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 inch; weight,
530 pounds | 50.00—Rutazeous. |

“Ohio” Standard Feed Cutter.

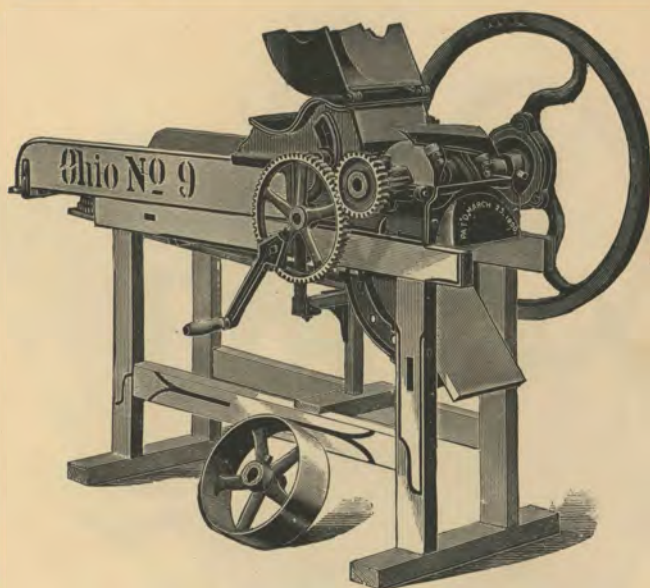


Fig. 784. No. 9.

This cutter is adapted to either hand or power use, and will be found a very convenient machine for those having a small number of animals. It is furnished with either two or four knives, but always with two, and with safety fly wheel and pulley, unless otherwise specified. It is adapted to cutting corn fodder, hay, straw, etc. The construction is similar to our larger Standard Cutters. We never furnish carrier with this machine.

Length of knives, 9 inches.

Steel knife shaft, $1\frac{3}{8}$ inches diameter.

Cuts with two knives, $\frac{1}{2}$, 1, $1\frac{1}{2}$ and 2 inches; with four knives, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 inch.

Size of pulley, 12 inches in diameter, 4-inch face. Pulleys 6, 8, 10 and 15 inches in diameter, furnished when ordered.

Speed for power, 450 to 600 revolutions per minute.

Power required, one-horse.

Weight, 390 pounds.

SIZES AND PRICES.

- No. 9. With safety fly wheel and pulley, two knives \$35.00—Rustaceum.
 No. 9. With safety fly wheel and pulley, four knives 40.00—Rustaciorum.
 When furnished with extended knife shaft, to place fly wheel or pulley
 on either side, extra, list 2.00—Rutato.

“Ohio” Standard Feed and Ensilage Cutter.

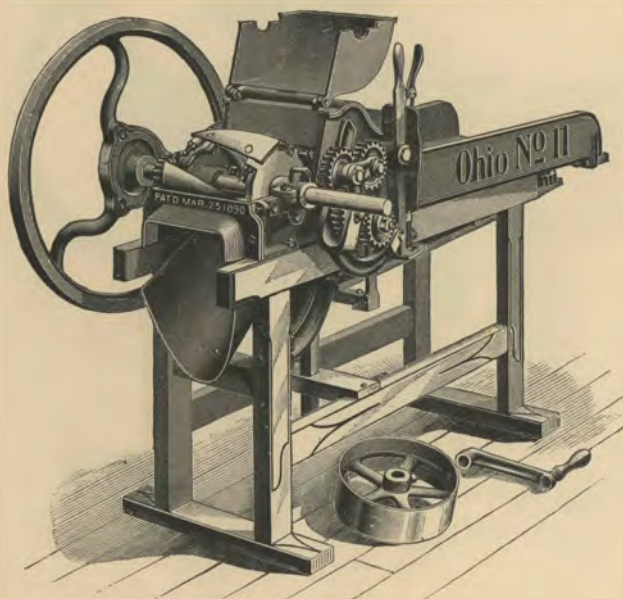


Fig. 784. No. 11.

This is the “Ohio” Standard Combined Feed and Ensilage Cutter. In general design it is like No. 9, the principal point of difference being the knife shaft. It is extended on this machine so that the fly wheel or pulley may be placed on either side.

It is adapted to cutting hay, straw or corn fodder either by hand or power. It is also used to a considerable extent as an ensilage cutter.

It is especially strong and serviceable, and as the number of bearings or wearing parts is reduced to the fewest possible, it is light running.

The handle shown in the engraving fits on the knife shaft and adapts the machine for hand use. As a power machine it is driven by sweep or tread horse-power, windmill, light engine, either steam, gas or gasoline, etc.

It is a particularly good all-round machine and enjoys a very large sale.

Length of knives, 11 inches.

Steel knife shaft, $1\frac{3}{8}$ inches diameter.

Cuts with two knives, $\frac{1}{2}$, 1, $1\frac{1}{2}$ and 2 inches; with four knives, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 inch.

Size of pulley, 12 inches in diameter, 4-inch face. Pulleys, 6, 8, 10 and 15 inches in diameter, furnished when ordered.

Speed for power, 450 to 600 revolutions per minute.

Power required, one or two horse.

Weight, 420 pounds.

Capacity, dry fodder, 2,500 to 3,000 pounds; ensilage, 3 to 4 tons per hour.

SIZES AND PRICES.

No. 11.	With two knives, 11 inches long, four lengths cut	\$40.00—Rusteles.
No. 11.	With four knives, 11 inches long, four lengths cut	45.00—Rustelides.
	Reversible carrier (angle or straight delivery), 12 feet long or under	33.75—Rutha.
	Straight-delivery carrier, without reversible attachments	30.25—Rutellis.
	Carrier, extra, over 12 feet long, per foot	1.70—Rutellorum.
Price of shredder cylinder for this machine on another page.		

"Ohio" Standard Feed and Ensilage Cutter.

Showing Right-Angle Carrier Attached.

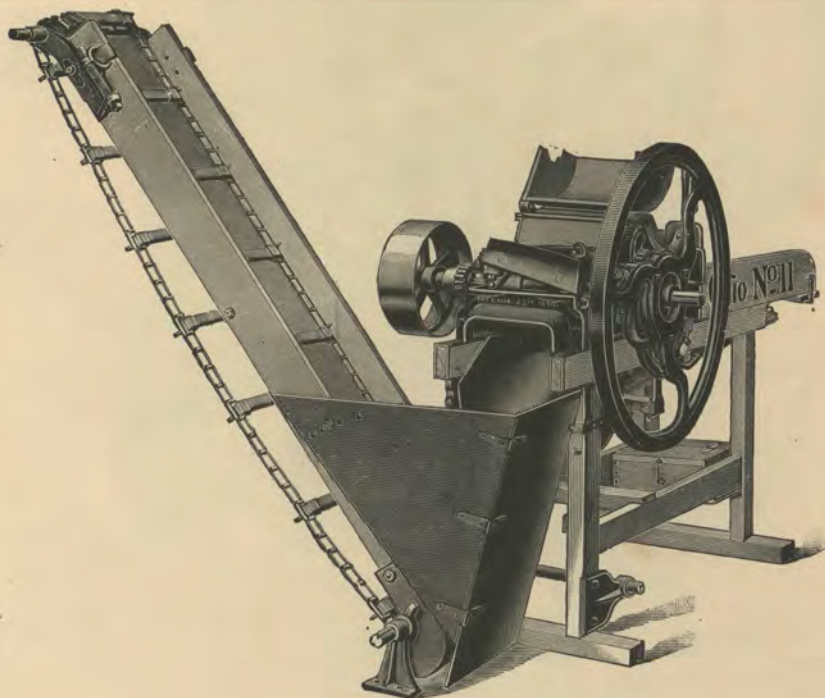


Fig. 784. No. 11.

This view shows the "Ohio" Standard No. 11, with right-angle carrier attached ready for use. No. 11 is the smallest sized machine suitable for carrier, and only plain slat carriers are made for this size. Carriers for this machine are reversible, that is, they can be adjusted to straight, right or left-angle delivery.

This is a very strong, serviceable machine, and when fitted with carrier is adapted to filling silos and cutting hay, straw or corn fodder, and delivering into bins or lofts.

“Ohio” Standard Feed and Ensilage Cutter.



Fig. 784. No. 13.

The design of this machine is same as No. 11, but it is larger, stronger and heavier throughout. It has all latest improvements and is in every way a first-class machine. It is a desirable machine for general farm work, and has capacity to cut feed for twenty to sixty animals. No. 13 is used extensively to cut ensilage, and for medium-sized silos gives perfect satisfaction. Straight-delivery and reversible carriers of any desired length are furnished when ordered. View on next page shows this machine with straight-delivery carrier attached. Fly wheel or pulley can be placed on either end of the shaft. Each machine is provided with handle to go on fly wheel, and it is operated by hand successfully.

This machine is built with traveling feed table. See Fig. 785.

Length of knives, 13 inches.

Steel knife shaft, $1\frac{9}{16}$ inches diameter.

Cuts with two knives, $\frac{1}{2}$, 1, $1\frac{1}{2}$ and 2 inches; with four knives, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 inch.

Size of pulley, 12 inches diameter, 6-inch face. Pulleys, 6, 8, 10 and 15 inches diameter, furnished when ordered.

Speed, 450 to 600 revolutions per minute.

Power required, two to four-horse.

Capacity, four to six tons green corn fodder, 2000 to 3000 lbs. dry feed per hour.

Weight, 560 pounds.

SIZES AND PRICES.

