



HORACE L. EMERY & SON'S
ALBANY AGRICULTURAL WORKS,
Hamilton Street, corner of Liberty and Union Streets,
ALBANY, N. Y.

PRICES FOR 1868-1869 (CONTINUED.)

SAW-MILL for sawing Shingles, with 24-inch Slitting Saw complete, with feed and guide table (for Two-Horse Power),	\$85
CLOVER HULLER AND CLEANER, 14 x 26 in. cylinder,	\$150 to 175
CLOVER HULLER AND CLEANER, 14 x 36 in. cylinder,	175 to 200
CORN SHELLER, Smith's Patent, for Two-Horse Power capacity, 100 bu. clean corn per hour,	85 to 100
FEED MILLS, Felton's Patent, for Two-Horse Power capacity, 4 to 8 bu. corn and oats per hour,	100 to 125
FEED CUTTER for One, or Two-Horse Power capacity, 10 to 20 hundred pounds of Hay or Stalks per hour,	75 to 100
FEED CUTTER, medium size for Power and Hand, capacity half as last mentioned,	40 to 50
CIDER MILL for Hand or Power complete, with Grater and Triple Screw Press — capacity 6 to 10 Barrels of Cider per day,	65
CIDER MILL, same as above without Press,	35
PRESS for Cider, Wine, Lard and Tallow, same as in Cider mill without the Grater attachment,	35
CORN AND SEED PLANTERS for Hand and Horse, and for hills and drills,	18 to 22
SUGAR CANE or Sorghum Mills, for Power, different sizes,	100 to 300
HAY PRESSES, Hand Power,	125 to 200
HAY PRESSES, Hand Power, with Horse Power Attachment,	175 to 250
HAY PRESSES, Horse Power, heavy,	250 to 500
COTTON PRESSES, Hand Power, 150 to 200 lbs. bale,	100 to 125
COTTON PRESSES, Hand Power, 200 to 400 lbs. bale,	175 to 225
COTTON PRESSES for Hand and Horse Power, 300 to 500 lbs. bale,	250 to 350
CHEESE PRESSES (Progressive Lever), 50 to 300 lbs. cheese,	20
DOG OR SHEEP POWER for Churning, &c.,	22
WIND-MILLS, Halliday's Patent, all sizes,	50 to 300

ALSO

A large and complete assortment of the best selected Agricultural Machines and Implements extant, consisting of

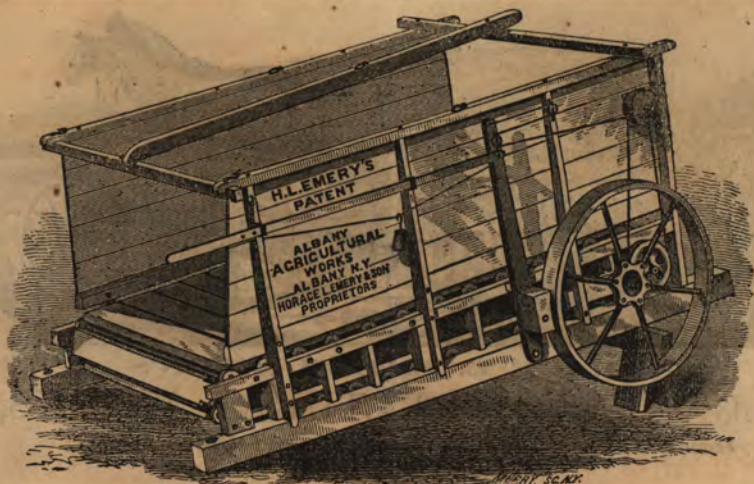
PLOWS,	CORN SHELLERS,	SEED DRILLS,
HARROWS,	HAY CUTTERS,	CORN PLANTERS,
CULTIVATORS,	HORSE HOES,	ROAD SCRAPERS,
SEED SOWERS,	POTATO COVERERS,	VEGETABLE CUTTERS,
HORSE RAKES,	CHURNS,	FIELD ROLLERS,
FANNING MILLS,	GARDEN ROLLERS,	GRAIN CRADLES.

