Founded in 1848

The NICHOLS-SHEPARD

MODERN HIGH GRADE

THRESHING MACHINERY,

BATTLE CREEK, MICHIGAN.

BRANCH HOUSES.
KANSAS CITY, MISSOURI.
DES MOINES, IOWA.
INDIANAPOLIS, INDIANA.
MINNEAPOLIS, MINNESOTA.

GENERAL AGENCIES.
MILWAUKEE, WIS. SPRINGFIELD, ILLS.
MANSFIELD, OHIO. LINCOLN, NEB.
HARRISBURG, PA
NASHVILLE, TENN.

FORTY NINE YEARS OF CONTINUOUS AND SUCCESSFUL BUSINESS WITHOUT CHANGE OF NAME, LOCATION OR MANAGEMENT.

THE NICHOLS-SHEPARD

MODERN HIGH GRADE

THRESHING MACHINERY.

THE BEST

MODEL.
MATERIAL.
WORKMANSHIP.
RESULTS.

TO THRESHERMEN.

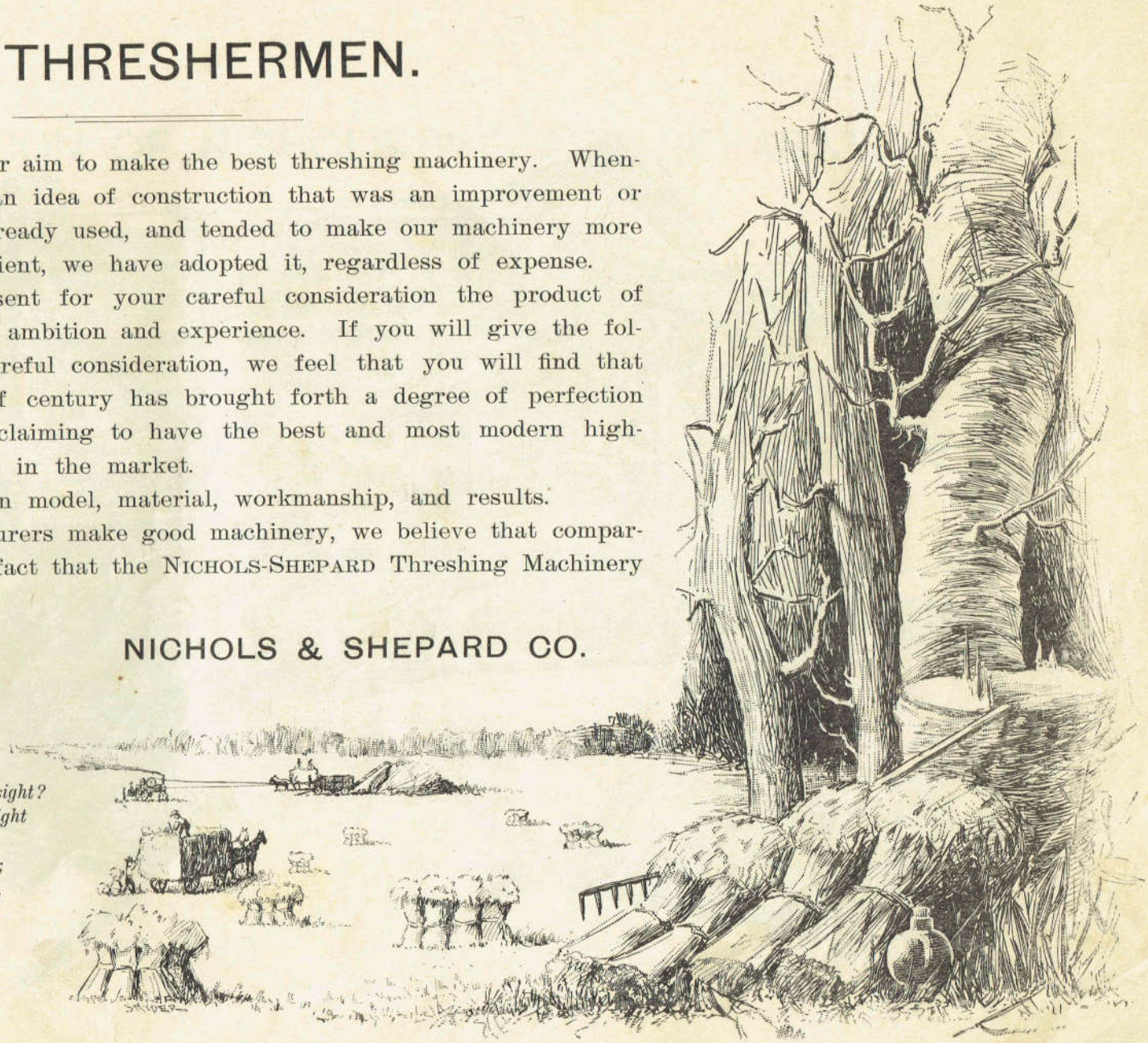
It has always been our aim to make the best threshing machinery. Whenever we have discovered an idea of construction that was an improvement or an advantage over that already used, and tended to make our machinery more durable, practical and efficient, we have adopted it, regardless of expense.

As a result, we present for your careful consideration the product of nearly fifty years' energy, ambition and experience. If you will give the following pages close and careful consideration, we feel that you will find that the effort of nearly a half century has brought forth a degree of perfection that justifies us in now claiming to have the best and most modern high-grade threshing machinery in the market.

Note its superiority in model, material, workmanship, and results.

While other manufacturers make good machinery, we believe that comparison will demonstrate the fact that the NICHOLS-SHEPARD Threshing Machinery is entitled to lead.

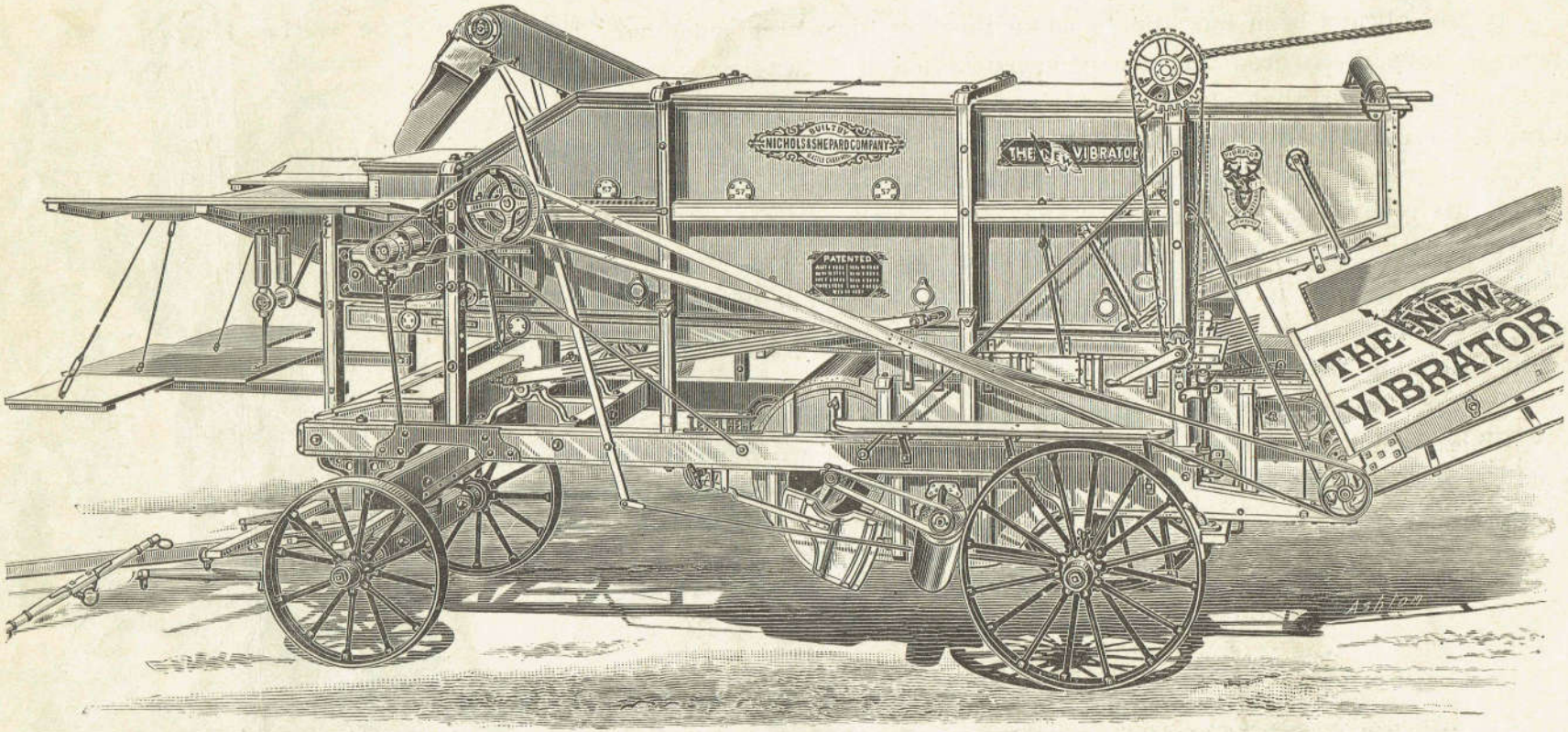
NICHOLS & SHEPARD CO.



Ah! see, what's this that greets my sight?
The harvest sun shines warm and bright
On fields of golden shocks of wheat,
Which in their beauty stand complete;
While, 'mong admiring harvest hands,
A ***Nichols-Shepard Thresher*** *stands.*
Of every kind and every make,
The ***Nichols-Shepard takes the cake.***

P-1

Turn
To 30-31
34-52



THE NICHOLS-SHEPARD SEPARATOR.

DESCRIPTION OF NICHOLS-SHEPARD SEPARATOR.

By reference to the sectional view of our Separator, it will be noticed that five vibrating shakers, each having a motion peculiar to itself, effect the separation of the grain from the straw. Each shaker is suspended at its receiving (or front) end, and swings back and forth with an "up-lifting" movement, which thoroughly agitates the straw and rapidly conveys it through the machine.

They are each independent in position and movement, and are so arranged that they "alternate" and "break" with each other, so as to produce as perfect separation as possible.

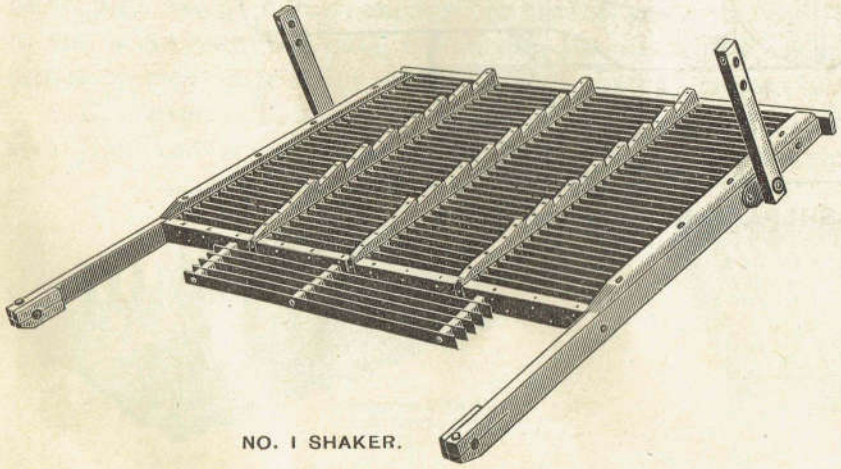
The intermingled chaff and grain falls through the shakers upon the grain-pan beneath, which carries it to the mill.

An important feature of the Separator is the fact that these shakers are fixed, and require no adjustment.

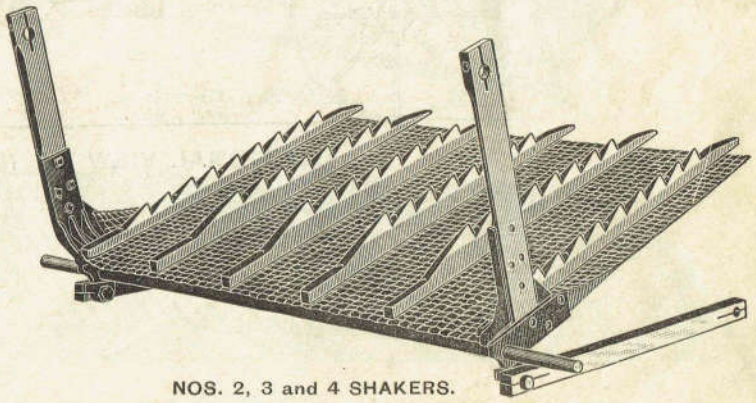
The number 1 (or first) shaker is formed of cross-slats of steel.

The number 2, 3 and 4 shakers are made of extra heavy woven steel wire. They are solid and durable, and permit thorough separation.

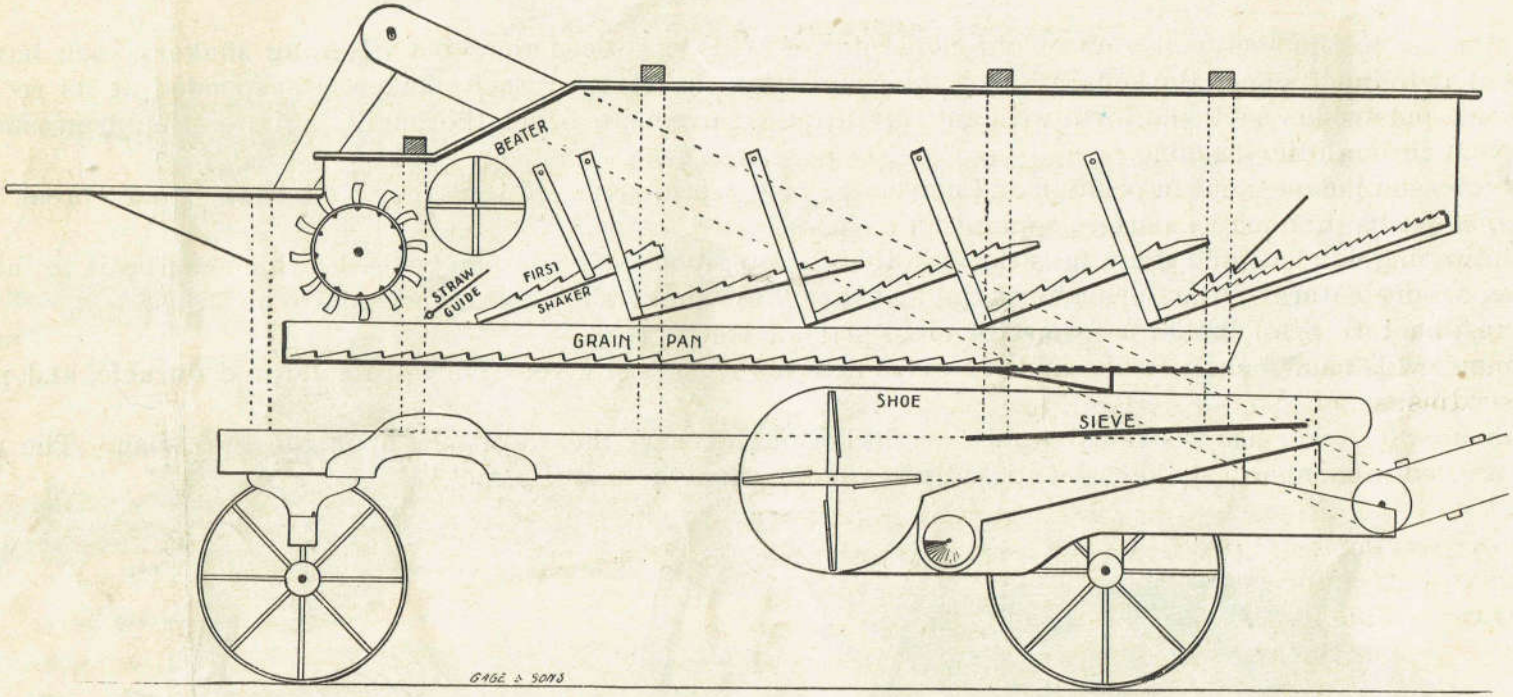
The number 5 shaker has wooden slats, with tight bottom, to carry the grain back upon the grain-pan. The uplifting rake attached to number 5 shaker is continually searching after the last "kernel."



NO. 1 SHAKER.



NOS. 2, 3 and 4 SHAKERS.



SECTIONAL VIEW OF NICHOLS-SHEPARD SEPARATOR.

The observing thresherman will notice the total absence of pickers, raddles, forks, kickers and other complications. The result of this simplicity is a great saving in time spent in "tinkering," and in the absence of noise and racket found in many other machines.

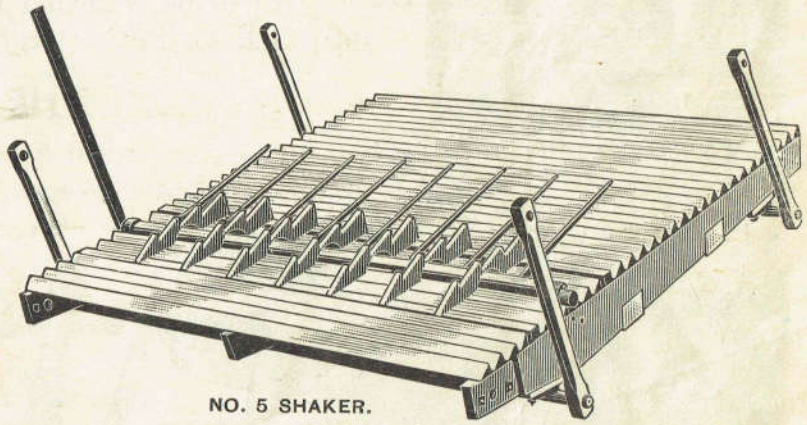
The success of the Nichols-Shepard Separator has been so great that we would almost be justified in claiming it to be impossible to waste grain with it. Although it is possible to waste grain with any machine, we believe that ours will approach closer to perfection than any other made.

THE CYLINDERS AND CONCAVES.

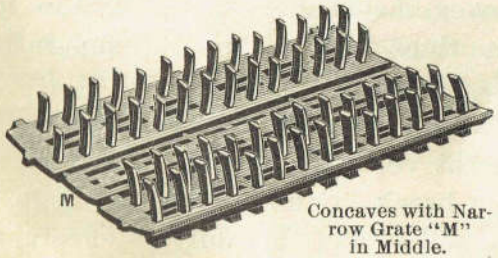
The cylinder and concaves together constitute the initial point upon which the threshing capacity depends. This portion has a vast and exact work to perform. It requires strength, with perfect adjustment. Our cylinder is constructed with unusual care, and of the finest material. It is provided with a steel shaft, twelve wrought-iron double bars, solid cast-iron end-heads and open "center-heads," and is filled with steel teeth. Wrought-iron bands fasten the whole together in a substantial and thorough manner. It is first balanced on "ways" or "levels," and afterward tested when at full speed, to insure perfect accuracy. The boxes are filled with the best babbitt metal (which is bored out to make a perfect bearing for the shaft), and are so arranged that the cylinder can be adjusted with the greatest nicety, and "end-play" entirely obviated.

We use two concave pieces, each containing two rows of teeth, and also a "blank concave" or narrow grate (marked "M" in the accompanying cut), which can be placed, as required, either *between*, in front or at the rear of, the two concaves.

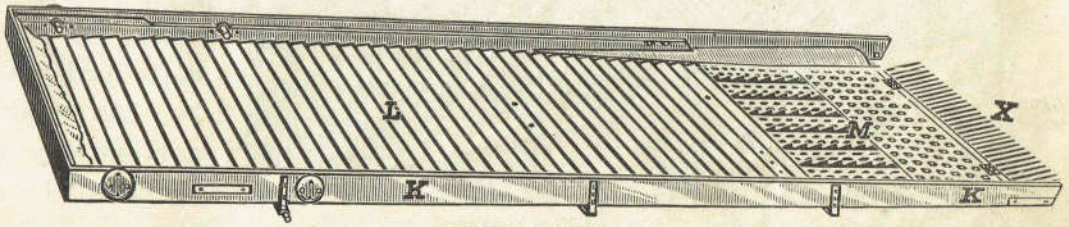
Concaves.—This is the position of the concaves as we send them out in our Separators. But they are easily changed



NO. 5 SHAKER.



Concaves with Narrow Grate "M" in Middle.



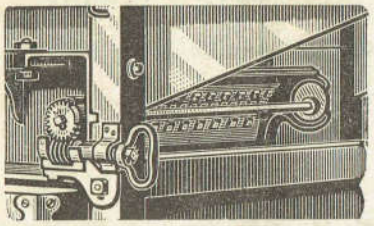
GRAIN-PAN.

by putting the grate "M" in the rear, or by putting in one, two, three, four, five or six rows of concave teeth, as may be found to give the best results. In extreme cases, eight rows can be used.

We send an extra GRATE FILLED WITH TEETH, FREE *with every machine,* thus giving *six* rows of concave teeth when needed. This, however, is rarely the case, except, perhaps, *in very bad grain.*

THE CONCAVE ADJUSTER.

All the Nichols-Shepard Separators (both geared and belted) are furnished with this convenient device. A square rod, provided with two eccentrics, passes from side to side of the cylinder frame. These two eccentrics work in suitable openings in the concave holders. This shaft is actuated by the "worm and gear," as shown in the cut. When it is desired to raise or lower the concaves, the feeder (or Separator tender) can do it instantly, *without use of wrench or turn of bolt,* by simply moving the handle to the right or left. This enables the feeder to *instantly* adjust the "thresh" of the cylinder, and to open and close the throat at will, and gives him complete control without stopping the machine.

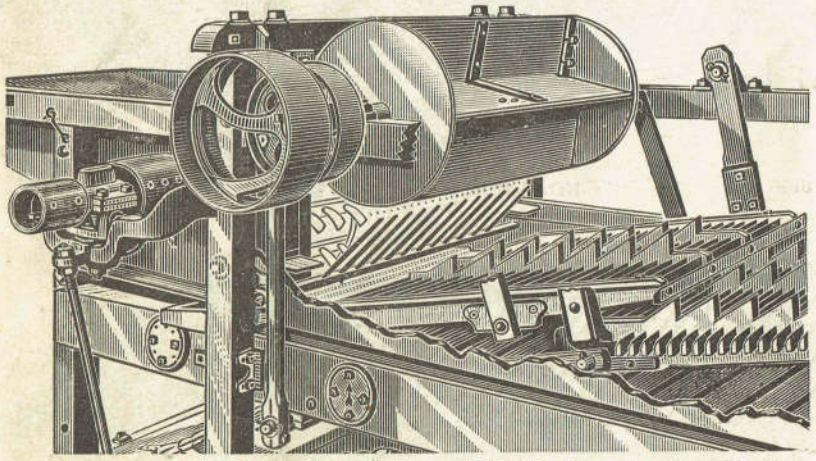


CONCAVE ADJUSTER.

It will be seen that the concaves can be raised or lowered while the machine is threshing; and, what is better, *both ends will be raised exactly alike.*

THE STRAW GUIDE AND BEATER.

The view given herewith shows very clearly the construction of our Patent Straw-Guide. This device consists of a shaft in which are inserted iron teeth, or tines, as shown in the cut. At one end is attached a lever, which is held in position by a ratchet and spring, and is in easy reach of the feeder. By means of these devices, the angle of the tines or teeth can be varied as may be found necessary to suit different conditions of the straw.

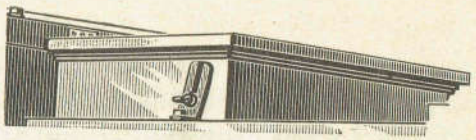


This view shows the Beater, Straw-Guide, and First Shaker. Also, iron side of Cylinder Frame, and the Cylinder Yoke with Swivel Box.

These tines are so placed that they cause the straw to immediately spread out over the shakers covering the full width of the Separator, thus fully using its separating capacity.

As the intermingled straw and grain pass from the cylinder and concaves with great velocity, it is important that a check to the speed, and a break in the course, be made as close to the cylinder as possible, and this duty is effectually

performed by our Straw-Guide, in connection with the Beater. As the straw comes from the cylinder, it is compelled to strike squarely into the wings of the Beater. Thus a complete "break" and stoppage of all flying grain is made, and the intermingled grain is allowed to fall out and separate from the straw and drop through the wrought-iron grating into the grain-pan. The Beater thus stops all flying grain, and changes the direction of the straw, and directs it down upon the first shaker.