No. 13. With two knives, 13 inches long, four lengths cut	\$60.00—Rutellum.
No. 13. With four knives, 13 inches long, four lengths cut.	65.00—Rutenio.
Reversible carrier (angle or straight delivery), 12 feet long or under.	37.00—Ruthenian.
Straight-delivery carrier, without reversible attachments.	33.50—Rutheno.
Carrier, extra, over 12 feet long, per foot	1.70—Ruthenzaun.
Price of shredder cylinder for this machine on another page.	

“Ohio” Standard Feed and Ensilage Cutter.

Showing Straight-Delivery Carrier Attached.

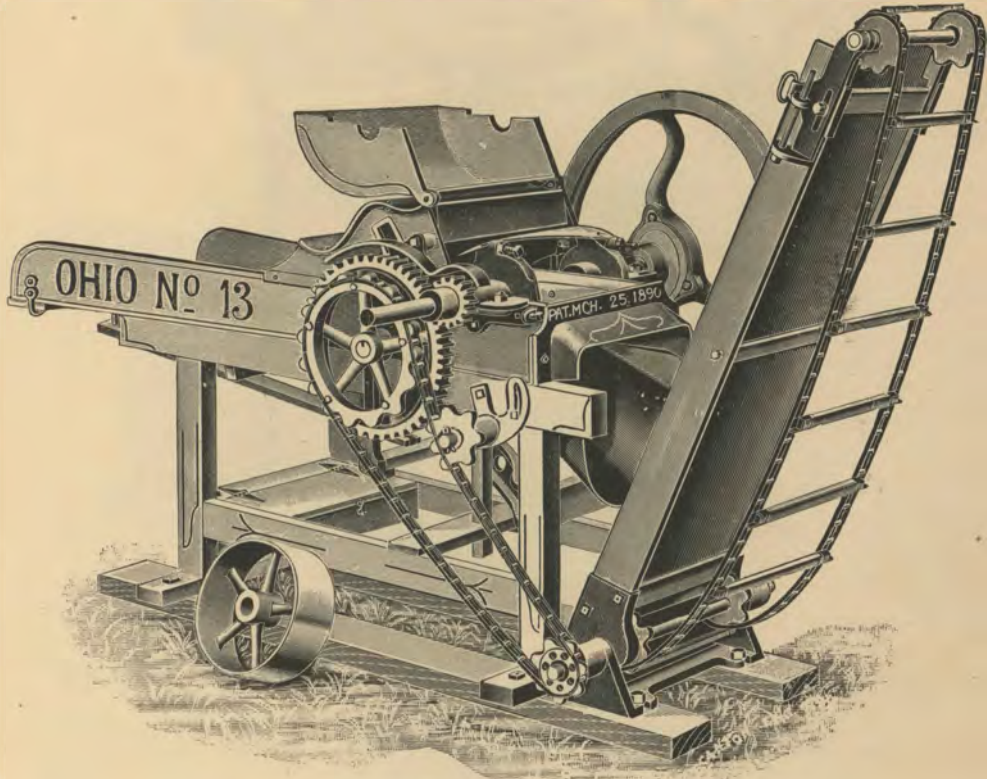


Fig. 784. No. 13.

The illustration here shows the “Ohio” Standard No. 13, with straight-delivery carrier attached.

This is the second size used for ensilage, and is well adapted to the work. Carriers for this machine are straight or angle delivery, and are made plain slat or metal strip bucket, whichever is required. The angle carrier can be set at a height of about sixty degrees on the fly-wheel side. We recommend the use of straight-delivery plain slat carriers in every instance where the space and other conditions will admit.

To ascertain length of carrier, add forty per cent. to perpendicular height from point where cutter stands to opening in silo. This is right when the carrier is to stand at an angle of about forty-five degrees.

"Ohio" Standard Feed and Ensilage Cutter.

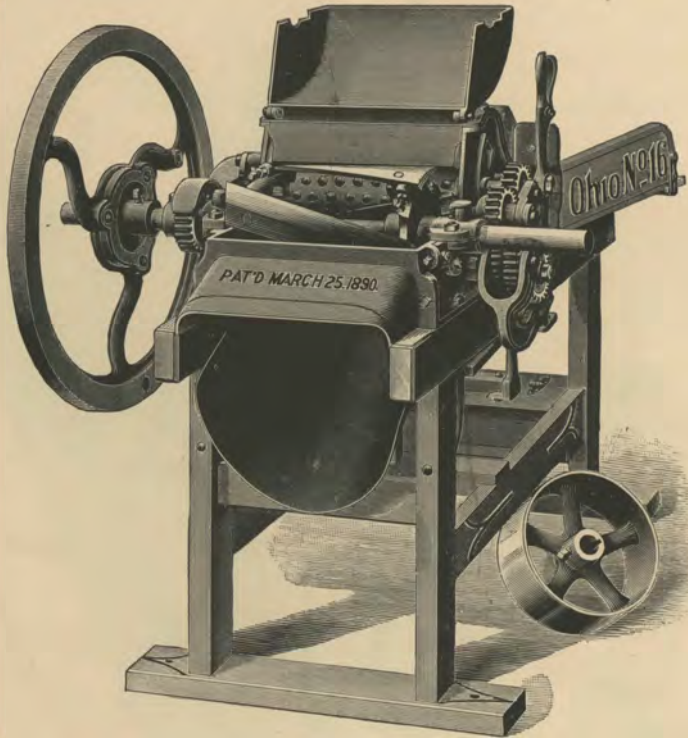


Fig. 784. No. 16.

This is our popular feed and ensilage cutter, and has capacity great enough to cut feed for twenty to one hundred head of stock. It has all latest improvements and is constructed in a most substantial manner.

No. 16 is a splendid all-round machine with sufficient capacity for good sized silos, and will cut hay, straw or dry corn fodder very rapidly. Our leading size for general power work.

A handle to go on fly wheel furnished with each machine.

Straight-delivery and reversible carriers, any length, furnished for this machine. View on next page shows left-angle bucket carrier attached ready for use.

This machine is built with traveling feed table. See Fig. 785.

Fly wheel or pulley can be placed on either end of shaft.

Length of knives, 16 inches (always furnished with four knives).

Steel knife shaft, $1\frac{1}{8}$ inches diameter.

Cuts with four knives, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 inch; with two knives, $\frac{1}{2}$, 1, $1\frac{1}{2}$ and 2 inches. Detach two alternate knives in using as a two-knife machine.

Size of pulley, 12 inches in diameter, 6-inch face. Pulleys 6, 8, 10 and 15 inches in diameter, furnished when ordered.

Speed, 450 to 600 revolutions per minute.

Power required, from two to six horse.

Capacity, six to eight tons green corn fodder, 3,000 to 4,000 pounds dry feed per hour.

Weight, 620 pounds.

SIZES AND PRICES.

No. 16. With four knives, 16 inches long, four lengths cut.	\$90.00—Ruthard.
Reversible carrier (angle or straight delivery) 12 feet long or under	37.00—Ruthenian.
Straight-delivery carrier, without reversible attachments	33.50—Rutheno.
Carrier, extra, over 12 feet long, per foot	1.70—Ruthenzaun.

Price of shredder cylinder for this machine on another page.

"Ohio" Standard Feed and Ensilage Cutter.

Showing Metal-Strip Bucket Carrier, Left-Angle Delivery.

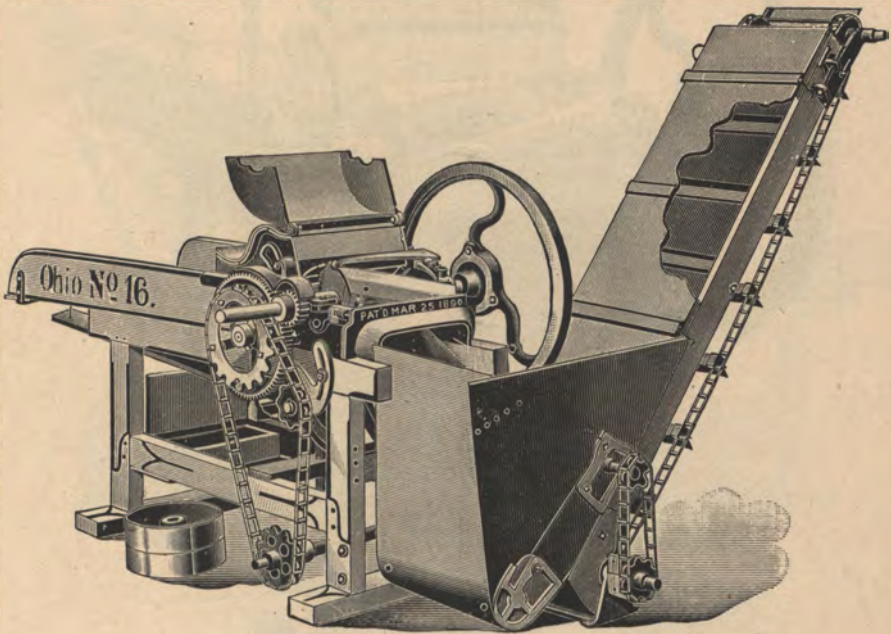


Fig. 784. No. 16.

This is a good view of the Metal-Strip Bucket Carrier set at left angle and attached to No. 16 Cutter ready for operation. The illustration shows present construction of Metal-Strip Bucket Carrier, and the arrangement and mode of attaching are similar for Nos. 13, 16 and 18, "Ohio" Standard Cutters.