Liberal Inducements are offered to agents and others, to sell again, and on large bills of goods to one order.

NOTICE. — Address distinctly, to avoid delays and disappointments,

HORACE L. EMERY & SON,
ALBANY AGR. WORKS,
ALBANY, N. Y.

Illustrated Catalogues, and Price Lists furnished gratis on application, on receipt of three cent stamp, to prepay postage on same.



**HORACE L. EMERY'S
PATENT RAILWAY HORSE POWER.**

HORACE L. EMERY & SON,

Patentees, and Sole Proprietors and Managers of the

ALBANY AGRICULTURAL WORKS,

Hamilton St., corner of Liberty and Union Streets,

ALBANY, N. Y., U. S.

These Powers are Constructed upon the REEL PRINCIPLE, with adjustable main and counter shafts, and with small TRAVELING SHAFTS, which connect the links of the chains and carry the small traveling wheels.

These Main and Counter Shafts are mounted in Babbeted bearings, and are adjustable for regulating the running of the endless platform and the tension of the chains, and are fitted with uniform couplings and fastenings, upon their ends, outside of and on both sides of the power, where they receive their several gears and pulleys of different diameters, and are free from the droppings of the animals, easily accessible and readily cared for.

By the transpositions and changes of these gears and pulleys, all the various degrees of force and motion which are required of the driving band wheel, are instantly produced for propelling the different agricultural machines, and for mechanical manufacturing, and other purposes, without, in the least, changing the labor of the animals.

THESE HORSE POWERS are furnished, when desired, with a perfect SPEED and SAFETY GOVERNOR or REGULATOR, which is readily applied and adjusted, to control the velocity of the HORSE POWER, within any desired degree suited to the natural travel of the animals, or the requirements of the machines driven, or work performed, and dispenses with the necessity of all kinds of harness or fastenings of the animals within the power, whatever may be the changes of the resistance.

Address HORACE L. EMERY & SON, Albany, N. Y., Sole Proprietors and Managers of the Albany Agricultural Works, Hamilton, corner Union and Liberty streets.

Descriptive Catalogues and Price List forwarded gratis, on receipt of Letter Stamp.
Liberal inducements allowed to Dealers.





HORACE L. EMERY'S

PATENT RAILWAY HORSE POWER

THRESHING MACHINES & CLEANERS,

HORACE L. EMERY & SON

Patentees, and Sole Proprietors and Managers of the

ALBANY AGRICULTURAL WORKS,

Hamilton Street, corner of Liberty and Union Streets,

ALBANY, N. Y., U. S.

Among the improvements peculiar to these machines, and which, more than all else, have given to them their world-wide introduction, adoption and celebrity, are the ENDLESS APRON OF SLATTED CELLS, which is about two feet in length and extends across the machine at an inclination upwards, and placed near the discharging side of the Threshing Cylinder, for receiving the grain and fine chaff into the cells from the Overshot Cylinder, while the straw and coarse chaff are carried upon the cells and over the top end of the Apron, and fall upon a horizontal Perforated Vibrating Riddle. This Riddle extends the whole length and width of the machine, and admits the grain and fine chaff to pass directly down through it, where they are arrested upon a Vibrating Conveyor (which also extends under the whole Riddle), and are conducted back near to the Cylinder and deposited upon the Riddles and Sieves of the Shoe of the Fanning Mill, where the final cleaning takes place by the combined action of the Fan Blast and the Riddles, Sieves and Screens, and the agitation of the Shoe.

The cleaned grain is delivered at one spout, ready for market. The tallings are delivered at another spout, on the same or opposite side of the machine, or they may be returned to the Feeder's Table to pass through the machine again. The grass, clover and other small or foul seeds, are also separated and delivered at a third spout, and may be saved if desired, and often this saving of the grass seeds alone more than compensates for the entire expense of threshing a crop of grain.

