

Empire Vertical Automatic Engines and Boilers.

No. of Engine.....	2	3	4	5	6
Horse Power.....	5	7	9	10	15
Size of Cylinder.....	4x6	5x7	6x8	6x8	7x9
Size of Pulley.....	24x5	28x6	30x7	30x7	36x8
Revolutions per Minute.....	275	250	225	225	200
Size of Boiler.....	24x54	30x60	30x66	30x72	36x84
Number and Size of Tubes.....	35-2"	55-2"	55-2"	55-2"	68-2"
We ght on Base Plate.....	1500	2100	2500	2600	3500
Weight on 4 wheel truck.....	2000	2700	3200		
Price on Base Plate.....	\$265.00	\$340.00		\$435.00	\$550.00
Price on Truck.....	\$300.00	\$380.00	\$475.00		

Horizontal Centre Crank Automatic Engines on Cornish Boilers.

Number of Engine.....	5	6	7
Horse Power.....	8 to 10	12 to 15	18 to 20
Size of Cylinder.....	6x8	7x9	8x10
Size of Fly Wheel and Pulley.....	30x7	36x8	42x10
Revolutions per Minute.....	225	200	175
Size of Boilers.....	36x72	36x96	42x108
Price on Sills.....	\$475.00	\$550.00	\$750.00
Price on Wagon.....	\$550.00	\$625.00	\$850.00

Price for Brake to either Horizontal or Vertical Engine.....\$7.00

Horizontal Automatic Engines. No Boilers.

[The No. 5 and 6 are Centre Crank, and the No. 7 and 8 are Side Crank.]

Number of Engine.....	5	6	7	8
Horse Power.....	8 to 10	12 to 15	18 to 20	20 to 25
Size of Cylinder.....	6x8	7x9	8x10	9x12
Size of Fly Wheel and Pulley.....	30x7	36x8	42x10	48x12
Revolutions per minute.....	225	200	175	150
Size of Steam Pipe.....	1 1/2"	2"	2 1/2"	3"
Size of Exhaust Pipe.....	1 1/2"	2"	2 1/2"	3"
Price.....	\$250.00	\$300.00	\$400.00	\$500.00

Vertical Automatic Engines. No Boilers.

No. of Engine.....	1	2	3	4	6	7
Horse Power.....	3 to 4	4 to 5	6 to 7	9 to 10	12 to 15	18 to 20
Size of Cylinder.....	3 1/2 x 5	4x6	5x7	6x8	7x9	8x10
Size of Pulley.....	18x4	20x5	24x6	30x7	30x8	42x10
Revolutions per Minute.....	300	275	250	230	230	200
Size of Steam Pipe.....	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/4"
With Oil Cups complete..	\$130.00	\$150.00	\$180.00	\$250.00	\$300.00	\$400.00

HOW TO ORDER.

A hearty welcome is extended to those who may desire to call in person to see our stock of implements.

We assure our patrons when they cannot arrange for a personal visit, that their orders by mail will have the same prompt and careful attention as if delivered in person. Full shipping directions should accompany each order, with Post-office and Railroad Station plainly written.

TERMS.

Our terms of payment are one-fourth cash, the balance in approved bankable notes, bearing interest, and payable in three months, or such time as may be agreed upon.

If payment is to be made in notes, satisfactory business reference must be given with the order.

No notes accepted from parties not responsible, unless amply secured by good endorsers or otherwise.

We allow a discount of..... per cent. for cash with the order or will send any of our machines on ten days' trial, on receipt of satisfactory reference.

S. S. MESSINGER & SON.

RETAIL PRICE LIST

OF

Agricultural Implements

MANUFACTURED BY

S. S. MESSINGER & SON

Tatamy, Northampton County, Pa.

TELEPHONE CALL 982.

TELEGRAPHIC ADDRESS, EASTON, PA.

Mowers, Reapers and Horse Rakes.

Empire Mower, 4 ft. cut, 2 sets Knives, Oil Can, Wrench, extra Guard and Sections.....	\$ 50 00
Empire Mower, 4 ft. 3 in. cut, 2 sets of Knives, Oil Can, Wrench, extra Guard and Sections.....	51 00
Empire Mower, 4 ft. 6 in. cut, 2 sets of Knives, Oil Can, Wrench, extra Guard and Sections.....	52 00
Empire Mower, 5 ft. cut, 2 sets of Knives, Oil Can, Wrench, extra Guard and Sections.....	55 00
Empire Combined Mower and Reaper, with Dropper, 1 Cutter Bar, 2 sets Knives, and extras.....	70 00
Empire Combined Mower and Reaper, with Dropper, 2 Cutter Bars, 3 Knives, extra Guard, Oil Can, Wrench and Sections.....	85 00
Empire Hay Rake, self dump.....	28 00
Empire Hay Rake, hand dump.....	25 00

Tread Powers.

Empire Three-Horse Tread Power, Direct Gear, either Level or Inclined Step.....	\$140 00
Empire Three-Horse Tread Power, Double Gear, either Level or Inclined Step.....	145 00
Empire Two-Horse Tread Power, Direct Gear, either Level or Inclined Step.....	120 00
Empire Two-Horse Tread Power, Double Gear, either Level or Inclined Step.....	125 00
Empire One-Horse Tread Power, Direct Gear, either Level or Inclined Step.....	100 00
Empire One-Horse Tread Power, Double Gear, either Level or Inclined Step.....	105 00
Truck for Three-Horse Tread Power.....	40 00
Truck for Two-Horse Tread Power.....	35 00
Truck for One-Horse Tread Power.....	30 00

Lever Powers.

Empire Iron Frame Lever Power, 6 to 8 horses.....	\$100 00
Truck for same.....	35 00
Empire Iron Frame Lever Power, 4 to 6 horses.....	80 00
Truck for same.....	25 00
Empire Wood Frame Lever Power, 4 to 6 horses..	80 00
Truck for same	25 00
Empire Iron Frame Lever Power, 3 to 4 horses.....	60 00

Empire Threshers, Separators and Cleaners.

No. 1 A Overshot, 30-inch Cylinder, 40-inch Vibrating and Cleaning Parts, with Revolving Apron, mounted on 4 wheel truck.....	\$185 00
No. 1 B Overshot 26-inch Cylinder, 36-inch Vibrating and Cleaning Parts, with Revolving Apron, mounted on 4 wheel truck.....	165 00
No. 2 A Overshot, 30-inch Cylinder, 40-inch Vibrating and Cleaning Parts, with Revolving Apron.....	150 00
No. 2 B Overshot, 26-inch Cylinder, 36-inch Vibrating and Cleaning Parts, with Revolving Apron.....	130 00
No. 2 D Overshot, 22-inch Cylinder, 30-inch Vibrating and Cleaning Parts, with Revolving Apron	100 00
No. 3 C Overshot, 26-inch Cylinder, 32-inch Vibrating and Cleaning Parts, Shaker and Mill Detachable.....	110 00
No. 3 D Overshot, 22-inch Cylinder, 28 inch Vibrating and Cleaning Parts, Shaker and Mill Detachable.....	95 00
No. 4 A Undershot, 30-inch Cylinder, 40-inch Vibrating and Cleaning Parts, with Revolving Apron, mounted on 4 wheel truck.....	185 00
Same Machine without truck.....	150 00
No. 4 B Undershot, 26-inch Cylinder, 36-inch Vibrating and Cleaning Parts, with Revolving Apron, mounted on 4 wheel truck.....	165 00
Same Machine without truck.....	130 00

The above prices do not include Carrier, Elevator, Bagger or Windlass for Straw Carrier.

Double Bagger for all size Machines	15 00
Tailings, Elevators for all size Machines.....	15 00
Straw Carrier, 12 feet long, \$14 00; for every additional foot....	1 00
Side Shift Arrangement for Straw Carrier, Right and Left.....	5 00
Windlass for raising, lowering and folding Straw Carrier.....	4 00
Brakes for Powers or Separators.....	4 00
No. 4 A Undershot, special for Engine and heavy Lever Power, 30-inch Cylinder, 44-inch Vibrating and Cleaning Parts, with Revolving Apron, Tailings Elevator and 16 feet Folding Straw Carrier, mounted on 4 wheel truck with brake.....	\$275 00

Fanning Mills, Feed Cutters, Grinding Mills, &c.

Empire Grain Fan, right and left hand.....	\$ 28 00
Empire Feed Cutter No. 1, \$35 00; with crusher.....	40 00
Empire Feed Cutter No. 2, \$30 00; with crusher.....	35 00
Empire Feed Cutter No. 3.....	25 00
Empire Hand Lever Cutter, \$4 50; with Gauge.....	5 00
Grinding Mill.....	30 00
Plantation and Farm Bells, 17 inches with Yoke and Lever	5 00

Plows, Field Rollers and Cultivators.

Steel Land Roller, 25 inches in diameter, 7 feet long.....	\$ 32 00
Plank Land Roller 24 inches in diameter, 7 feet long.....	24 00
Plank Land Roller 30 inches in diameter, 7 feet long.....	28 00
No. 15 Keystone Chilled Plow, Two or Three horses, right or left hand.....	9 00
No. 14 Keystone Chilled Plow, for Two horses, right hand only...	9 00
No. 13 Keystone Chilled Plow, Light, Two horses, right or left hand	8 50
No. 10 Keystone Chilled Plow, Medium, One horse, right or left hand.	6 00
No. 8 Keystone Chilled Garden Plow, Light, for one horse, right hand only.....	4 50
Jointers for Two-horse Plows, right or left hand, with attachments.....	2 00
Jointers for One-horse Plows.....	1 30
Wheels for Two-horse Plows.....	75
Wheels, complete, for One-horse Plows.....	50
Shares for Nos. 13, 14 and 15 Plows.....	40
Shares for No. 10 Plow.....	30
Shares for No. 8 Plow.....	25
Iron Frame One-horse Cultivator, with Five Reversible Steel Points.....	4 50
Extra for Wheel.....	35
Right and Left Hilling and Centre Shovels.	75

Empire Corn Shellers.

Empire Power Corn Sheller.....	\$ 35 00
Empire Power Corn Sheller, with Cleaner and Bagger.....	70 00
Empire Power Corn Sheller, with Cleaner, without Bagger.....	55 00
Right Hand, Cast Iron Burrall Sheller.....	6 00
Wood Leg Burrall Corn Sheller (Wrought Iron Shafts).....	7 00
Empire No. 1 Hand Corn Sheller (Wrought Shafts).	5 00
Empire No. 3 Hand Corn Sheller (Wrought Shafts).....	8 00
Empire No. 4 Hand and Power Corn Sheller.....	12 00
Empire No. 5 Hand and Power Corn Sheller.....	15 00
Empire No. 6 Hand and Power Corn Sheller.....	18 00
Empire No. 7 Hand and Power Corn Sheller.....	28 00

Cross Cut Swinging Table Wood Saws.

Cross Cut Swinging Table Wood Saw, 20-inch Saw.....	\$ 30 00
Cross Cut Swinging Table Wood Saw, 24-inch Saw.....	32 00
Cross Cut Swinging Table Wood Saw, 28-inch Saw.....	36 00

• OFFICE OF •

THE EMPIRE AGRICULTURAL WORKS.

ESTABLISHED IN 1857.

IN PRESENTING this, our Annual Catalogue, we beg leave to return thanks to our friends and patrons for past favors, and to assure them of our efforts to merit a continuance of their confidence and approbation.

We beg to assure the trade that we shall continue to maintain the high standard of excellence in the manufacture of our goods, which hitherto has been one of their distinguishing features. A proof of this is, that the demand for our goods has been steadily increasing, and wherever introduced they are always sure to stay, and more to follow upon their own merits. Another convincing proof of the excellence of our goods is that at present a number of manufacturers, envious of the success which has attended our efforts to place in the market popular goods, are copying after us, and have produced articles which, to the superficial observer, may seem closely to resemble, and possibly equal, our own, and which in some cases have been sold for them. We would remind our friends and customers that our goods are covered by a patent, and that such manufacturers make themselves liable to a heavy penalty by infringing on our claims.

We use only the best materials in all departments. Our entire work is at all times under our direct personal supervision, which supervision is enlightened by an experience of thirty six years in the manufacture of machines.

Those with whom we have not heretofore had dealings, we can refer with pride to the long standing and reputation of our establishment, and its unexampled success under the present management. From past experience we can guarantee our customers that the specialties illustrated and described herein are the best and latest improved of their class. Anybody is safe in buying our make of machines, because they are sold upon their own merits, being fully guaranteed, and must come up to and within the standard of our warranty, or we ask no settlement for them.

In regard to our prices, we wish to say, for first class goods they are lower than those of any other manufacturers, while we guarantee our goods to be equal, and in some respects superior, to any in the market, none excepted.

With the assurance that all orders will meet with our heartiest efforts to please,

We are, most respectfully,

S. S. MESSINGER & SON,

TATAMY, NORTHAMPTON Co., PA., U. S. A.

SEND FOR PRICES AND DISCOUNT.

A Brief Description of the Empire Grain Thrasher, Separator and Cleaner.

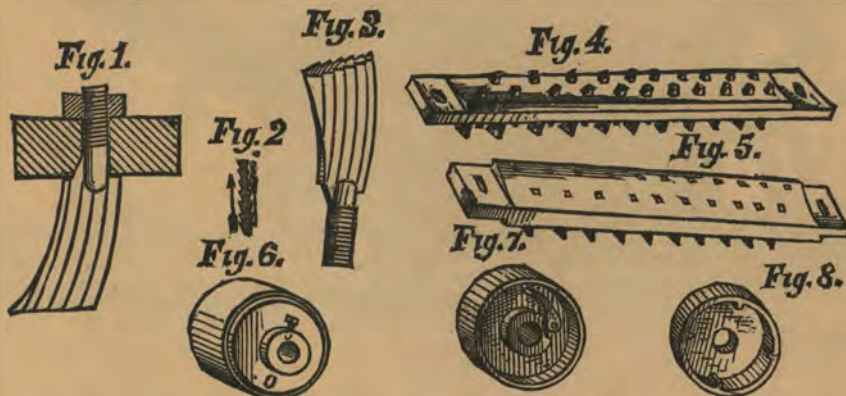
The Empire Grain Thrashers, Separators and Cleaners are the most simple, durable, light running, easily managed, best cleaners and greatest grain-saving machines built in America.