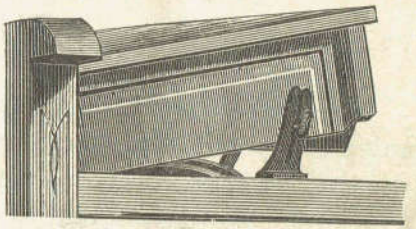
Cylinder-Cap, Closed.

THE CYLINDER FRAME,

And Its Attachments.

The cut shows the substantial construction of our cylinder frame, the improved cylinder yoke, and our adjustable "pivot and swivel" box. The cast-iron sides are very strong, and are fastened to the cylinder posts by heavy flanges. Thus the tendency of the frame to get "out of square" is entirely obviated, and the cylinder and concaves must retain their relative positions to each other.

As the "pivot and swivel" box cannot get "out of line" with the shaft, the "heating" of boxes is largely obviated. The cylinder-yokes are bolted to the cast-iron sides, and also to the back cylinder posts, thus bracing and strengthening the entire frame.



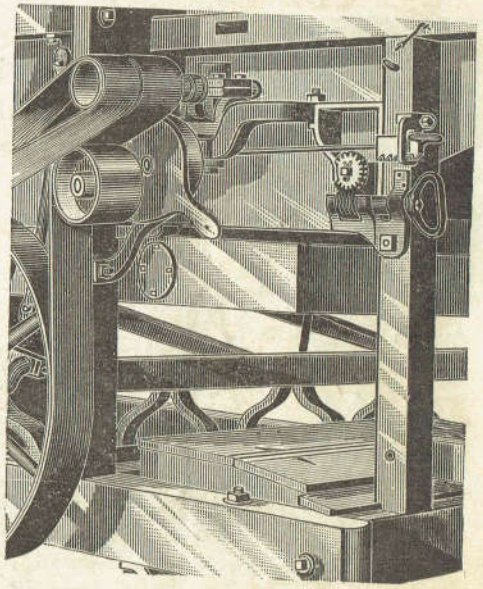
Cylinder-Cap, Partially Raised.

THE IMPROVED CYLINDER-CAP.

(Hoag Patent, August 27, 1887.)

We illustrate herewith our improved Cylinder-Cap. It is attached to the top of the frame by wrought-iron hinges, and can, if desired, be thrown entirely back (without interfering with the elevator spout), thus giving instant access to the cylinder and concaves. By the peculiar construction of the Cylinder-Cap, and also of the throat, in connection with the wrought-iron beater, which acts on the principle of an "exhaust fan," the DUST *is carried through with the straw*, and not thrown out in the feeder's face. This *cleanly feature* is one among the many advantages which our machines possess.

The cut shows the cap as partially raised and held by means of the bracket and thumb-nut at the side.



CYLINDER FRAME.

THE BELT-GUIDE AND REEL.

(Brown's Patent, April 12, 1887.)

The accompanying cuts (figs. 1 and 2) give a very accurate representation of this convenient and useful attachment. Figure 1 shows the Belt-Guide and Reel as it appears when in use as a Reel with the belt wound up, and the Separator ready for a move, while Figure 2 exhibits the appearance when in use as a guide for the belt. Every thresherman will appreciate the advantages of this handy device. Made and controlled exclusively by this company.

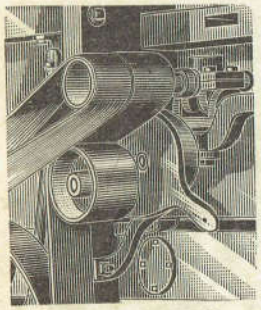
THE NEW AUTOMATIC SPRING-TIGHTENER.

(Brice's Patent, March 13, 1891.)

The improved Automatic Spring-Tightener for the main belt, from the double pulley on the cylinder shaft to the crank-shaft pulley, will be appreciated, as it saves frequent cutting and lacing of the belt. It maintains a proper tension of the belt automatically by means of a spring inside the casting, and keeps the belt just tight enough all the time, without any care or attention on the part of the operator. It yields to any inequality in the belt or lacing, and is much superior to a rigid tightener.

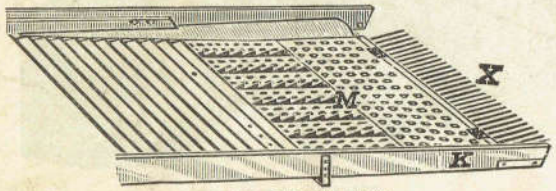
GRAIN-PAN, PERFORATED EXTENSION.

(Robinson's Patent, March 30, 1883.)



Automatic Spring-Tightener.

This valuable device is shown at "K" in the cut herewith. It consists of a perforated extension which is firmly placed at the rear end of the Grain-Pan. At "M" is shown the perforated board. As the intermingled chaff and grain pass along in the Grain-Pan, the short straws and coarse chaff are carried over the end of extension "X" and do not fall upon the sieve at all. Thus the sieve is relieved of a large share of the work which formerly came upon it, because much of the cleaning is done through the extension above.



THE GRAIN-PAN.

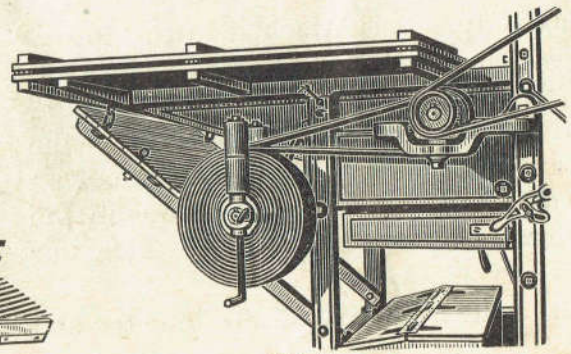


FIG. 1.

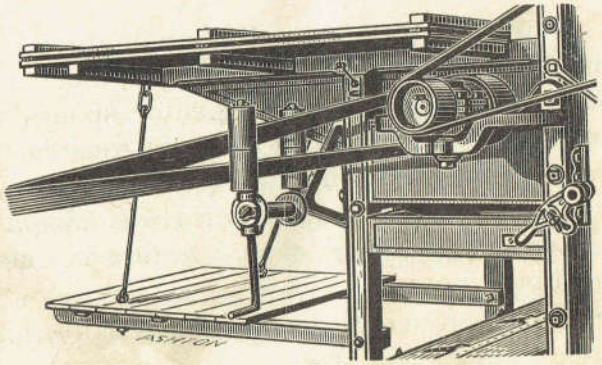


FIG. 2.

THE "UPLIFT" SIEVE MOVEMENT.

(Hoag Patent, August 27, 1878.)

At "F" is shown the end of a shaft which passes through the sides of the shoe. On the inside of the shoe, at each side, are two castings, which are fastened to the shaft by set-screws. These castings are called "knockers," and upon them is placed the inner end of the sieve. The shaft "F" is connected to the grain-pan "B" by the arm "C," rod "I," and hub "D." By the movement of the grain-pan back and forth, motion is communicated to the shaft "F," and thus a gentle "uplift" movement is communicated to the sieve, which prevents clogging, and works the grain through it smoothly and without waste.

FAN ADJUSTER.

(Brown Patent, May 2, 1882.)

By this ingenious arrangement the thresherman has entire control of the wind blinds on *both* sides of the Separator while standing at either side, and can raise or lower one or both of the blinds "F" by means of the handle "A," without changing his position. This is an admirable and very convenient feature.

STACKER WINDLASS.

This excellent device is herewith clearly illustrated. The windlass shaft, upon which the stacker ropes are wound, is supported by bracket boxes. On the end of the windlass shaft is fastened the upper sprocket wheel, which is actuated by means of a chain from the lower sprocket wheel, which revolves upon a stud.

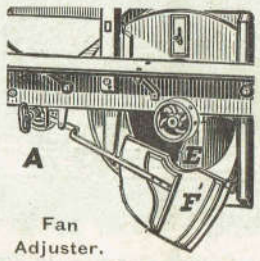
One man, *while standing upon the ground*, can easily raise the stacker with one hand.

Its advantages are too obvious to require further comment.

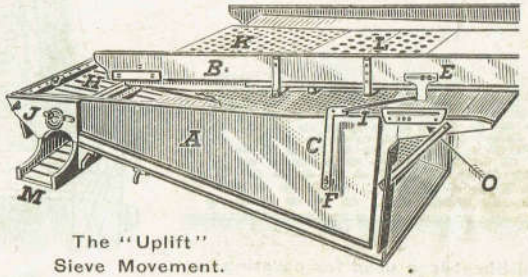
It will not interfere with a weigher or measurer being attached to the Separator.

FOLDING STACKERS.

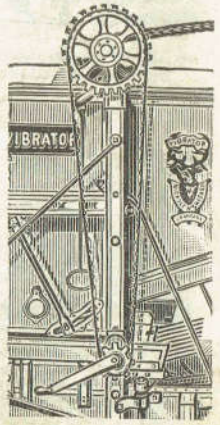
We herewith illustrate our improved "Folding" Straw Stacker, which is certainly the *standard* in that line. It *carries all the chaff with the straw* direct to the stack, and cannot be affected by adverse winds. The canvas sides are high, and entirely protect the straw in its passage to the stack

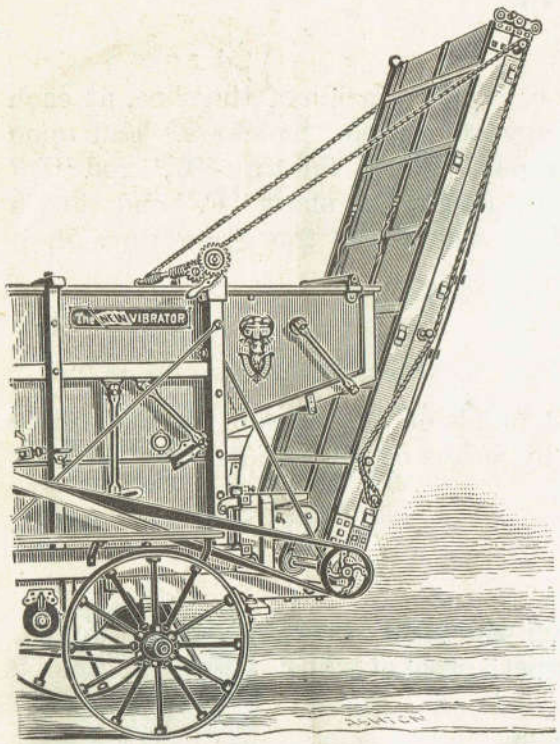


Fan Adjuster.



The "Uplift" Sieve Movement.


Stacker Windlass.



The above cut shows our 18-Foot Stacker "Folded Up," with Raddle attached and all ready for travel.

from "head" or "side" winds, insuring the nicest and cleanest of work. The cut shows the manner of folding and carrying our 18-foot Stacker. Our extra long Stacker is carried on top of the Separator. To close it for transportation it is NOT NECESSARY TO REMOVE THE RADDLE at all.

It is driven by a powerful belt from the lower end.

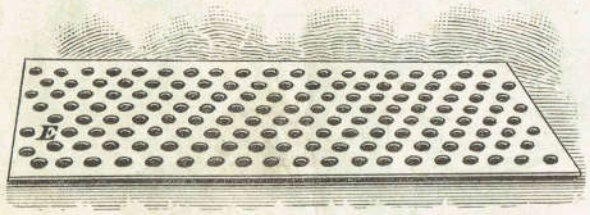
This improved Stacker is put together *entirely with rods and joint bolts;* it has a tongued and grooved bottom; is made very stiff and strong, yet light; is finely painted and finished.

The raddle is provided with three belts, or straps, and is driven by three pulleys on the lower stacker shaft.

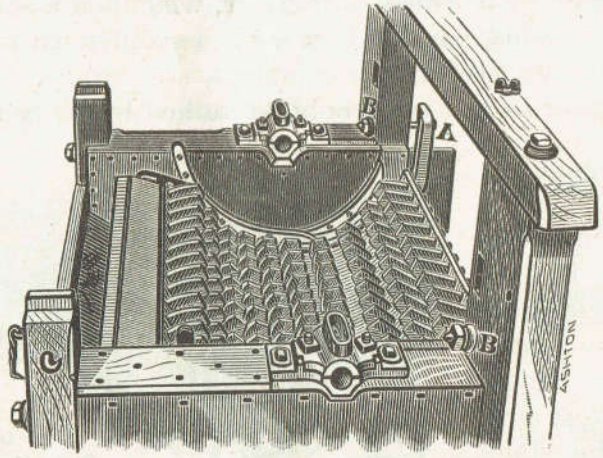
CLOVER-HULLING ATTACHMENT.

How the Nichols-Shepard Separator Threshes, Hulls and Cleans Clover Seed.

Our Clover-Hulling Attachment has proved its entire superiority in every kind and condition of clover seed, surprising everyone with its rapid and perfect work. By the aid of this attachment, our Separator is enabled to thresh, hull and clean clover seed as thoroughly as, and much faster than, the regular clover-huller. By putting our Clover Attachment into our regular Separator, at an expense of $50, the operator is enabled to convert his grain thresher into a perfect clover machine that will do *very much faster work* than the most costly clover-huller, and save and clean the seed in the most perfect manner. Bear in mind that this attachment is not a part of our regular Thresher outfit, but is entirely distinct, and only furnished when specially ordered, and is sold for *cash only*, and only for the Nichols-Shepard Separators. If it is properly operated, it will aston-



Showing Perforated Sheet-Iron used for covering First Shaker.



Showing Hulling Concaves in Position.

ish and delight threshermen and farmers by its wonderful work. This improved Clover-Hulling Attachment is our own invention, and belongs exclusively to Nichols & Shepard Company. It is entirely free from all claims of infringement, and our customers are entirely safe and fully protected in its use.

FLAX, TIMOTHY AND OTHER SMALL SEEDS.

The Nichols-Shepard Separator is perfectly adapted to Flax, Timothy, Millet, Hungarian, English Blue Grass, Orchard Grass, Clover, Alfalfa, Rice, etc. Threshes, separates, saves and cleans these difficult seeds as easily and perfectly as grain. In the separating and cleaning of light and valuable "seeds," our Separator entirely excels. Other machines require more or less rebuilding and changing, and the addition of various attachments. Not so with our Separator. No alterations, additions, or attachments are needed (except for Clover Seed) to adapt it to any kind of grain or seed, but it is ready at a moment's notice to go from one kind to another totally different. All that is necessary is to *put in the proper sieves and go ahead.* It is the best flax thresher in the market.

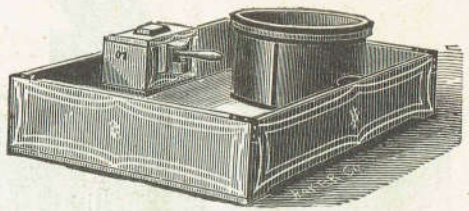
THE SMITH GRAIN REGISTER.

We herewith give you a view of the Smith Grain Register, which we furnish when *specially ordered.* It is placed under the grain spout when in use, and is used with half-bushel measures.

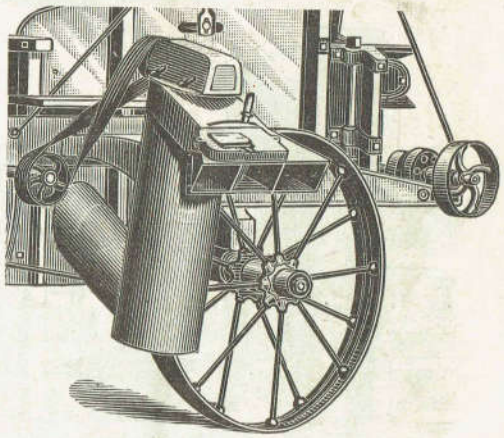
This Grain Register is not furnished with our machine unless specially ordered. We do not furnish the half-bushels which are used with this Register. Price, extra, $7.00.

IMPROVED STEEL BAGGER.

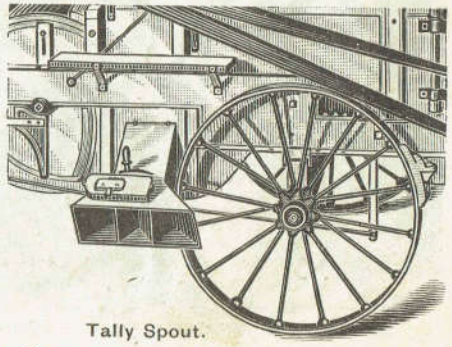
Herewith we illustrate our Steel "Bagger," or "Sacker," frequently used in connection with our Separator for elevating and sacking the grain. It is provided with a screw elevator, which conveys the grain from the spout to the top of the Bagger. When one sack is filled, the gate, or "cut-off," is shifted, and the grain runs into the other sack, and each one is tallied. It is operated by a belt from a pulley on the fan shaft, and can be carried attached to the machine when moving. The spout from machine to



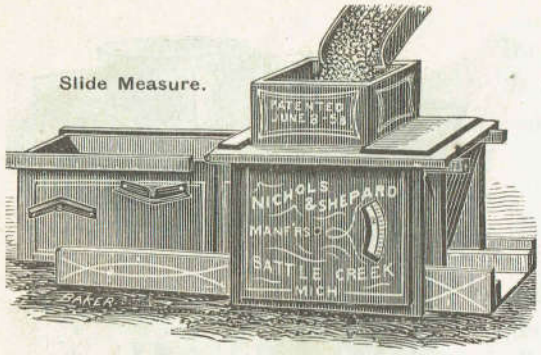
The Smith Grain Register.



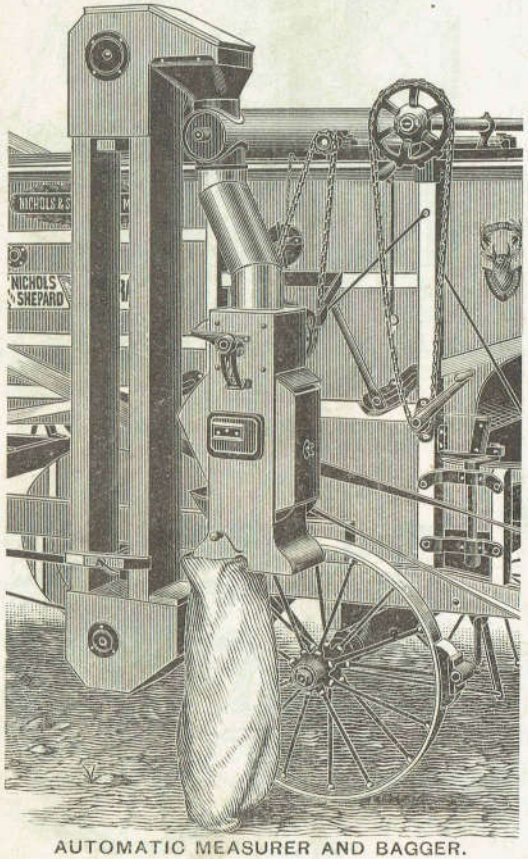
The Improved Steel Bagger.



Tally Spout.



Slide Measure.



AUTOMATIC MEASURER AND BAGGER.

Bagger is closed so nothing can blow into the clean grain. This Bagger does not measure, but tallies the sacks. The "Bagger" is not furnished with the Separator, *except when specially ordered.* Price, extra, $30.00.

THE TALLY SPOUT,

A cut of which is shown on preceding page, directs the grain into half-bushels, or bushel baskets, and keeps "tally." We do not furnish the measures which are used with this spout.

This grain spout is not furnished with the Separator, *except when specially ordered.* Price, extra, $7.00.

SLIDE MEASURE.

Herewith we give a view of our Improved Slide Grain Measure, which we furnish when *specially ordered.* It is placed under the grain spout, as shown in the cut. It measures and keeps tally.

This Slide Measure is not furnished with our machine unless *specially ordered.* Price, extra, $7.00.

If bushel boxes are desired, instead of half-bushels, price, extra, $10.00.

AUTOMATIC MEASURER AND BAGGER.

You Put on the Bags; the Machine Does the Rest.

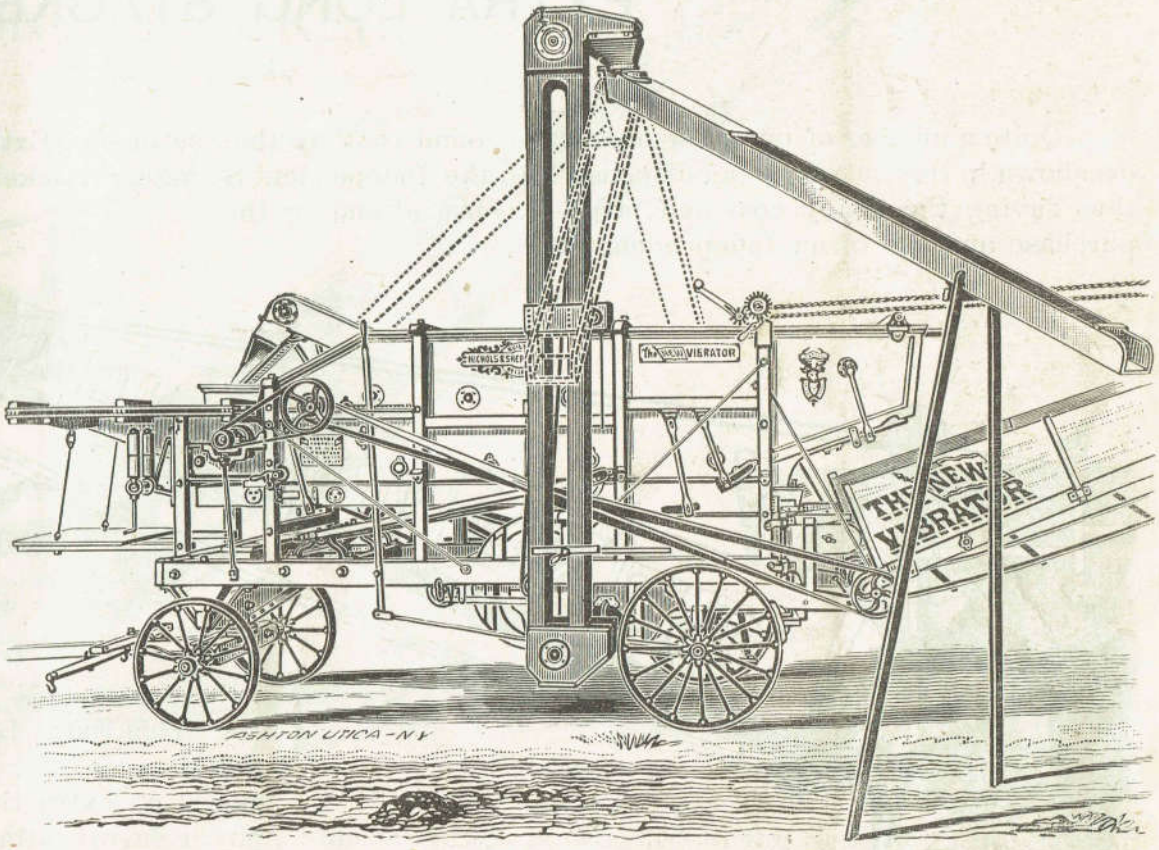
This device has proven itself to be the best thing obtainable for accurately measuring and sacking grain. The grain is continually elevated from one side of the machine by a large and capacious cup elevator, and when necessary will deliver it upon the opposite side of the machine. The moving of the measuring box from side to side is all the change necessary. This is quickly and easily done.

The capacity of this Measurer and Bagger is ample. It will deliver the grain only in sacks or bags, but measures it accurately, and tallies each half-bushel. The measuring device is positive and perfectly accurate.

This Measurer and Bagger is made by us expressly for the Nichols-Shepard Separator, and will not fit any other make of machine.