Angle-delivery carriers for Nos. 13, 16 and 18 elevate from a point at the side of the machine, instead of from the middle as in other makes. By this construction we attain an elevation of about sixty degrees on the fly wheel side of the machine, and a little better than seventy degrees on the reverse side. If the carrier is set straight-away it will elevate about perpendicularly. The fly wheel or pulley can be placed on either side of the machine.

To ascertain the height of carrier add forty per cent. to the perpendicular height from point where cutter stands to opening in silo. This is right when the carrier is to stand at an angle of about forty-five degrees.

“Ohio” Standard Feed and Ensilage Cutter.

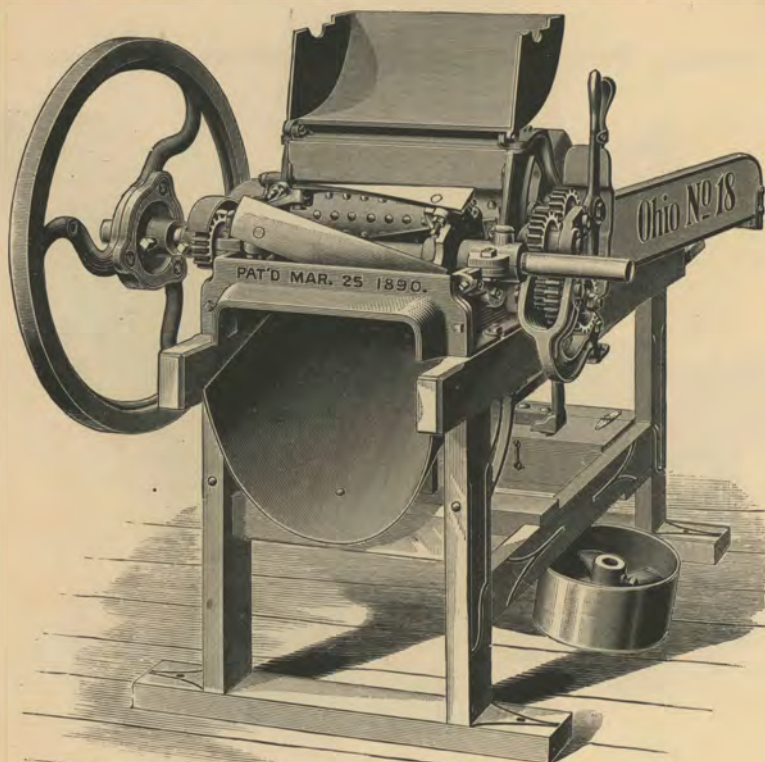


Fig. 784. No. 18.

This is a good view of the No. 18 machine, which is the largest size of the Standard cutters. It has very large capacity and is substantially constructed throughout. It is well suited to the use of extensive stock raisers both in cutting ensilage and dry feed. The knife shaft is made long enough to place the fly wheel or pulley on either end of the same. This is a convenience that will often save changing position of engine or cutter. It is used extensively in filling silos.

This machine is built with traveling feed table. See Fig. 785.

A handle to go on fly wheel is furnished with each machine.

Length of knives, 18 inches (always furnished with four knives).

Steel knife shaft, $1\frac{9}{16}$ inches diameter.

Cuts with four knives, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 inch; with two knives, $\frac{1}{2}$, 1, $1\frac{1}{2}$ and 2 inches.

Detach two alternate knives in using as a two-knife machine.

Size of pulley, 12 inches diameter, 6-inch face. Pulleys 6, 8, 10 and 15 inches diameter, furnished when ordered.

Speed, 450 to 600 revolutions per minute.

Power required, four to six horse-power engine.

Capacity, 8 to 10 tons green corn fodder, 4000 to 5000 lbs. dry feed per hour.

Weight, 700 pounds.

SIZES AND PRICES.

No. 18. With four knives, 18 inches long, four lengths of cut . . .	\$120.00—Ruthenhieb.
Reversible carrier (angle or straight delivery), 12 feet long or under . . .	37.00—Ruthenian.
Straight-delivery carrier, without reversible attachments	33.50—Rutheno.
Carrier, extra, over 12 feet long, per foot	1.70—Ruthenzaun.
Price of shredder cylinder for this machine on another page.	

"Ohio" Standard Feed and Ensilage Cutter.

Showing Right-Angle Plain Carrier Attached.

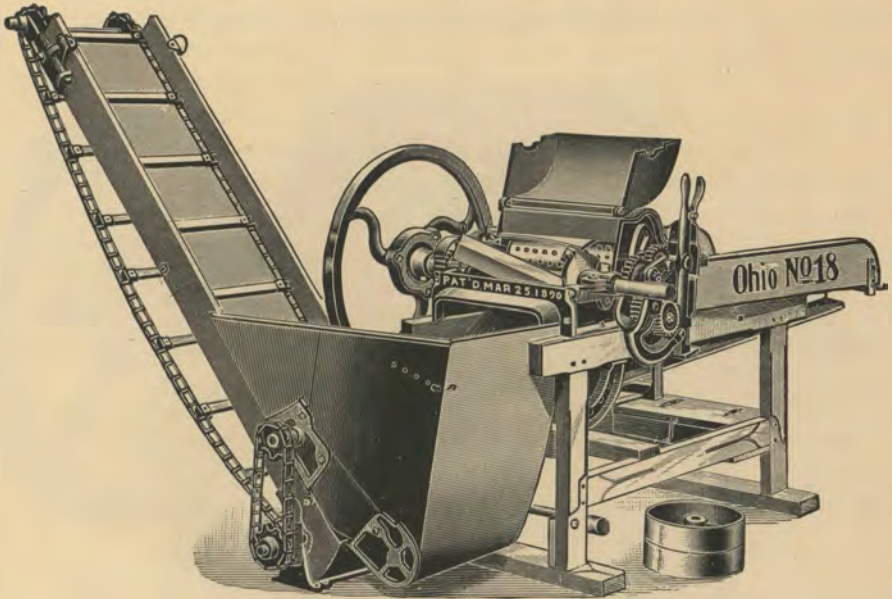


Fig. 784. No. 18.

This shows No. 18 with right-angle plain carrier attached ready for use. The cut shows new construction of the lower part of carrier. By this means the ensilage and fodder as it comes from the machine is all guided into the carrier and none loses out at the bottom.

The plain-angle carrier will elevate at an angle of about sixty degrees on the fly wheel side of the machine and a little better than seventy degrees on the reverse side. The straight-away carrier will elevate as steep as the slats will carry the fodder. The fly wheel or pulley can be placed on either side of the machine. This is the largest size Standard cutter and is used extensively for filling silos.

To ascertain the height of carrier, add forty per cent. to the perpendicular height from point where cutter stands to opening in silo. This is right when the carrier is to stand at an angle of about forty-five degrees.

Description and Price List.

This machine has been in use for a number of years, during which time it has been cutting ensilage, dry corn fodder, hay and straw for a large number of dairymen and stock raisers throughout this country. A large number of them are also in daily use cutting baled hay and straw, and tobacco stems.

They are powerfully built and have unusually large capacities, in fact they will take care of the material as fast as it can be gotten to the machines.

Both have two-inch steel knife shafts and new pattern solid knife heads. The knives are spiral in shape and are drawn down to a nice cutting edge. They are secured in place by four hand-forged steel bolts in each and are backed up by bosses or lugs on the knife heads, as shown. The shaft bearings are wide and heavy, and are babbitted with good quality babbitt metal.

The adjusting cluster of gearing which operates the feed rolls is ingeniously effective and runs with a minimum of friction. The lever shown is for stopping the feed rollers and assists also in changing the lengths of cut.

Special attention is directed to the wide open throat, being full width of cutting surface, and to the improved and patented feeding device on all of these machines. These special and desirable features make them easier to feed and give them largely increased capacity over other makes, size for size.

DIMENSIONS.

Length of knives, No. 20, 20 inches; No. 24, 24 inches.

Steel knife shafts, 2 inches diameter.

Cuts with four knives $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 inch.

Size of pulleys, tight and loose, 18 inches diameter, 6-inch face. Pulleys 12 and 15 inches diameter furnished when ordered.

Speed, 500 to 700 revolutions per minute.

Power required, 6 to 10 horse-power engine.

Capacity, No. 20, 12 to 15 tons; No. 24, 15 to 20 tons ensilage per hour.

Weight, No. 20, 1,300 pounds; No. 24, 1,500 pounds.

SIZES AND PRICES.

No. 20.	With four knives, 20 inches long	\$200.00—Ruthenzrug.
No. 24.	With four knives, 24 inches long	250.00—Ruthessly.
	Reversible carrier, 12 feet long or under, for either size.	45.00—Ruticlei.
	Straight-delivery carrier, without reversible attachments, for either size.	39.40—Rutidosi.
	Carrier, extra, over 12 feet long, per foot	2.25—Rutilabais.

“Ohio” Special Ensilage Cutter.

Has Patent Safety Fly Wheel, Adjustable Knife Head, Stop
Feed Lever, Tight and Loose Pulleys.