On the following pages we give cuts of our Improved Empire Separators which have won their way to the front rank of thrashers and cleaners, simply on their own merits alone. In the hands of an ordinary thrasherman, they never fail to give first-class satisfaction in both quality and quantity of work. They cannot be excelled by any other machines on the market in the saving of grain and lightness of draft. Among the farmers these latter features are growing more and more. They look in particular to the amount of work done by the same given power, where we claim second to none in the market at this present age. There is no advantage in having a machine that can take in and run through more grain and straw than an average set of hands can handle; but there is a big advantage in a machine that will give the hands a full day's work and save and clean ready for market all the grain that is fed through it. This we fully claim by experience for the Empire machines, and also by the numerous testimonials from the leading farmers of this and many other States throughout the Union who have used them with marked success, and who will bear us out in our claims. Among the valuable improvements that have lately been added to the separator, is the *revolving apron*, which is right back of the thrashing cylinder, and is driven with short belt from same. This revolving apron makes about 180 revolutions per minute. It takes the straw away from the cylinder, leaving the cylinder clear from winding, also stops the grain from flying out over the shaker, this giving the full length of the perforated shaker bottom to separate the grain from the straw. The shaft in the revolving apron serves for the crank shaft, as from it are driven the two *shaker bottoms mill shoe, fan, grain bagger, tailings elevator and straw carrier*. The position of the concaves can be changed by a raising and lowering device on each side of the machine, to suit all the kinds of grain to be thrashed. The stacker or straw carrier is made, if so ordered, in two or more parts, hinged together in such lengths as may be desired by the purchaser, so that one or more lengths can be used at the same time. With the shifting arrangement, the carrier takes the straw either right or left from the machine. It is one of the best and most convenient carriers in the market. Our tailings elevator can be attached to either side of the machine. They work with a chain with buckets attached so there can be no clogging or choking, and are driven by a $\frac{1}{2}$ -inch round belt. Our baggers are constructed on an entirely new principle, being the height of an ordinary grain bag, and are arranged to take two bags at the same time. When one is full, the valve is turned, which runs the grain into the other bag. This gives time to take the full bag off and replace an empty one while the other one is filling. The bagger can be used on either side of the machine.

NO MORE DUST IN THE FEEDER'S FACE.

The casing around the cylinder is so arranged that the motion of the cylinder sucks in the dust away from the feeder, and carries it off with the straw at the rear of the machine. This draft or suction aids greatly in feeding the machine, and also to relieve the cylinder of the straw after passing the machine by the strong blast produced by the beaters of the cylinder, so that the cylinder is free from straw winding around it. The cylinder has 6 or 9 steel beaters, $1\frac{1}{2}$ inches wide by $\frac{3}{4}$ inch thick, the length of which is according to size of machine. The beaters have round holes with bevel slots cut out, into which the cylinder teeth are nicely fitted with a bevel shank to keep them from turning, and also giving them great strength at the place required. The teeth are all secured with nuts on the inside of the beater. THE SHAKER OR SEPARATING PARTS: The vibrating shaker bottom is made of the best sheet iron, perforated with half round holes through which the grain and chaff fall and are received by another light shaker or shoe made of sheet iron, which carries them back to the mill or cleaning part. The shaker bottom is provided with three forks or beaters, which thoroughly beat the straw from the under side as it passes

out of the machine, making it almost impossible for grain to go over with the straw unless in very bad feeding or in running entirely too high speed. Our cylinder pulleys are provided with automatic ratchets that, in stopping, the cylinder will run on till it stops of itself, thereby being able to stop the team in an instant. CAPACITY.—It is hard to estimate the capacity of a thrashing machine in number of bushels to be thrashed in a given time, as so much depends on the condition and quality of the grain, and the amount of power utilized, but we will guarantee the Empire Thrashers and Cleaners to do more work with the same given power, and do it fully as well, than any other machine built on the face of the globe.



Cuts Showing Some of the Improved Parts Not Found in Any Other.

Fig. 1.—Is a side elevation of a spike, its nut and connecting bar being in cross section.

Fig. 2.—Is a cross section of the thrashing spike, showing the sharp corners coming in contact with the head of a spear of wheat.

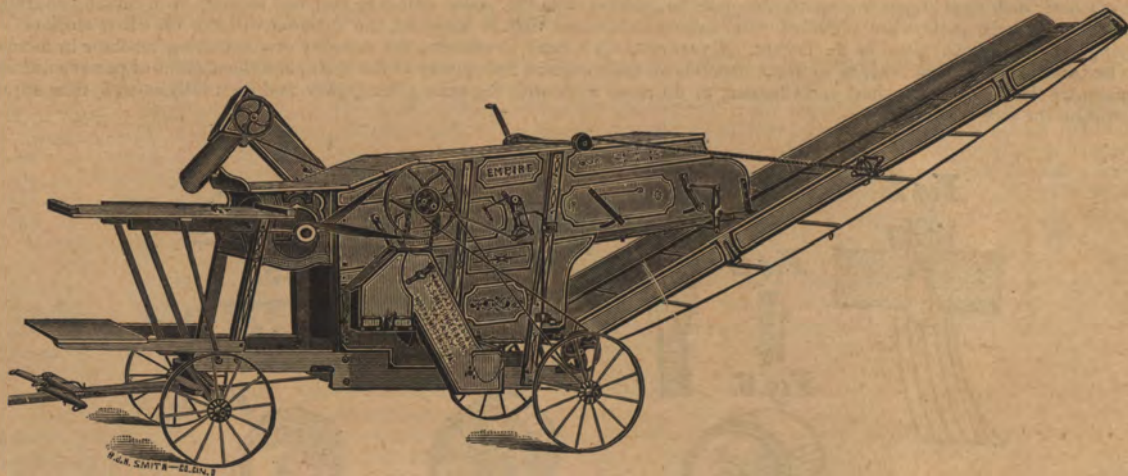
Fig. 3.—Is a perspective view of a spike, showing the form of the shank and its beveled shoulder at the point of intersection of said shank, whereby the spike is strengthened at the straining point.

Fig. 4.—Is a perspective view of the iron reversible front concave plate, provided with $2\frac{1}{4}$ -inch spikes on the lower side and $\frac{3}{4}$ -inch spikes on the top.

Fig. 5.—This concave plate is blank on one side and has $2\frac{1}{4}$ -inch spikes on the other.

Fig. 7.—Shows the loose pulley provided with a pin on which a pawl is loosely pivoted; the pawl can be turned either right or left.

Fig. 8.—Is a view of the inside of the pulley cap, provided on its inner side with ribs adapted to engage the pawl on the loose pulley. This cap fits into the loose pulley as shown in Fig. 6, and is provided with a set screw through its hub, whereby it may be fixed to the cylinder shaft on either side.



Empire Thrasher, Separator and Cleaner on Four-wheel Steel Truck.

This cut shows our No. 1 A and No. 1 B machines, mounted, with bagger, tailings elevator and folding straw carrier.

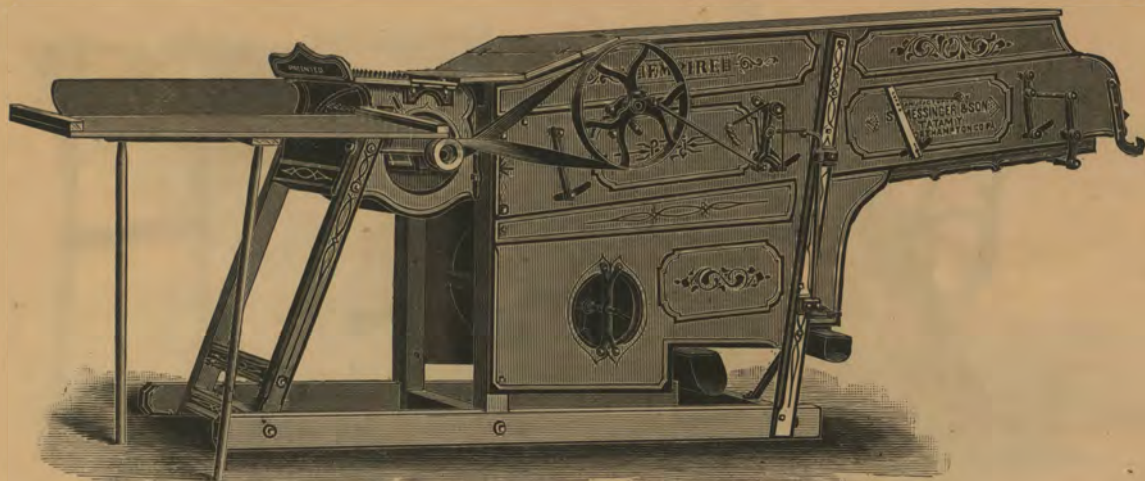
The cut shows the carrier attached to take the chaff with the straw. It can also be attached to the end of the shaker to take the straw only. It has windlass to raise and lower it, and is hinged in the middle, so that the upper part can be folded back on the machine for transportation, like shown on page 7. The carrier is always sent without windlass, unless otherwise ordered.

This machine, as well as all our other machines, is so arranged that the main belt, feed table, tailings elevator and bagger can be used on either right or left side.

The No. 1 A has 30-inch cylinder with 40-inch vibrating and cleaning parts, and can be run with six to eight-horse power engine or four to eight-horse lever power.

The No. 1 B has 26-inch cylinder with 36-inch vibrating and cleaning parts, and can be run with five to seven-horse power engine or four to six-horse lever power or two-horse tread power.

Speed of cylinder from 1,000 to 1,200 revolutions per minute.



EMPIRE THRASHER, SEPARATOR AND CLEANER.

This cut shows our No. 2 A and No. 2 B machines, with revolving apron. The double bagger, tailings elevator and straw carrier, can be used on this machine, same as shown on page 4.

We furnish, at a low cost, if so ordered, four castor wheels, or iron axle with two small wheels, for the convenience of moving the machine over the barn floor, but we do not recommend to have a machine set on small wheels when in use.

These machines, as well as all our other machines, are so arranged that the feed table, bagger and tailings elevator, can be used on either right or left side.

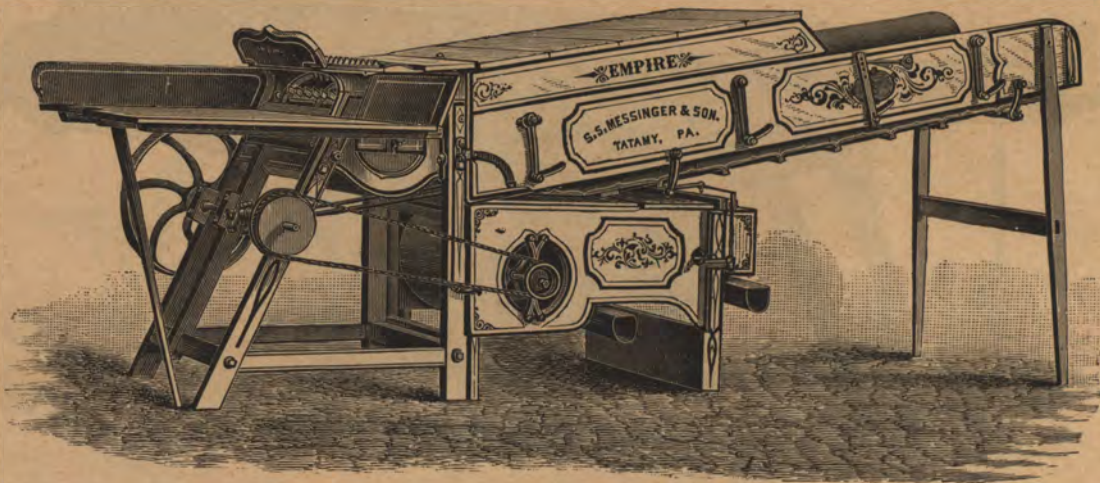
All machines that are run with one and two-horse tread power, or other light power, are made with only six beaters in the cylinder, as they run with less power than the nine-beater cylinder.

The No. 2 A has 30-inch cylinder and 40-inch vibrating and cleaning parts, and can be run with six to eight-horse power engine or four to eight-horse lever power.

The No. 2 B has 26-inch cylinder and 36-inch vibrating and cleaning parts, and can be run with four to six-horse power engine, or four to six-horse lever power, or two-horse tread power.

The No. 2 D has 22-inch cylinder and 28-inch vibrating and cleaning parts, and can be run with one-horse tread power.

Speed of cylinder from 1,000 to 1,200 revolutions per minute.



Empire Thrasher, Separator and Cleaner, with Shaker and Mill Detachable.

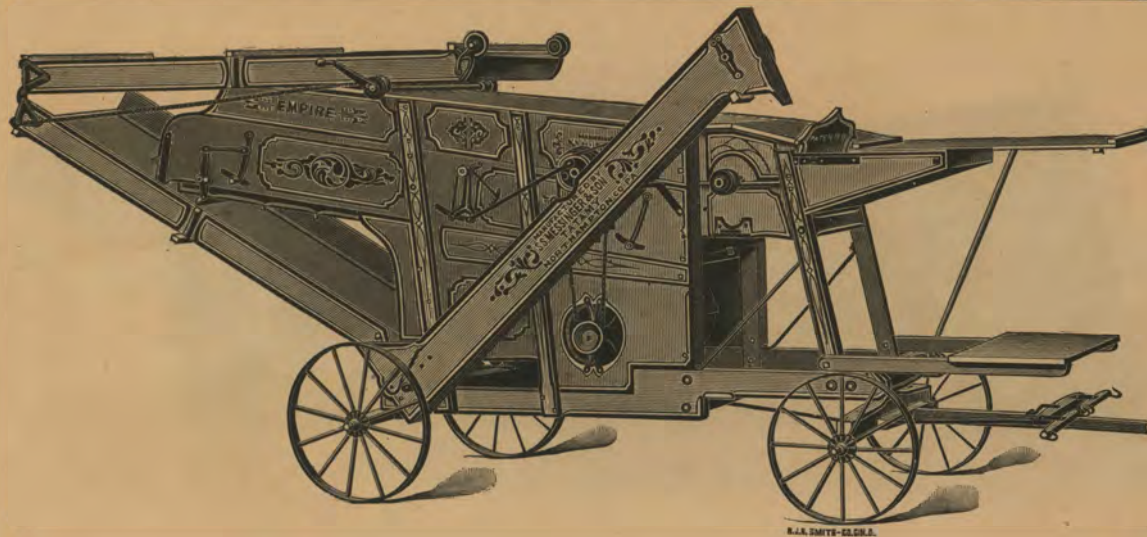
This cut represents our No. 3 C and No. 3 D machines, with detachable shaker and mill. The cylinder in this machine has six beaters. The fanning mill or cleaning part is attached to the machine with two hooks. The vibrating or separating part rests on the mill and is fastened to the machine by two nuts. By this arrangement, the machine can be set up or taken down in a few minutes time. This machine is not built with revolving apron.