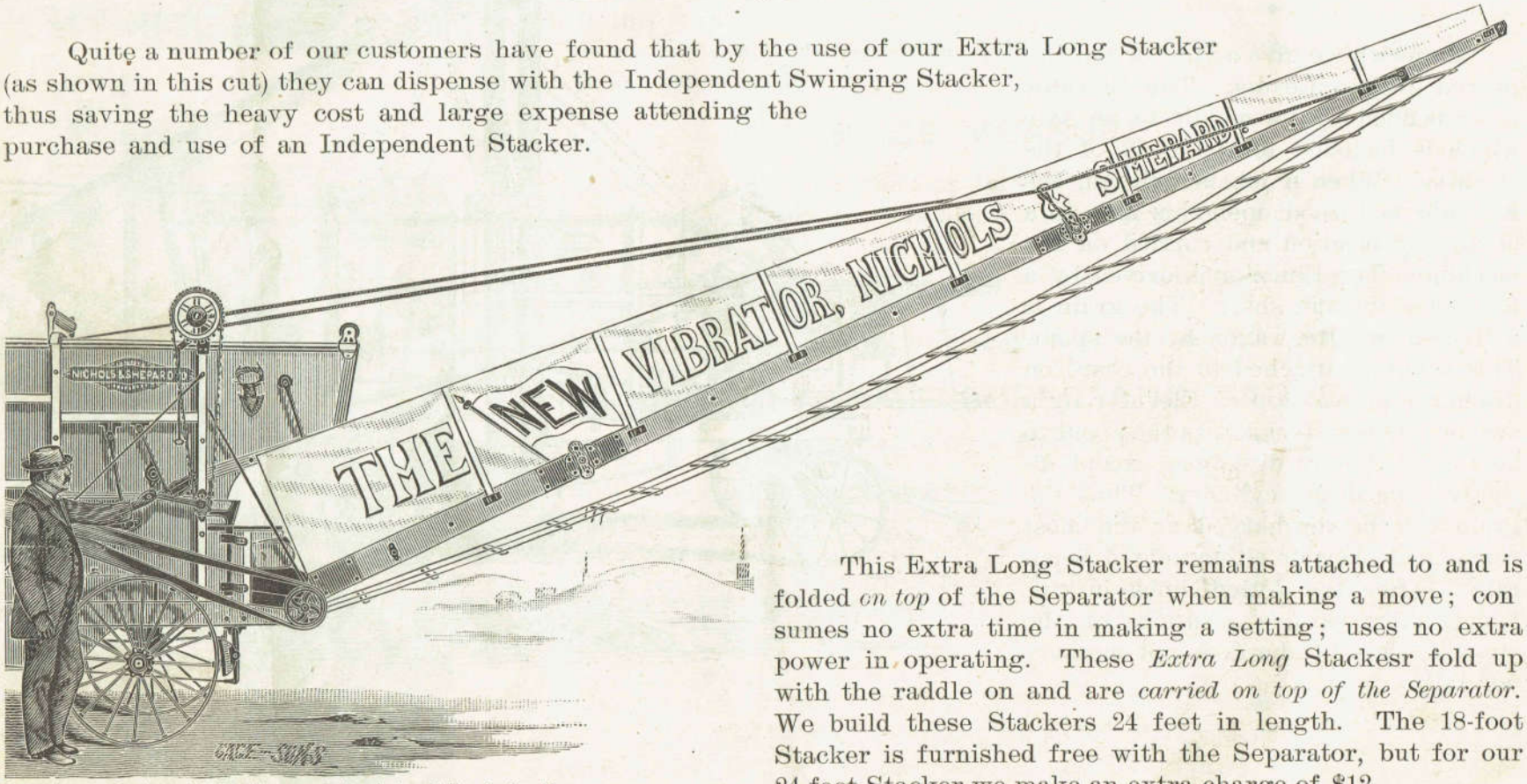
WAGON LOADER.

Herewith we give a view of our improved Wagon Loader. The Elevator is suspended by its middle to an axle which is fastened to the deck of the machine. When a job is finished, the Elevator is turned upon this axle to a horizontal position and carried on the machine. The Elevator is driven by a belt from the fan shaft. The grain is delivered into the wagon by the spout. This spout is attached to the cast-iron discharge pipe at top of Elevator by a swivel. This swivel allows the spout to be turned in any direction, except directly toward the cylinder. Thus the grain can be discharged at the most convenient place on either side of Separator. (See the dotted lines in cut, which show various positions of the spout.) This Loader does not measure nor tally.



EXTRA LONG STACKERS.

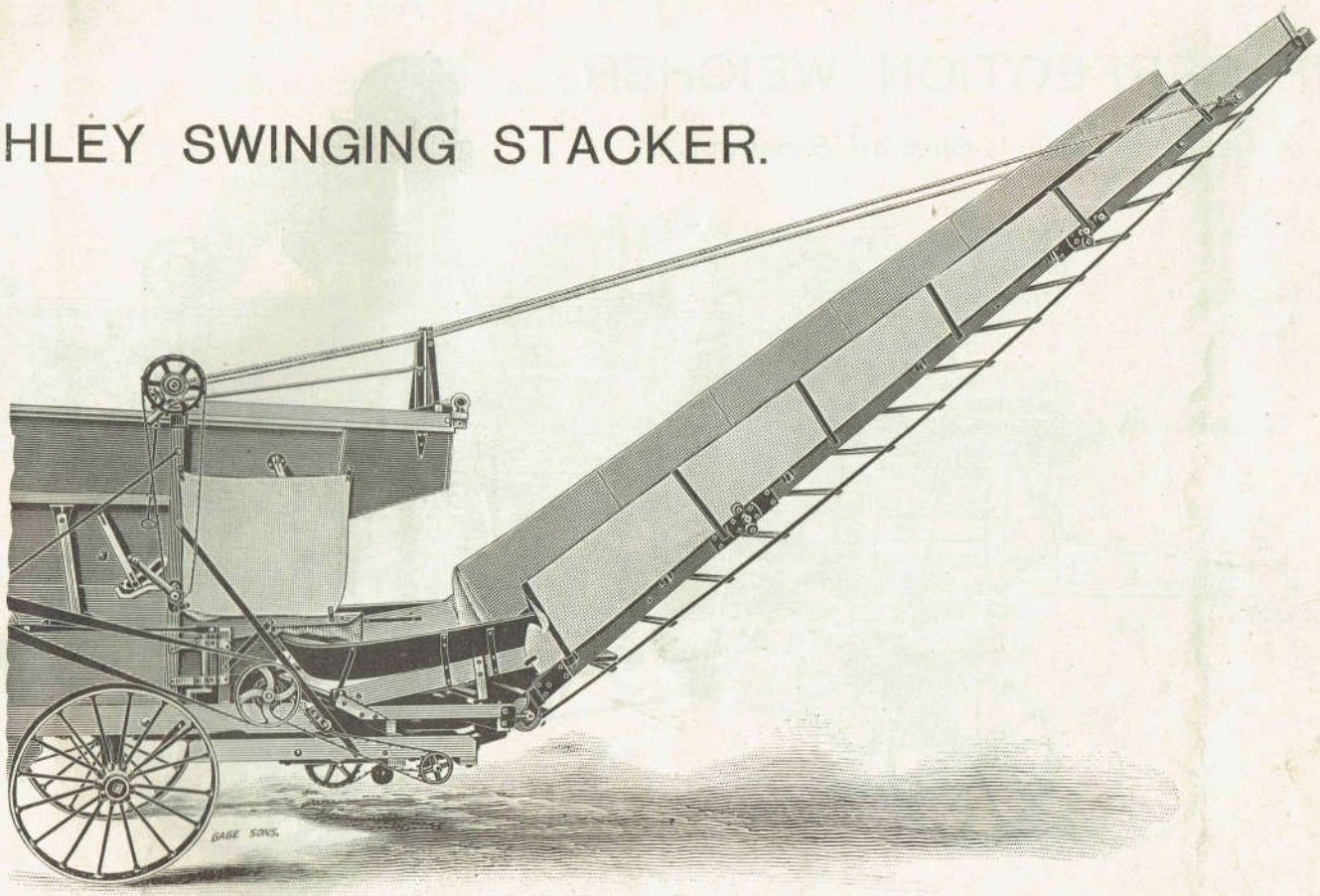
Quite a number of our customers have found that by the use of our Extra Long Stacker (as shown in this cut) they can dispense with the Independent Swinging Stacker, thus saving the heavy cost and large expense attending the purchase and use of an Independent Stacker.



Extra Long Stacker, 24 Feet Long, Extended and Ready for Use.

This Extra Long Stacker remains attached to and is folded *on top* of the Separator when making a move; consumes no extra time in making a setting; uses no extra power in operating. These *Extra Long* Stackesr fold up with the raddle on and are *carried on top of the Separator.* We build these Stackers 24 feet in length. The 18-foot Stacker is furnished free with the Separator, but for our 24-foot Stacker we make an extra charge of $12.

ASHLEY SWINGING STACKER.

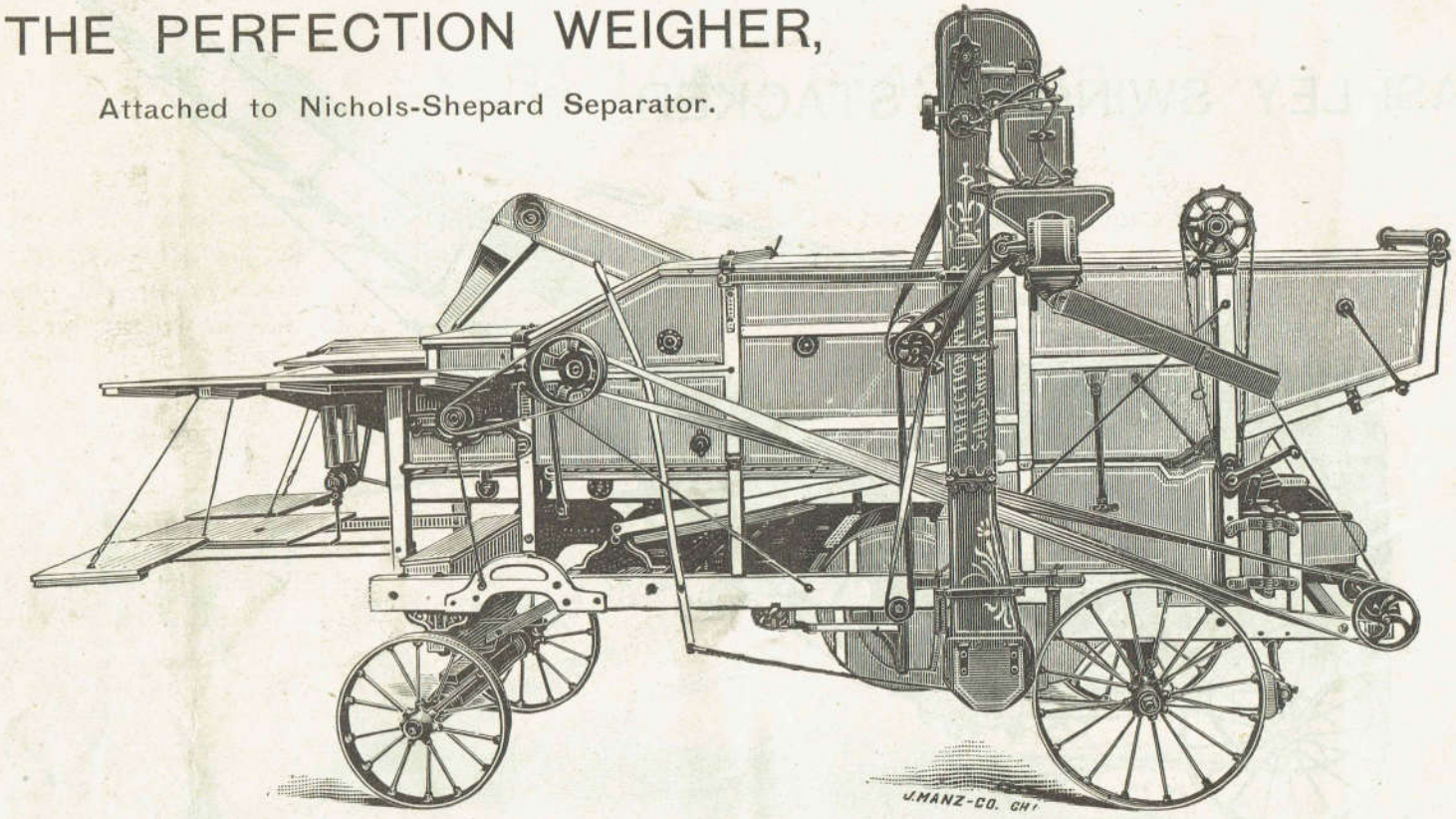


The accompanying cut shows our new Ashley Swinging Stacker, which is attached to the Separator frame. This takes the place of the regular stacker, and oscillates automatically, like the regular swinging stacker. It will swing so as to carry the straw at right angles with the Separator, making a convenient device for storing straw in barns. This device makes very little litter, and is thoroughly practical in every respect.

The Stacker folds closely on the top of the Separator, making it very convenient for handling, and carrying on the road. Price, extra, $100.00.

THE PERFECTION WEIGHER,

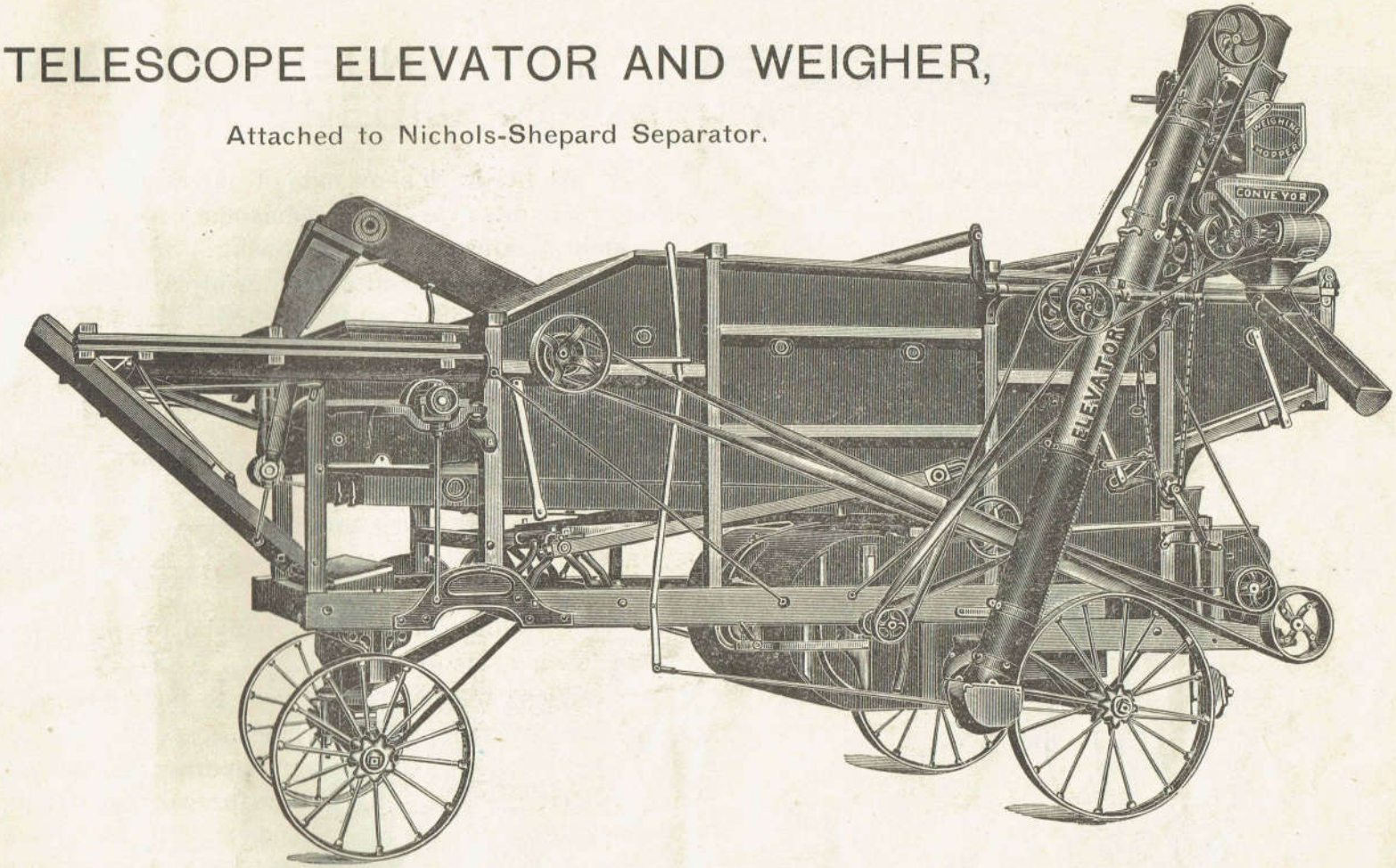
Attached to Nichols-Shepard Separator.



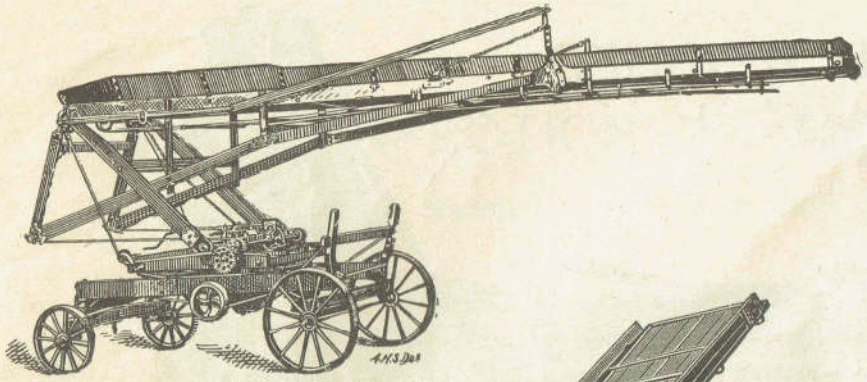
The Perfection Weigher works automatically, weighing the grain and spouting it into sacks or wagons. It has a perpendicular elevator with hinge, arranged to fold, admitting passage of Separator into barns, under bridges, etc. It has an accurate registering device without springs, that cannot get out of order. The grain is much cleaner than when measured by hand, not being exposed to the dirt and dust. But little power is required to operate it, being very light running; the extra power taken is not perceptible. It is compact, simple, durable, and well finished,—being made in a first-class manner throughout and fully warranted. The new manner of attaching to the Nichols-Shepard Separator is a great improvement over that formerly used.

TELESCOPE ELEVATOR AND WEIGHER,

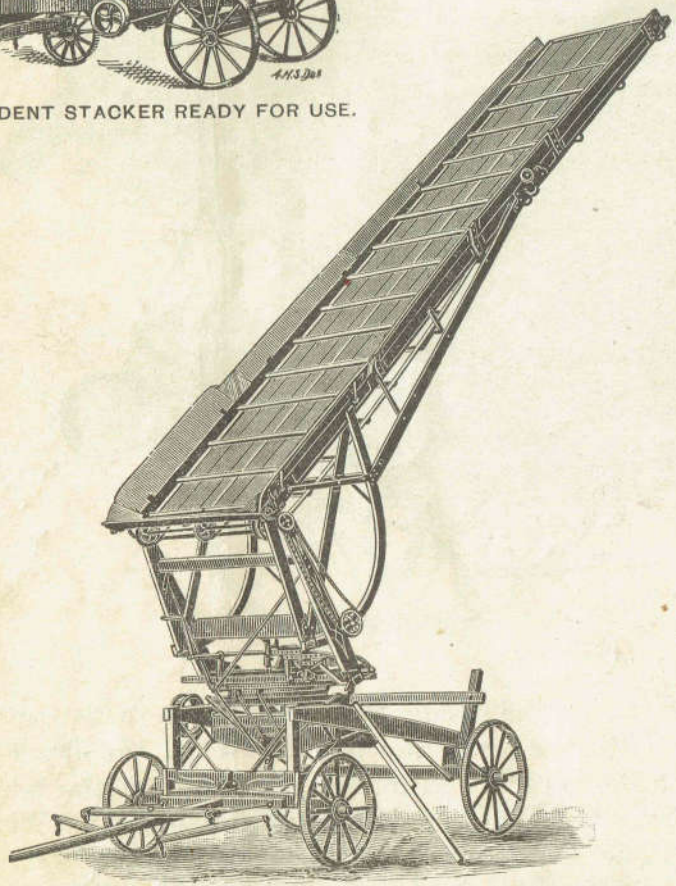
Attached to Nichols-Shepard Separator.



The Elevator is made of two No. 18 steel tubes, 7¾ inches in diameter on the inside, and is hinged so that it will fold down so as to readily pass into barns, under bridges, etc. The lower half of the Elevator telescopes into the upper half. A telescoping cross-conveyor is placed on top of the Separator, which delivers the grain at either side of the machine after it is accurately weighed, into either wagons or sacks. It will be noticed that the manner of attaching this Weigher to our Separator is a great improvement over that formerly used. The Telescope Weigher is made entirely of sheet steel, and has given the best of satisfaction for a number of years, wherever it has been used.



INDEPENDENT STACKER READY FOR USE.



INDEPENDENT STACKER AT FULL ELEVATION.

INDEPENDENT STACKER.

We herewith show cuts of our New Imperial Swinging Stacker. This Stacker has many advantages, among which we enumerate the following:—

The material and workmanship are of the best.

It can be adjusted to make the stack in size to suit the job to be threshed.

With 56-inch carrier, it can handle straw from any separator made.

The receding device delivers the straw and chaff in the center of the stack.

The oscillating gear is reliable, and easy to throw in and out of gear, or adjusted to make different size stacks.

A folding device that can be operated when the stacker is at its greatest hight.

Wire cables and worm gear to hoist the carrier, instead of ropes or ratchet wheels.

It requires little power to operate it.

One man can set it ready for work, and fold, lower and make ready for removal.

With new hood, wide carrier and flaring side-boards, but little straw will litter the ground.

With wide cast socket and joint bolt joints, wide turn-table and heavy leaning posts, it withstands heavy or high winds.

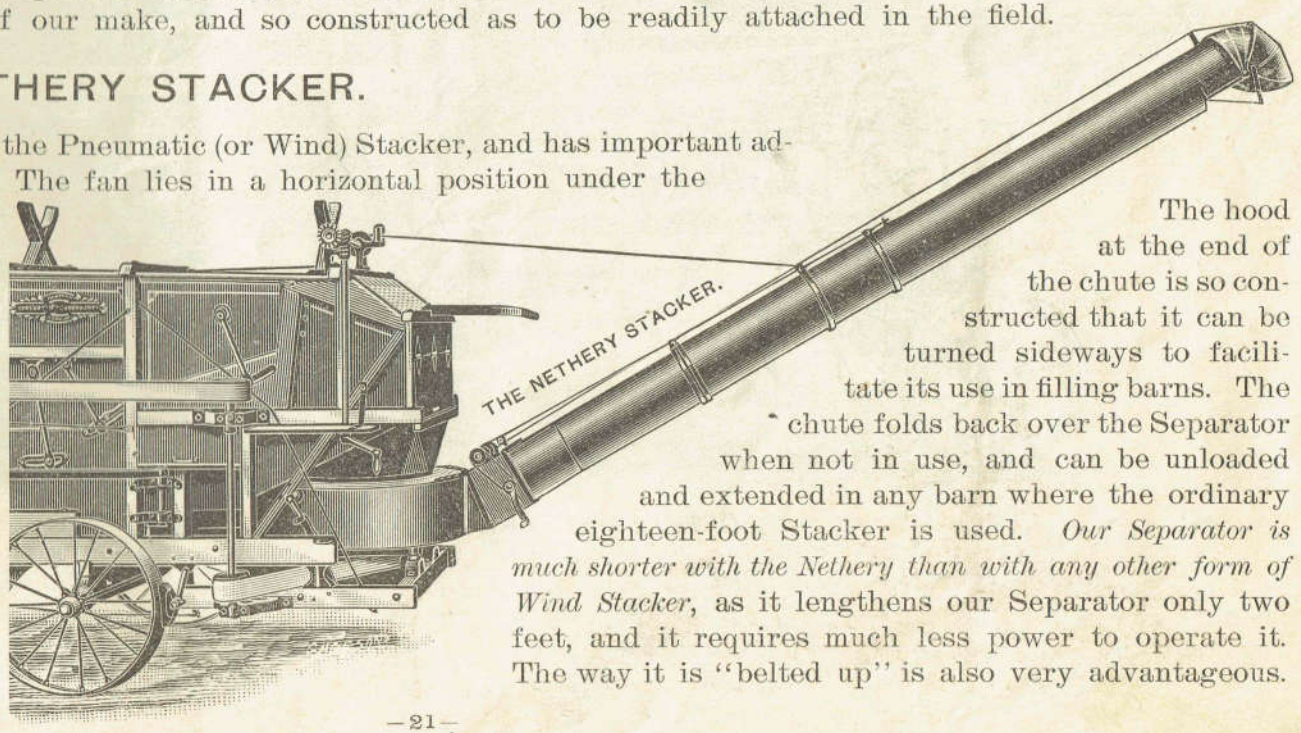
PNEUMATIC STRAW STACKERS.