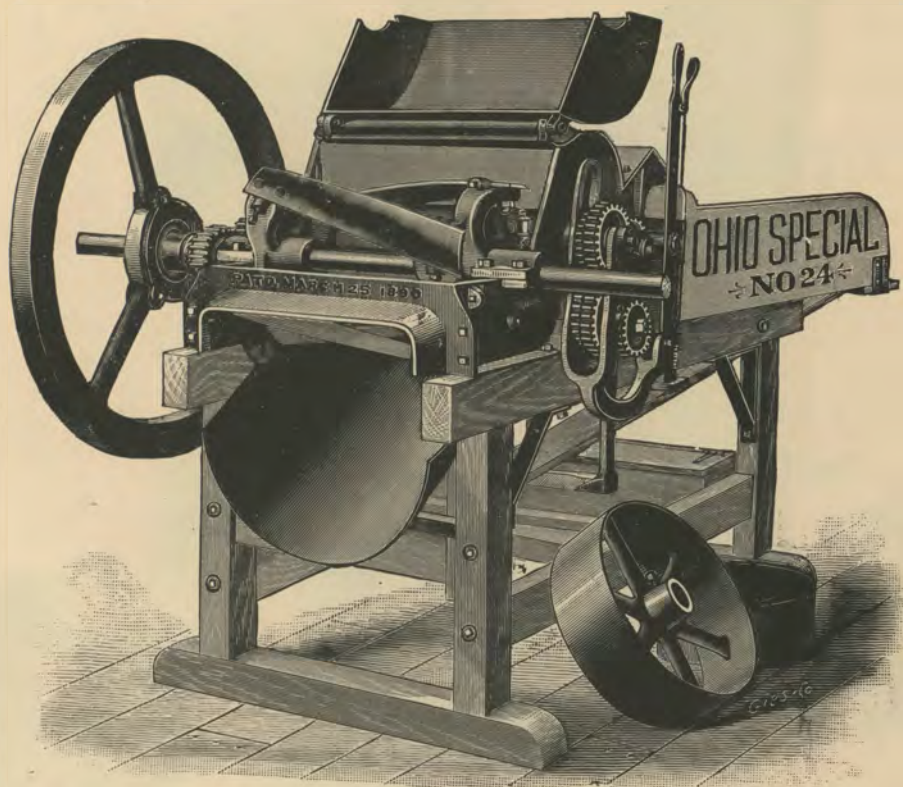


Fig. 787. Nos. 20 and 24.

Shredder cylinder will interchange with knife cylinder, see illustration and price on another page.

They are built also with traveling feed table as shown in another place.

A favorite machine with large stock raisers, first for ensilage, then for corn stover, either cutting or shredding, then hay and straw.

These machines are also extensively used for cutting baled hay, straw, tobacco stems and other materials.

"Ohio" Special Ensilage Cutter,

With Traveling Feed Table.

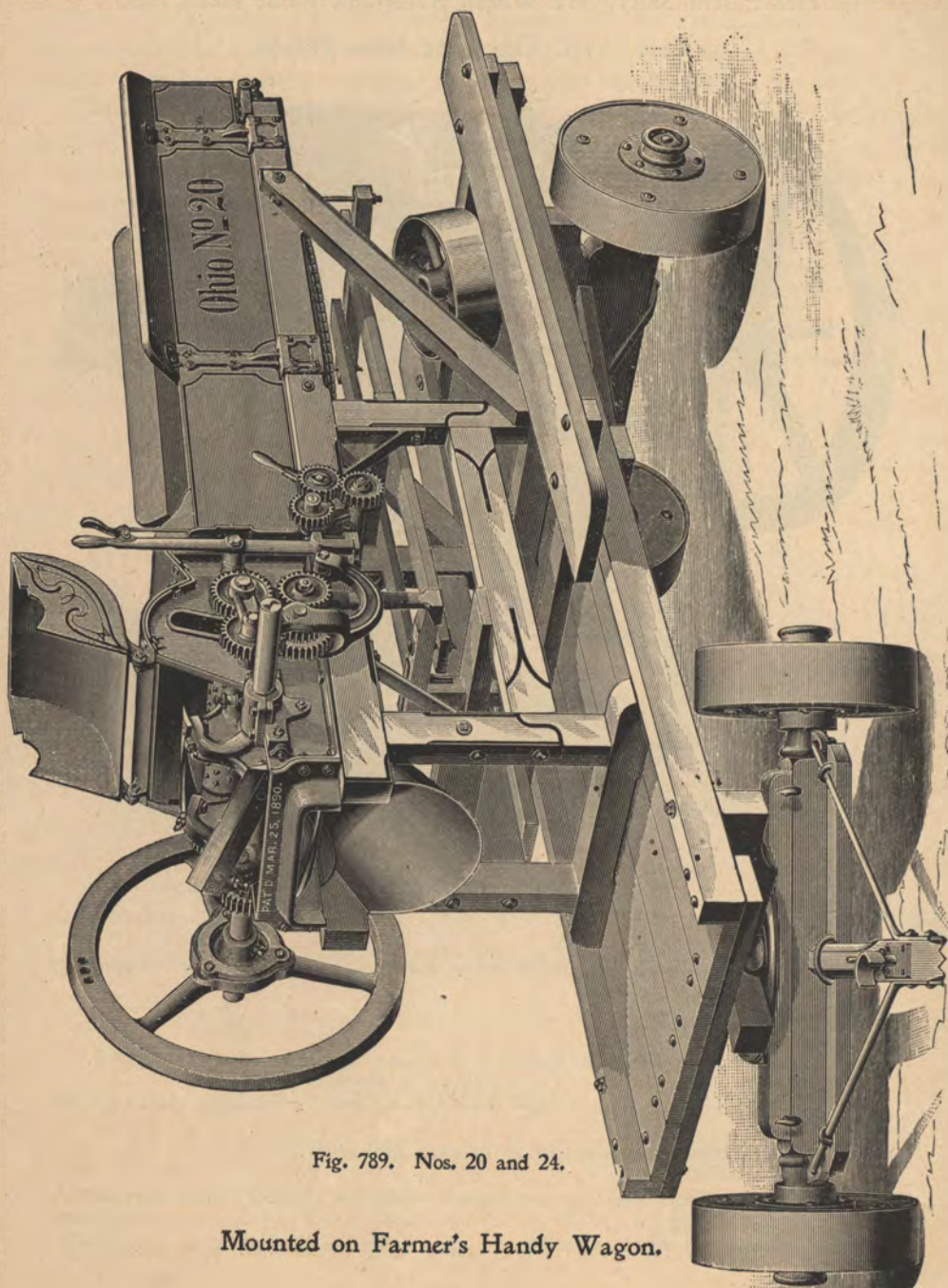


Fig. 789. Nos. 20 and 24.

Mounted on Farmer's Handy Wagon.

Description and Prices.

Has Extended Table and Traveling Feed Apron.

This is a fine view of the regular No. 20 Cutter with extended table and traveling self-feed apron, mounted on the Farmer's Handy Wagon, built especially for this purpose. No. 20 and No. 24 are both made with extended table and self-feed apron, and are furnished with or without trucks, as desired. The wagon is supplied with a substantial platform, $3\frac{1}{2} \times 12$ feet, made of two-inch oak and has an elevated platform on either side of the machine for the feeder to stand on.

The platform is built by ourselves and is made to special pattern to receive and hold the machine permanently to place. It stands $26\frac{1}{2}$ inches high, measuring from the ground to the top of platform.

When the machine is located outside of the barn, it is recommended to dig holes and let the wheels into the ground about ten inches. This lowers the cutter to the proper elevation to receive corn from the wagon and permanently locates it so that it stands steady while cutting.

Now, about the machine. The substantial construction, convenience of operation, large capacity and other good points are well known in the extensive use of Fig. 787, Nos. 20 and 24.

But this machine is provided with extended table, traveling feed apron and throw-out lever to stop the apron. This, coupled with the new spike roller, the splendid feeding facilities, the throw-out lever belonging to the feed rolls, makes this machine not only a positive self-feeder, but gives it very much the largest capacity of any cutter of its size.

Without the traveling apron the feeder is obliged to be pushing the heavy corn continually to get it started through the rolls. With this machine it is only necessary to receive the bundles from the man on the wagon, cut the band, shake the bundle out, and it travels through. If the corn comes loose it is only necessary to throw it onto the table, straighten it out and it travels through.

The capacity is increased about one-third over the regular Fig. 787.

We want to direct the attention of large stock feeders, extensive dairymen, clubs of farmers intending to purchase a machine and cut for each other, threshermen, and the general public to this machine.

It is especially recommended for cutting ensilage, but is as well adapted to cutting dry corn fodder, oats and hay, either baled or loose, tobacco, rags or straw for paper, and all materials that usually go to a machine of this kind.

DIMENSIONS.

Length of knives, No. 20, 20 inches; No. 24, 24 inches.

Steel knife shaft, 2 inches diameter (both sizes).

Cuts with four knives $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1 inch (both sizes).

Cuts with two knives $\frac{1}{2}$, 1, $1\frac{1}{2}$, 2 inches (both sizes).

(To cut the longer lengths detach two alternate knives.)

Size of pulleys, 18 inches diameter, 6-inch face.

Speed, 500 to 700 revolutions per minute.

Power to run to full capacity, 8 to 12 horse engine.

Capacity, No. 20, 16 to 20 tons; No. 24, 20 to 26 tons ensilage per hour.

Weight, including trucks, No. 20, 2,750 lbs.; No. 24, 2,950 lbs.

SIZES AND PRICES.

No. 20.	With four knives, 20 inches long (including trucks)	\$335.00—Rutsch.
No. 24.	With four knives, 24 inches long (including trucks)	385.00—Rutschbahn.
	Reversible carrier, 12 feet long or under (right, left or straight-away) .	45.00—Rutschbroz.
	Straight-delivery carrier without reversible attachments	39.40—Rutschen.
	Carrier, extra, over 12 feet long, per foot	2.25—Rutschiger.

Shredder cylinder to interchange with knife cylinder, listed on another page.

"Ohio" Standard Self-Feed Ensilage Cutter.