This is the style of machine we have been building for many years, but have greatly improved it during the last year. This style has been a favorite with many farmers on account of lightness and ease of being handled.

All extras can be attached to these machines, as well as to the foregoing machines, such as the double bagger, tailings elevator and straw carrier. The feed table, cylinder pulley, shaker wheel, grain and tailing spout, can be used on either right or left side.

The No. 3 C machine has 26-inch cylinder with 32-inch separating and cleaning parts, and can be run with two-horse tread or four-horse lever power.

The No. 3 D machine has 22-inch cylinder with 28-inch separating and cleaning parts, and can be run with one-horse tread power. Speed of cylinder from 1,000 to 1,200 revolutions per minute.



EMPIRE UNDER-SHOT THRASHER, SEPARATOR AND CLEANER.

This cut shows our No. 4 A and No. 4 B machines, mounted on four steel wheel truck, with revolving apron, bagger, tailings elevator and folding stacker. The No. 4 machines are all made with nine beaters.

The separating and cleaning parts are exactly the same as in our over-shot machines. The cylinder and concaves are also made of the same material and on the same principle.

The feed table, tailings elevator, bagger, cylinder pulley and revolving apron wheel can be used on either right or left side.

The cut shows the carrier folded for transportation. The carrier can also be attached to the end of the shaker, to take the straw only. Stackers to all machines are always sent without windlass, unless otherwise ordered.

It has windlass to raise and lower it, and is hinged in middle so that the upper portion can be folded back on the top of the separator in transportation.

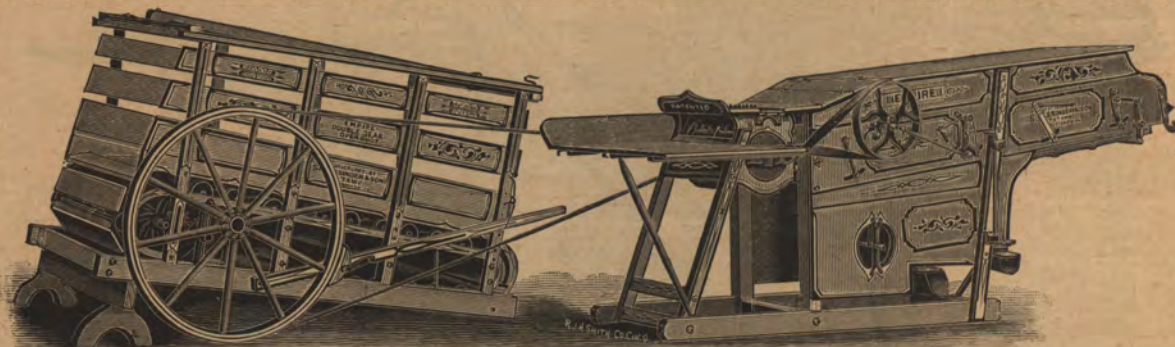
We also build the same style and sizes of under-shot machines not mounted, style like on page 4, suitable for floor use, to which we furnish, if especially ordered, castor wheels, or axles and small wheels, for moving it on the barn floor.

The No. 4 A machine has 30-inch cylinder and 40-inch separating and cleaning parts, and can be run with six to eight-horse power engine or four to eight-horse lever power.

The No. 4 B machine has 26-inch cylinder and 36-inch separating and cleaning parts, and can be run with six to eight-horse power engine or four to six-horse lever power.

We make a special 30-inch cylinder undershot separator to be used with steam power, which is built stronger, and has more capacity than any of our "A" machines described on pages 4, 5 and 7.

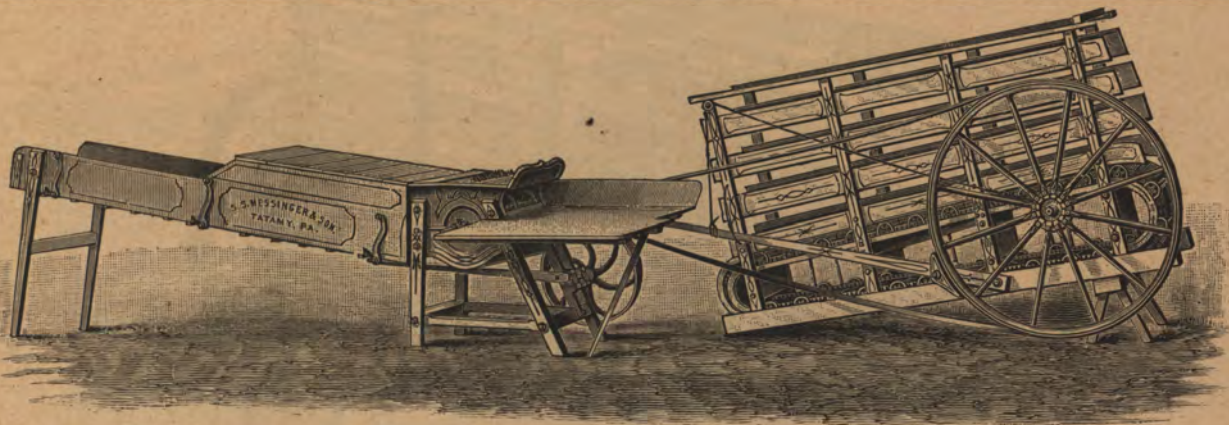
Speed of cylinder from 1,000 to 1,200 revolutions per minute.



EMPIRE TWO-HORSE TREAD POWER AND SEPARATOR.

This cut shows our Double Geared Two-horse Tread Power, with No. 2 B Separator.

In ordering two-horse tread powers and separators, always state what size or number separator is wanted. The "B" and "C" are suitable machines for two-horse tread power, and sometimes the "A" machine is used. Also state whether single or double geared, and level or regular inclined step are wanted.



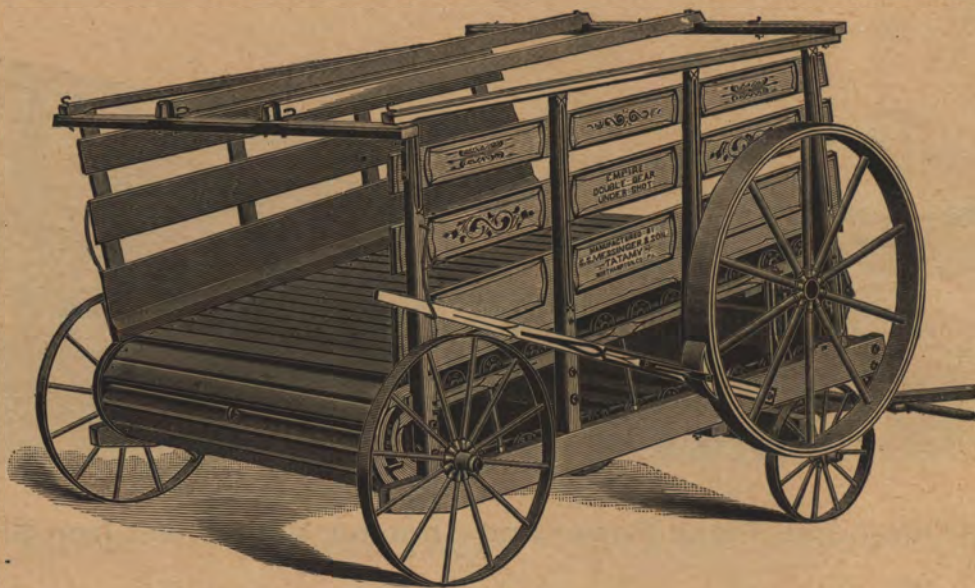
Empire One-horse Tread Power and Thrasher with Sheet Iron Shaker.

This cut shows our new style Direct Geared One-horse Tread Power with Thrasher attached. This power is built either with level or regular inclined step, and has same style governor and band wheel as shown on the two-horse power. The thrasher is our No. 5 C machine.

The Empire Thrasher with sheet iron shaker, of which the above is a cut, is built in three sizes. The cylinder, concaves, feed table, shaker bottom, and cylinder pulley, are constructed the same as in the separator. The cylinders in plain thrashers have six beaters.

The No. 5 A machine has 30-inch cylinder and 36-inch shaker.

"	"	5 B	"	"	26	"	"	"	32	"	"
"	"	5 C	"	"	22	"	"	"	28	"	"



EMPIRE THREE-HORSE TREAD POWER.

This cut shows our Double-gear'd Three-horse Tread Power, mounted on four steel wheel truck and with regular inclined step.

This mounting elevates the power in proper position for use.

When mounted powers are ordered, we always send this style truck, unless another kind is wanted; we make different kinds, as shown and described on page 11.

This style truck is also used under our different kinds and styles of one and two-horse powers.

On the three-horse tread power, we use a center link and track wheel, which carries the weight of the middle horse and prevents the lagging from sagging.

We also build three-horse tread powers direct geared, with or without trucks.

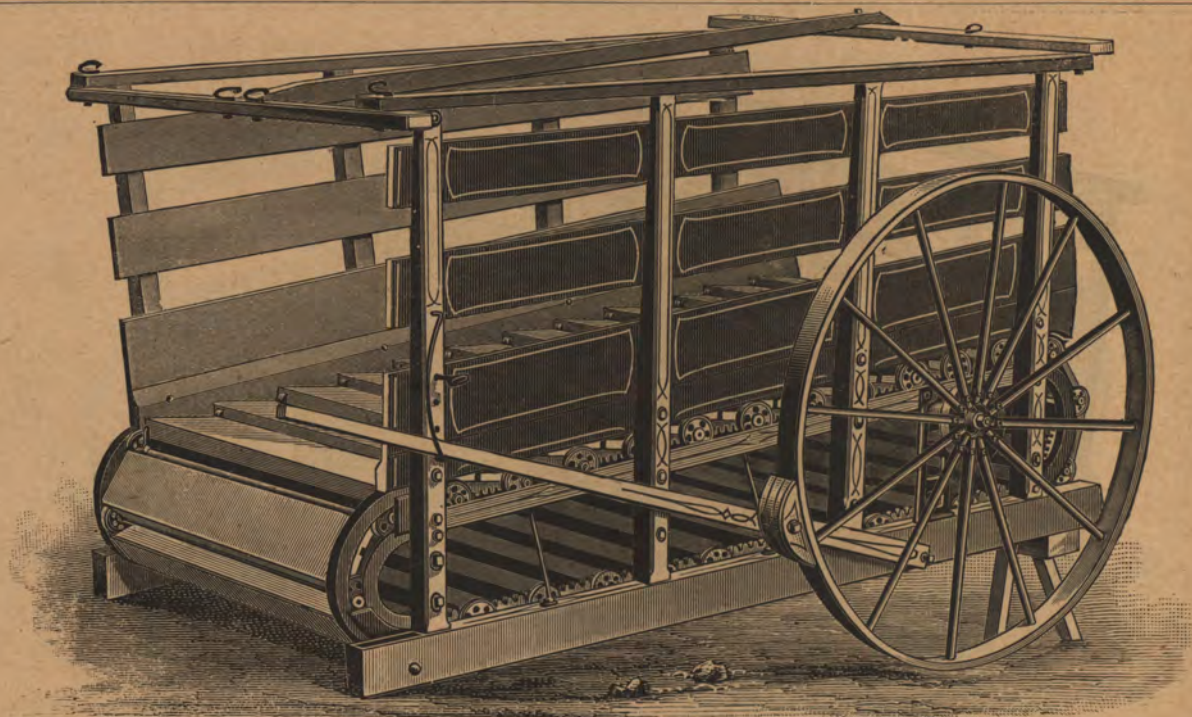
We recommend the regular inclined step for three horses, because the elevation is not so much as on the smaller powers.

We also recommend our No. 4 A Separator to be used with the three-horse tread power, as this is an undershot machine, which makes it more suitable for all kinds and conditions of grain.



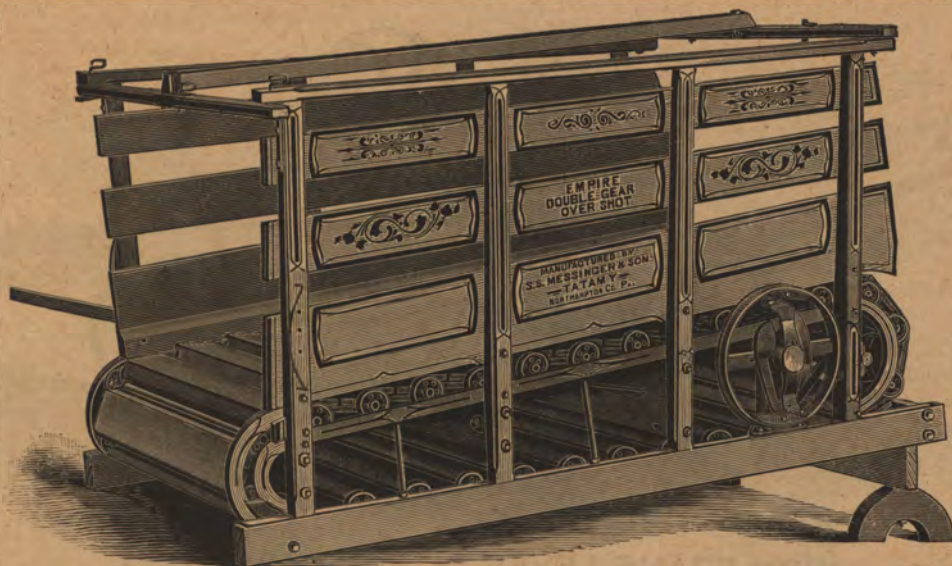
EMPIRE MOUNTED TWO-HORSE TREAD POWER.

This cut shows our new style Double Geared Power, mounted on four-wheel truck, with the hind wheels taken off, placing power in an elevated position for use. We also build this same style of truck just reversed, having the front axle under the hind part of the power and the hind wheels under front end of power. To give the power its elevation with this truck, the king bolt is drawn out and the entire front wagon run out from under the power, leaving the front end of power to rest on hind axle, while the rear end is dropped on the floor, which brings the power in its elevated position for use.



EMPIRE DIRECT GEARED TWO-HORSE TREAD POWER.