The Pneumatic or *Wind* Stacker has established for itself a reputation which makes it a necessary part to nearly every threshing outfit. The tiresome, dusty and laborious methods of caring for straw heretofore in use have been relegated to the past. Nichols & Shepard Co., with their untiring efforts to make thorough threshing less difficult and more pleasant for the operator, have been in the lead in improving and making thoroughly practical this labor-saving device.

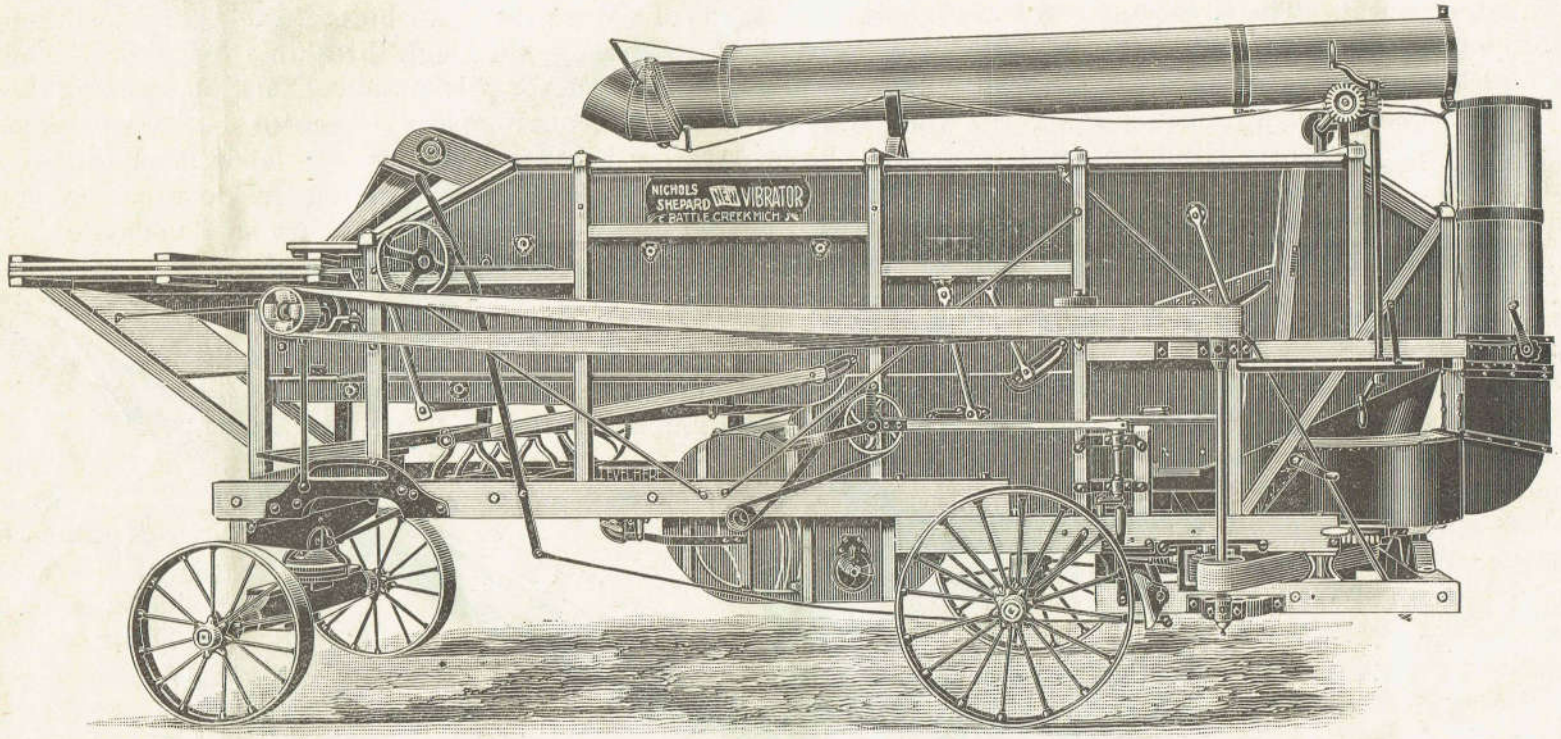
The Wind Stacker is a pronounced success when attached to the Nichols-Shepard Separator. It has demonstrated its ability to stack the straw without manual labor, and that it pays for itself, not only in the labor it saves, but in the convenience to thresherman and farmer in ease of management and freedom from dirt and dust consequent upon old methods. The capacity of the Separator is greatly increased by its use. We are prepared to furnish Pneumatic Stackers for any Separator of our make, and so constructed as to be readily attached in the field.

THE NETHERY STACKER.

This is the latest style of the Pneumatic (or Wind) Stacker, and has important advantages over all others, viz.: The fan lies in a horizontal position under the rear end of the Separator, the straw and chaff dropping without the assistance of raddles or other contrivances into the fan, and passing out through the chute. The Stacker can be operated from the ground. The chute is made to telescope so that its length can be materially increased, and oscillates automatically so that no attention need be given the chute except to raise it as the straw stack increases in height.



The hood at the end of the chute is so constructed that it can be turned sideways to facilitate its use in filling barns. The chute folds back over the Separator when not in use, and can be unloaded and extended in any barn where the ordinary eighteen-foot Stacker is used. *Our Separator is much shorter with the Nethery than with any other form of Wind Stacker*, as it lengthens our Separator only two feet, and it requires much less power to operate it. The way it is "belted up" is also very advantageous.

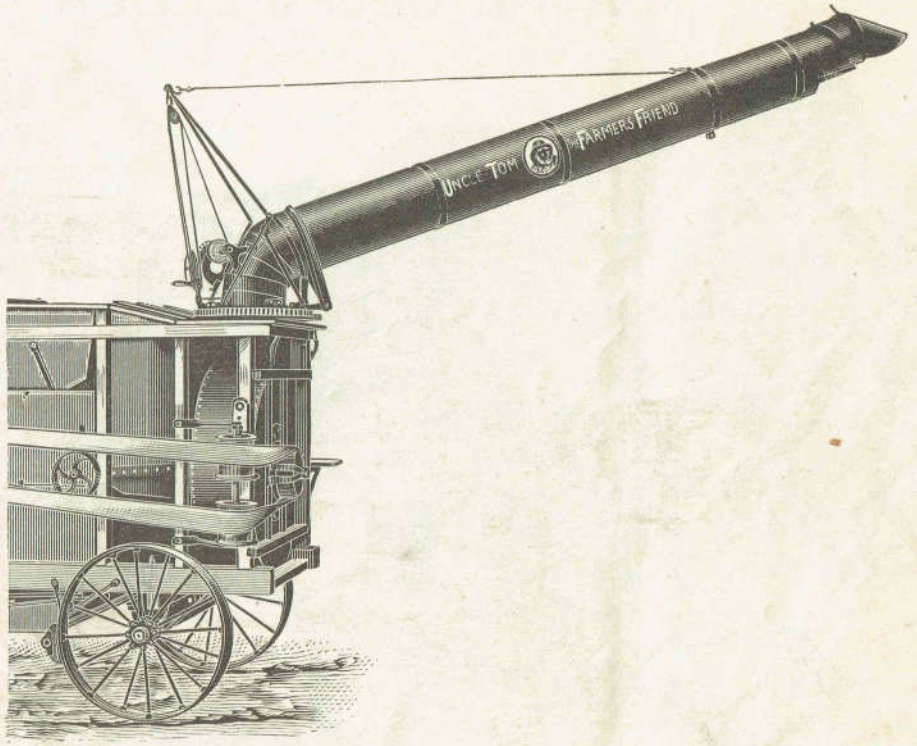


NETHERY STACKER, LOADED FOR TRAVEL.

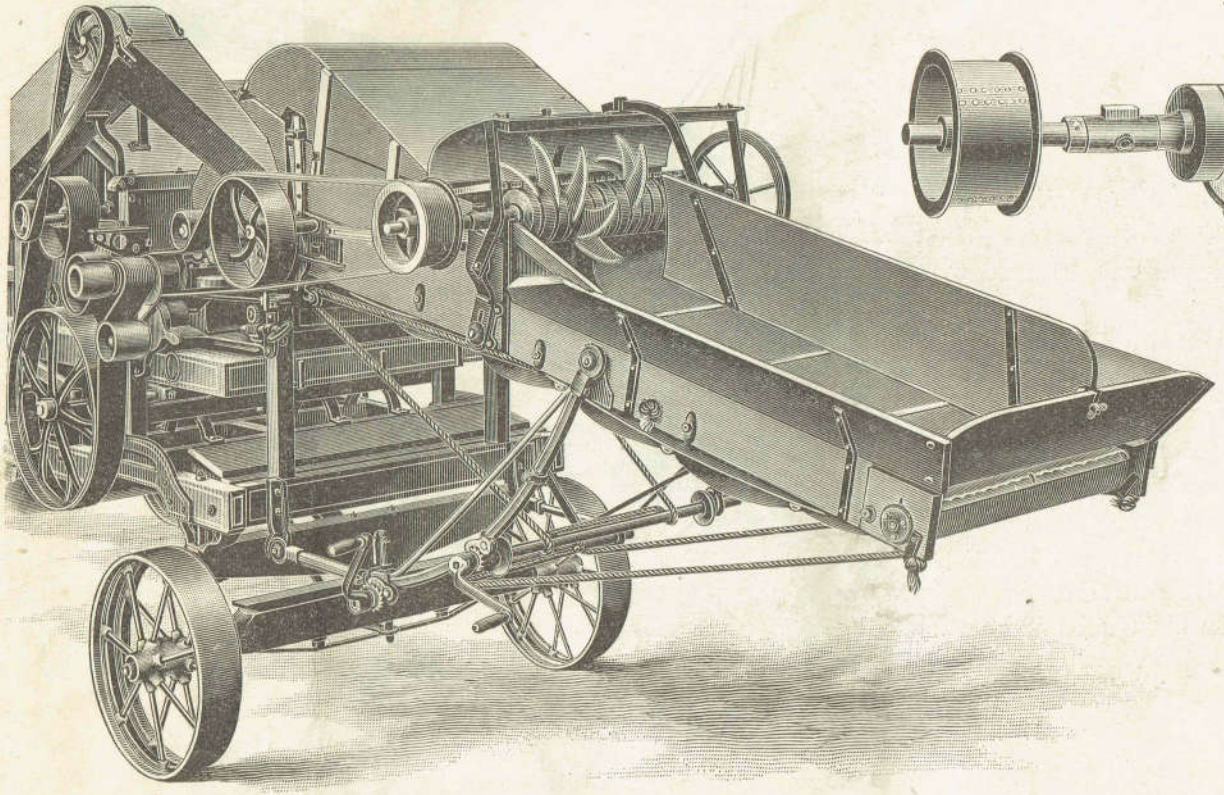
THE "UNCLE TOM" STACKER.

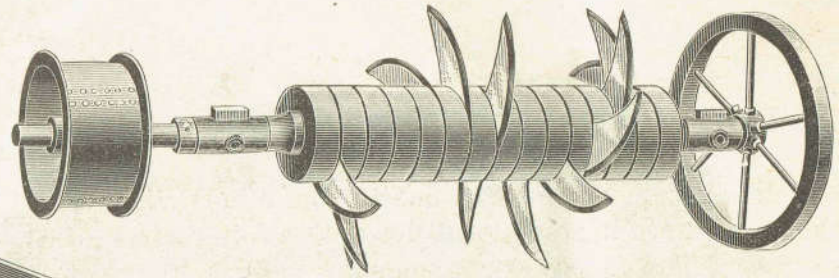
This form of the Pneumatic (or Wind) Stacker has been in use in some localities with a fair degree of success. The Separator trucks are about five feet longer than they are with the Nethery Stacker. The straw is carried around the drum with the fan wings, requiring much more power than the Nethery Stacker. Raddles must be used to carry the chaff and straw from the shoe to the fan. These difficulties are all avoided in the Nethery Stacker, which requires much less power, and for which it is necessary to lengthen the Separator trucks but four inches. However, it has telescope chute and automatic oscillating device.

We are prepared to furnish the "Uncle Tom" Stacker to all desiring it.



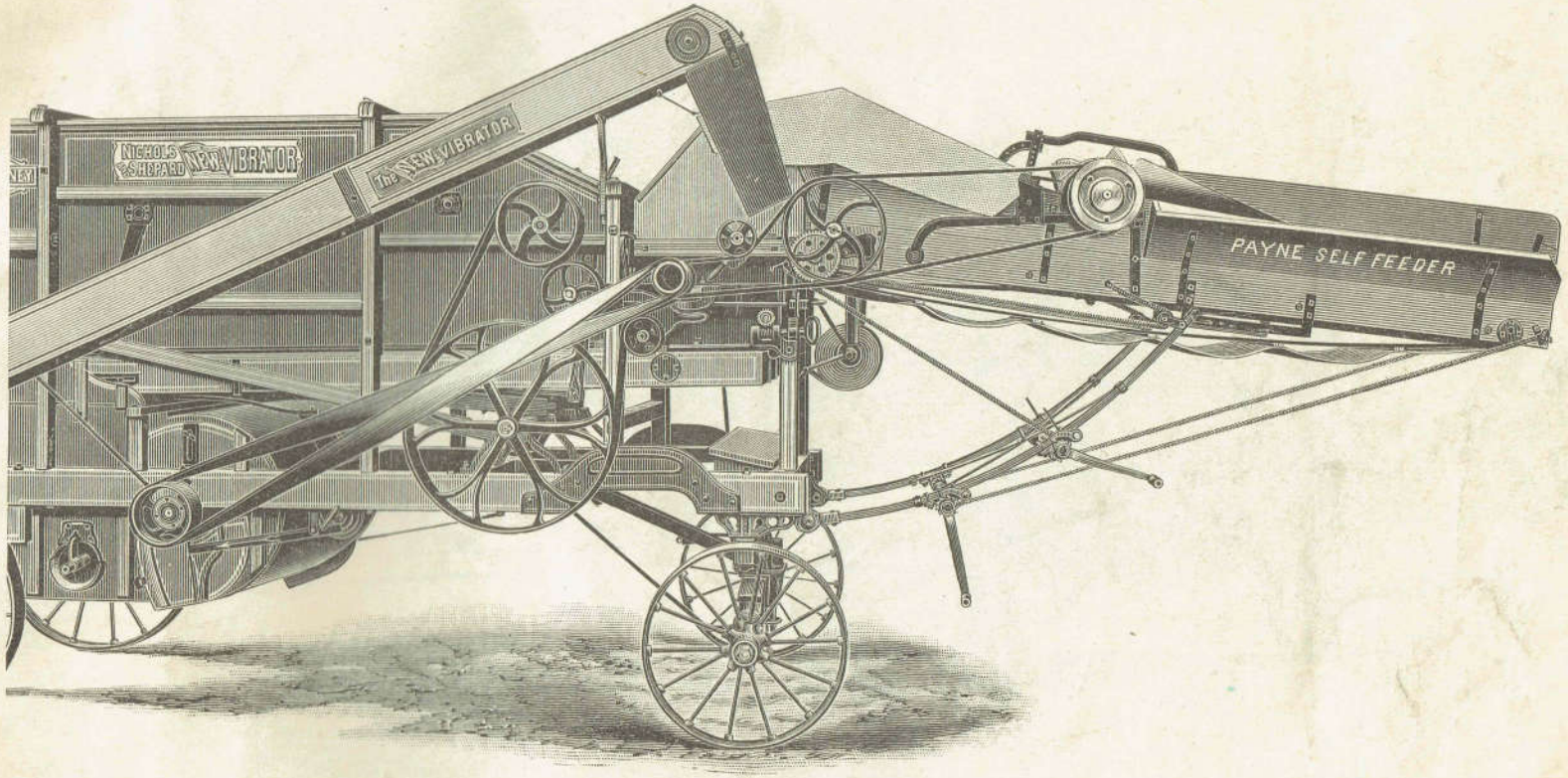
PAYNE SELF-FEEDER AND BAND-CUTTER.





BAND-CUTTER CYLINDER.

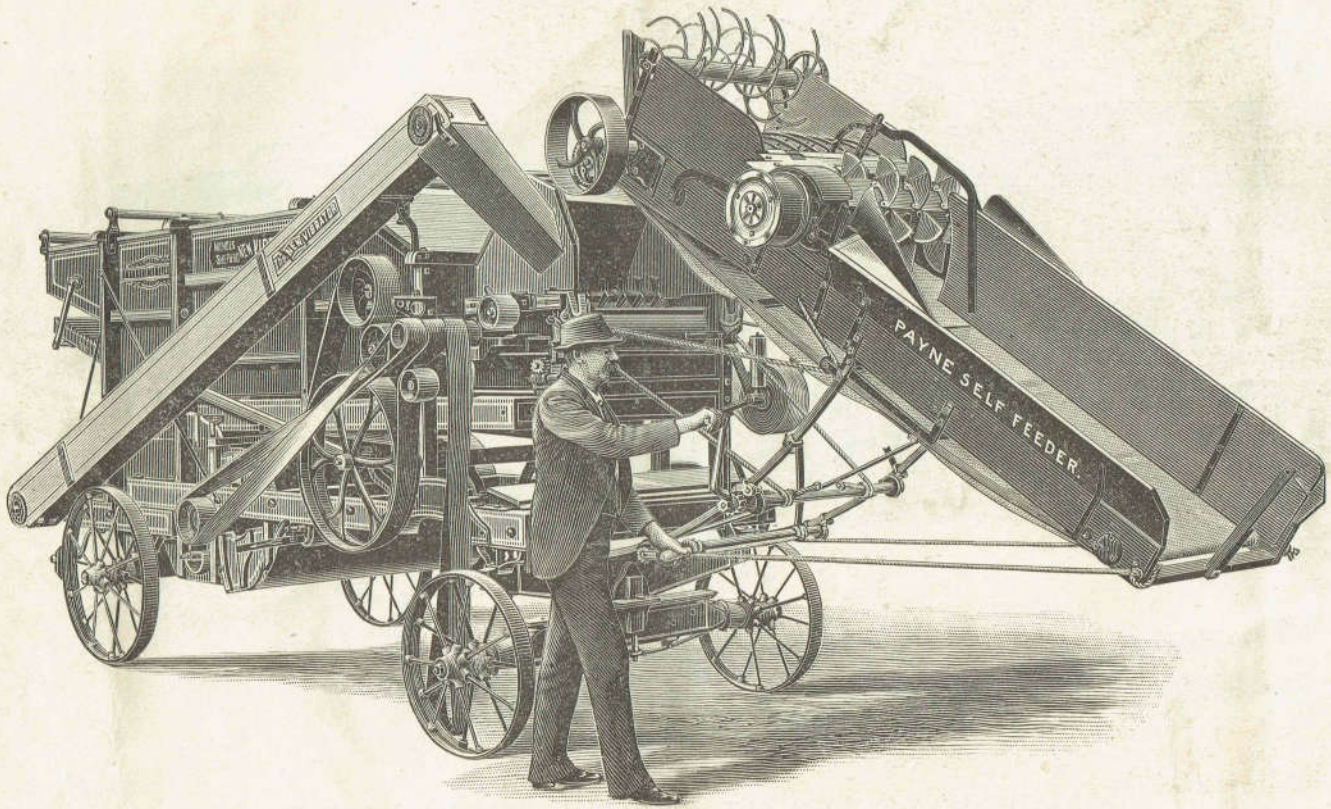
The foregoing cut clearly shows the features of the Payne Self-Feeder and Band-Cutter. On the bottom of the Feeder is a canvas-covered raddle which fits so closely that there is not the litter and waste usually found about others. The bundles are carried by the apron under the Band-Cutter cylinder, which is provided with large and improved knives that sever the bands and scatter the grain over the entire width of the apron, preventing slugging, while the apron feeds evenly through the regulator to the cylinder. The regulator consists of a shaft with curved tines set spirally, and re-



PAYNE SELF-FEEDER AND BAND-CUTTER READY FOR USE.

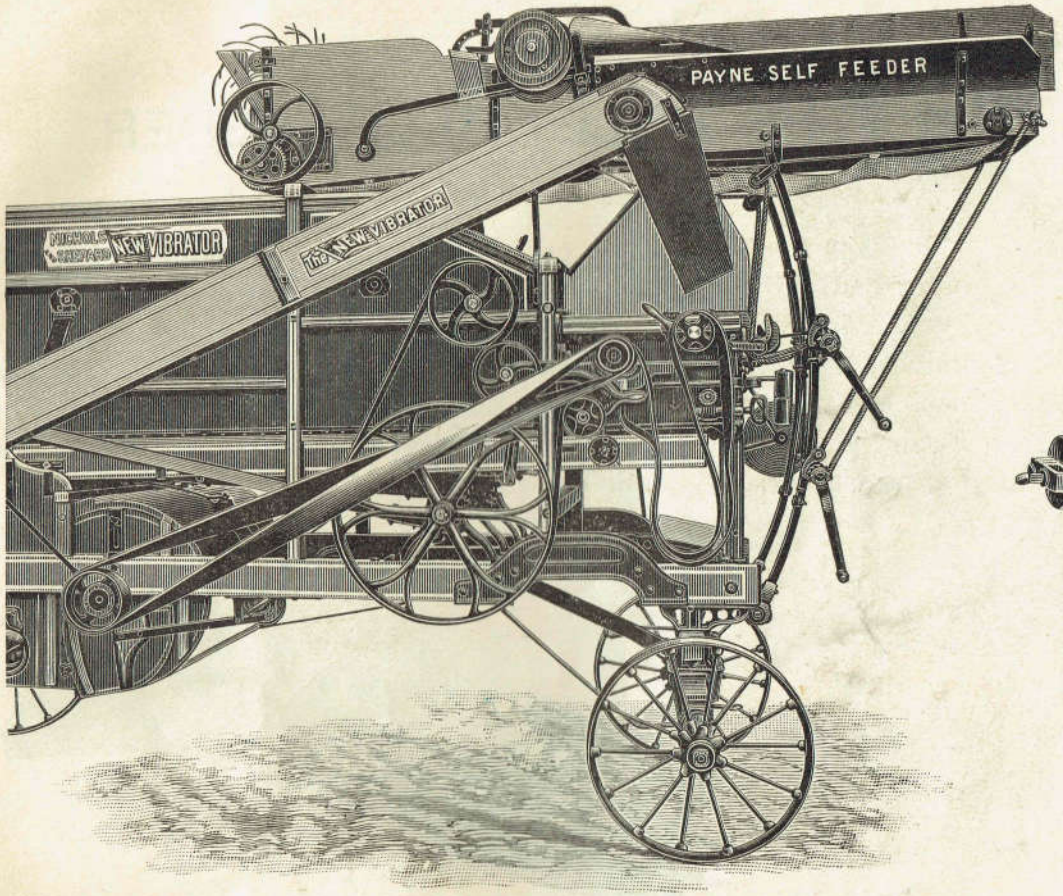
volves with sufficient slowness to insure a steady and even feed into the cylinder. The Feeder can be thrown out of gear and stopped while the Separator is in full motion. Unbound grain is fed by removing the center-board, in front of the Band-Cutter, and pitching onto the canvas apron.

The Feeder is rigidly held by supports attached to the frame of the Separator, instead of the usual clumsy legs. It is raised, loaded and unloaded by the use of two cranks attached to the supports.