With Extended Table and Traveling Feed Apron.

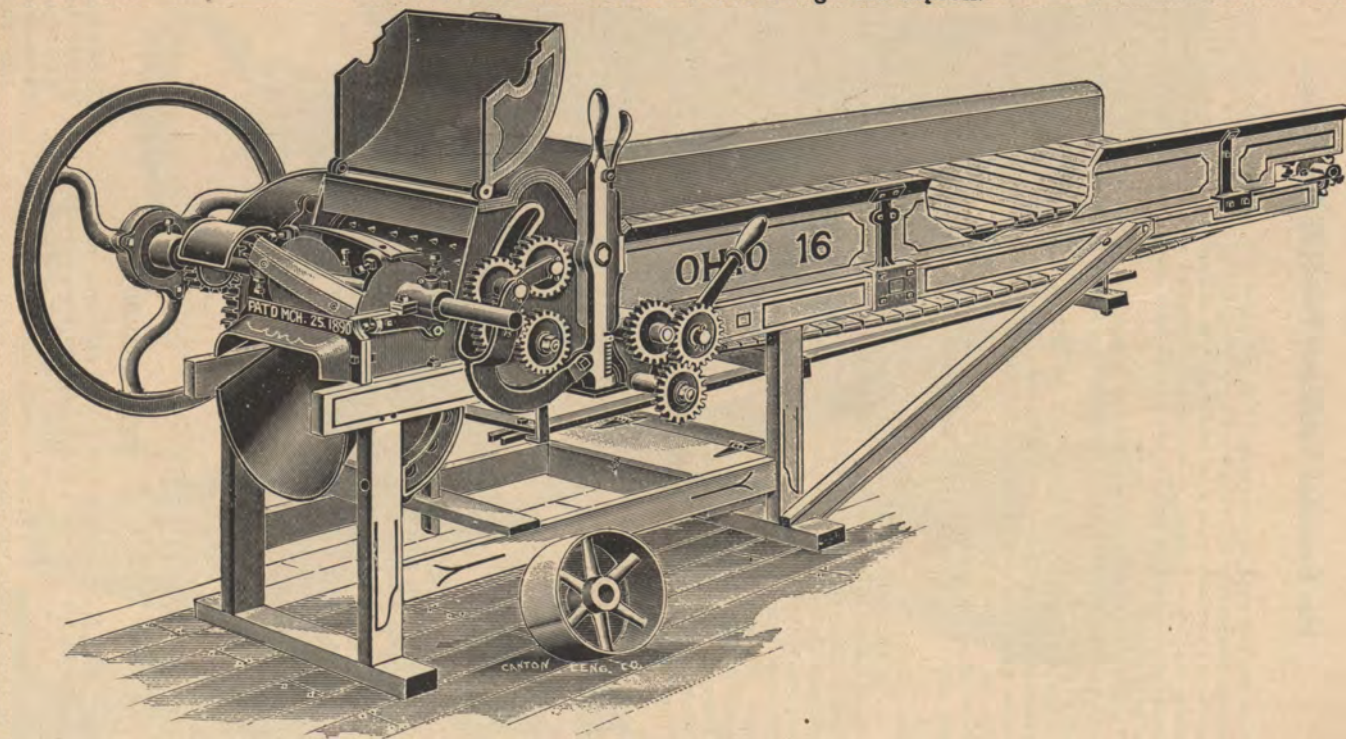


Fig. 785. Nos. 13, 16, 18, 20, 24.

Description and Price List.

This is the "Ohio" No. 16 Ensilage Cutter with traveling feed table. It is a perfect machine for cutting ensilage and dry feed. Cutting ensilage with this machine requires one man to throw off the wagon, one man to help throw off and to attend to the machine. One or two men constantly pushing to get the fodder started is not necessary. The only point is to get it to the machine—it goes through itself. It will cut $33\frac{1}{3}$ per cent. more than the regular machine and saves 75 per cent. of the feeder's time and labor. This keeps the teams and every one helping closer at work. It is made in sizes Nos. 13, 16, 18, 20 and 24.

The general design of the machine is the same as the regular standard cutter. It differs in respect to the feed table, which in this machine is extended to a total length of eight feet. The regular frame is used and the rear end is supported by strong braces as shown. By this method an old machine can be changed to one of this design at a small expenditure.

The feed table is supplied with a continuous traveling chain or belt apron which converts the machine into a self-feeder. The traveling apron is driven by chain and sprocket wheels and is under control of the feeder by means of the throw-out lever located just in the rear of the lever that controls the feed rolls. The apron travels on five pairs of sprocket wheels, which is a guarantee against wear.

The throw-out levers are strong points of advantage, as it is well known to parties familiar in the use of such machines, that occasionally a pitchfork, horseshoe or some other foreign substance mysteriously strays into the machine, and about the time it reaches the knives the feeder has only to catch the levers and throw the feed out.

The continuous belt is made of the slat attachments of the link belt chain, a slat to every link, and carries the material to the feed rolls perfectly.

These machines were favorably received and are well liked. During the past season more than one-half the orders for ensilage cutters specified this style.

When this machine is cutting ensilage there is usually a large force of men and teams employed. To keep everything moving, and get best possible results, it is recommended to use a good, strong engine to drive the machine.

SIZES AND PRICES.

No.	Number Knives.	Length Knives, Inches.	Lengths of Cut, Inch.	Capacity Ensilage Per Hour, Tons.	Power to Run Full Capacity, Horse-Power.	Price.	Cipher.
13	4	13	$\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1	5 to 8	4 to 6	\$ 95.00	Rutílos.
16	4	16	$\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1	8 to 10	6 to 8	120.00	Rutinarias.
18	4	18	$\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1	10 to 13	6 to 10	155.00	Rutinario.
20	4	20	$\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1	15 to 20	8 to 12	250.00	Rutinera.
24	4	24	$\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1	20 to 25	10 to 12	300.00	Rutineros.

For carriers and shredder cylinders, see following pages.

Description.

At the earnest solicitation of our friends and patrons to furnish a Shredder Head for dry corn fodder that would interchange with the knife cylinder in the "Ohio" line of feed and ensilage cutters, we have designed a cylinder as illustrated here. The engraving shows that it is placed in the No. 16 cutter and is ready for use.

By this construction, new machines can be ordered at any time with one or both cylinders, and customers using machines with knife cylinders in, can at any time order shredder cylinders for them, and interchange.

The knife cylinders are used on ensilage, hay, straw, and by a great many on corn fodder. The shredder cylinders are for dry corn fodder. We can furnish shredder cylinders for "Ohio" cutters Nos. 11, 13, 16, 18, 20 and 24.

The shredder head consists of a steel shaft same diameter as in the Ohio cutters, cast iron heads, steel shredder teeth, new fly wheel and pulley. The cast iron heads interlock with each other, and the outer ones are securely keyed to the shaft. Each head has six steel shredder teeth, which are fitted into sockets and securely riveted to the heads. The fly wheel is solid, as shown, and is about 20 inches diameter and perfectly balanced. The pulley is six inches diameter, which will enable the user to attain a high rate of speed.

The teeth are set so that when they pass the cutter bar there is one-eighth inch clearance between them, and they cover the entire length of the cutter bar. From the description it will be seen that the shredder head is made up of a number of parts; therefore, in case of breakage, the necessary parts can be furnished at a trifling cost, and the cylinder is not entirely destroyed, as is the case with some other makes.

The shredder teeth are not sharp like knives, as the fodder is to be torn apart and not cut. We are told by farmers that shredded fodder has advantages over cut fodder, inasmuch as cattle will eat it better and it can be handled to better advantage than cut fodder.

We are the largest manufacturers of ensilage and fodder cutters in the world, and the knowledge we have gained from experience, enables us to put a shredder in the hands of the farmer at a nominal cost, and which we can recommend to give satisfaction. We do not recommend the shredder for cutting ensilage, as we know there is nothing as good for this class of work as a large, strong, spiral knife cutter.

In order to shred the fodder satisfactorily, the machine must be speeded up to ten or twelve hundred revolutions per minute, and also the new fly wheel, as shown in the engraving, must be used, instead of the fly wheel belonging to the Ohio cutter, for the reason that it will not be safe to run the old fly wheel fast enough to shred fodder.

NOTE.—When it is desired to use a shredder cylinder in a machine marked "Improved 1899," remove the front plate and substitute plate marked "Shredder Plate."

“Ohio” Dry Fodder Shredder.

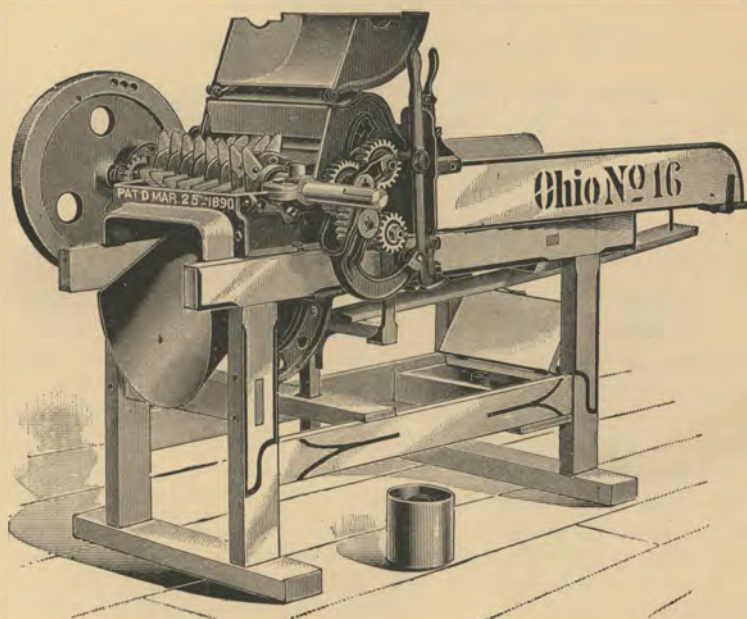


Fig. 800.