This cut shows our new style Direct Geared Two-Horse Power with level steps. This same power is also made with regular inclined step, and also has the new improved governor as shown and described on page 13. It also has self-adjustable boxes on band wheel shaft, by which the pinions can be raised or lowered so they always gear the right depth into the segments or links. In ordering powers, always say whether level or regular inclined step is wanted. If the order does not say what step is wanted, it is our custom to send the regular inclined step. We recommend the Direct Geared Power as being the most suitable for general purpose, and, if no particular style is mentioned in ordering, this style power will be furnished. We use cold rolled steel rods in all our tread powers and closed track wheels. Each tread power is furnished with trestle, bridge, extra lags, links and wheels, monkey wrench and oil can.



EMPIRE TWO-HORSE TREAD POWER.

This cut shows our new style Double Geared Two-horse Tread Power, with our latest improved governor.

This style of governor is now used on all our one, two and three-horse tread powers. The governor is built on an entirely new principle, being the best in the market. The speed can be made more or less by turning a single nut.

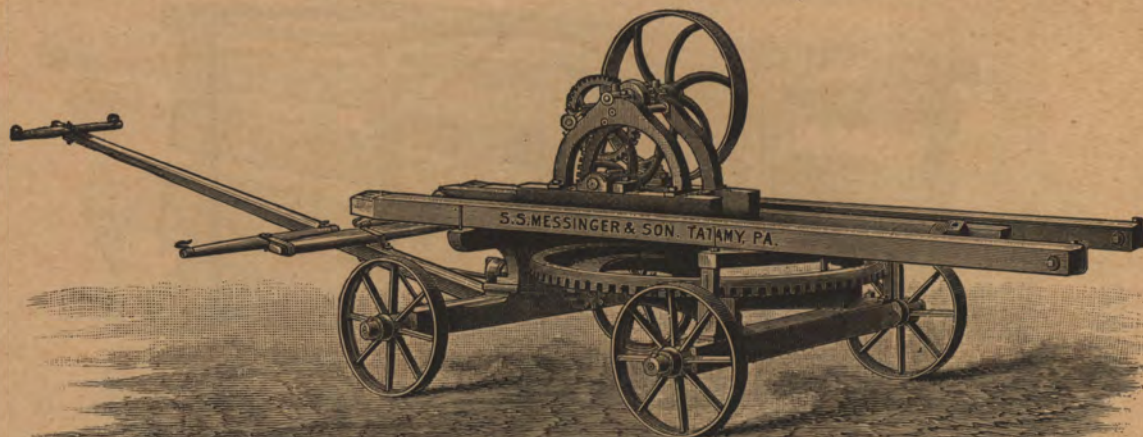
The governor is fully guaranteed to hold any team in case the belt breaks or flies off, and will not allow the speed to increase more than about 5 per cent.

The cut shows the power with level tread.

In ordering, always state if level or regular inclined step is wanted. If nothing is said, it is our custom to send the regular inclined step.

BUCKWALTER ONE-HORSE TREAD POWER.

We also build the Buckwalter Patent One-horse Tread Power, which we furnish at same price as our one-horse double geared power; either level or regular inclined step.



IRON FRAME LEVER POWER, MOUNTED.

This cut shows our new Iron Frame Lever Power, mounted on four-wheel iron truck, with levers and braces loaded thereon, ready for transportation.

This is an all-iron power, with the exception of the levers and braces. It is strongly built, durable and light running. The frame is one piece of casting, and has one large cog wheel and one pinion for its gearing. The main drive wheel is held in gear by a roller or traveler wheel.

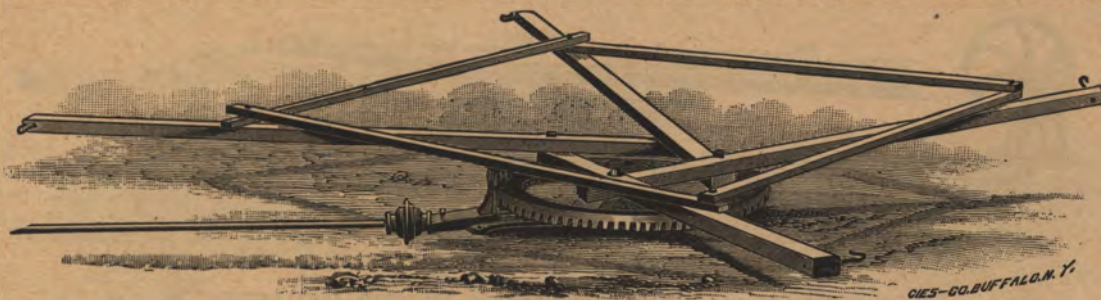
The tumbling rod is connected with joint couplings to pinion shaft and jack.

Either jack, as shown and described on page 17, can be used on this power.

This mounted power is so arranged that the wheels do not need to be taken off in running.

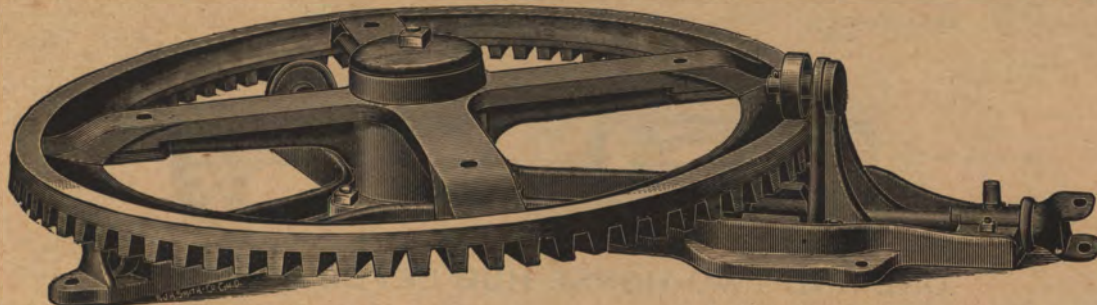
This power can be run with four, six or eight horses, according to the size of machine used.

We also have to this iron frame power a *stationary driver's stand*, which we furnish at \$3 extra, if so ordered. This is a feature that no other lever power has, and is favored by all who see it.



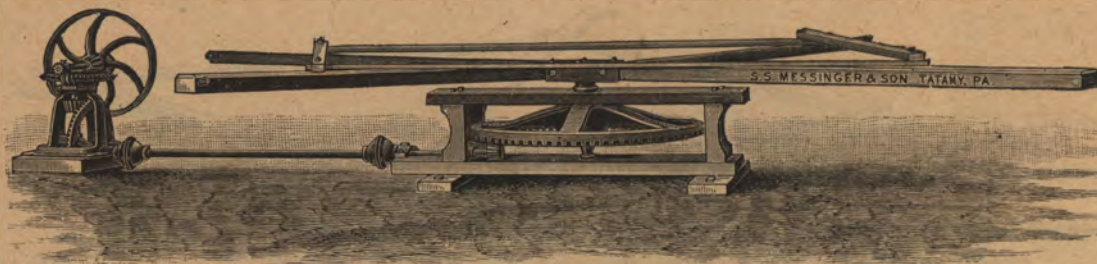
IRON FRAME LEVER POWER.

This cut shows our Iron Frame Lever Power, with levers, but no jack. Any one of the jacks shown on page 17 can be used on this power. If the order does not say which jack is wanted, we always send the double geared.



IRON FRAME LEVER POWER.

This cut shows our All Iron Frame Lever Power, without levers, tumbling rod and jack. These parts are left off in this cut to show how strong and simple the frame and gearing are made. We always send the *Iron Frame Power*, unless the wood frame is especially ordered, because it is stronger, more durable and runs much easier.



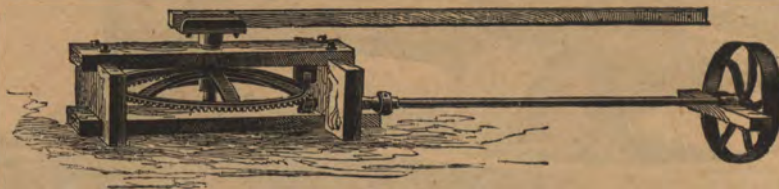
EMPIRE WOOD FRAME LEVER POWER.

This cut shows the Wood Frame Lever Power, with universal jack attached.

This is the power that we have been building for a number of years, with some improvements. It has for its gearing one large bevel wheel and pinion. The tumbling rod is connected to the power and jack with joint couplings.

Either of the three jacks shown and described on page 17 can be used on this power.

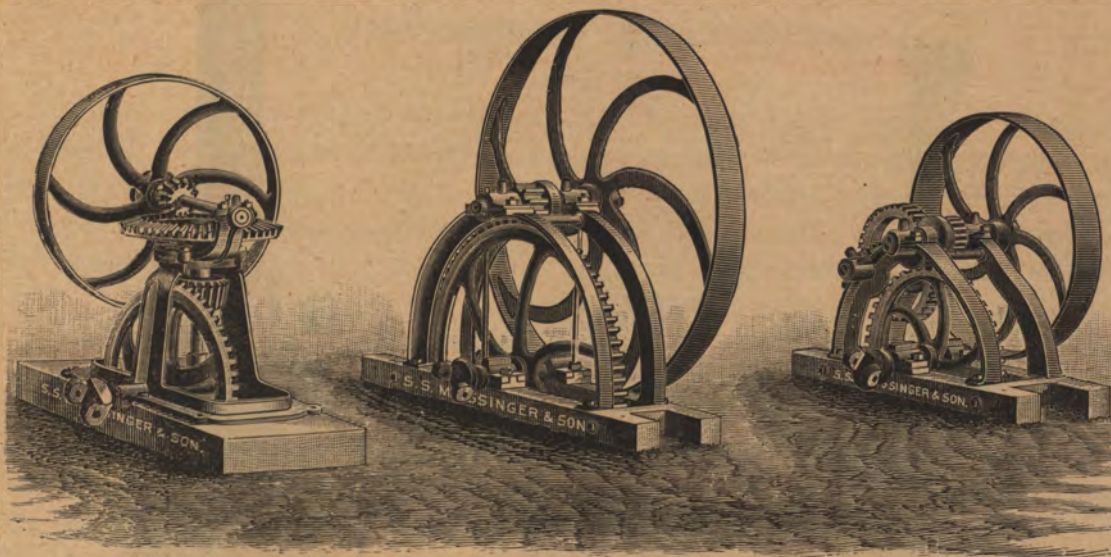
This power can be used with four to six horses, according to the size of machine used with it.



ONE AND TWO-HORSE HUB LEVER POWER.

This is a complete power for running light machineries. The cut does not show a jack, but we make them where high speed is required. This power is also much in use for pumping water. For this purpose a crank is put at the end of the rod (in place of the band wheel), to which the pump rod is connected.

We furnish this power with either of the following sized band wheels: 22, 26 or 30 inches. The band wheel makes $6\frac{1}{2}$ revolutions to one turn of the levers, and with jack it makes 40 revolutions.

**Universal Jack.****Single Geared Jack.****Double Geared Jack.**

The Single Geared Jack has one large cog wheel and pinion, and is furnished with 42 or 48-inch band wheel. The band wheel on this jack turns towards the horses and makes 48 revolutions to one turn of the levers, or about 140 per minute.

The Double Geared Jack has two gear wheels and two pinions, and is furnished with 26, 28 or 30-inch band wheel.

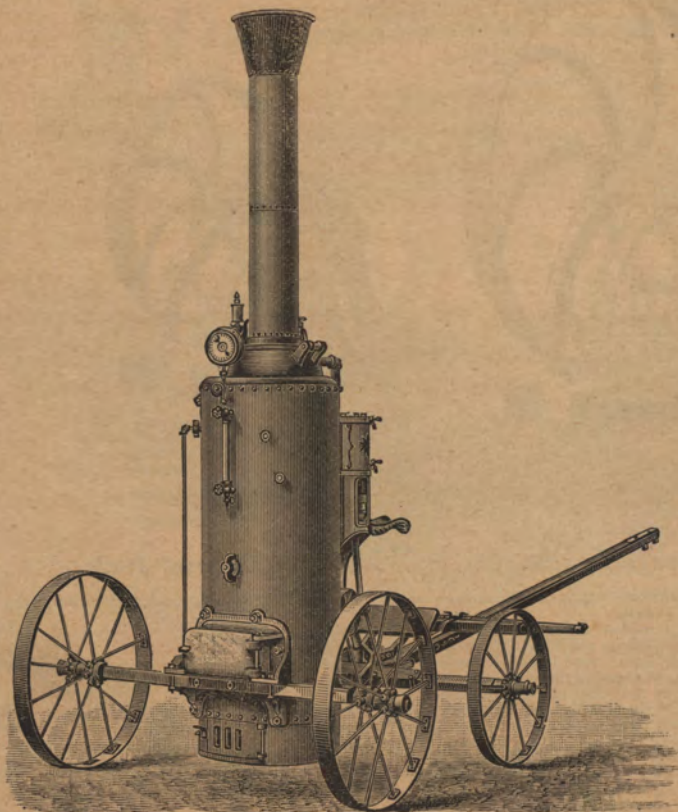
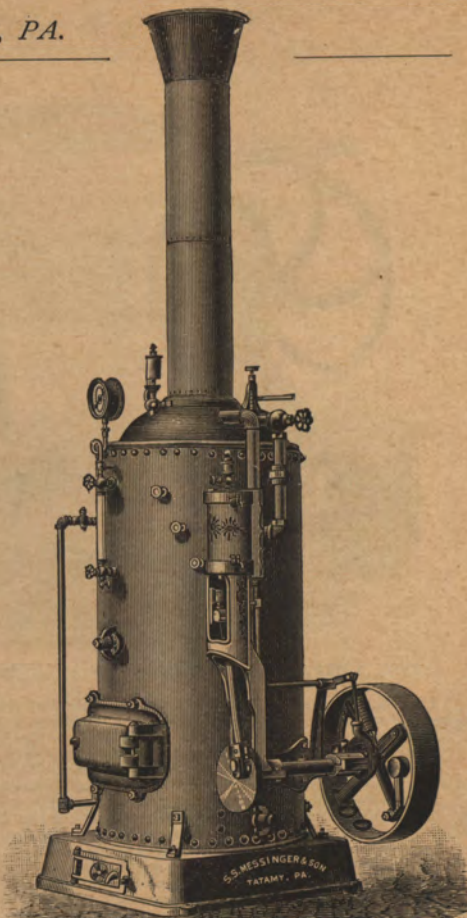
The band wheel on this jack turns with the horses, and makes 90 revolutions to one turn of the levers, or about 270 per minute.