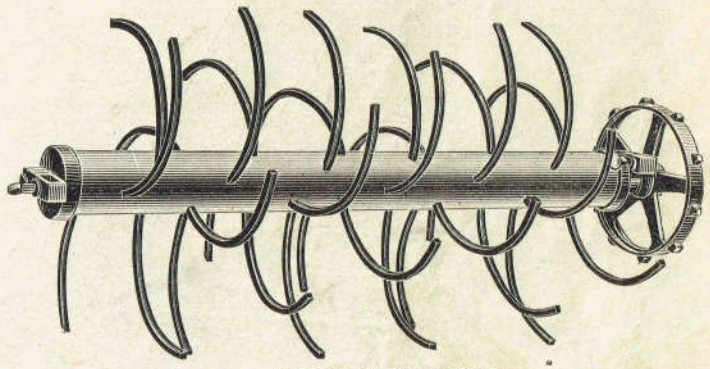


PAYNE SELF-FEEDER RAISED FOR LOADING.

The Payne Self-Feeder has many advantages over all others, in that there are no legs standing in the way; the supports keep the Feeder always level with the Separator, and uneven ground occasions no trouble; these supports have been strengthened and improved so that they hold the Feeder rigidly in place; one man can load and unload with ease; the cylinder is easily reached by partially raising the Feeder for loading; there are no loose parts to care for when the



PAYNE SELF-FEEDER LOADED READY TO MOVE.

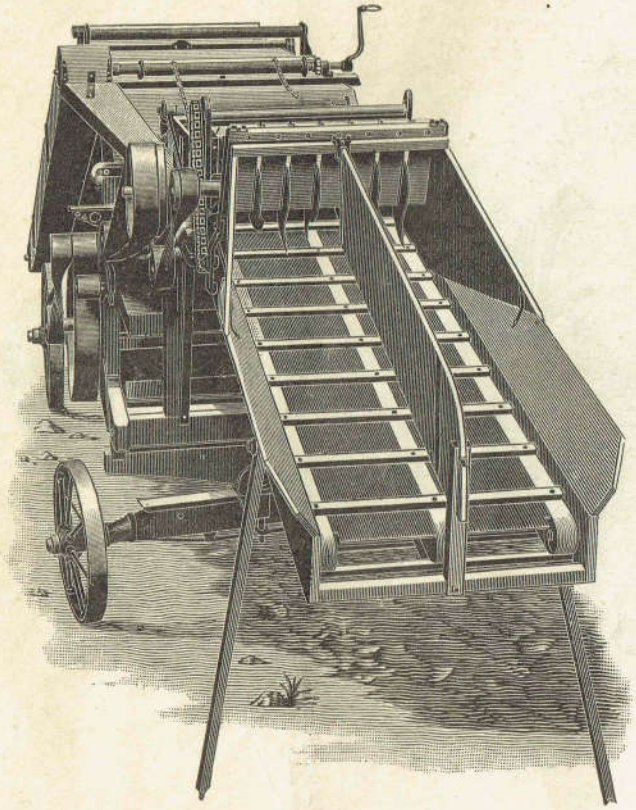


FEEDER REGULATOR.

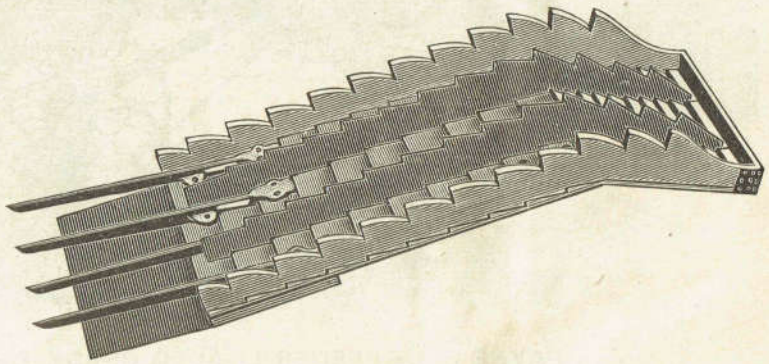
Feeder is loaded; it will feed evenly, and without the usual litter and waste, whether bound or loose grain, and it is so simple in its construction, and so clean and practical in its work, that it must commend itself to every thresherman. This Feeder is built specially for the Nichols-Shepard Separator, but can be furnished properly modified to fit any make of Separator.

THE BAILEY SELF-FEEDER.

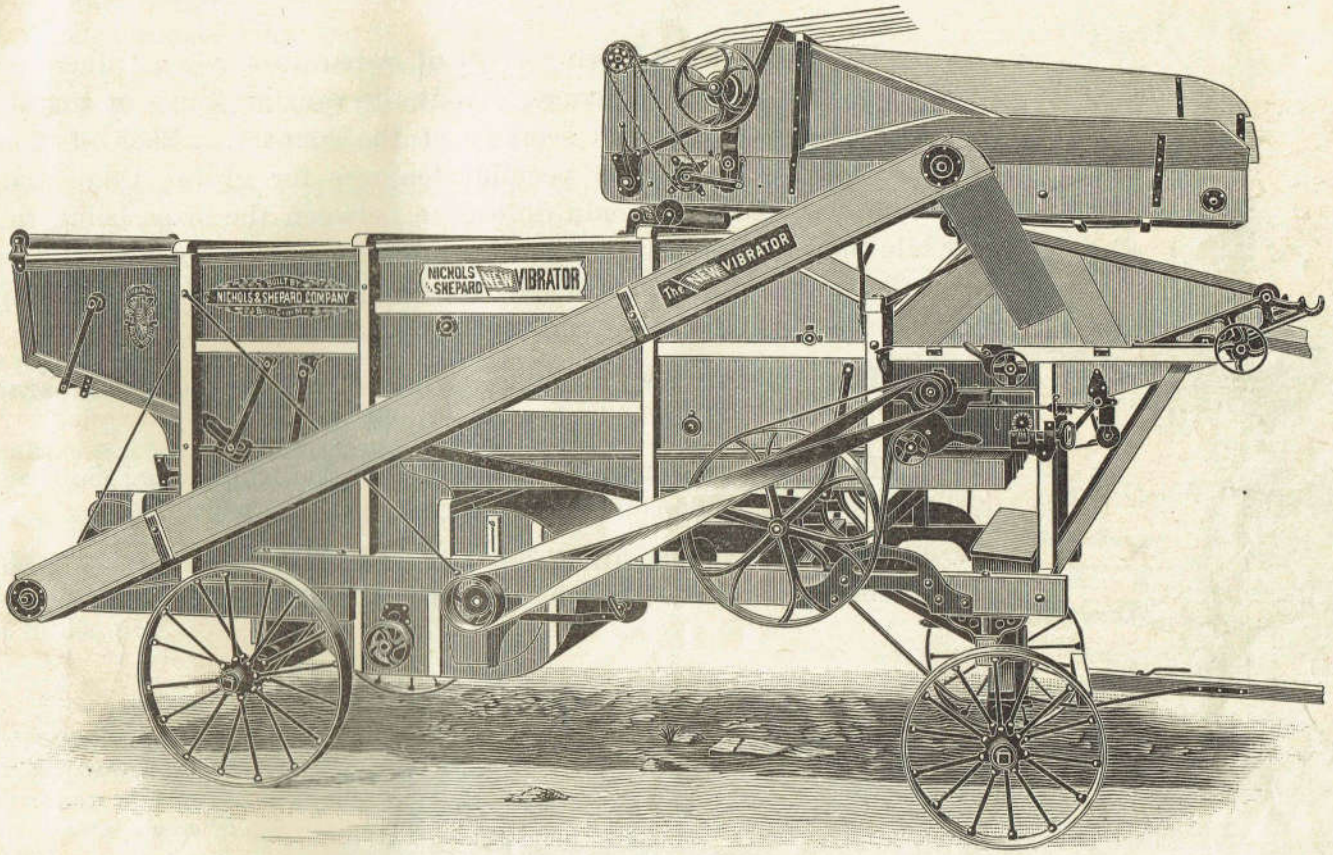
This Feeder, as the cut plainly shows, is supported at the outer end with wooden legs. The grain is carried to the thresher by a raddle running under a revolving cylinder fitted with large knives, which sever the bands and spread the bundle. Vibrating pans deliver the grain to the threshing cylinder. Although this Feeder does not contain many of the convenient features of the Payne Feeder, it is satisfactorily used in many localities.



BAILEY SELF-FEEDER READY FOR WORK.

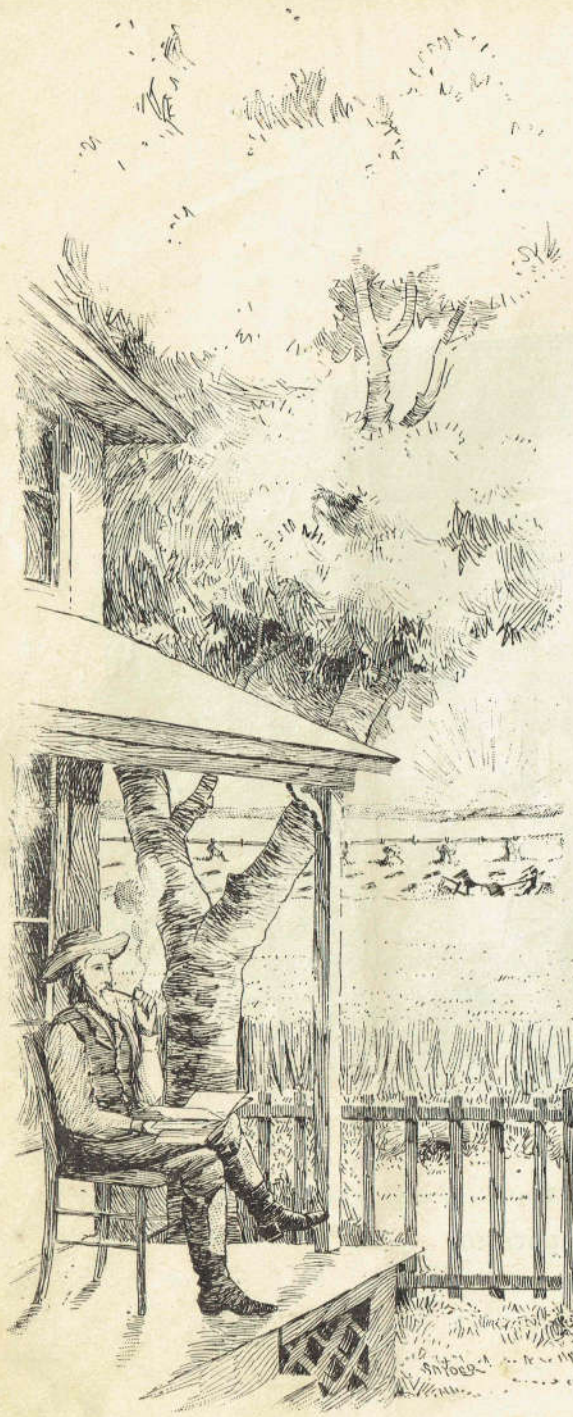


One of the Pans in Front of Cylinder.



THE BAILEY SELF-FEEDER LOADED READY TO MOVE.

This Feeder is specially built for the Nichols-Shepard Separator.



Sizes and Dimensions of Nichols-Shepard Separators.

We make the following sizes of Separators, viz., 24-inch, 28-inch, 32-inch, 36-inch, and 41-inch Cylinders, to suit the varying wants of threshermen and the requirements of different sections of the country. Each of them contains the matchless principles and peculiar features for grain-, time- and money-saving herein described, the main difference between the sizes being in capacity only, while the superior principles and qualities of their construction enable even our smallest size (24-inch) to exceed, in grain-saving and separating capacity, many of the largest sizes of other makes and kinds.

The "24 x 40 Machine" has Cylinder 24 inches long; Separating Conveyors 40 inches wide; Shoe 56 inches long by 35 inches wide.

The "28 x 40 Machine" has Cylinder 28 inches long; Separating Conveyors 40 inches wide; Shoe 56 inches long by 35 inches wide.

The "30 x 44 Machine" has Cylinder 30 inches long; Separating Conveyors 44 inches wide; Shce 56 inches long by 39 inches wide.

Good neighbor Brown's day's work is done.
He smokes his pipe at set of sun,
And thus he speaks: "There's been a score
Of agents hanging 'round my door,
To sell me some 'Cheap John' machine.
O well, they'll find I'm not so green;
I'm not so easily deceived.
A Catalogue I've just received
From Nichols-Shepard Co.,
And I've decided where to go."

48 inc
adapt

The "32 x 52 Mach
52 inches wide; Shoe 56 inches lon
and Tailing Spout, and all other parts propo
cious. The Separator is pre-eminently *the Separator for exten*
power, using 10, 13 or 15-Horse Steam Engines.

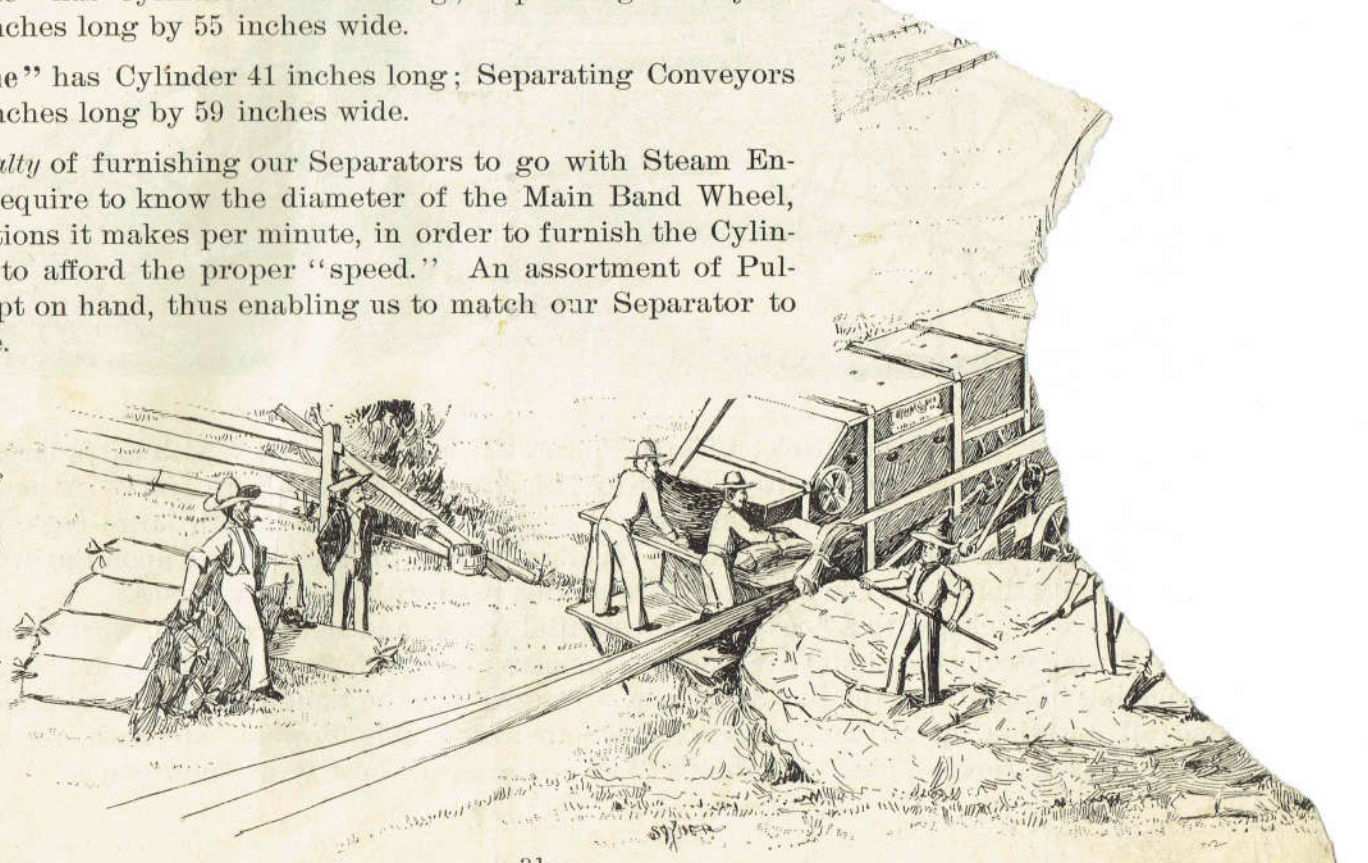
The "36 x 56 Machine" has Cylinder 36 inches long; Separating Co
56 inches wide; Shoe 56 inches long by 51 inches wide.

The "36 x 60 Machine" has Cylinder 36 inches long; Separating Conveyors 60 inches wide; Shoe 56 inches long by 55 inches wide.

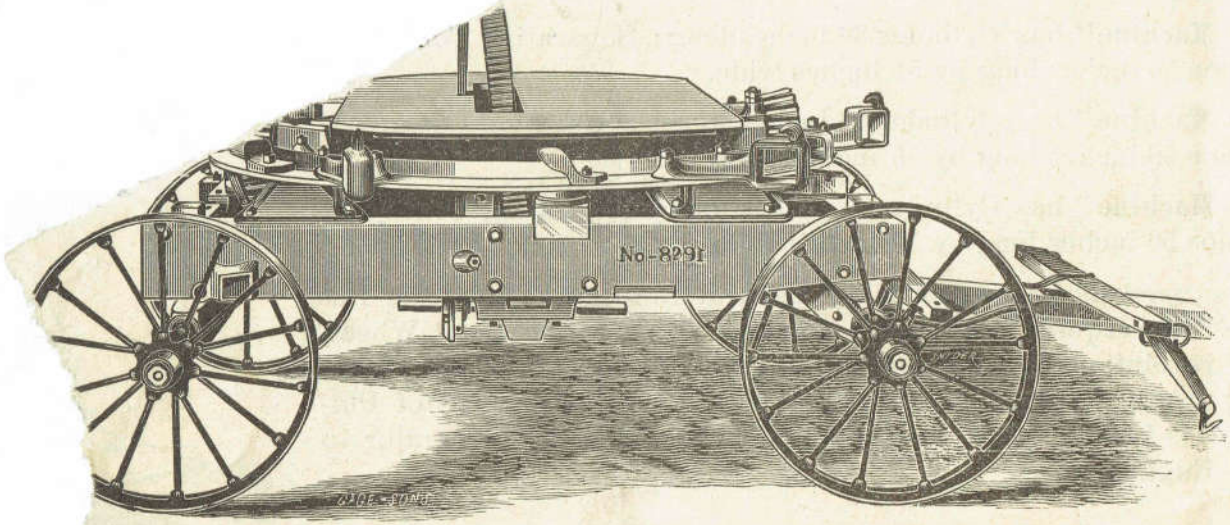
The "41 x 64 Machine" has Cylinder 41 inches long; Separating Conveyors 64 inches wide; Shoe 56 inches long by 59 inches wide.

☞ We make a *specialty* of furnishing our Separators to go with Steam Engines of any make. We require to know the diameter of the Main Band Wheel, and the number of revolutions it makes per minute, in order to furnish the Cylinder Pulley of proper size to afford the proper "speed." An assortment of Pulleys of various sizes is kept on hand, thus enabling us to match our Separator to any other make of Engine.

Say, did you ever see the beat?
Just look, now, at that stack of wheat!
It's done so well, and threshed so soon,
It isn't anywhere near noon.
No broken wheels to mend or fix,
No bands or belts to cut up tricks;
The Nichols-Shepard sure is worth
The very finest farm on earth.



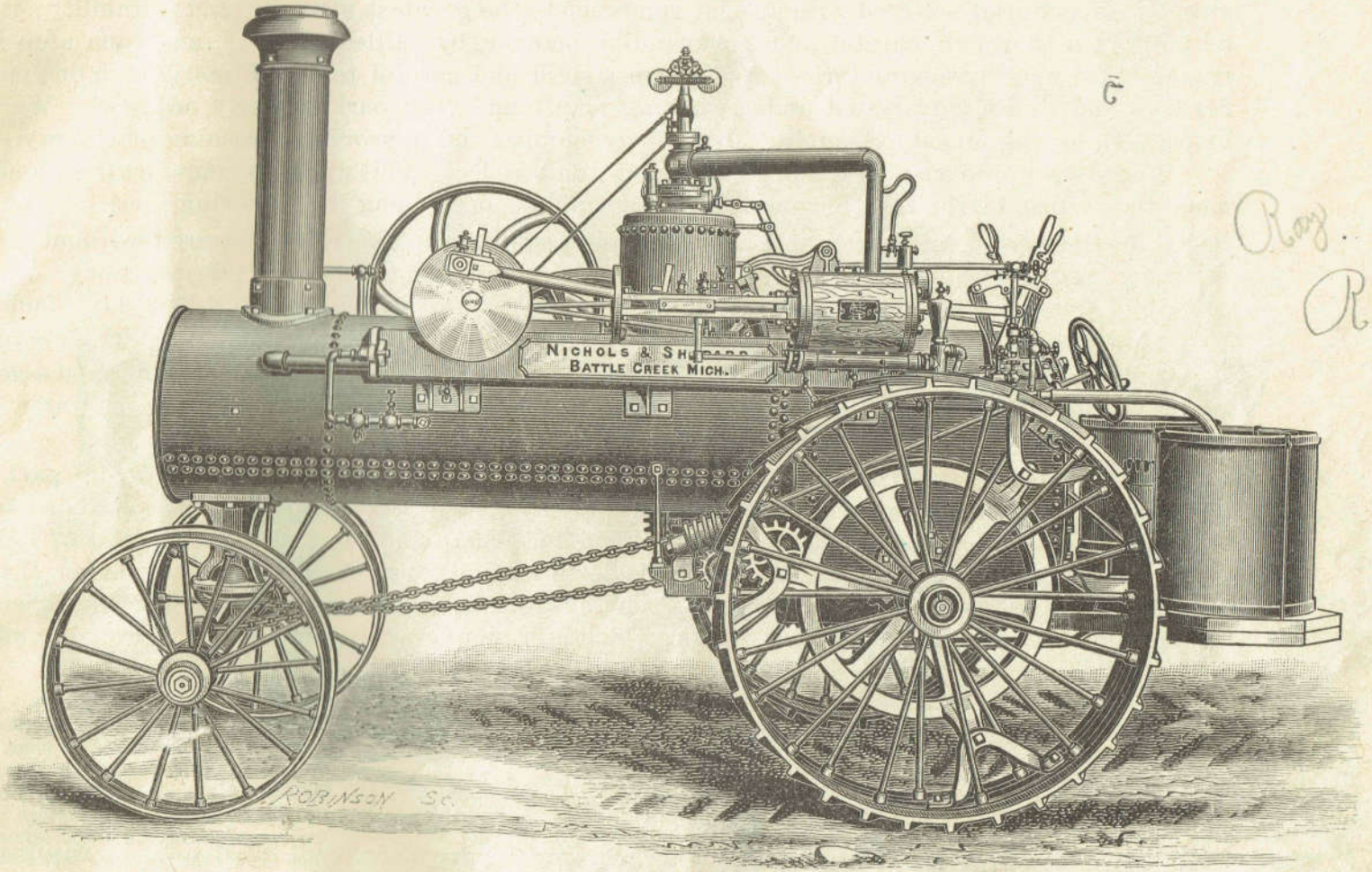
...Made.



...strate our new Nelson Horse-Power. This Power is built with extra large shafts, extra heavy gear, ...nd is made sufficiently strong to withstand the most severe tests. A new feature of this Power is ...*e master-wheel.* The master-wheel is made extra heavy, with large cogs, and is so constructed that ...e teeth become worn it can be reversed so that the wear comes upon the other side. The new Power ... structible. It is so strong that it is often used with eighteen horses.

...ed on trucks, with a heavy and substantial frame, and in a thorough, workmanlike manner. All the pin- ... of cast-steel; the shafts are made of the best quality of steel; the lower friction pin is provided with our ...justing bridge-tree; the line-shaft is so arranged that the tumbling-rod can be attached at *either* end.

...ond all question, in all that goes to make up a desirable Power,—strength, durability, ease of draft, con- ...ce, cheapness of repairs, etc.,—*it stands without a rival* as the best Power now made.



THE NICHOLS-SHEPARD TRACTION ENGINE.

THE TRACTION ENGINE.