SIZES AND PRICES OF MACHINES.

No. 11.	Shredder cylinder, solid fly wheel, 6-inch pulley.	\$45.00—Rutunium.
No. 13.	Shredder cylinder, solid fly wheel, 6-inch pulley.	65.00—Rututae.
No. 16.	Shredder cylinder, solid fly wheel, 6-inch pulley.	90.00—Rutupinus.
No. 18.	Shredder cylinder, solid fly wheel, 6-inch pulley	120.00—Rutylene.
No. 20.	Shredder cylinder, regular fly wheel, small pulley	200.00—Ruunt.
No. 24.	Shredder cylinder, regular fly wheel, small pulley.	250.00—Ruvidetto.

SIZES AND PRICES SHREDDER CYLINDERS.

No. 11.	Shredder cylinder, including fly wheel and pulley	\$25.00—Ruvidezza.
No. 13.	Shredder cylinder, including fly wheel and pulley	28.00—Ruvidita.
No. 16.	Shredder cylinder, including fly wheel and pulley	30.00—Ruvinho.
No. 18.	Shredder cylinder, including fly wheel and pulley	32.00—Ruvistico.
No. 20.	Shredder cylinder, including pulley, no fly wheel	50.00—Ruwaard.
No. 24.	Shredder cylinder, including pulley, no fly wheel	55.00—Ruwharig.

Speed, 1,000 to 1,200 revolutions per minute.

We cannot guarantee satisfactory results unless the machine is speeded close to 1,200 revolutions.

Description of Carriers or Elevators for Power Cutters.

When ordered, we furnish carriers for Nos. 11, 13, 16 and 18 "Ohio" Standard Cutters, and the "Ohio" Special Ensilage Cutters, Nos. 20 and 24, which adapt them for elevating the material after it is cut. The use of the carrier in connection with feed cutters, to elevate dry fodder into bins, lofts, etc., as well as green fodder into the silo, is daily increasing. It serves to keep the fodder away from the front of the machine, and by delivering it directly into the storehouse dispenses with one or two hands, which is a great saving to the operator. We consider the carrier indispensable where large quantities of fodder are to be cut. Our carriers are well made, of the best materials, and give perfect satisfaction.

Illustrations on preceding pages show the different styles of elevators connected to the machines; that is, the right and left-angle deliveries, and straight-away. Instead of the narrow wood-slat buckets on the plain slat carriers, and the wood-slat and metal-strip buckets on the bucket carriers, metal-strip buckets two inches high are now used.

The metal-strip bucket enables us to do away with the bucket carrier, and we have substituted in its place an efficient and well designed swivel carrier which is listed on the next page. It is made only for Nos. 13, 16 and 18 cutters. It is neat and compact in form, and all the parts except drive sprockets are enclosed in a metal case, which makes the bearings rigid and keeps the dirt out, and thus insures light draft.

Owing to the compact form of the swivel carrier, it is easier to set up and attach to machines, and lessens the labor of moving from place to place materially.

When it is necessary to set the carrier steeper than 55 or 60 degrees elevation, it is recommended to use a cover, which can be furnished at a slight additional cost.

As now made, the same size carrier is used for either Nos. 13, 16 or 18. This enables the merchant to carry a much more complete stock of carriers at a smaller investment. The illustrations of Nos. 16 and 18 show the present construction of the angle carrier at the bottom. It will be seen that there is a metal hood or tail piece that catches all the fodder as it comes from the machine and conducts it into the carrier.

The right or left-delivery carrier will elevate to an angle of about 60 degrees on the fly wheel side of the machine and a little better than 70 degrees on the reverse side. This applies to the plain carrier. The straight-away carrier will raise almost perpendicular. All carriers are made reversible, that is, for right or left-angle delivery or straight-away, unless otherwise ordered.

The knife shaft of the machine is extended on both sides so that the fly wheel or pulley can be placed on either side. This is of material benefit to the operator, as it frequently avoids changing the engine or power and aids in locating the power, cutter, etc.

We recommend the use of the straight-delivery carrier where the space and surroundings will admit.

To ascertain the height of carrier, add 40 per cent. to the perpendicular height from point where cutter stands to opening in silo. This is right when the carrier is to stand at an angle of about 45 degrees.

Metal-Strip Reversible Carriers.

Straight and Angle Delivery, or Straight-Away.

SIZES AND PRICES.

No. 11 Cutter, 12 feet long	\$33.75.	Over 12 feet long, extra per foot . . .	\$ 1.70
No. 13 Cutter, 12 feet long	37.00.	Over 12 feet long, extra per foot . . .	1.70
No. 16 Cutter, 12 feet long	37.00.	Over 12 feet long, extra per foot . . .	1.70
No. 18 Cutter, 12 feet long	37.00.	Over 12 feet long, extra per foot . . .	1.70
No. 20 Cutter, 12 feet long	45.00.	Over 12 feet long, extra per foot . . .	2.25
No. 24 Cutter, 12 feet long	45.00.	Over 12 feet long, extra per foot . . .	2.25

If wanted without angle delivery attachments, deduct:

From Nos. 11, 13, 16 and 18 list	\$ 3.50
From Nos. 20 and 24 list	5.60

New Metal-Strip Swivel Carriers.

SIZES AND PRICES.

No. 13 Cutter, 12 feet long	\$45.00.	Over 12 feet long, extra per foot . . .	\$ 1.70
No. 16 Cutter, 12 feet long	45.00.	Over 12 feet long, extra per foot . . .	1.70
No. 18 Cutter, 12 feet long	45.00.	Over 12 feet long, extra per foot . . .	1.70

Prices of Wood Cover with Hooks and Eyes to Fasten, Either Style Carrier.

No. 11, per running foot.	\$0.20
No. 13, per running foot.	.25
No. 16, per running foot.	.25
No. 18, per running foot.	.25
No. 20, per running foot.	.35
No. 24, per running foot.	.35

Swivel carrier made only for sizes listed.

Vertical Engine and Boiler.

Separate and Combined.

SIZES, PRICES AND SPECIFICATIONS.

Horse-Power.		Bore Cylinder.	Pulley.	Speed.	Boiler.		Combined Weight.	Price of Engine.	Price of Boiler.	Combined Price.	Cipher.
Eng.	Boiler.				Dia.	H'gt.					
1	1½	2½x3	3¼x6	400	20 in.	18 in.	645	\$ 52.75	\$ 50.75	\$103.50	Ruwheid.
2	4	3 x5	4½x10	350	24 "	32 "	1165	58.50	76.00	134.50	Ruwkruid.
4	6	4 x5	5 x12	300	26 "	38 "	1725	75.00	98.00	173.00	Ruwlokkig.
6	8	5 x7½	6½x14	250	30 "	36 "	2250	100.00	113.50	213.50	Ruwsmid.
8	10	6 x7½	6½x14	200	30 "	48 "	2500	116.50	125.75	242.25	Ruwwerker.
10	12	7½x8	7½x16	200	36 "	48 "	3600	141.50	152.00	293.50	Ruzafas.
12	14	7½x9	8½x18	180	36 "	56 "	3940	153.50	175.00	328.50	Ruziemaker.
12	16	7½x9	8½x18	180	36 "	64 "	4420	153.50	190.00	343.50	Ruzzamento.

Engine and boiler furnished with independent or combined base. Price includes all necessary trimmings to make the engine and boiler complete.

DIMENSIONS OF VERTICAL ENGINES. (Ryptica.)

RATED HORSE-POWER.....	1	2	4	6	8	10	12
CYLINDER, { Bore.....	2½ in.	3 in.	4 in.	5 in.	6 in.	7½ in.	7½ in.
{ Stroke.....	3 "	5 "	5 "	7½ "	8 "	8 "	9 "
Steam pipe.....	¾ "	1 "	¾ "	1 "	1½ "	1½ "	1½ "
Exhaust pipe.....	½ "	¾ "	1 "	1½ "	1½ "	2 "	2 "
Revolutions per minute.....	400	350	300	250	200	200	180
BALANCE { Diameter.....	13 "	15 "	17 "	24 "	24 "	30 "	30 "
{ Face.....	3½ "	4 "	4½ "	6 "	6 "	6½ "	6½ "
WHEEL, { Weight in lbs.	35	45	65	170	170	180	180
BELT PULLEY, { Diameter.....	6 "	10 "	12 "	14 "	14 "	16 "	18 "
{ Face.....	3½ "	4½ "	5 "	6½ "	6½ "	7½ "	8½ "
GOVERNOR { Diameter.....	3 "	4 "	4½ "	5½ "	6½ "	9 "	9 "
{ Face.....	1½ "	1½ "	1½ "	1½ "	1½ "	2 "	2 "
PULLEY, { Diameter.....	1½ "	1½ "	1½ "	1½ "	1½ "	2½ "	2½ "
Diameter of shaft.....	1½ "	1½ "	1½ "	1½ "	1½ "	2½ "	2½ "
Floor space, inches.....	14 x 26	18 x 20	18 x 20	20 x 22	20 x 22	22 x 24	22 x 24
Height to top of cylinder.....	30 in.	3 ft. 6 in.	3 ft. 6 in.	4 ft. 8 in.	4 ft. 10 in.	5 ft. 2 in.	5 ft. 3 in.
Weight.....	170	275	425	700	850	1250	1400

Regular Trimmings. Governor, governor belt, throttle valve and cylinder cocks, lubricator, full set of oil cups and wrenches.