When the power is laid to the right of the machine, the single geared jack is used to avoid crossing the belt in running an over-shot machine. When the power is placed to the left of the machine, the double geared jack is used to accomplish the same purpose.

For running under-shot machines, the jack should be used the reverse as described, to avoid the crossing of belts.

The Universal Jack has two bevel wheels and two bevel pinions for its gearing, and is furnished with 26 or 28-inch band wheel, which can be reversed, making it suitable for running either over-shot or under-shot machines. The term "Universal" is applied to this jack because it can be turned so that the belt can be run in any direction from it. When this jack is used, the tumbling rod can be run direct towards the machine, placing it between the power and machine. This makes it very convenient where space does not allow to set a side power. We always recommend to use either the single or double geared jack in place of the universal, if possible. The band wheel on this jack makes 92 revolutions to one turn of the levers, or about 275 per minute.

All our jacks are provided with automatic ratchets, so that the horses can be stopped in an instant, leaving the band wheel and machinery run on till it stops of its own accord. This is a very important arrangement on horse powers, and saves much labor on horses.

**EMPIRE MOUNTED AUTOMATIC ENGINE.**

This cuts shows engine complete on base plate.

THE EMPIRE PORTABLE ENGINE.

The Empire is the lightest mounted portable engine built, being mounted on four wheels, having steel rims and steel spokes.

The boiler is all steel, making it considerably lighter and stronger than if built of wrought or cast iron.

The smoke stack is so arranged that it folds alongside of the boiler, in transportation.

The engine is controlled by an automatic cut-off governor being in the fly wheel. The term "automatic cut-off" is applied to this combined action of the governor and valve because the supply of steam to the cylinder is automatically cut off as the load is thrown on or off the engine.

The governor is automatic in its action, operating the valve direct, thus maintaining almost a uniform speed throughout varying conditions of load and steam pressure.

The steam is so admitted to the cylinder that, when the load increases, a sufficient increase of steam

is admitted to the cylinder to maintain the speed of engine, and when the load decreases the amount of steam admitted is correspondingly decreased.

The speed is regulated by the tension of a spring and can be so set to suit for any kind of work. For instance, the five-horse engine can be set to run as slow as one hundred, or as high as four hundred, revolutions per minute; other size engines accordingly.

The material used all through in the construction is of the best for the purpose.

Each boiler and engine is thoroughly tested with steam before leaving the shop, and the boilers are made with great care and tested and inspected at one hundred and fifty pounds hydrostatic pressure per square inch.

The boiler and engine leave the factory complete ready for work, as shown in cuts. We also furnish extra with each engine, whistle, wrenches and oil can.

Get our special engine circular.

For Dimensions of Engine and Boiler see Price List.

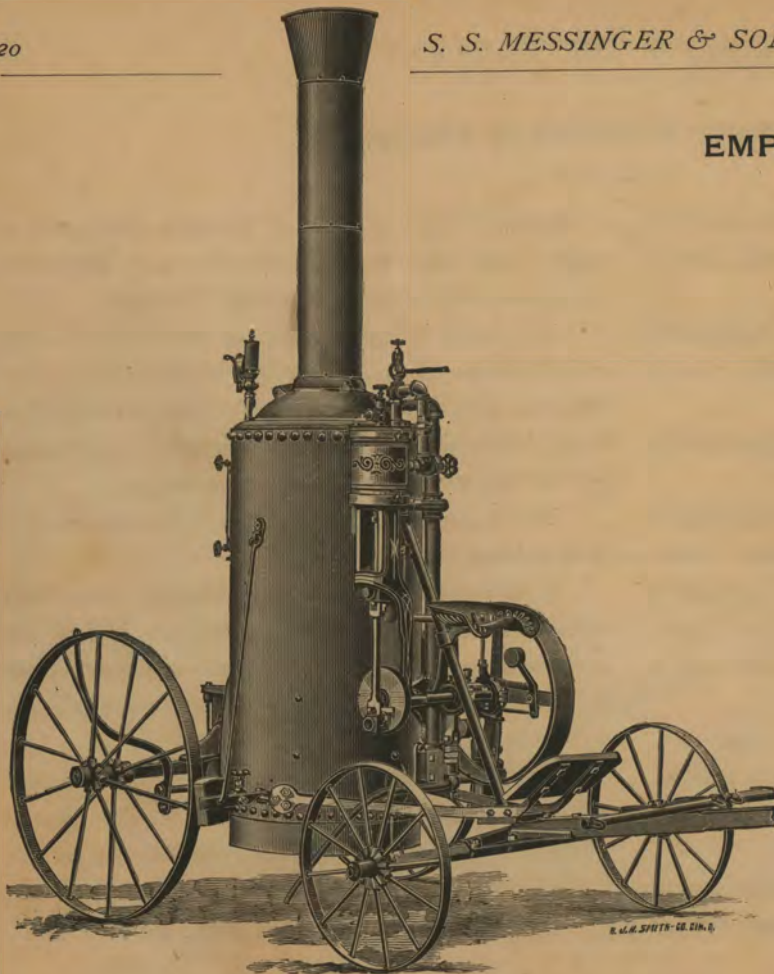
EMPIRE MOUNTED ENGINE.

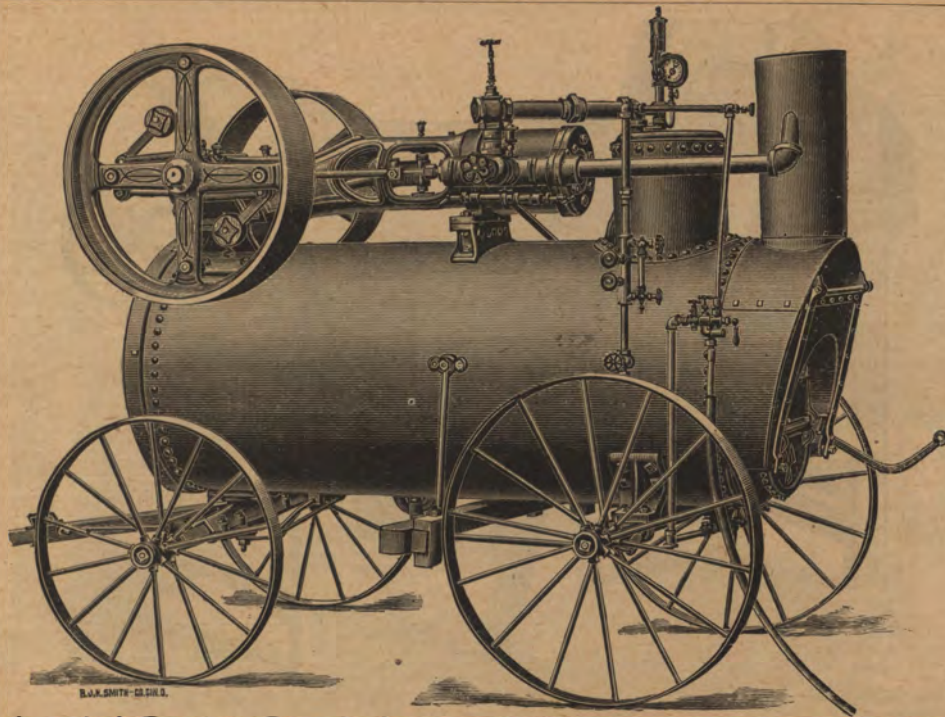
This cut shows our new Improved Mounted Automatic Engine, with brake, also with pump and heater.

We are now sending out all our engines with pump and heater unless injector is wanted, which is the same in price as pump and heater. (If heater is wanted with injector add \$5.co.)

The heater is a very valuable part to a steam boiler, as it heats the water to almost boiling before it enters the boiler, so that the steam is not checked when boiler is supplied with water.

We recommend the pump in place of the injector, as it is handled much easier by the inexperienced.

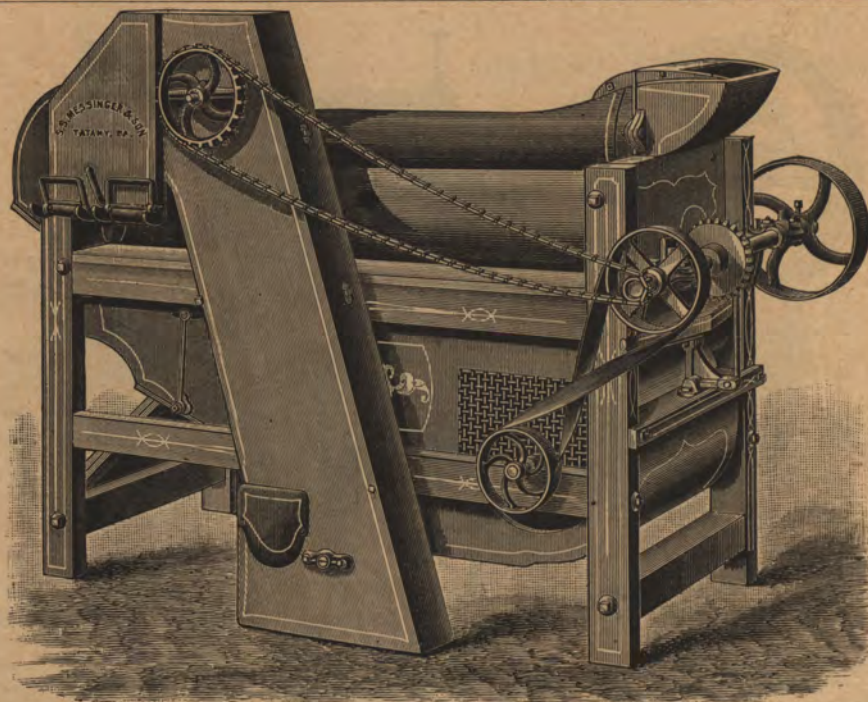




B. & K. SMITH - CHICAGO.

Horizontal Center Crank Automatic Engines, on Cornish Boilers.

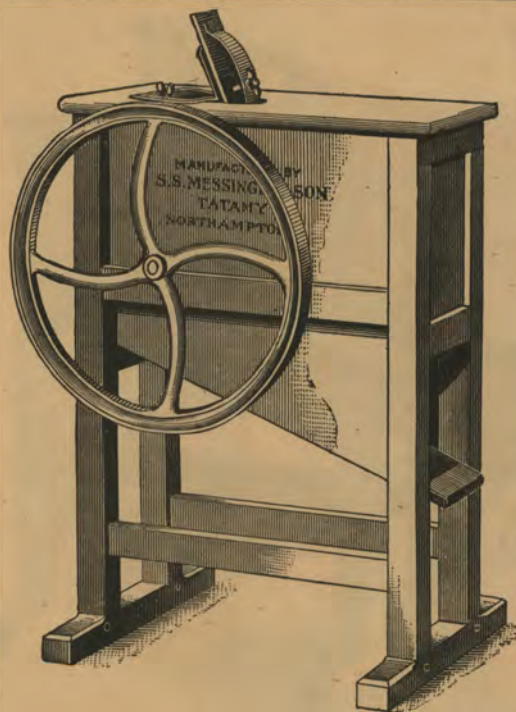
The Cornish boiler has a large central flue passing through the whole length of the boiler, which is adapted to any description of fuel. The heat passes through the large fire flue into a closed cap over the end of the boiler, from which it returns through the three-inch tubes to the front of the boiler. The heat passes a long distance through the water, receiving the full benefit in making the steam. It also causes the sparks to die out before they get out through the stack. They are excellent steamers, as much more power is obtained from a given amount of fuel in this boiler than in any other kind. The boiler is safe and very durable. The shape of the fire box makes it much stronger than any other portable boiler. Besides that, it is more easily repaired, the smoke heads being readily removed, giving free access to the tubes. The Empire Automatic Horizontal Center Crank Engine with the Cornish boiler, makes a splendid outfit. We make three sizes, 10, 15 and 20-horse power, either mounted on four steel wheel wagon, or put on sills. Our horizontal engines work with the same governor as the vertical engine. If in want of an engine from 3 to 20-horse power, write for our special engine circular and prices.



POWER CORN SHELLER, WITH CLEANER AND DOUBLE BAGGER.

(PATENTED OCTOBER 22, 1889.)

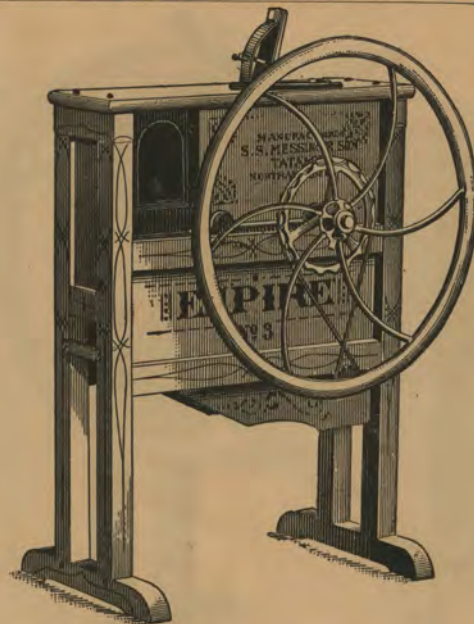
This is a strong and well built machine. It is guaranteed to compete with the best sheller in the market for doing good work, and taking only about one half the power other machines do. It requires from one to four-horse power, according to the condition of the corn and amount you wish to shell in a given time. Its full capacity is 150 bushels per hour. It can be used with and without the sacking elevator, or we can furnish it with high elevator for running the corn in a wagon body or elsewhere. This sheller, as well as any other kind of machinery, must be run with the proper speed to do good work. The cylinder must make 400 revolutions per minute, as near as possible, not more. We can also furnish it with cob stacker and chain elevator feed.



No. 1 EMPIRE CORN SHELLER.

This is a wood frame sheller, left hand, with wrought iron shaft and adjustable hopper and spring.

Price \$5.00

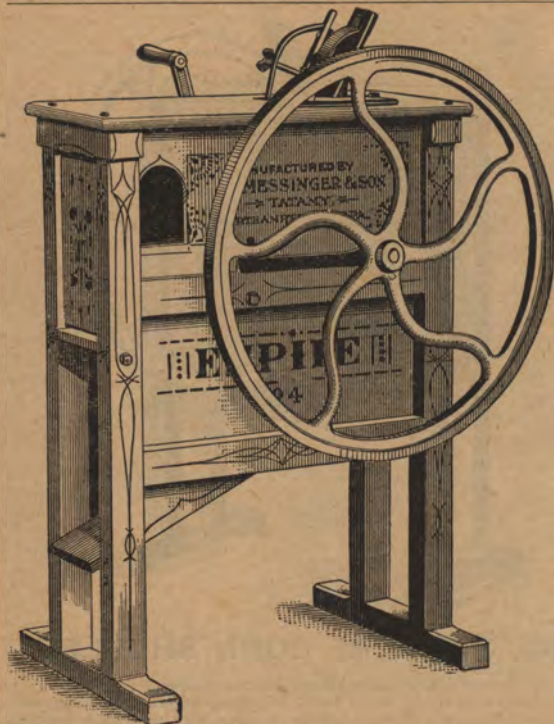


No. 3 EMPIRE CORN SHELLER.