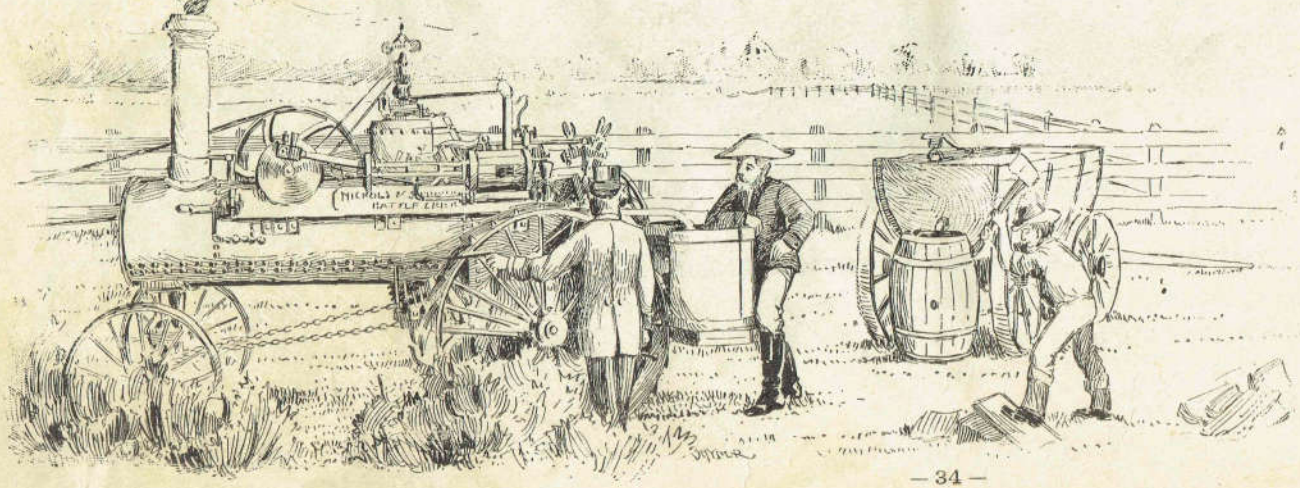
A steam Engine which will be in the highest degree efficient, safe and durable, must be constructed of material selected with special reference to the greatest strength and durability; it must be built in a thorough, careful and workmanlike manner, by skilled artisans, and each step in the manufacture must be characterized by the most rigid and careful tests. Finally, each one must be fired up and thoroughly tested under working load, and every part properly adjusted. We invite inspection, having aimed to keep in the van in developing and improving threshing machinery.

In order to produce a Traction Engine that would reflect credit upon its manufacturers and command the respect of the thresher public, our efforts have been along the following lines:—

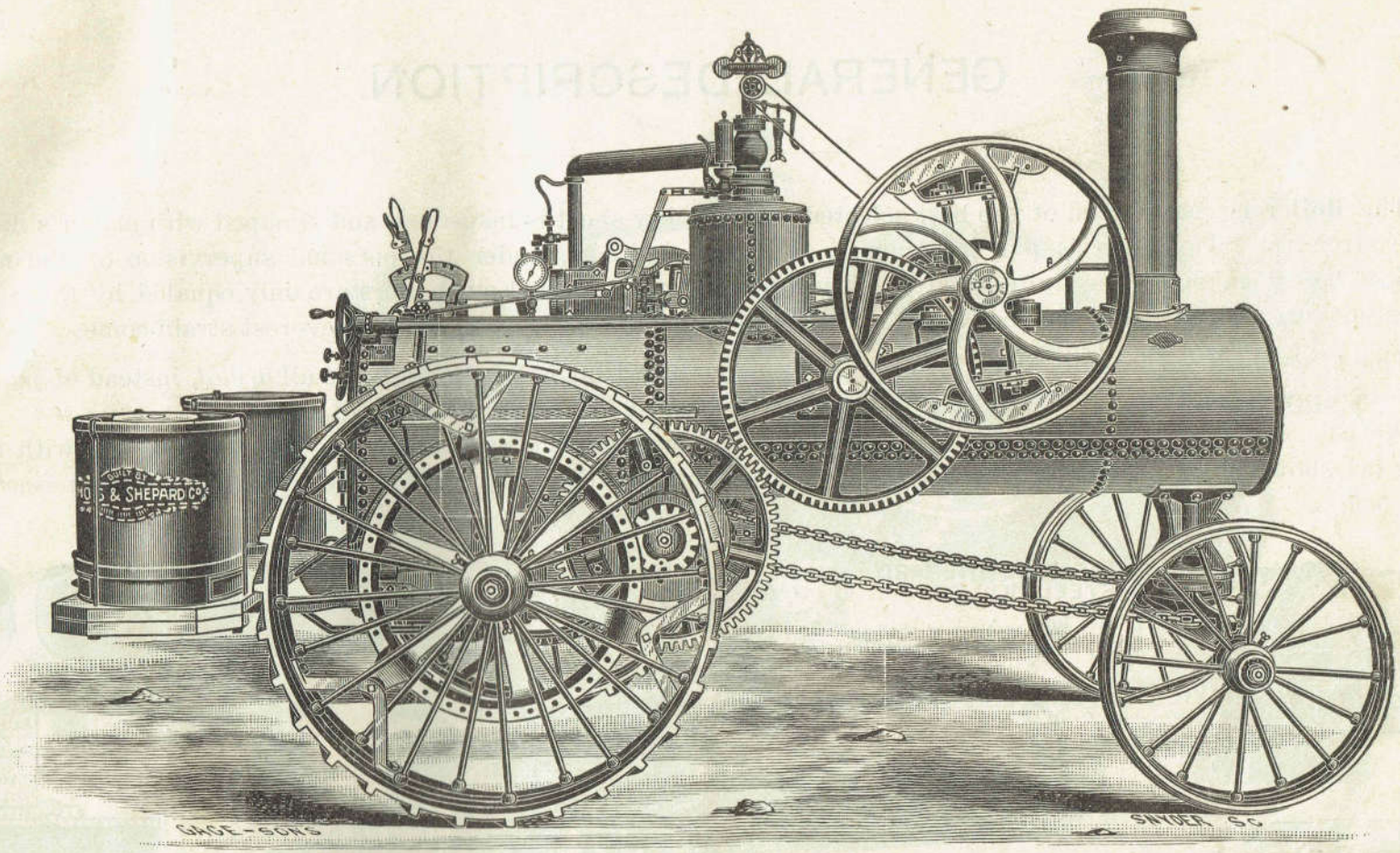
Effectiveness.—An Engine must have ample power to do the work required without forcing, straining, or overworking any part. We have power enough and to spare for an emergency. To make certain of this, we test every Engine, and know exactly what it will do before it leaves our factory.

Safety from Explosion.—Only the best selected steel is used in the construction of our boiler. It is put together in a thorough manner by skilled workmen, and is provided with all approved safety appliances; double thick flue sheet, sloping crown sheet, patent "pop" safety valve, glass water gauge, and fusible safety plug in crown sheet.

Safety from Fire.—This has been a subject of careful study and investigation on our part. The fire-box is surrounded on *all sides with water*, not only at the sides, but also *under* the *bottom and in front.* This arrangement lessens the danger of fire, imminent from the ashes and extreme heat of defective arrangement of ash pan. The draft-damper is designed and constructed in such a manner that it is impossible for ashes and coals to drop out upon the ground. The smoke-stack is provided with our patent improved bonnet and spark-arrester, which is a simple arrangement and thoroughly efficient.



One of our agents from the town
Runs in to chat with Farmer Brown.
"Just see this engine here, of mine,"
He proudly said; "do you see her shine?
She's durable, and staunch, and true;
I've run her all the season through,
And scarcely touched a bolt or screw.
Then there's the fire-box—that beats me:
There's water on all sides, you see;
The boiler, too, is built to wear,—
No danger from explosions there.
Why, bless your soul, there's no use talking,
She does her work, and there's no balking.
Ah, yes, indeed," quoth Farmer Brown,
"The Nichols-Shepard beats the town."



VIEW OF GEAR SIDE OF NICHOLS-SHEPARD TRACTION ENGINE.

Durability.—This is an important point which we have provided for. All material is carefully selected and put together with skill and accuracy. Each part is thoroughly tested, and every feature is designed for strength and wear.

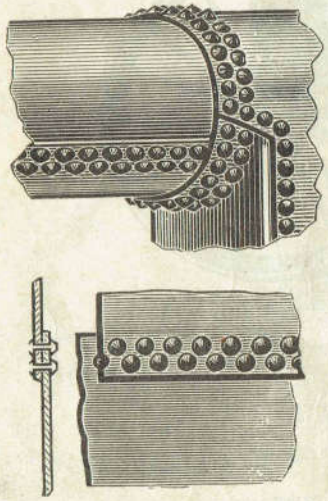
Beauty of Design and Elegant Finish.—Here we challenge comparison. Every part is proportioned to the duty demanded of it, and the result is harmony of design. The finish is as good as it can be made.

GENERAL DESCRIPTION.

The Boiler is constructed of the best selected *steel*. Every sheet is inspected, and stamped with maker's name and tensile strength. The boiler is put together by the best workmen, under the personal supervision of the most experienced boiler makers in the United States. It is a noteworthy fact that our boilers are only equaled by those used in the best modern locomotives. Our boilers are DOUBLE-RIVETED at the point where the severest strain comes.

The Flue-Sheet in fire-box is made of *half-inch steel*, and the holes for the flues are all *drilled*, instead of *punched*, as is the usual practice. This *extra thick flue-sheet* is clearly shown in the accompanying cut.

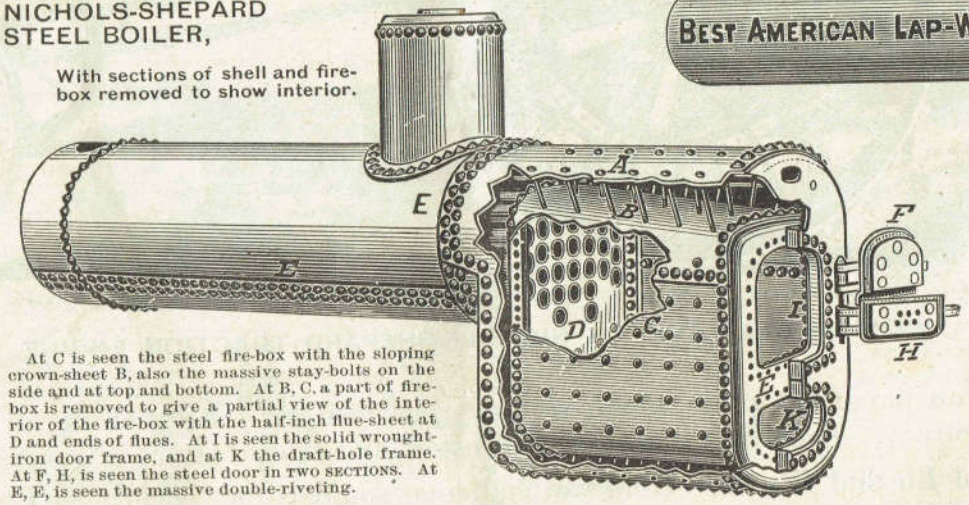
We use only the very best American lap-welded flues. Each flue is provided at the fire-box end with a *copper thimble* (as shown in the accompanying cut). This admirable arrangement *is only used in the best modern locomotives and in our boilers.*



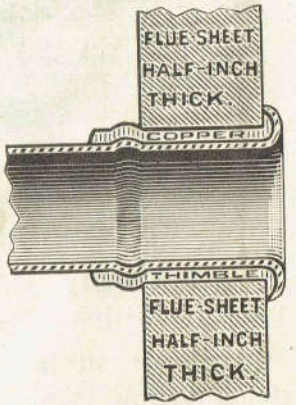
The above views show clearly the extra strength of our double-riveted seams.

NICHOLS-SHEPARD STEEL BOILER,

With sections of shell and fire-box removed to show interior.

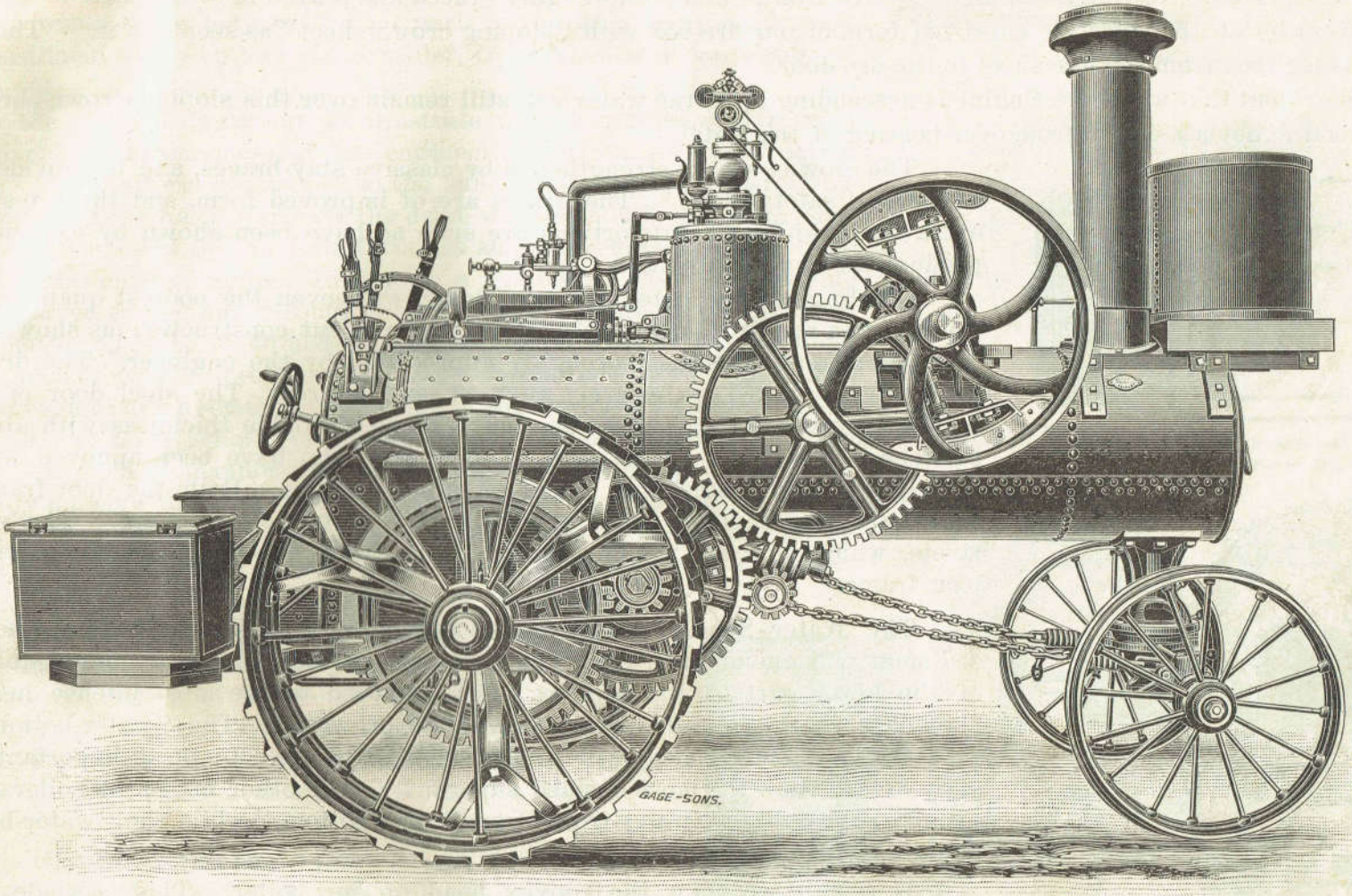


At C is seen the steel fire-box with the sloping crown-sheet B, also the massive stay-bolts on the side and at top and bottom. At B, C, a part of fire-box is removed to give a partial view of the interior of the fire-box with the half-inch flue-sheet at D and ends of flues. At I is seen the solid wrought-iron door frame, and at K the draft-hole frame. At F, H, is seen the steel door in TWO SECTIONS. At E, E, is seen the massive double-riveting.



View of Steel Flue-Sheet.

A Boiler, like the Foundation of a House, Should Have No Weak Points.



NICHOLS-SHEPARD TRACTION ENGINE,

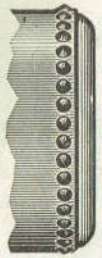
WITH STEEL WATER TANK IN FRONT, AND TOOL BOXES ON PLATFORM. THIS CUT ALSO SHOWS LEVER OPERATING FRICTION CLUTCH.

The Fire-Box is made of *steel*, of tensile strength of 60,000 pounds, with flue-sheet of *half-inch steel*. It is surrounded with water *on all sides*, having a complete "water-front," and is thoroughly braced and stayed in every part.

The cut herewith shows the improved form of our fire-box with "sloping crown-sheet" as seen at "A." The top of fire-box is inclined from the flue-sheet to the fire-door.

It is evident that when the Engine is descending hills, the water will still remain over this sloping crown-sheet, and largely tend to obviate injury from over-heating of the metal.

View of Fire-Box, showing Sloping Crown-Sheet.

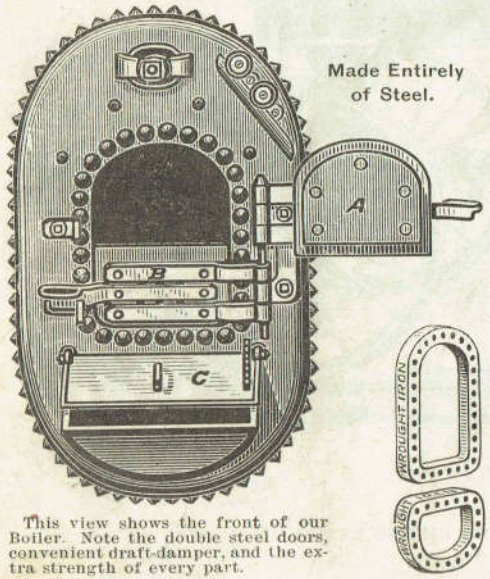


Convex Boiler Head.

The crown-sheet is strengthened by massive stay-braces, and is provided with a fusible "safety-plug." The grates are of improved form, and the fire-space is extra deep, while the proportions are such as have been shown by experience to produce the very best results.

Our Engines are noted for easy firing, with even the poorest quality of fuel. The ash-pan and draft damper are of very convenient construction (as shown by the cut), and cannot fail to be thoroughly appreciated by the engineer. The draft can be nicely regulated, or entirely shut off, as required. The steel door is in two sections, for convenience in firing, and is made of double thickness with air space between. It will be appreciated by engineers who have been annoyed with the clumsy old-style single door found on other engines. Both the door-frame and draft-hole are made of solid WROUGHT-IRON two inches square. The massive rivets, which hold the fire-box to the boiler front, pass through these wrought-iron frames.

Made Entirely of Steel.



This view shows the front of our Boiler. Note the double steel doors, convenient draft-damper, and the extra strength of every part.

The Water-Spaces should be so capacious that no reasonable amount of sediment will choke them up. The "water-back" is the space immediately back of the lower part of the fire-box. It is exposed to the most intense heat, and should therefore contain an ample volume of water. The "water-bottom" and "water-front" should also be of proportionate capacity. In these important requisites we can show the most decided superiority over other makes of boilers, which usually have neither "water-front" nor "water-bottom," while the "water-back" is strikingly insufficient.

Herewith we show the convex head of our boiler. This is made of the very best selected flange steel, and the flange is turned very large and full, thus retaining the full strength of the metal and also giving increased capacity to the boiler. Notice, also, there is no angle to retain sediment.

Herewith we show the admirable arrangement of the flues in our boiler. It will be noticed that they are placed in perpendicular rows, with an ample water space between, which permits the uninterrupted descent of the sediment to the bottom of the boiler, from whence it can easily be washed out.

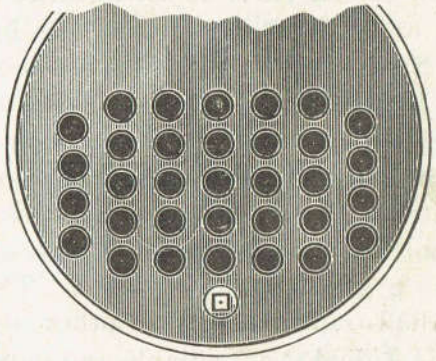
In the accompanying cut we illustrate the substantial construction and convenient arrangement of the engineer's platform on our Traction Engine. The platform is attached to the sides of the boiler by wrought-iron supports and braces. In case the drive-wheels should break through a bridge, it is evident that this platform has ample strength to support the weight of the entire Engine. In fact, in a number of cases, our Engine has been saved from going through rotten bridges by the ample strength of the platform, which sustained the entire weight without the slightest damage to any part. Note, also, the tasty appearance of the tanks, and their convenient arrangement at each side of the engineer's station. They are round and made wholly of metal, and are securely fastened to the platform in such a manner that neither use nor accident is liable to materially damage them. Observe the handy draw-bar, the end of which is seen projecting from beneath the platform, exactly where it can be reached most easily, while it is entirely out of the way of the engineer.

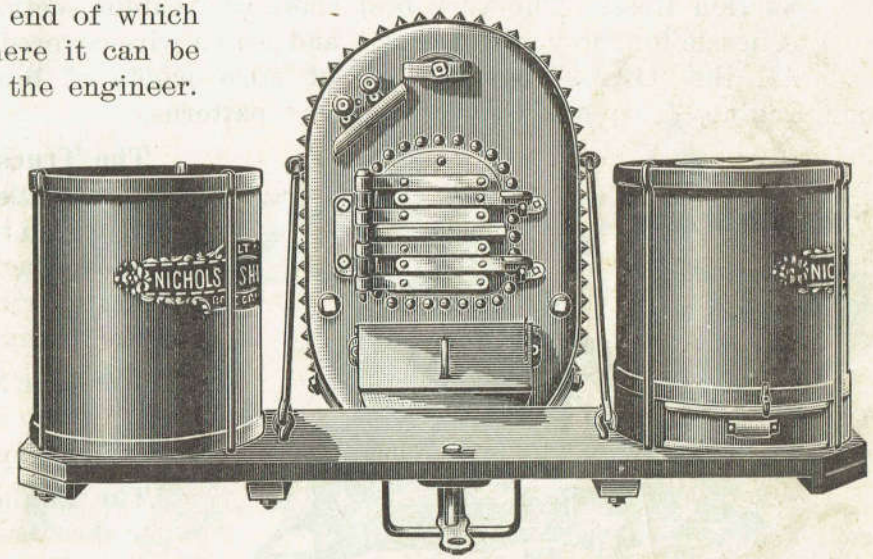
Herewith we give an excellent view of the draw-bar on our Traction Engine. At "C" is seen the draw-bar passing through and supported by the bracket "A," which is bolted to the bottom of the boiler. The strain or "pull" comes upon this bracket. At "B" is seen a spring which cushions the strain, and thus obviates all trouble which might arise from sudden shocks upon the draw-bar and bracket.

The Glass Water-Gauge is placed close to the boiler, and is well guarded, so as to render it less liable to be broken.

Our Improved "Pop" Safety-Valve is constructed of brass (with the exception of steel springs), and is entirely

Draw-Bar with Steel Spring.


The Flues in our Boiler, Arranged in Perpendicular Rows.



PLATFORM, TANKS AND DRAW-BAR.

reliable under all pressures. It is set to "pop" or blow off at the proper pressure, and the cover is then locked to prevent any one from tampering with it.

The Steam Gauge is of our own improved design, which we have found to be most reliable for a Portable Engine. It is provided with the *patent bulb syphon*, which is found to be indispensable to the perfect working of a steam gauge.

The Check-Valve is extra large and strong, and is provided with a drip-cock for drawing off the water, and thus tend to avoid freezing in cold weather.

A Stop-Cock is provided between check-valve and boiler.

A Brass Plug is placed in the elbow of feed-water pipe, near the boiler. This plug can be taken out and the lime deposit removed from the pipe when necessary.

The Cross-Head Pump is the most practical and economical for Traction Engines. Our new device for heating the feed-water with exhaust steam, yet using the direct exhaust, thus relieving the engine from back pressure, is an appreciated boon to threshermen. The feed-water is heated to more than twice the extent capable with other styles of pumps, which is a great saving in fuel. The simplicity and effectiveness of the cross-head pump will commend itself to all having had experience with other styles.