All sizes above 6 H.-P. have sight-feed lubricators, nickel-plated glass oil cups and safety crank-pin oiler.

The 1 H.-P. is built side-crank, with outboard bearing; all other sizes, center-crank with double disc.

SPECIFICATIONS OF PLAIN VERTICAL BOILERS. (Ryssato.)

RATED HORSE-POWER.....	1½	4	6	8	10	12	14	16
Diameter of boiler, in inches.....	20	24	26	30	30	36	36	36
Height above base, in inches.....	36	50	60	60	72	72	84	96
Diameter of furnace, in inches.....	16	21	22	25	25	30	30	30
Height of furnace, in inches.....	18	18	22	24	24	24	28	32
Thickness of steel in shell.....	¼	¼	¼	¼	¼	¼	¼	¼
Thickness of steel in heads.....	½	½	½	½	½	¾	¾	¾
Thickness of steel in fire-box.....	½	½	½	½	½	¾	¾	¾
Length of tubes, in inches.....	18	32	38	36	48	48	56	64
Number of 2-inch tubes.....	16	31	37	43	43	55	55	55
Weight of boiler, without trimmings or fixtures.....	325	640	840	1010	1180	1520	1800	2280
Outside diameter of stack opening, inches.....	8½	10	11	12½	12½	12½	12½	12½
Height from floor to top of hood.....	4 ft. 2 in.	5 ft. 6 in.	6 ft. 4 in.	6 ft. 4 in.	7 ft. 10 in.	8 ft. 2 in.	9 ft.	10 ft.

Cast Fixtures. Base, hood, fire door and grates.

Trimmings. Injector fitted, steam gauge, water gauge, gauge cocks, safety valve, blow-off, check and stop valves.

All boilers above 26 inches in diameter have vertical seams double riveted. They are made of flange steel, 60,000 lbs. T. S., and are tested to 160 lbs. hydraulic pressure.

Combined Vertical Engine and Boiler.

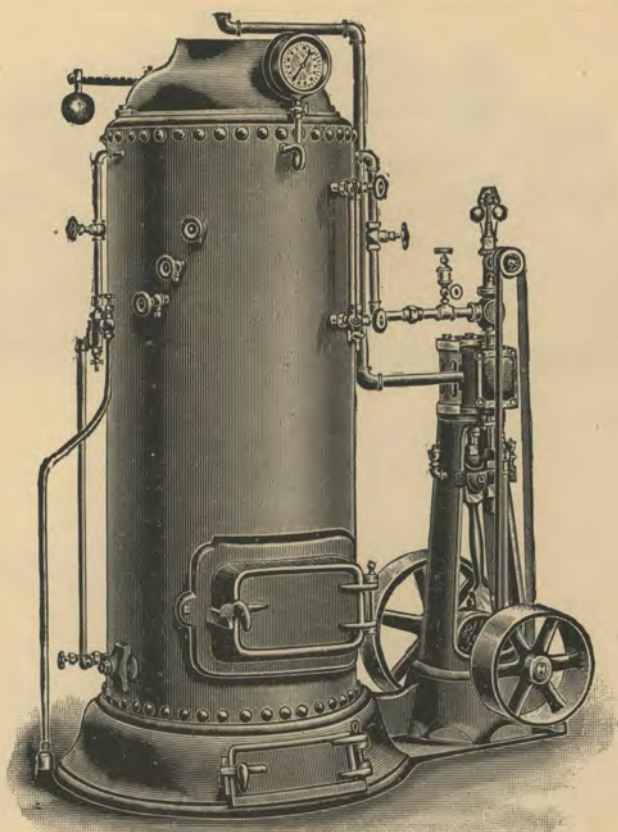


Fig. 705.

A strong, simple, yet efficient and durable engine and boiler combined. The engine is well made and nicely balanced, and the boiler is tested to one hundred and fifty pounds hydrostatic pressure. No masonry foundation or extra care required in setting up, which saves expense to buyer. Every engine run and tested under actual working pressure before leaving shop, and known to be in perfect working order. The great power attained from this pattern engine is owing to the high rate of speed at which it can be run, which gives it preference among careful buyers.

Particularly adapted for running ensilage and feed cutters, and cream separators, as well as general farm work where steam power is required.

Steam from boiler is very useful—in fact, next thing to necessary—for use in washing and cleaning milk cans, pans, or anything that milk comes in contact with.

Geared Sweep Horse-Power.

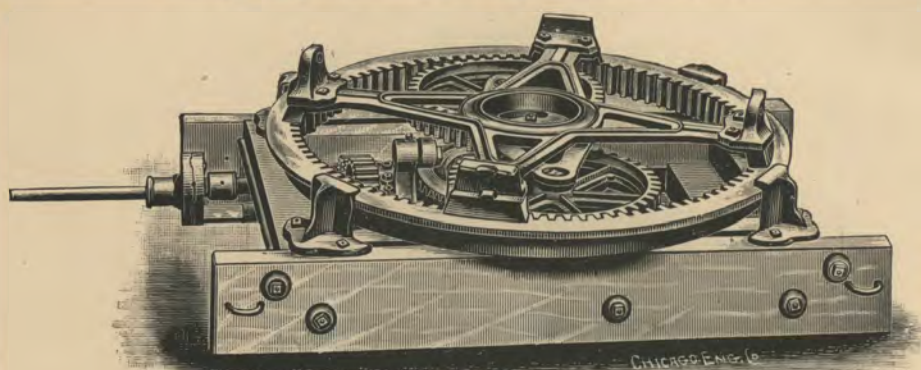


Fig. 702.

Above cut represents our improved horse-power for operating feed cutters, feed mills, corn shellers, etc. We make two sizes, viz.: for two horses and for four horses, respectively. The cut shows the two horse-power. The four horse-power has a speed of fifty revolutions to one round of horse, or about one hundred and fifty revolutions of tumbling rod per minute. When greater speed is required, the "power jacks" may be used. The horses ordinarily make about three rounds per minute.

SIZES AND PRICES.

Size.	Furnished With	Tumbling Rod Revolves, to One Revolution of Master Wheel,	Weight.	Price.
2 Horse-power.	2 levers, 2 lead bars, 2 tumbling rods, 1 ground block, 3 knuckles, etc.	28 times.	600 lbs.	\$50.00, Saadja
4 Horse-power.	2 levers with spring hitches, 2 lead bars, 1 tumbling rod, 1 ground block, 1 pulley, 2 stay rods for levers, 2 knuckles, stakes, etc.	50 times.	1000 lbs.	75.00, Saathai

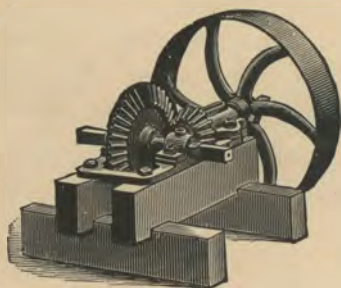


Fig. 704.

BEVEL AND SPUR GEARED POWER JACKS.

SIZES AND PRICES.

Adapted For	Pulley Revolves, to One Revolution of Tumbling Rod,	Price.
2 Horse-power.	$2\frac{1}{4}$ times.	\$10.00, Saatiwever
4 Horse-power.	$2\frac{3}{4}$ times.	18.00, Saalbau

The above cut represents our Bevel Gear Jack, for increasing speed and transmitting power by belt. The Spur Gear Jack transmits the motion at a right angle with the tumbling rod, and the Bevel Gear Jack transmits the motion in a line with the tumbling rod.

Sweep Feed Mill.

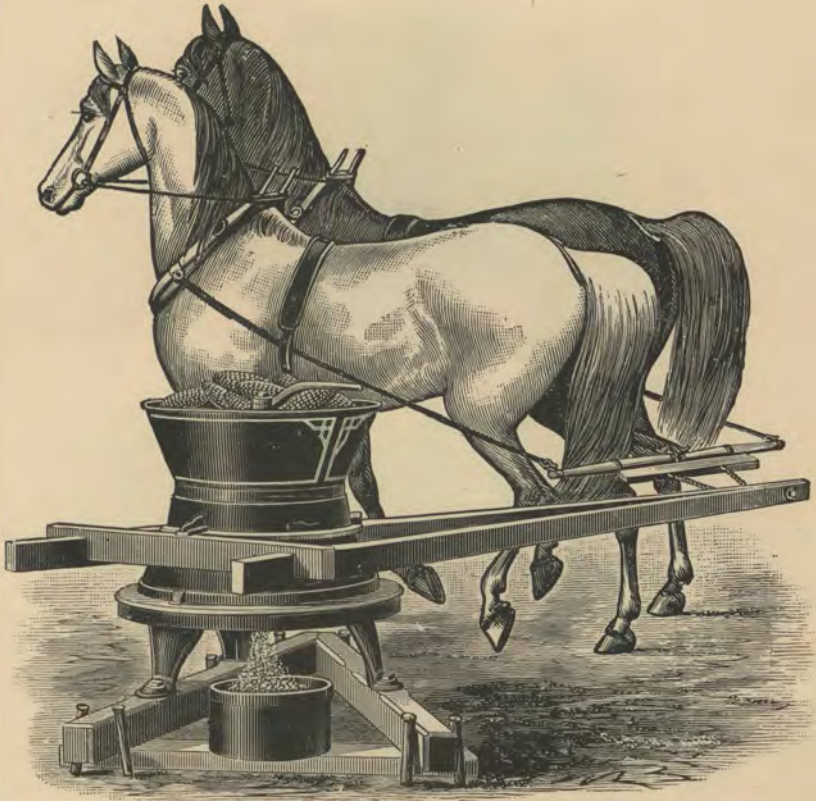


Fig. 834.