This is one of the best one-hole right-hand shellers in the market. It has turned steel shafts, bored boxes, adjustable hopper and spring, side cob discharge, and with fan or screen. It has a large heavy balance wheel with wrought iron spokes.

We can furnish it with feed table and elevator.

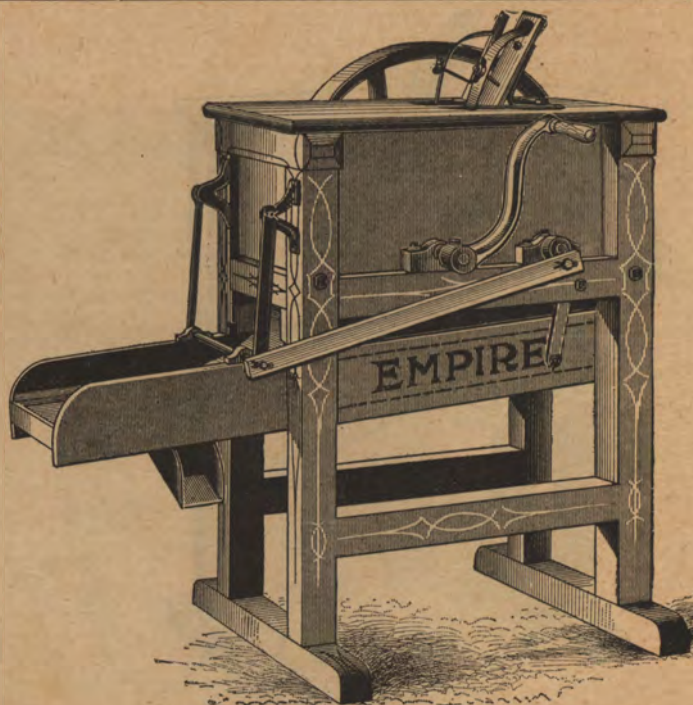
Price, plain, without fan	\$ 7.00
" " with fan	8.00
" " screen	8.00
" extra for elevator	10.00
" " feed table	1.25



No. 4 EMPIRE CORN SHELLER.

This is a right-hand two-hole sheller, with side cob discharge, adjustable hopper and heavy balance wheel. It is made with either fan or chaff screen and can be run by hand or power. We recommend the chaff screen.

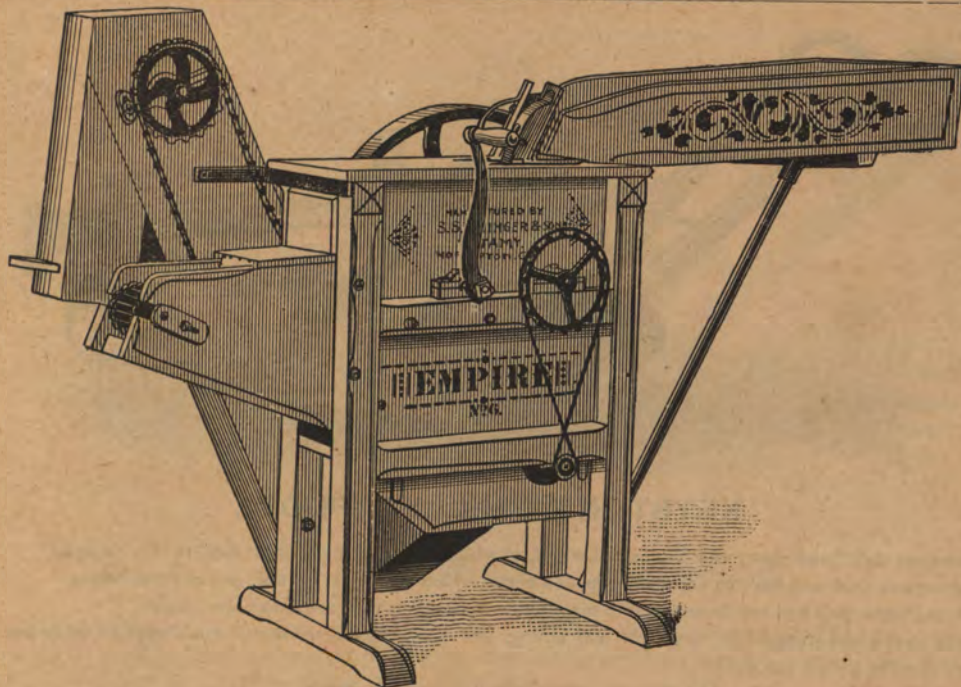
Price, with screen	\$12.00
" " fan	13.00
" " extra for feed table	1.25
" " " elevator	10.00



No. 5 EMPIRE CORN SHELLER.

This is a left-hand two-hole sheller, with shaker, having slat bottom to separate the cobs from the corn. The corn passes over a fine screen, which screens out the chaff. It has an adjustable hopper, large, heavy balance wheel, and can be run by hand or power.

Price	\$15.00
" " extra for feed table	1.25

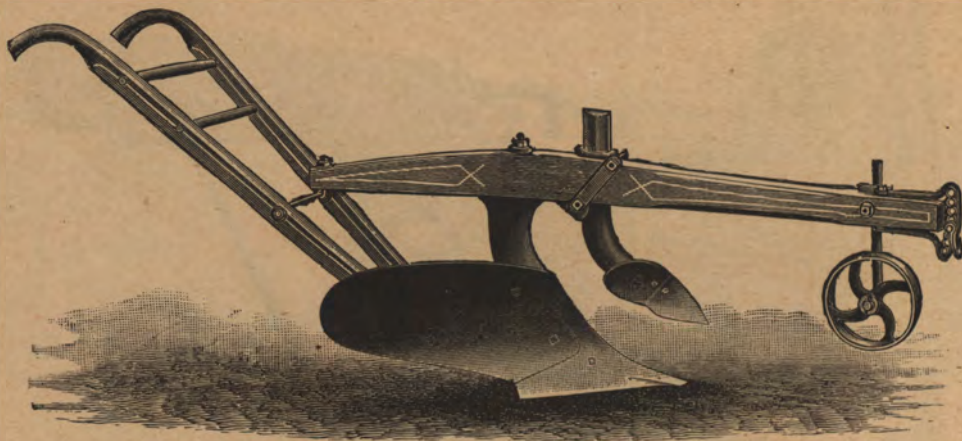


NO. 6 EMPIRE CORN SHELLER.

This is a two-hole sheller, with adjustable hopper and wire cob carrier, and with either fan or chaff screen, as may be desired. The cut shows it with feed table and elevator attached.

It has a large, heavy balance wheel, and we can also attach a small belt pulley if so desired, but the belt is mostly used on the balance wheel. This machine can be run by hand, as well as any of our other shellers.

Price with screen	\$17.00
" " fan	18.00
" extra for elevator	10.00
" " " feed table	1.25



KEYSTONE CHILLED PLOW.

This cut shows our right-hand plow, with jointer and wheel, of which we make four sizes : Nos. 10, 13, 14 and 15.

The plows are center draft and have an adjustable wooden beam, which can be set for one, two or three horses.

The jointer is malleable iron and can be adjusted in more different positions than any other now in use.

The adjustable steel wheel standard is very light and strong, and is so constructed that it can always be set in line with the plow, which is necessary to make a plow run right.

The wheel can also be used on either side of the beam, or under it, as may be desired.

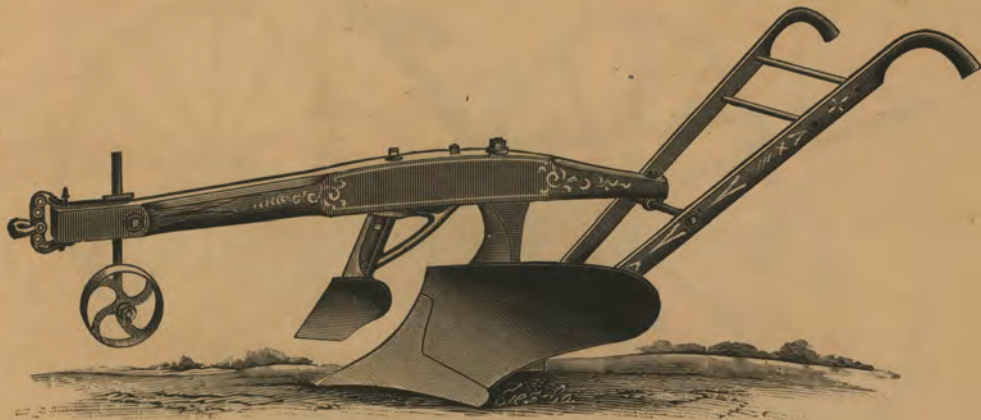
Our device for shifting the beam is an entirely new arrangement, being a $\frac{5}{8}$ round steel bar where the beam slides on and is fastened with a hook bolt and nut. In ordering plows, always say whether jointer or wheel, or both, is wanted.

The No. 10 is a full size one-horse plow, and cuts a furrow 6 x 12 inches.

The No. 13 is a light two-horse plow, and cuts a furrow 7 x 14 inches.

The No. 14 is a regular two-horse plow and cuts a furrow 8 x 16 inches.

The No. 15 is a heavy two-horse plow, and cuts a furrow 8 x 16 inches.



KEYSTONE CHILLED PLOW.

This cut shows our left-hand plow, with jointer and wheel, of which we make three sizes : Nos. 10, 13 and 15.

This plow is built same as our right-hand, with the exception of the jointer standard being a different pattern, of which our cut plainly shows the difference.

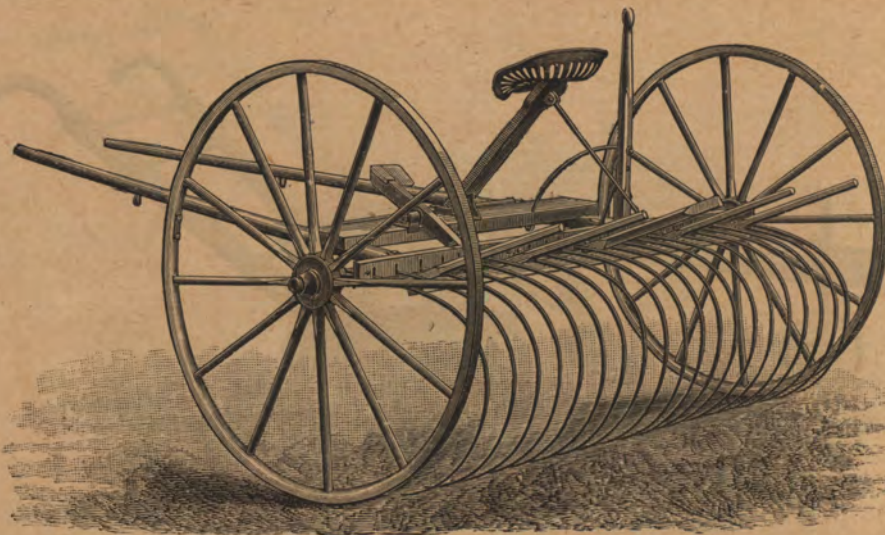
The beam shifter and wheel standard are also of steel. The wheel can be well regulated and is also used on either side or under the beam.

In ordering plows, always say whether right or left hand are wanted.

The No. 10 is a full size one-horse plow, and cuts a furrow 6 x 12 inches.

The No. 13 is a light size two-horse plow, and cuts a furrow 7 x 14 inches.

The No. 15 is a regular size two-horse plow, and cuts a furrow 8 x 16 inches.

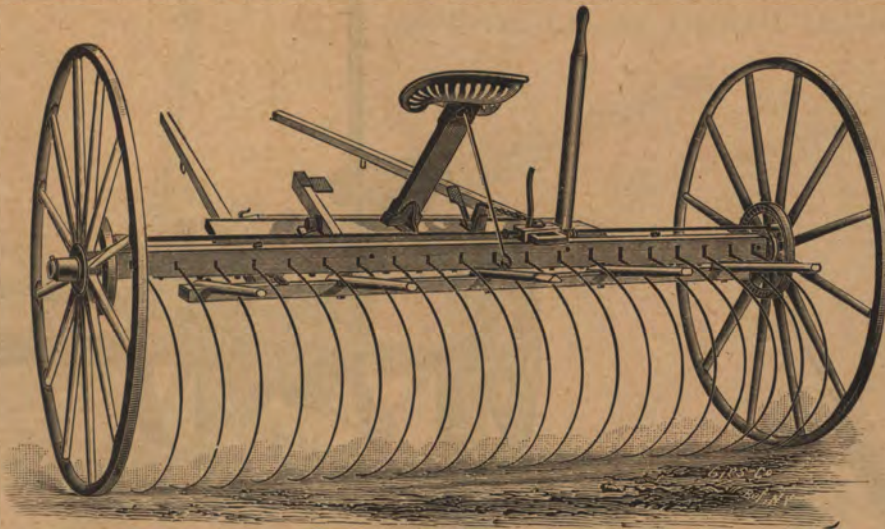


EMPIRE HORSE HAY RAKE—HAND-DUMP.

This is a new and improved rake, which has had a complete and thorough trial during the past few years, and for which we claim advantages possessed by no other rake.

The axle is made from a two-inch wrought iron pipe, which weighs only 20 pounds complete. This axle will not warp or bend down by the weight of the driver (as is the case with most wooden axles); when an axle is bent, it will throw its wheels out of line, which makes a much heavier draft, more wear on the rake, and has the appearance of an old and worn-out rake.

The teeth are separate and independent, fastened to the axle with a single bolt, and each tooth has much spring and play, so that the rake can be raised over bogs and obstructions without injuring the teeth. The rake has 20 teeth, made of the best oil-tempered steel. The teeth are also adjustable, and may be lowered or raised to any required height, to prevent scratching the ground and injuring the new clover. The cleaning bar is hinged to and immediately behind the axle, and is so compact as to allow the rake to gather to its fullest capacity. When the teeth rise up to discharge their load, the cleaning sticks pass down and push the load off the teeth, cleaning easily and thoroughly.