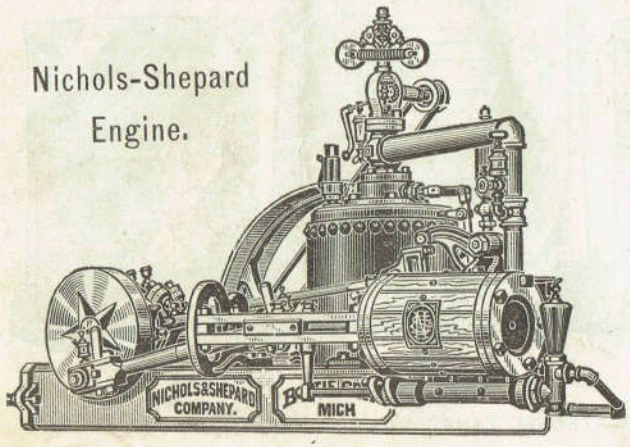
The Injector is reliable and entirely automatic, and will work while running over rough roads. It is easily taken apart and cleaned while the Engine is running.

Suction Hose.—The very best make of "patent suction-hose" is furnished.

A nozzle for the "return-hose," and also a wire-covered suction-strainer, are provided.

All the "Brass-Fittings" are of *extra quality* of brass of government standard, and are made especially for our Engine, from our own *extra heavy* patterns.

Nichols-Shepard Engine.



The Trucks are constructed entirely of iron. The rear axle is very heavy and substantial, and passes *entirely under the boiler*. It is cushioned by springs in brackets which are bolted to the boiler. This arrangement is very advantageous, as any sudden strain, produced by the wheels when passing over obstructions, is borne *equally* by the whole boiler, and thus damage to any one portion is entirely obviated.

The Axle Spindles are square, the drive-wheels revolving upon a large sleeve, which increases the life of the spindle and obviates trouble from the axle springing.

The Engine, in general design, is after the locomotive style, which experience has demonstrated to be the best adapted to a Portable or Traction Engine.

The Cylinder is "jacketed," and is provided with a reliable, improved sight-feed "oiler," and lever cylinder-cocks. The piston-rod, valve-rods and main-shaft are of patent cold-rolled steel, and all fittings are of the best quality of brass. Particular attention is paid to making the cylinder and piston *perfectly accurate.* The piston is fitted with our improved metallic packing rings, which are so proportioned and constructed as to be entirely self-adjusting.

The Valve is constructed in the locomotive style, which has been found least liable to get out of order, and also produces the most excellent results. This is the form of valve which has been found to be most thoroughly practical, and the only one to stand the test of actual use on a Portable Engine.

The Slides (or Guides) are also of the locomotive style, planed and fitted perfectly true, and of such construction as to admit of easy and accurate adjustment in case of wear.

The Main-Shaft is of *cold-rolled steel* (which is of extra strength), and, as it is of extra size, it is, of course, much superior in every respect to the ordinary make.

The Crank is a balanced disk, perfectly finished on the edge and both faces, and forced upon the main-shaft by enormous screw pressure.

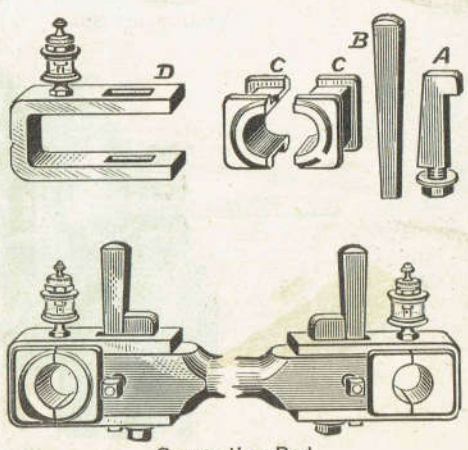
The Wrist-Pin is of extra size, and made of cold-rolled steel.

The Connecting-Rod is made in the locomotive style, and as perfect in material and proportion as the utmost care and the best workmanship can make it. (See cuts herewith.) It is provided at each end with the massive brass boxes "C" "C," strap "D," gib "A," and key "B."

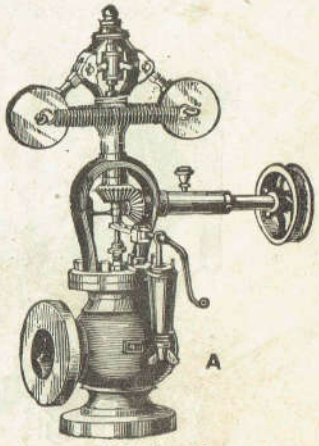
The Brass Boxes at each end of the connecting-rod are of extra size, with large wearing surface, thus preventing heating and cutting when proper care is exercised.

The Spring Governor is of the latest and most improved form, and is constructed in the most skillful and substantial manner. By the use of our improved valve, it proves a reliable regulator, under whatever conditions the Engine is working. All parts are made interchangeable, and of the best metal. It is provided with a perfect speed-adjuster (which is shown at "A,") by which the speed of the Engine can at any time be instantly changed.

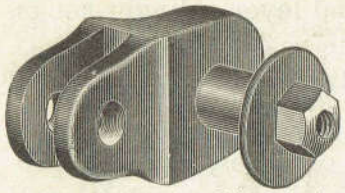
An Automatic Sight-Feed Lubricator, of the latest and best design, supplies the valve and cylinder constantly with oil.



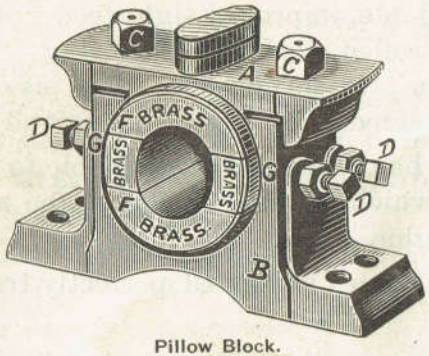
Connecting-Rod.



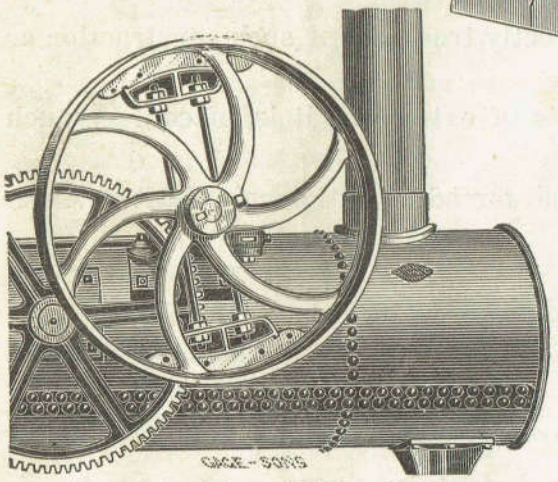
Improved Spring Governor.



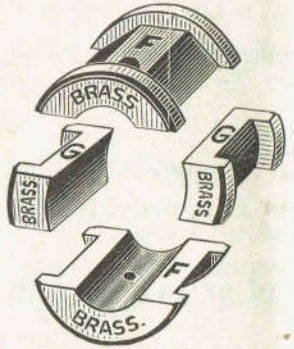
Drew's Connecting Valve Block.



Pillow Block.



Nichols-Shepard Friction Clutch.

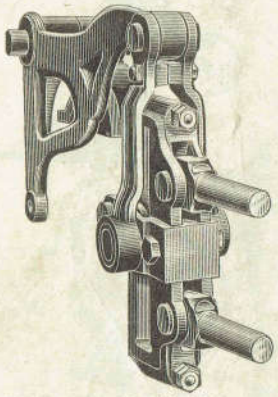


Main-Shaft Box.

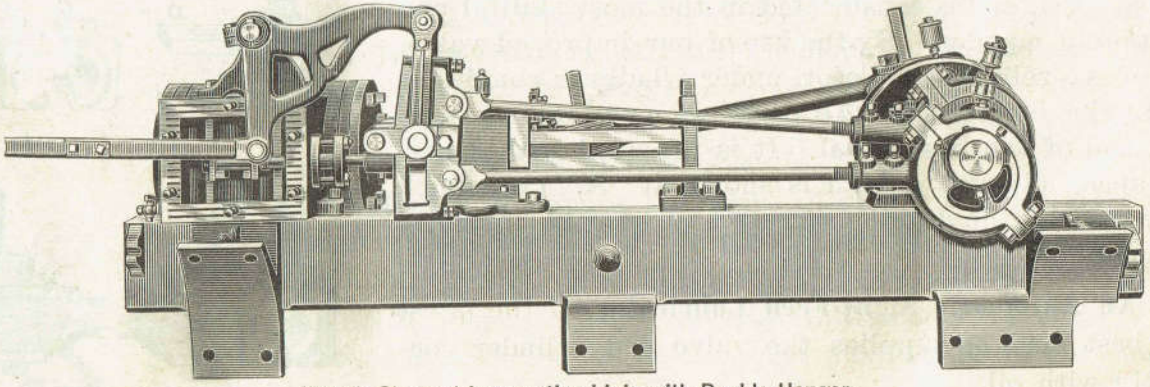
Pillow Blocks and Main-Shaft Boxes.—A brass box costs more than one made of babbitt, but it is better and wears longer.

The Locomotive Link.—It is entirely of steel and has steel bushings. All wearing parts are strong and durable, and all lost motion can be taken up, so that all repairs can be made without the necessity of taking the link to a machine shop. It has double hangers and is evenly balanced, obviating all tendency to twist or wear unevenly. The link blocks and all pins are of the best steel and case-hardened, to insure long and uniform wear.

Drew's Connecting Valve Block.—We herewith illustrate Drew's Connecting Valve Block. By use of this device the valve stem can be directly connected with either eccentric rod and the link entirely removed. It often happens that users of traction engines desire to run the engine for a long time in one direction only, as is the case when used with a saw or feed mill. Continued use of one eccentric might cause wear upon one end of the link, making it necessary to have it refitted. This device obviates all difficulty in that respect, and establishes the fact



Link, with Double Hangers.



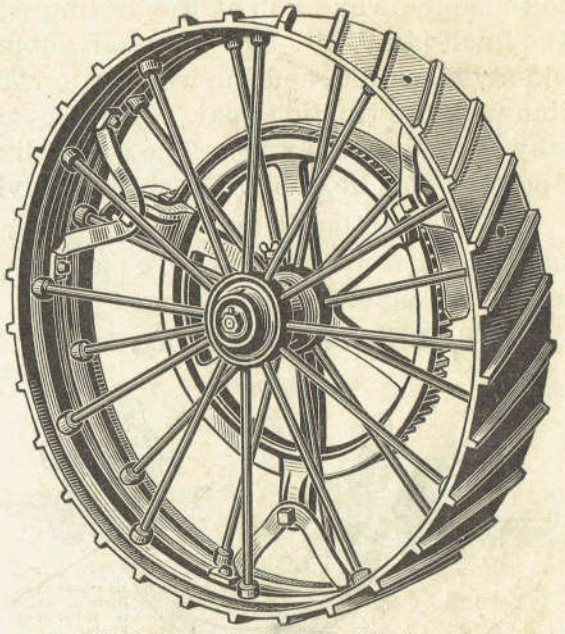
Nichols-Shepard Locomotive Link, with Double Hanger.

that the link is the most practicable and profitable reversing device. The change can be made in ten minutes' time. This block will be furnished with each Traction Engine, and without charge.

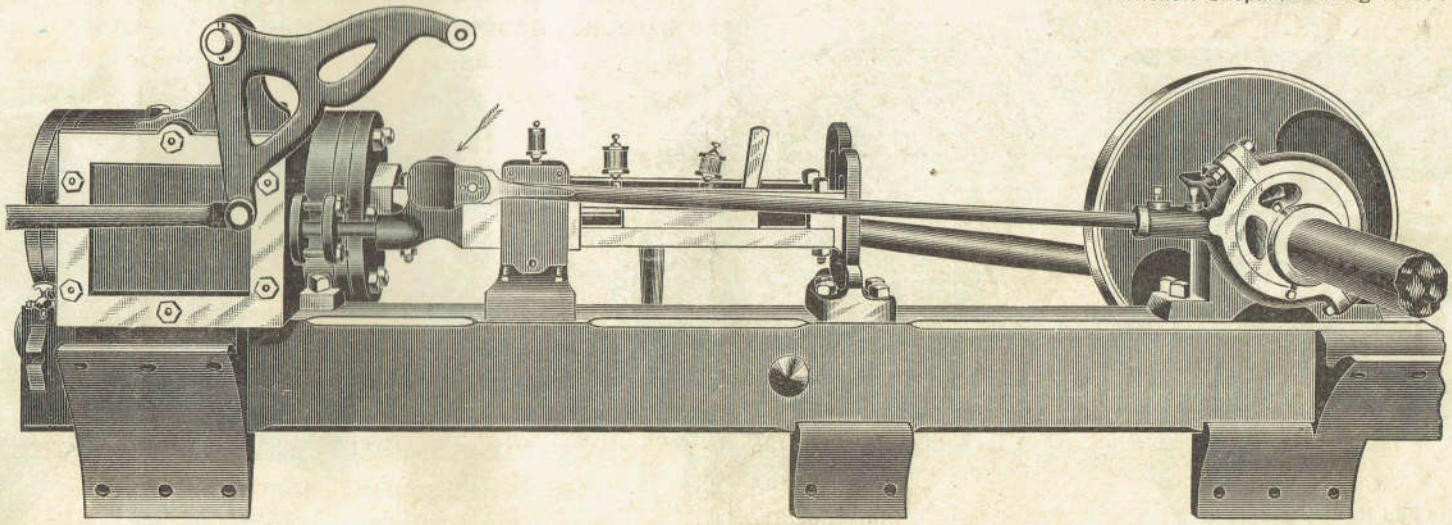
Friction Clutch.—A practical device for connecting the engine with the traction gear. (See cut on preceding page.) It is actuated with a lever, which permits of very delicate and quick handling. It has a lock-pin device, so that it can be locked, making the gear solid, and the friction need not then be used.

Driving Wheel.—It will be noticed that this wheel is made solid; is simple, strong and durable. It drives from the rim. The lugs are extra heavy and hard, so as to stand wear.

Wrought-Iron Rear Axle.—The axle is free to move up and down in the slots in the brackets. It passes entirely beneath the boiler, and is made square its entire length. The spindle being square, obviates the liability of the axle springing, as it utilizes all the strength of the iron. Over this square spindle is used a large sleeve (see "X"), which gives a vastly greater wearing surface



NIchols-Shepard Driving Wheel.



DREW'S CONNECTING VALVE BLOCK IN USE.

to the spindle and hub of the driving wheel. The sleeve and driving wheel are held in place by the large nut "Y," and the linch-pin "Z." The great advantages of this arrangement are obvious: The axle will not spring as easily as the old-style spindle, and the wearing surface is increased to such proportions that the driving wheel must always remain in line with the traction gear. It will be noticed that the wearing life of the sleeve can be doubled by simply turning it half way around on the axle. The great difficulty common to engines with small spindles is thus avoided,—the great wear upon the spindle, which causes the driving wheel to run out of line with the traction gear.

The Traction Gear.—In order that the traction gear upon our Engine will be able to stand the heavy strain and wear naturally put upon it, we have made it extra heavy and strong. Steel pinions are used on the main-shaft, counter-shaft, and in the differential gearing.

The Differential Gearing, for enabling the Engine to turn, is made from tested material, extra strong and durable.

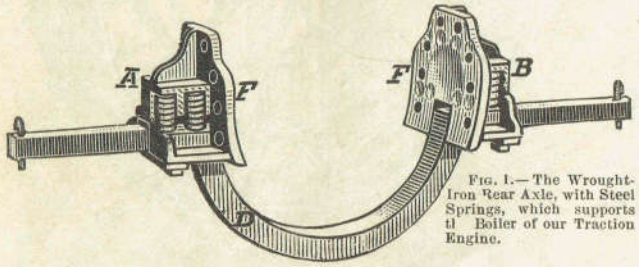


Fig. 1.—The Wrought-Iron Rear Axle, with Steel Springs, which supports the Boiler of our Traction Engine.

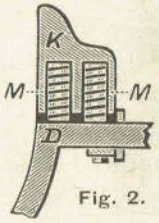
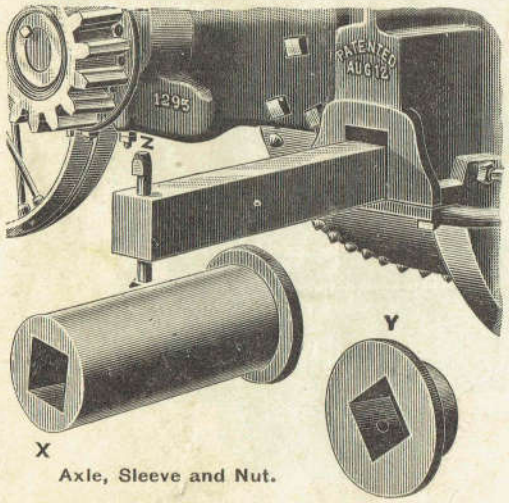


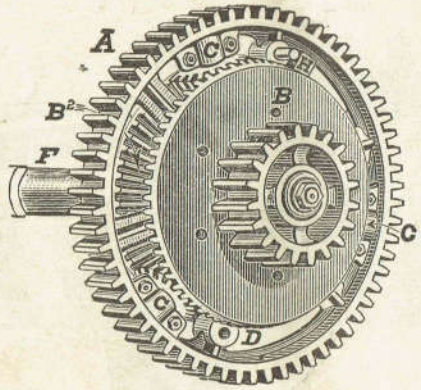
Fig. 2.

The Gearing throughout is immensely strong, and so well designed that every part performs its appropriate function easily and noiselessly. All the gearing which might be injured by sand or mud is protected by suitable guards of iron.

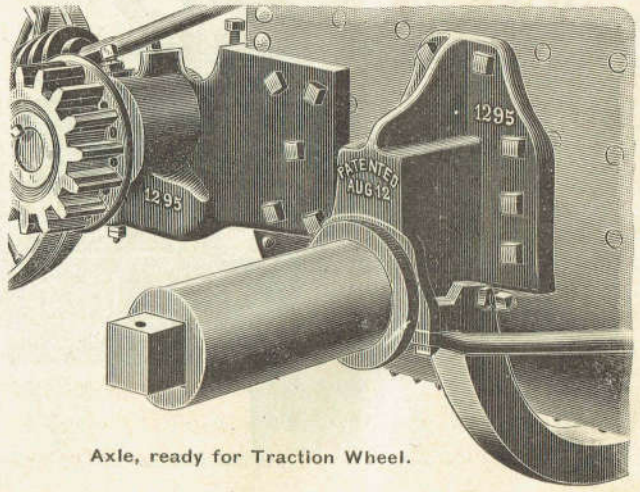
The reversing lever, throttle valve, try-cocks, whistle, cylinder-cocks, pump, and guiding-wheel, are all within easy reach of the engineer when standing upon the platform. Consequently, he can manage the entire Engine with the greatest ease without changing his position.



Axle, Sleeve and Nut.



Differential Gearing.



Axle, ready for Traction Wheel.

COMPOUND ENGINES.

The Compound Engine has made its entry into the threshing world, and has proven more than was expected of it. The great advantage gained is in increased power, without additional weight.

The general benefit derived from a Compound Engine is economy in the use of steam, which is the main purpose of the compound construction. It consists in the use of two cylinders instead of one, and the steam having been used in the high-pressure cylinder, is exhausted into and used again in the low-pressure cylinder, and finally exhausted into the open air.

One serious if not fatal objection to most makes of Compound Engines is that they require the steam to be carried at such a high pressure as to render it very destructive to the boiler and dangerous for the operators.

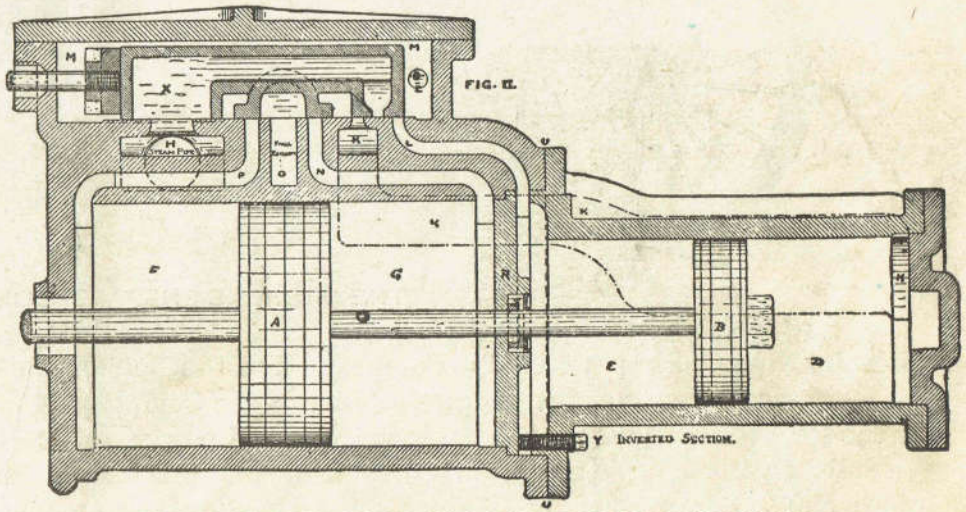
In order to insure economy in a Compound Engine, provision must be made to prevent any great condensation of the steam between the point of admission into the high-pressure cylinder and its final discharge from the second or low-pressure cylinder. Unless these things are fully provided against, compounding can result in little, if any, benefit. In the construction of the Nichols-Shepard Compound Engine, as shown in the cut, these highly important matters have received thorough and practical attention. Only one steam chest and only one valve are used in this improved compound as against two steam chests and two valves used by many other builders.

The two cylinders being "end to end," shortens the travel of the steam and reduces the condensation to the minimum.

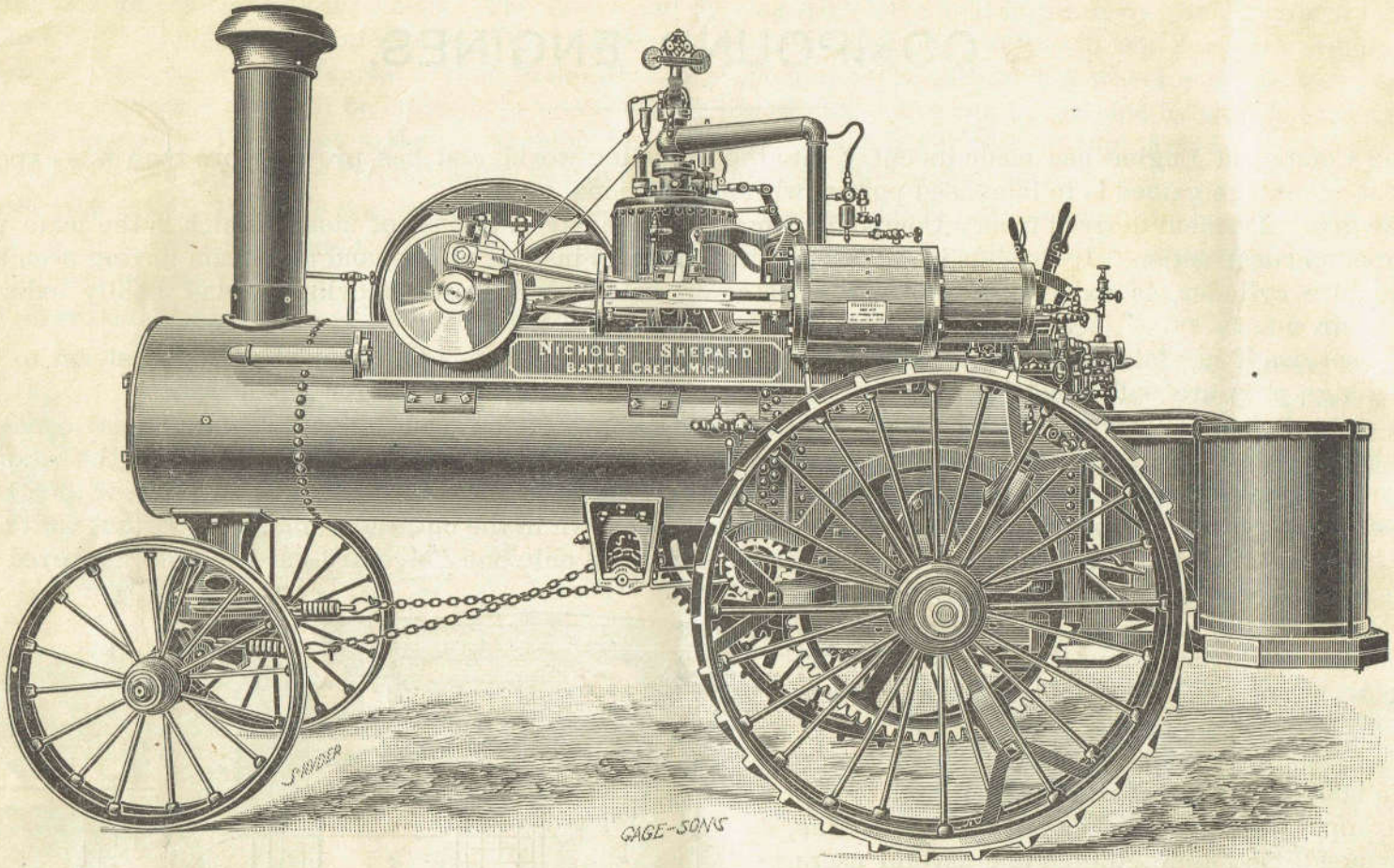
Then, again, the important fact that not more than 125 pounds steam pressure is required to successfully operate our improved Compound Engine, will commend itself to intelligent and careful users.