This mill will grind all kinds of grain as well as corn with the cob, oats, rye, etc., mixed, and is particularly adapted for those wishing to grind their own feed to save time and tollage, without making much of an investment. By a recent improvement, the sweeps are now made to attach directly to the revolving hopper by adjusting only one bolt, which is quickly done and makes a positive attachment. Under ordinary conditions, from 6 to 8 bushels of grain can be ground per hour, and one good horse will be found sufficient power, unless the grain be damp or unfit for grinding.

We always furnish two sets of grinding plates with these mills. The ones in the mill will grind any kind of grain fine enough for any purpose, and the extra ones are for damp grain or coarse grinding.

SIZE AND PRICE.

Price, with two sets of plates, weight 400 pounds	\$30.00—Ruzziamo.
Price, extra grinding plates, per set	2.50—Ruzzolammo.

Daisy Power Grinder.

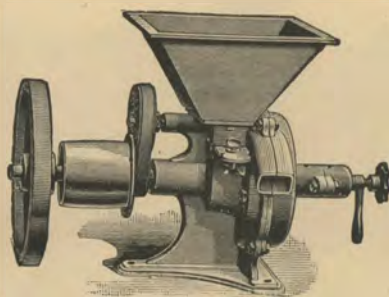


Fig. 833.

This is a new mill, smaller than Fig. 835, and is designed for farmers feeding from twenty-five to fifty animals. Will grind corn meal, chop, cotton seed or any kind of small grain, and will grind it fine or coarse. The mill is not provided with cob crusher and is not suited to grind ear corn or cob.

Has long bearings, best quality babbitt boxes, turned pulley 5x5 inches, balanced fly wheel, and is in every way thoroughly first class.

The diameter of the grinding plates is 9 inches, and each mill is supplied with one extra set of plates without additional cost.

Power, four to eight-horse engine, or can be run successfully by tread or sweep horse-power.

Capacity, twenty to forty bushels per hour, according to power applied and condition of the grain.

Speed, 1,200 to 1,800 revolutions per minute.

Weight, 200 pounds.

SIZE AND PRICE.

No. 0. Pulley, 5-inch diameter, 5-inch face \$30.00—Ruzzare.

Power Feed Grinder.

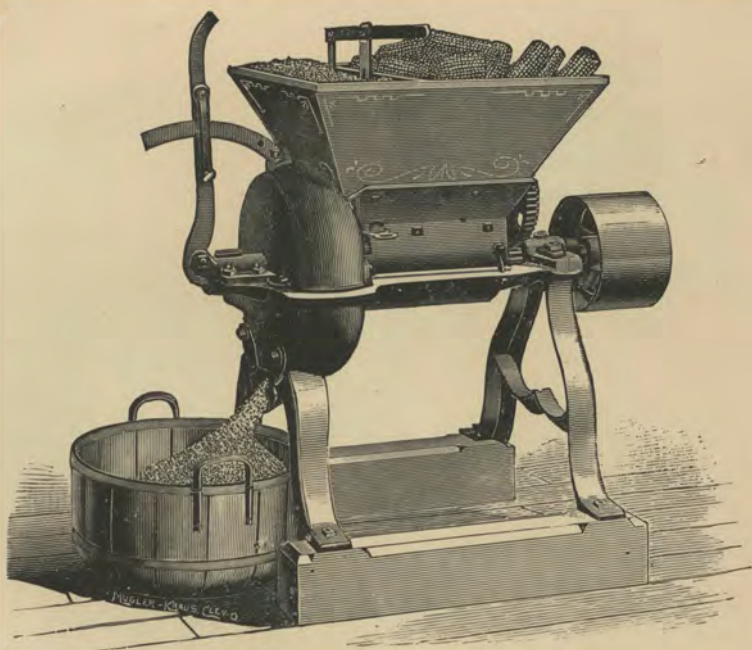


Fig. 835.

This is our Power Feed Grinder, which is constructed on thorough mechanical principles, and we confidently believe it is the only mill that will grind two different kinds of grain at the same time successfully, and do equally as good work when grinding one kind alone. There is a partition in the hopper and the feeding device for each apartment can be so adjusted that it requires no more attention than an ordinary mill. It can be regulated to feed from either side so the grain will be ground fine or coarse, as desired. The regulating device also works automatically and in case any hard substance should get into the grinding plates they will separate and allow it to pass through without damage.

Made in two sizes: No. 1 with 12-inch grinding plates, suitable for engines from 6 to 10 horse-power, should be run about 1,000 revolutions per minute, and No. 2 with 14-inch grinder plates, suitable for engines from 10 to 16 horse-power, should be run about 900 revolutions per minute. Two sets of grinding plates with each mill.

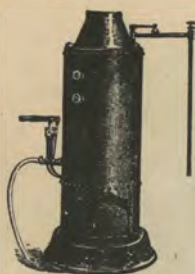
Capacity: No. 1, 20 to 40 bushels per hour; No. 2, 30 to 50 bushels per hour. The capacity and successful operation of the mill vary according to the condition of the grain. The grain should be dry and hard.

SIZES AND PRICES.

- | | | |
|--------|---|------------------|
| No. 1. | With 12-inch grinding plates, weight 390 pounds | \$55.00—Ruzzava. |
| No. 2. | With 14-inch grinding plates, weight 440 pounds | 60.00—Ryffel. |

Can furnish pulleys 8 to 14 inches in diameter, but always send 10-inch unless otherwise ordered.

Boiler or Steam Feed Cooker.



Steel boiler with lap welded flues, well riveted and corked, capable of standing hydraulic pressure of 150 pounds, and carrying steam pressure 100 pounds to the square inch. Fire box provided with grates which are adapted to burning all kinds of fuel, such as wood, coal, corn-cobs, etc.

It will cook or steam any kind of feed placed in a barrel or vat, with but little care and without danger of burning, thus overcoming objections to kettle or caldron. It will steam moldy hay and corn perfectly sweet; steam dry corn stalks and straw so they will become soft and palatable, and cook potatoes so as to render them digestible and valuable for feed. It will enable a farmer to

save one-third to one-half of his corn and other feed, and at the same time make his stock thrive better. It will save labor in feeding rather than increase it, as stock fatten much faster when their feed is cooked.

In addition to above, the boiler can be used for heating water for a variety of purposes, for steaming casks and milk cans, steaming wood for bending, heating cheese vats, steaming wheat, ordering tobacco, etc.

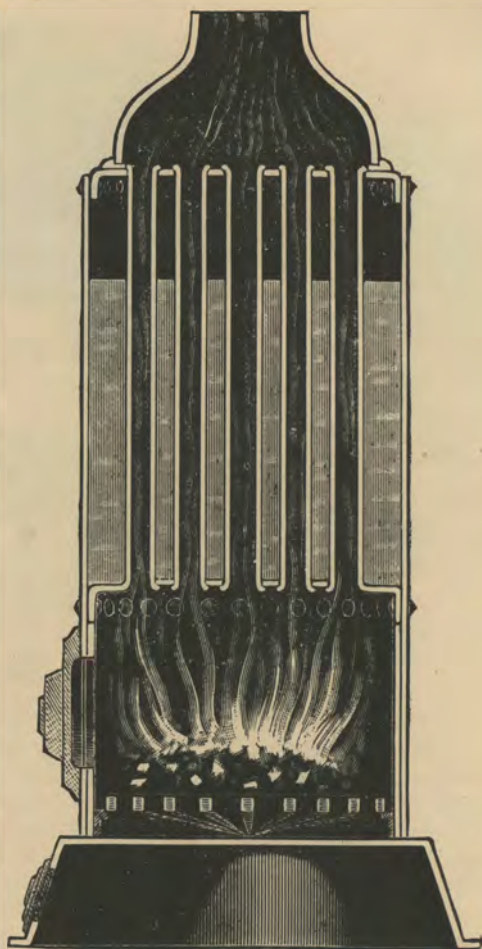


Fig. 840.

SIZES AND PRICES.

- No. 1. 19-inch shell; height over all, 54 inches; 9 flues; 325 pounds. \$40.00—Ruzzolando.
No. 2. 19-inch shell; height over all, 58 inches; 13 flues; 370 pounds. 45.00—Ruzzolassi.

Price includes two gauge cocks, blow-off cock, pump, safety valve, two feet 6-inch suction hose, three feet steam pipe, with valve to convey steam to barrel or vat.

"OHIO" STANDARD

SELF-FEED ❁ ❁ ❁ ❁

ENSILAGE CUTTER.



A PERFECT MACHINE FOR CUTTING ENSILAGE
AND DRY FEED.

Cutting ensilage with this machine requires one man to throw off the wagon, and another man to help throw off and attend the machine. Does not require one or two men constantly pushing to get the fodder started. The only point is to get it to the machine—it goes through itself.

Will cut $33\frac{1}{3}$ per cent. more than regular machine and save 75 per cent. of the feeder's time and labor. This keeps the teams and everyone helping on the move.

Prof. Woll's "A BOOK ON SILAGE," 10 Cents.