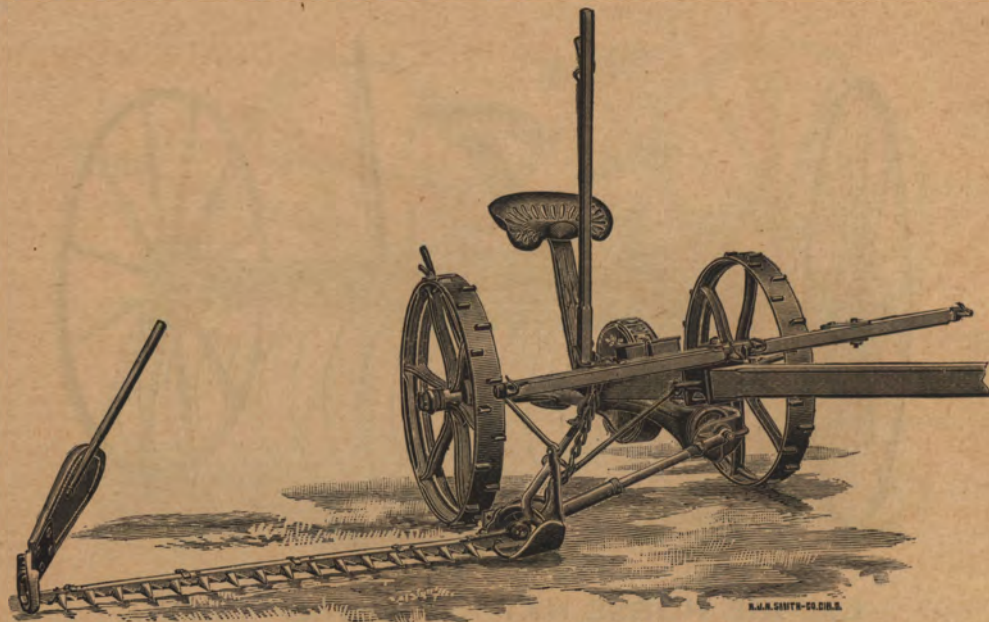


EMPIRE HORSE HAY RAKE—SELF-DUMP.

This is a very simple device for self-dump rakes. There is a ratchet to each wheel, and when the treadle is touched it throws a latch in each ratchet, which discharges the rake without any extra work, or jar to the horse. This self-dump arrangement does not interfere in using the rake as a hand-dump.

The rake is built exactly the same as the hand-dump, only having the self-dump arrangement added.

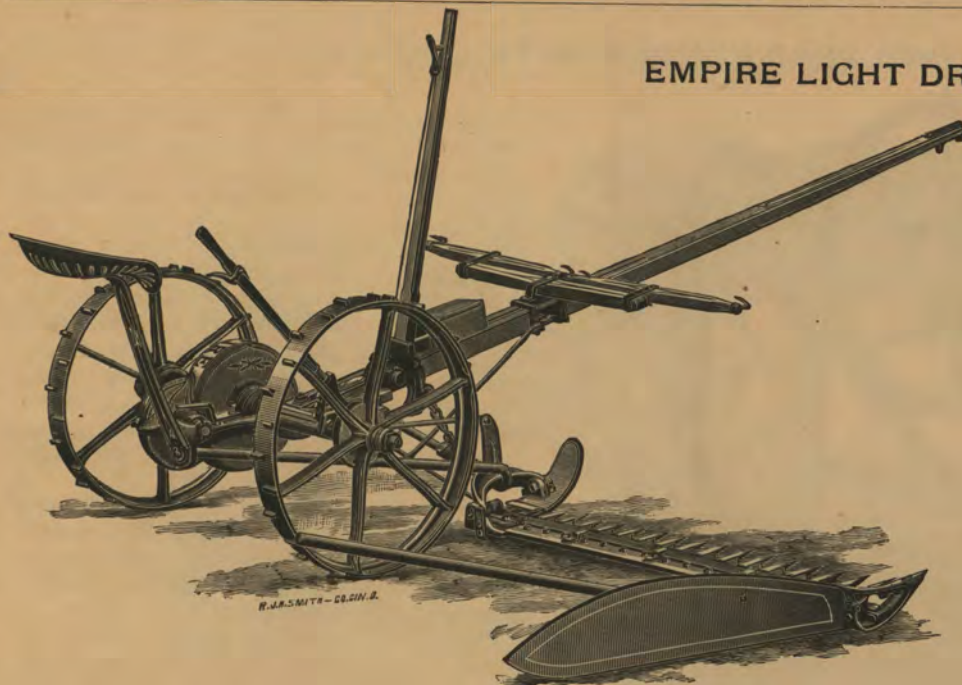
In ordering rakes, always state whether hand-dump or self-dump is wanted. If the order does not specify which is wanted, we will send the hand-dump.



EMPIRE LIGHT DRAFT MOWER.

The Empire Mowing Machine has the reputation of being the lightest draft machine in existence. The draft has been tested in different conditions of cutting, and on uneven ground at various times, and is found to range from 120 to 150 pounds. Among the features of excellence in the Empire Mower and Reaping Machines, many of which are not found in any other, are the following: **FIRST.**—It is a two-wheeled, front-cut machine, with the gearing on the main axle, between the drive wheels, and a ratchet to each drive wheel. It is now built with a wide truck, leaving the cut grass free from horses and wheels passing over it. **SECOND.**—The gearing is all enclosed in a small cast watch-shaped case, which completely protects it from dust and dirt. **THIRD.**—The frame is cast in one piece, with not a bolt or rivet about it, and is short and compact, thus insuring great strength, and will not warp or bend and throw the shafts out of line, as is the case when made of wood or wrought iron, and, unlike cast frames found in some machines, which are long and spread out, which makes them slender, weak and consequently liable to break. **FOURTH.**—The lifting and tilting levers are within easy reach of the driver's seat. By the tilting lever the entire finger bar is bodily raised up and down; by the tilting lever the points of the guards are raised and lowered to cut lodged grass. **FIFTH.**—The gearing is constructed on a new principle, which consists of the spur wheel and pinion containing two sets of teeth or cogs, alternately and intermittingly arranged, the object of which is to overcome leverage, wear, back lash, draft and noise, and to permit the gearing to be reduced in size, so that only a small case is required without the necessity of increasing the number of gear wheels, which has heretofore been the case with all machines having the gearing enclosed.

EMPIRE LIGHT DRAFT MOWER.



team on; the track bar and finger bar. With this draft connection, the weight of the finger bar is carried by the pull of the team, which makes the mower run much easier, and protects the knives and guards, especially over rough ground. TENTH.—The guards are of the best malleable iron, and are made with a hardened shear-edged steel guard plate, which comes in close contact with the knife, and forms the most perfect cutting apparatus. When the guard plate becomes dull or worn, the guard can be removed from the bar by one single bolt, and ground on any common grindstone, and thus it can always be kept in perfect cutting order.

WIDTH OF CUT.

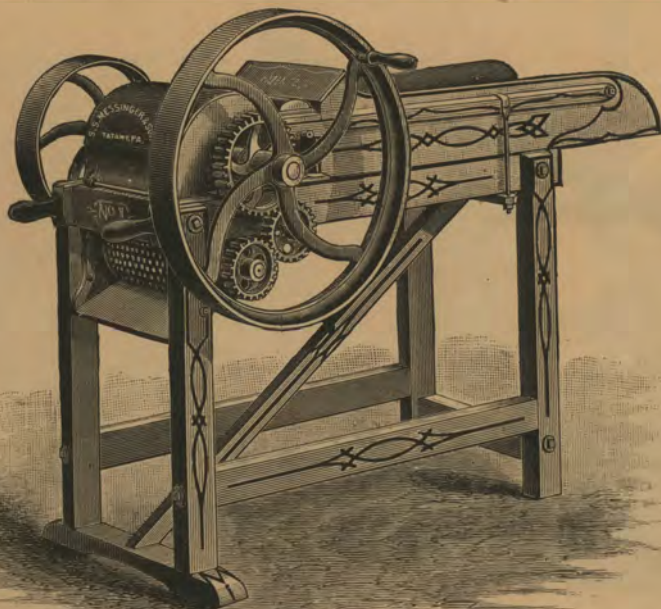
The Empire Mower is furnished with two knives having three-inch sections, and cuts four feet, four feet three inches, or four feet six inches wide, as may be desired by the purchaser. We furnish, as extras to each machine, guards, knife plates, oil can, screw wrench, cast-iron wrench, rivets, etc.

SIXTH.—The Empire is the only practical enclosed gear machine now built with only two wheels and two pinions for its gearing. No other with the gear wheels enclosed has less than six wheels, and some as high as eight. It is evident that the greater the number of gear wheels the greater will be the friction draft, wear and complication. SEVENTH.—The

finger bar is made of the best cold rolled steel with malleable shoes, having steel soles by which the entire bar may be raised or lowered to cut any height desired. EIGHTH.—The pitman hook is a steel socket, $1\frac{1}{4}$ inches in diameter, which makes a large wearing surface, and can always be kept tight by turning the socket. The pitman can also be made longer or shorter by screwing the pitman rod into or out of the pitman box, which is a desirable feature to make the knives center in the guards. The pitman box is self-oiling, and is constructed on an entirely new principle.

NINTH.—We use a draft rod with hooks, with its hind end to the track bar and it receives the double tree at the front end. The double tree is not bolted to the tongue, as usual, but connects only to the draft rod, which brings the direct draft of the team, which makes the mower run

EMPIRE FEED CUTTER, WITH CRUSHER.



This cut shows our No. 1 and No. 2 Feed Cutters, with corn stalk crushing attachment.

The crusher cylinder is made of cast iron, with teeth on its surface which run through a cast-iron concave with corresponding teeth. The cylinder is mounted on a $1\frac{1}{8}$ -inch shaft, to which the driving pinion is keyed. The corn stalks, as they are cut, drop into the grinding cylinder, where they are crushed and ground up fine, bringing them in the most valuable condition for feeding stock. The crushing cylinder can be taken out of the machine in an instant, simply by taking out one set screw in the end of the shaft. This shaft can then be drawn out of the cylinder, after which the cylinder rolls out of the machine of itself. After this cylinder is taken out this is an ordinary feed cutter, suited for cutting hay or straw, and does as complete work as the best in the market.

The No. 1 Cutter has three knives, 12 inches long, with the bevel on the inside, by which the knives can be ground and reset without any trouble.

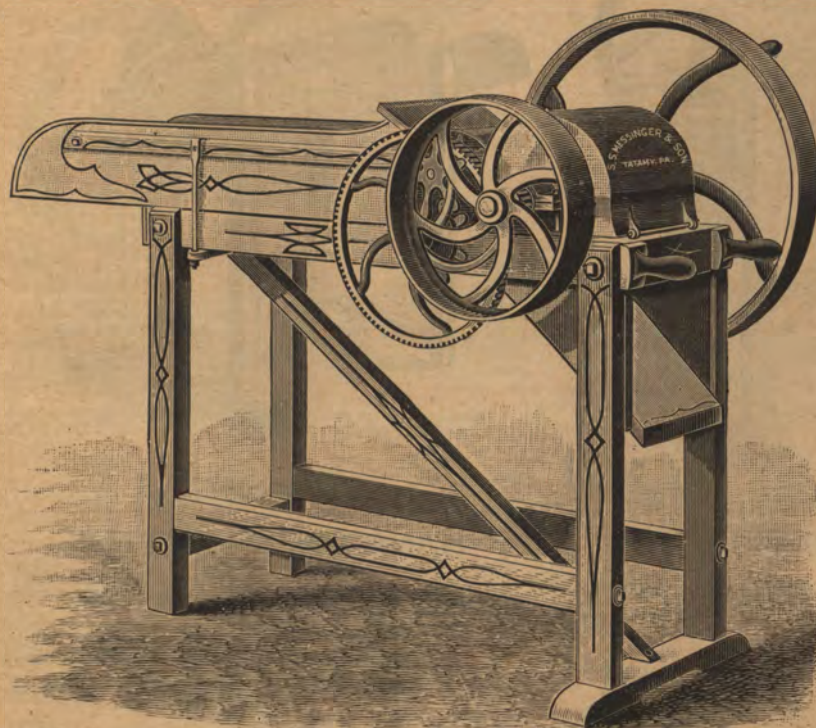
The knives make a shear cut and should always be so regulated as to cut close against the cutting bar.

The No. 2 Cutter has three knives, 10 inches long, and is made in all parts like the No. 1.

We also furnish either the No. 1 or No. 2 Cutter with four or five knives, if so ordered, at an additional cost of \$1.00 per knife extra.

Samples of crushed corn fodder will be furnished on application.

EMPIRE FEED CUTTER.



This cut shows our No. 1 and No. 2 Feed Cutters.

The No. 1 has three knives 12 inches long.

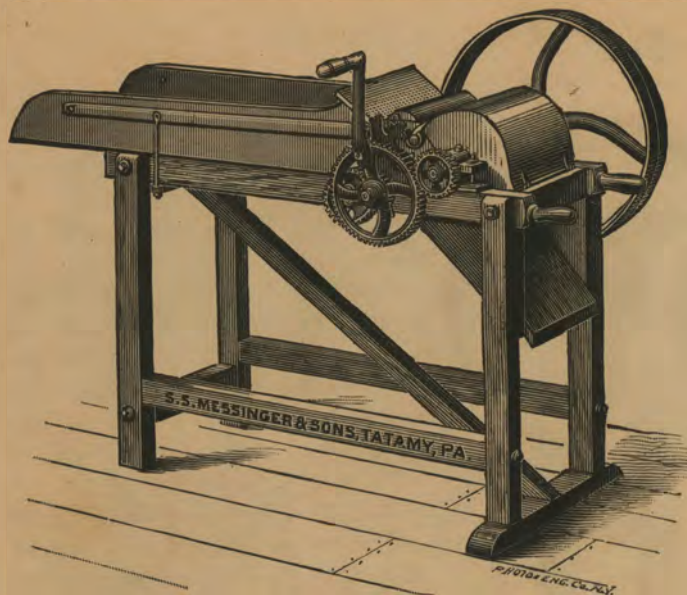
The No. 2 has three knives 10 inches long.

This is a heavily built machine, similar to our cutter with crusher. It has a 26-inch heavy fly wheel on one end of the cylinder shaft and a 15-inch belt pulley on the other. The fly wheel or pulley can be used on either side of the machine.