Our Compound Engine is as easily handled as the simple engine. Anyone accustomed to a simple engine will find no more care or attention necessary, and that it is as easily managed as a simple engine.

A careful examination of the sectional cut of the cylinders of our Compound Engine will demonstrate these facts, and readily account for the success

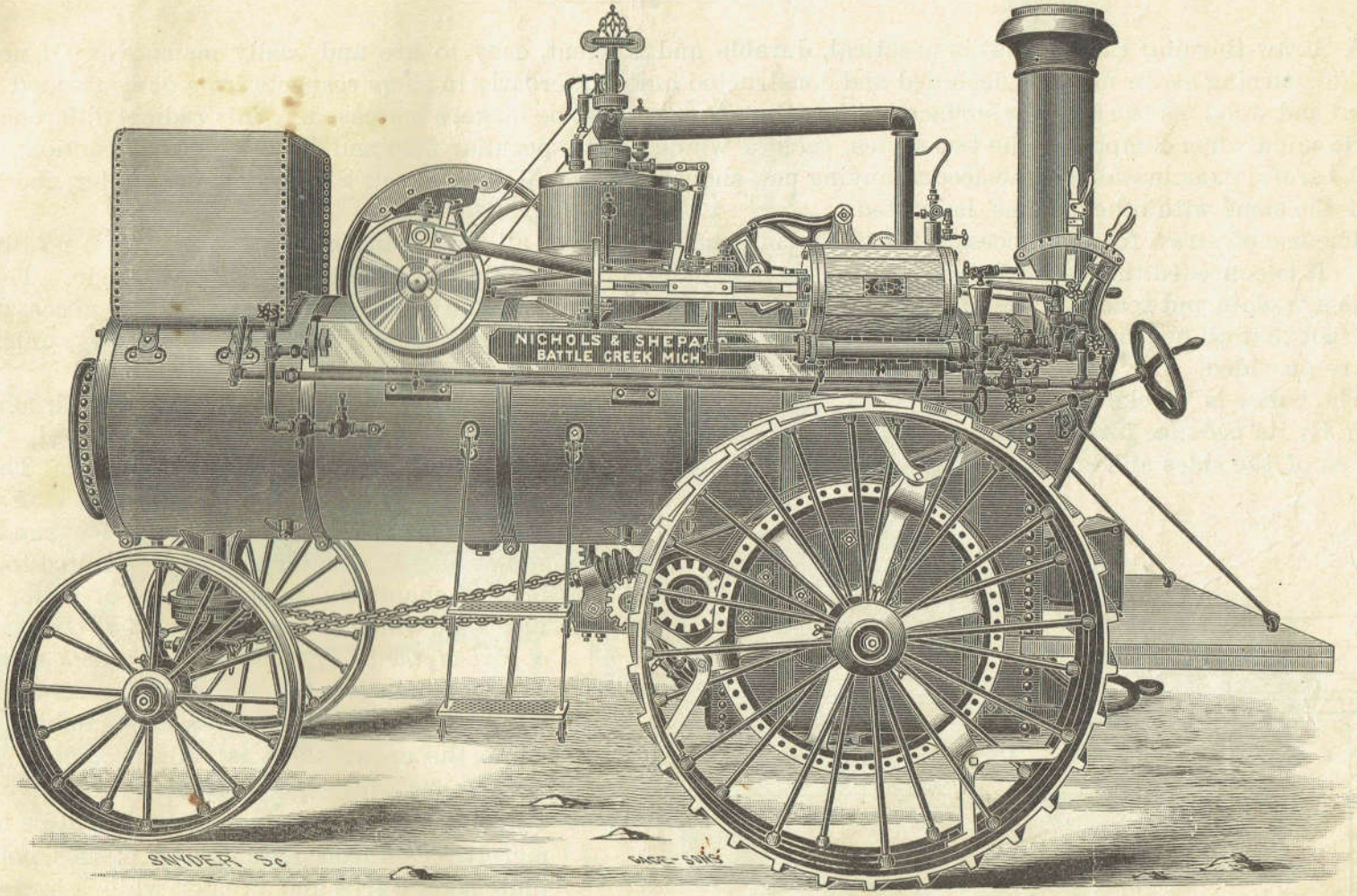


SECTIONAL VIEW OF NICHOLS-SHEPARD COMPOUND ENGINE.



THE NICHOLS-SHEPARD COMPOUND ENGINE.

which the Nichols-Shepard Compound attained in the field. The large number of these Engines sold and successfully used last season has proven the practicability of the Compound Traction Engine as constructed by Nichols & Shepard Co., and the long-felt want of an engine with increased power, and economy of fuel and water, without additional weight, has been fully gratified. We are prepared to furnish Coal-Burning Compound Engines in the following sizes: 13, 16 and 20-Horse; and in Straw-Burning Engines, 20 and 26-Horse, compounds.



NICHOLS-SHEPARD STRAW-BURNER.

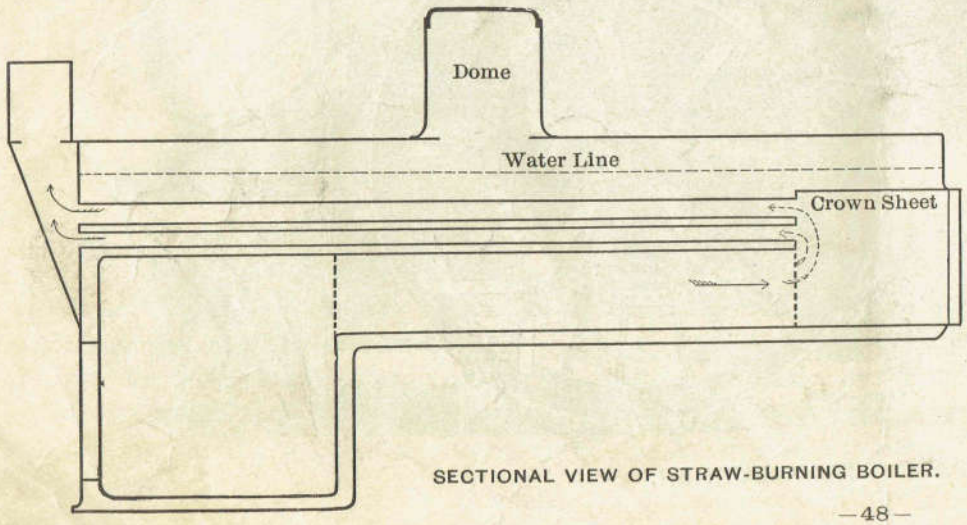
NICHOLS-SHEPARD STRAW-BURNING ENGINE.

A Straw-Burning Engine that is practical, durable and efficient, easy to fire and easily managed. Of necessity, a boiler for burning straw must be designed and constructed quite differently in some respects from one intended for burning coal and wood, as the heating surface of the straw-burner must be largely increased. This radical difference must be borne in mind when comparing the two styles, each of which has its peculiar field and distinctive construction.

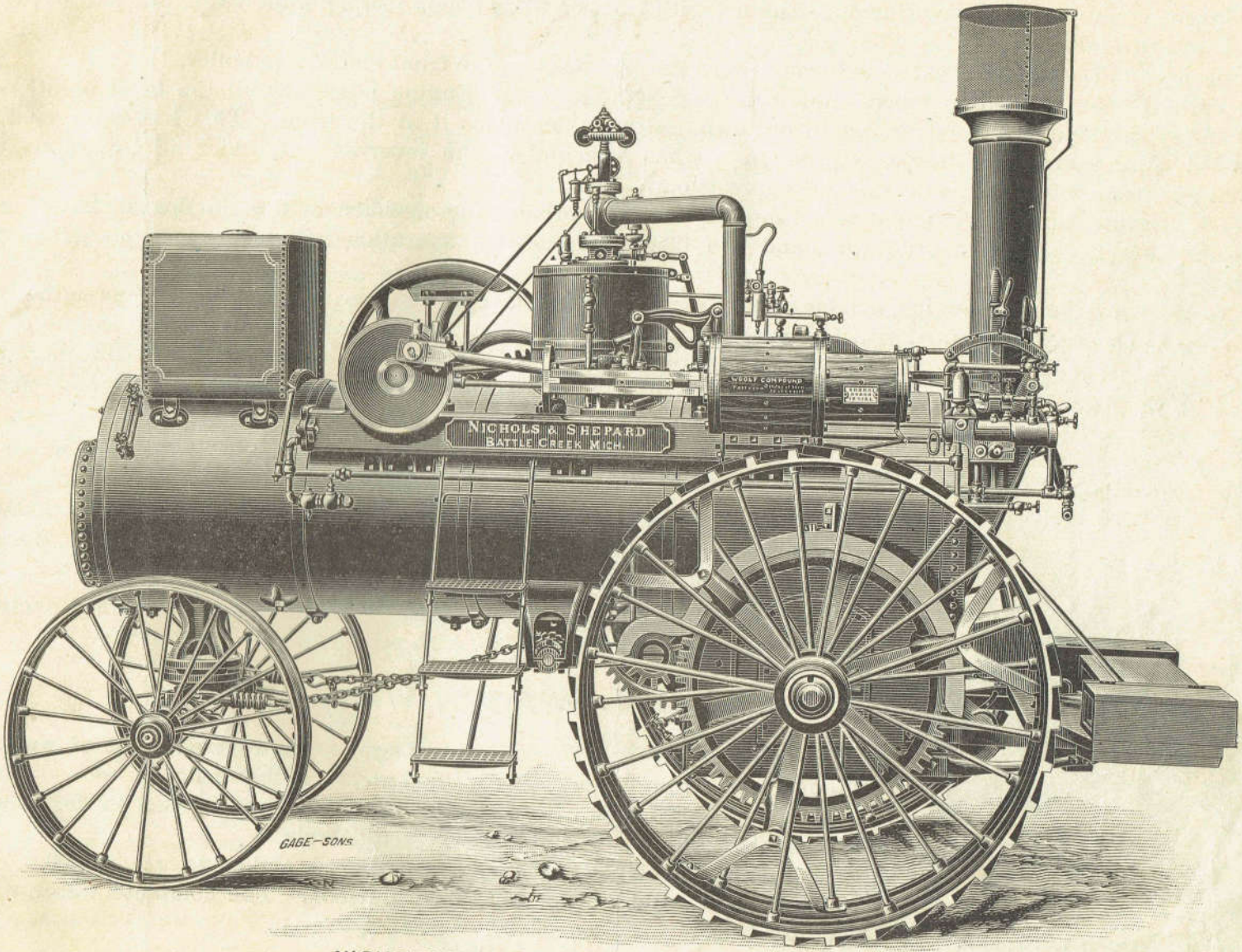
A careful examination of the accompanying cut, showing sectional view of our Straw-Burning Boiler, and a comparison of the same with other makes, is invited.

The use of straw for fuel necessitates the saving and utilizing of all heat in order that there may be no difficulty in firing. It is conceded that less effort is required in firing our Straw-Burning Engine than any other made. The reasons for this are plain and readily understood. It is a return-flue boiler, which, in burning straw for fuel, is necessary, owing to the fact that all heat must be generated from *flame*, which rushes through the boiler with great rapidity, unless return-flues are provided. Our Straw-Burning Engine is often used with wood or coal for fuel, and with success.

The boiler is "jacketed" with wood and sheet-iron. The fire-box is made with sloping sides and circular crown-sheet. By its peculiar form it utilizes a large share of the heat just at the initial point where it is generated. This construction of the sides and crown-sheet also tends to lessen the sediment, and consequent formation of scale. The fire-box is entirely surrounded with water, having an ample water-bottom from which the sediment can be readily removed. Particular attention is called to the combustion-chamber (at opposite end of boiler from the fire-box), which *is so constructed that the crown-sheet is a part of the boiler, and is covered with water*, in the same manner as the crown-sheet of the fire-box. Thus the heat in the combustion-chamber is utilized, while the crown-sheet is fully protected. This admirable feature is peculiar alone to our boiler. In other boilers for burning straw, it will be found that merely a cast-iron plate is used at this point. This plate soon warps and breaks, while a large share of the heat is wasted.



SECTIONAL VIEW OF STRAW-BURNING BOILER.



NICHOLS-SHEPARD COMPOUND STRAW-BURNER.

At each end of the boiler is a door, which gives ready access to the flues for the purpose of cleaning, etc.

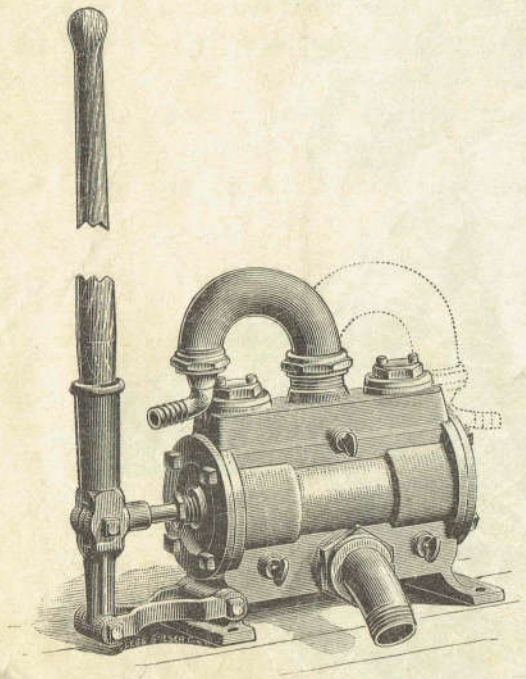
The large cut shows our Straw-Burning Engine, with traction attachment complete, including our improved friction clutch and link reverse.

A capacious and perfectly constructed iron water tank is placed on the front end of the boiler.

The careful observer will perceive that while our Straw-Burning Engine possesses all the good points of other makes, it has special features of advantage of our own design, which place it at the front. This has been most clearly demonstrated in the grain fields of the Northwest. It has been put to the severest test, under all conditions, and has more than met our anticipations, and filled all requirements.

In fact, we have fully anticipated the wants of the enterprising threshermen in the Northwest, where strength and durability are necessary in order to stand the test of successful operation with the enormous grain crops of that region.

With our Straw-Burning Engine, combined with our extra large Separators, the thresherman has an outfit with sufficient capacity to successfully cope with the large crops of any section, and to make threshing the source of a profit never heretofore realized. We build four sizes of Straw-Burning Engines, viz., 18-Horse and 22-Horse power simple, and 20-Horse and 26-Horse power compounds.



NICHOLS-SHEPARD TANK PUMP.

NICHOLS-SHEPARD TANK PUMP.

This is one of the most practicable pumps made for filling thresher tanks, washing out boilers, and general use about the farm. It is simple, durable, and has an easy capacity of two barrels per minute.

Price.—Pump complete, including 20 feet of 2-inch wire-lined suction hose, 12½ feet of 1-inch discharge hose, with nozzle and strainer, $28.00.

WAGON WATER-BOX.

This box (see cut on following page) is thoroughly built of well-seasoned lumber, and strongly stayed with wood girts and iron rods.

It is made to fit any ordinary lumber wagon, and is used on the bolsters like the usual wagon box, and holds about ten barrels.

It is not furnished unless *specially* ordered, and costs *extra* $25.00.

We also build trucks for this water-box. The complete water wagon, including trucks and box, $60.00.

DIMENSIONS OF NICHOLS-SHEPARD ENGINES.

FOR COAL OR WOOD.

8-Horse Engine. — Has 6½ x 10 Cylinder; is speeded 240 per minute; has 36-inch Band-Wheel with 9½-inch face.

10-Horse Engine. — Has 7¼ x 10 Cylinder; is speeded 240 per minute; has 36-inch Band-Wheel with 9½-inch face.

13-Horse Engine. — Has 7¾ x 10 Cylinder; is speeded 240 per minute; has 36-inch Band-Wheel with 9½-inch face.

15-Horse Engine. — Has 8 x 12 Cylinder; is speeded 225 per minute; has 40-inch Band-Wheel with 10-inch face.

22-Horse Engine. — Has 9 x 12 Cylinder; is speeded 225 per minute; has 40-inch Band-Wheel with 10-inch face.

13-Horse Compound Engine. — Has 5¾ x 10 and 8½ x 10 Cylinders; is speeded 240 per minute; has 36-inch Band-Wheel with 9½-inch face.

16-Horse Compound Engine. — Has 6⅜ x 10 and 9¼ x 10 Cylinders; is speeded 240 per minute; has 36-inch Band-Wheel with 9½-inch face.

20-Horse Compound Engine. — Has 6¾ x 10 and 9¾ x 10 Cylinders; is speeded 225 per minute; has 40-inch Band-Wheel with 10-inch face.

STRAW-BURNERS.

18-Horse Straw-Burner. — Has 8 x 12 Cylinder; is speeded 225 per minute; has 40-inch Band-Wheel with 10-inch face.

22-Horse Straw-Burner. — Has 9 x 12 Cylinder; is speeded 225 per minute; has 40-inch Band-Wheel with 10-inch face.

20-Horse Straw-Burner, Compound. — Has 6¾ x 10 and 9¾ x 10 Cylinders; is speeded 225 per minute; has 40-inch Band-Wheel with 10-inch face.

26-Horse Straw-Burner, Compound. — Has 7¼ x 10 and 10½ x 10 Cylinders; is speeded 225 per minute; has 40-inch Band-Wheel with 10-inch face.

WAGON WATER-BOX.

COMPARATIVE PRICES AND VALUES.

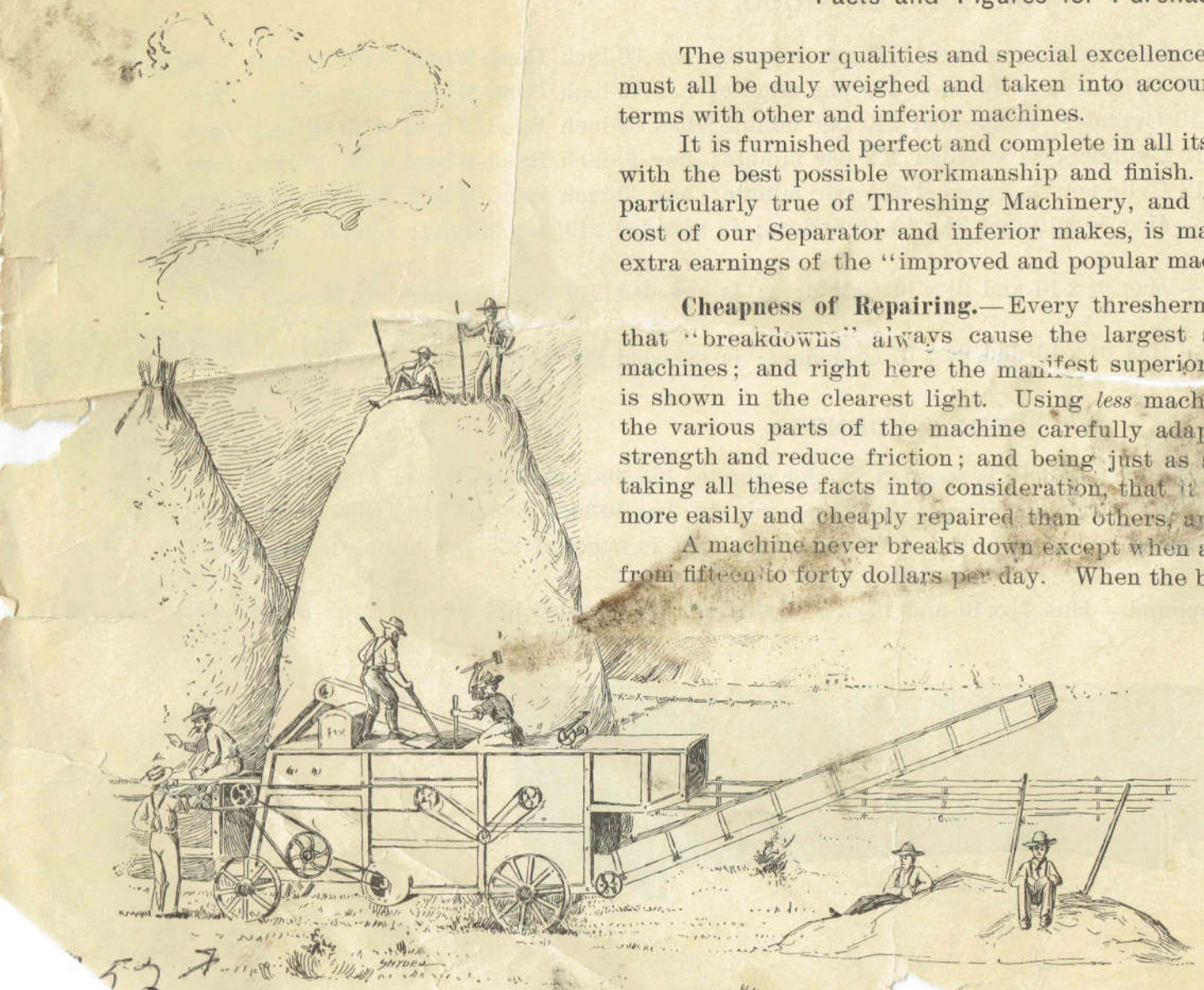
Facts and Figures for Purchasers to Consider.

The superior qualities and special excellence of the Nichols-Shepard Separator must all be duly weighed and taken into account when comparing its prices and terms with other and inferior machines.

It is furnished perfect and complete in all its parts, from the choicest material, with the best possible workmanship and finish. "The best is none too good," is particularly true of Threshing Machinery, and the difference (if any) between the cost of our Separator and inferior makes, is made up in a very few days by the extra earnings of the "improved and popular machine."

Cheapness of Repairing.—Every thresherman or careful observer is aware that "breakdowns" always cause the largest share of the expense with other machines; and right here the manifest superiority of Nichols-Shepard Separator is shown in the clearest light. Using *less* machinery and wearing pieces; having the various parts of the machine carefully adapted to each other, to give ample strength and reduce friction; and being just as simple as possible, is it not plain, taking all these facts into consideration, that it is far less liable to accidents and more easily and cheaply repaired than others, and *consequently much more profitable?*

A machine never breaks down except when at work, when it should be earning from fifteen to forty dollars per day. When the break occurs, all hands stop, while



I think these people soon will learn
That they have got a cheap concern.
Just look! it's almost set of sun,—
The first stack they've but just begun;
They're hammering and pounding now,
To fix that old machine, I trow.
I tell you, friends, it doesn't pay
To buy these "Cheap Johns," anyway;
I'd sell that clap-trap if I could,—
'T would make some first-rate kindling wood.
I tell you, I shall always sing,
"The Nichols-Shepard—that's the King!"