The above described machines are built more particularly to be run by power, but are also arranged for hand use.

We also furnish the No. 1 and No. 2 Cutters with four or five knives, if so ordered, at an additional cost of \$1 per knife extra.

The length of cut with three knives is $\frac{5}{8}$ inch, with four knives $\frac{1}{2}$ inch, and with five knives $\frac{3}{8}$ inch.

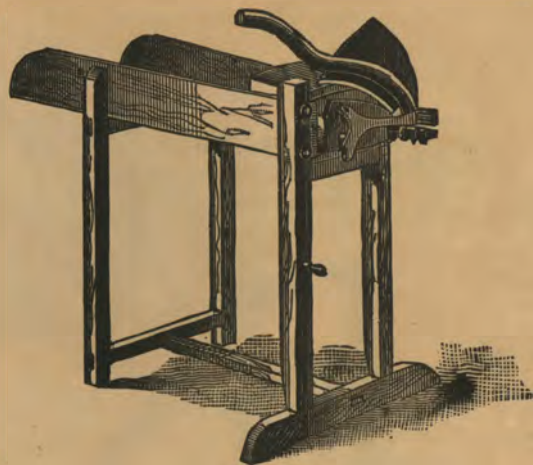


EMPIRE FEED CUTTER.

This cut shows our No. 3 Right-hand Feed Cutter. This is more particularly a hand machine, but has a heavy flat-faced fly wheel and is a very suitable machine for light power.

It has two knives, 10 inches long, and is geared so that it makes five cuts to one turn of the crank.

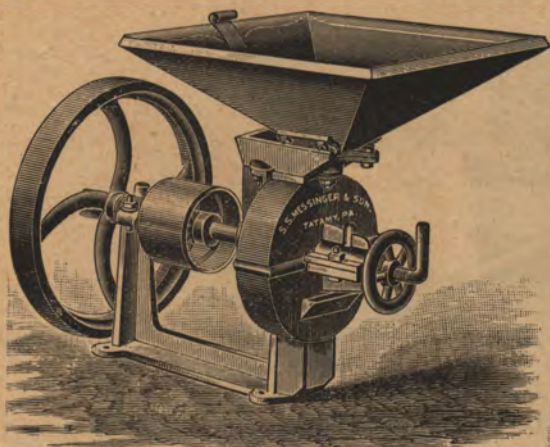
The length of cut is $\frac{1}{2}$ inch.



HAND LEVER CUTTER.

This cutter is strongly built and has as large a capacity as any of its kind in the market.

They are made with or without gauge plate and have a curved knife made from the best steel and are warranted to give entire satisfaction.



EMPIRE FEED GRINDER.

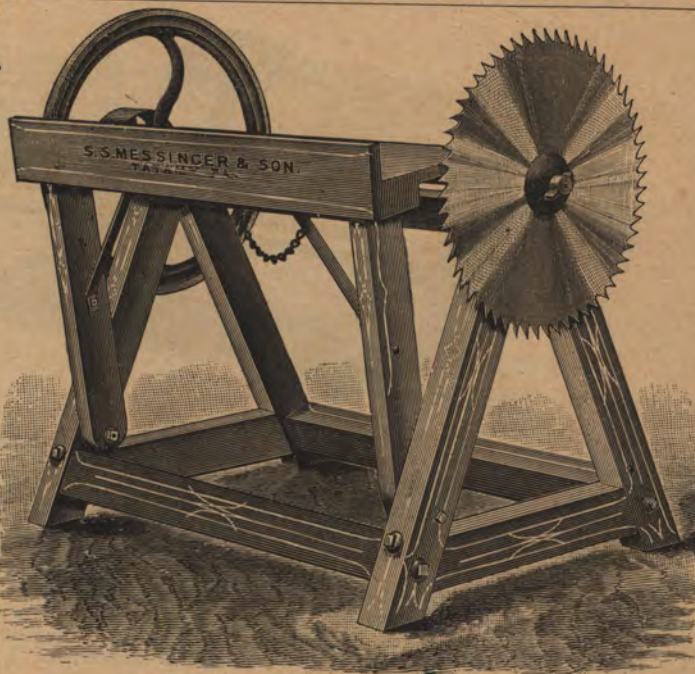
The grinding plates are of white metal, and fully as hard as any cast steel can be made, and 8 inches in diameter.

The plates are made in such a shape that they will grind, with the least power, all kinds of grain, fine or coarse, as may be desired.

One set of grinding plates will grind from 2,000 to 4,000 bushels, and can easily be replaced with a new set at the small cost of \$1.00.

The mill grinds from 5 to 15 bushels per hour, according to the fineness and power furnished.

We make 3 sizes, with 6, 8 and 10-inch grinding plates.



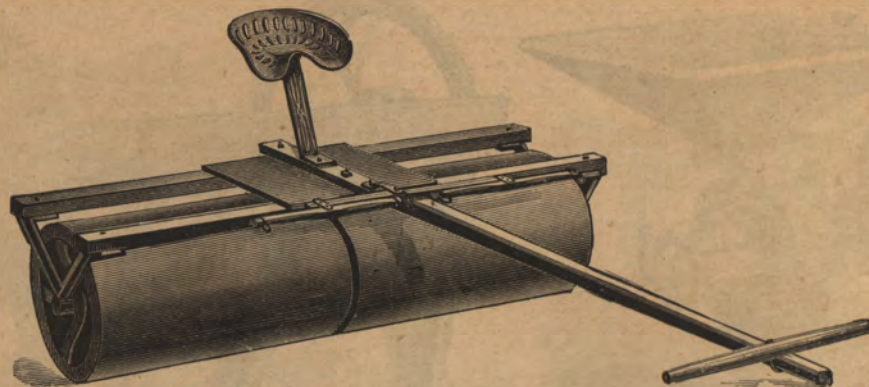
CROSS CUT SAW AND SWING TABLE.

Where parties are in want of a good, substantial, wood-sawing machine for cutting fuel, etc., we would recommend this machine.

It has a heavy balance wheel and is well finished in all its parts.

It can be run with one or two horse-power, and will do as much work as 50 men.

We furnish this machine either with 20, 24 or 28-inch saw.



EMPIRE STEEL LAND ROLLER.

This is an all-steel land roller, 25 inches in diameter, $7\frac{1}{2}$ feet wide and weighs 800 pounds.

The roller is built in two sections, guided in the middle with a brace.

The frame is either left open with only one 12-inch board on each side of the tongue, as shown in the cut, or covered up completely; and, if so ordered, we also fix stone box, either fast or removable, as may be desired. We always send the open frame, unless covered or stone box is ordered.

With this arrangement the roller may be made of any weight desired by loading stones or other material on it.

The shaft or axle is one and one-half inches round, and is held in its place with a set screw at each end of the frame.

The dirt does not stick on this roller, as is the case with log or plank rollers.

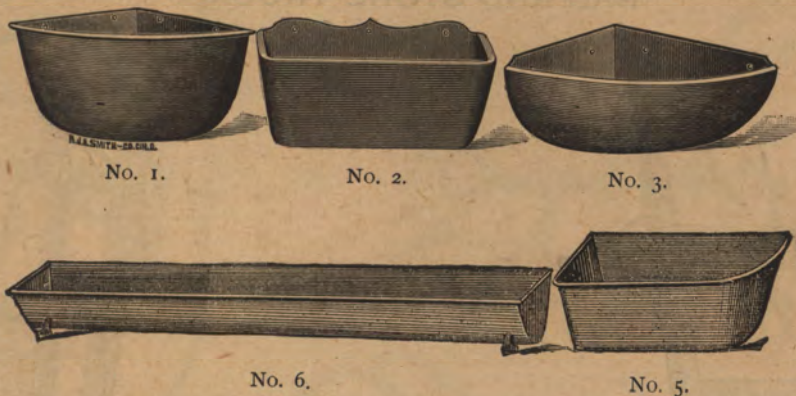
The shell is made of quarter-inch steel with a cast iron head riveted in at each end, which has a high flange to prevent stone or dirt from coming inside.

The roller is very light draft on the team, and throws no weight on the necks of the team, as the spring seat is so arranged that the weight of the driver perfectly balances the same.

This roller is furnished with spring seat, single and double tree and neck yoke.

PLANK ROLLERS.

We also build two sizes of plank rollers, 24 and 28-inch diameter, in two sections. The frame and length of roller are the same as in the steel roller.



No. 1, Corner Manger, length of sides, 20 inches; depth, 10½ inches.	Price	\$1.60
" 2, Center " " 24 inches; width, 14 inches; depth, 10 inches.	"	2.00
" 3, Corner " " of sides, 18 inches; depth, 12 inches.	"	1.50
" 4, " " " 16 " " 9½ "	"	1.40
" 5, R and L " " 21 inches; width, 12½ inches; depth, 9 inches.	"	1.50
" 6, Hog Trough, 9 inches wide, 6 inches deep, 2 to 8 feet long, with or without cross bars.		
	Price per foot	.50

WATER TROUGHS.

Light pattern, 18 inches wide at top, 12 inches at bottom, 8 inches deep—4 feet, \$6.00; 5 feet, \$7.40; 6 feet, \$8.70; 7 feet, \$9.90; 8 feet, \$10.00.

Heavy pattern, 20 inches wide at top, 13 inches at bottom, 10 inches deep—8 feet, \$12.00; 9 feet, \$13.50; 10 feet, \$14.90; 11 feet, \$16.20; 12 feet, \$17.40.

BAG AND STORE TRUCKS.



Bag Truck.

This is a very convenient truck, and should be on every farm and in every mill.

It is provided with a first-class adjustable bag holder.

Price, without bag holder \$3.00
 " with " " 3.50

Trucks for Store, Warehouse and Farm.

No.	DIAMETER OF WHEELS	CAPACITY	PRICE
1	6 inches	300 lbs.	\$4.50
2	7½ "	500 "	5.50
3	9 "	800 "	6.50
4	10½ "	1200 "	7.50
5	12 "	1800 "	9.00

For trucks strapped all the way up add 15 per cent.

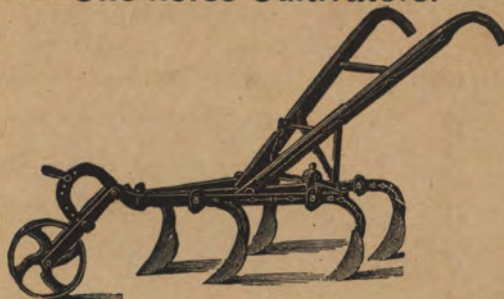


**Farm and Plantation
Bell.**

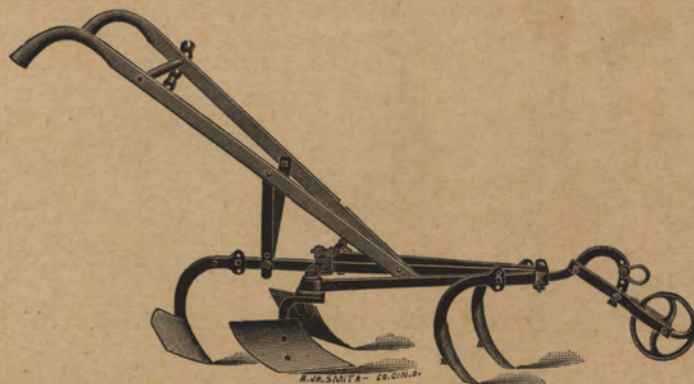
We make but one size of bells, which are 17 inches in diameter and weigh 89 pounds.

We furnish them with frame and yoke complete, as shown in cut.

One-horse Cultivators.



This is a steel beam cultivator with five reversible steel points and adjustable wheel and handles.



This cut shows the cultivator with R and L hilling shovels, and center hoe. By reversing the hilling shovels, the cultivator can also be used for covering potatoes, corn, etc.

These cultivators can be set wide or narrow in an instant, to suit for the rows of corn or potatoes to be cultivated.

We Can Furnish, at the Lowest Market Price, Steel or Iron Shafting, Drop Hangers, Post Hangers, Shaft Couplings, either Flange or Sleeve.

PRICES AND DIMENSIONS OF FINISHED PULLEYS.

DIAMETER	6	7	8	9	10	11	12	13	14	16	18	20	22	24	26	28	30	36	42
FACE IN INCHES																			
3	\$1 20	\$1 35	\$1 50	\$1 65	\$1 80	\$2 00	\$2 10	\$2 25	\$2 40	\$2 70	\$3 00	\$	\$	\$	\$	\$	\$	\$	\$
4	1 45	1 75	1 80	2 00	2 15	2 35	2 52	2 70	2 95	3 25	3 60	3 95	4 55	5 20	5 75	6 40	6 95		
5	1 70	1 88	2 10	2 30	2 52	2 73	2 90	3 15	3 36	3 85	4 20	4 60	5 30	6 05	6 70	7 40	8 10	10 65	
6	1 90	2 15	2 40	2 65	2 95	3 10	3 30	3 60	3 85	4 30	4 80	5 30	6 07	6 85	7 70	8 45	9 25	12 15	15 65
7		2 50	2 70	3 00	3 30	3 56	3 75	4 05	4 30	4 85	5 40	6 00	6 85	7 70	8 65	9 50	10 40	13 65	17 50
8			3 00	3 30	3 60	3 90	4 20	4 50	4 86	5 40	6 00	6 60	7 60	8 60	9 60	10 60	11 60	15 20	19 50
9				3 60	3 95	4 30	4 65	4 95	5 30	5 95	6 60	7 15	8 35	9 45	10 55	11 65	12 75	16 70	21 50
10					4 30	4 70	5 05	5 40	5 80	6 50	7 20	7 70	9 10	10 30	11 50	12 70	13 90	18 25	23 50
11						5 10	5 50	5 85	6 30	7 00	7 80	8 45	9 80	11 15	12 45	13 80	15 05	19 75	25 60
12							5 90	6 30	6 80	7 55	8 40	9 25	10 65	12 00	13 45	14 90	16 20	21 25	27 80
13								6 75	7 25	8 10	9 00	9 90	11 30	12 85	14 50	16 00	17 35	22 75	29 90
14									7 70	8 65	9 60	10 55	12 15	13 70	15 50	17 00	18 55	24 25	31 25
15										9 20	10 20	11 20	12 90	14 55	16 10	18 00	19 75	25 75	33 25
16										9 70	10 80	11 90	13 70	15 50	17 25	19 00	20 90	27 35	35 25
18													15 20	17 30	19 20	20 55	23 20	30 35	37 60