The straw, which is carried over the Apron and upon the Perforated Riddle, is passed under a REVOLVING BEATER, armed with several series of STEEL TEETH, which completes the separation of the grain and accelerates the passage of the straw, and prevents long, damp or heavy straw from winding upon the Cylinder and, by an ingenious device, these teeth protrude only during one-half of each revolution of the Beater, and recede within it during the other half revolution, thus preventing all possibility of the teeth winding straw upon the Beater. The Riddle is also furnished with several series of AGITATING FINGERS, for suspending, agitating and rapidly discharging the straw. The Shoe, with its series of Riddles, Sieves and Screens, is mounted in adjustable hangings, and, by varying the length of its vibrations and the wind way of the Fan Mill, the machine is readily adjusted to thresh and clean all kinds of grain and seeds.

The vibrations of the Riddles, Conveyor and Shoe are so arranged as to counterbalance each other, causing the machine to run still and very lightly, and the whole requiring but two bands (beside the main driving band), one and a half inches wide, to drive all the several parts of the machine.

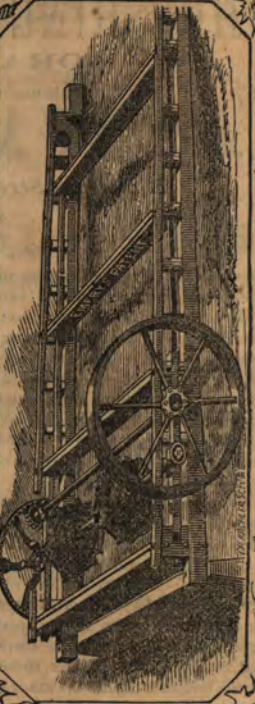
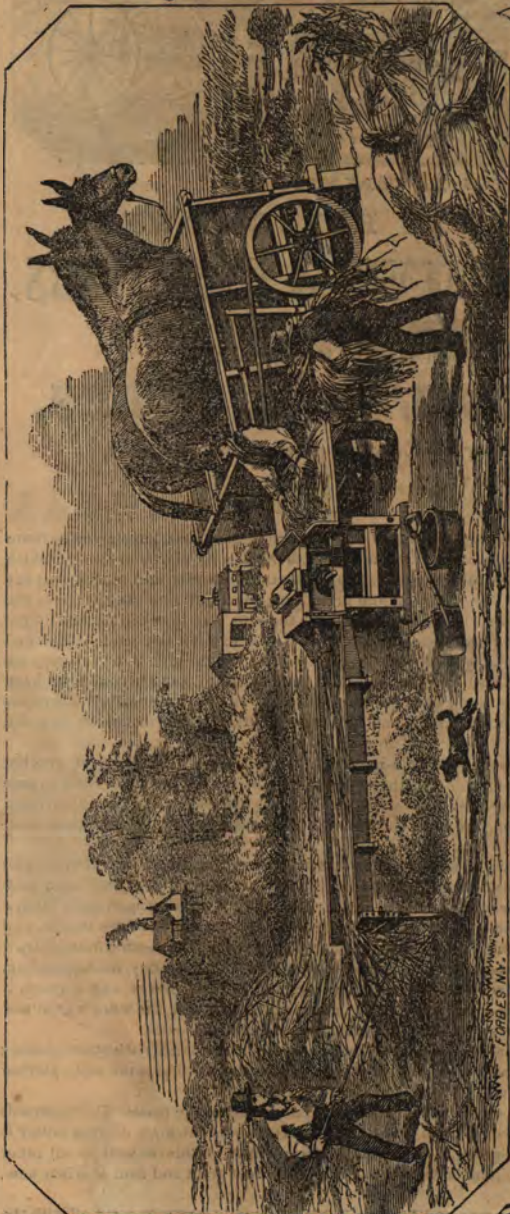
The Cylinders are built upon solid cast steel shafts, and with solid cast iron concave heads. Their journals are mounted in adjustable two-part and Babbeted metal lined iron bearings, and the main driving pulley is fitted to the shaft by Pawl and Ratchet couplings. The whole frame works of this (as well as all other machines) are made and put together with joint bolts, and can always be kept tight and firm as when new, in any country or climate.

The DUST PROTECTOR FLUE, over the Concave and Feeding Table, effectually serves to carry off with the straw and chaff all the dust, which often is very annoying to the attendants of most other machines.

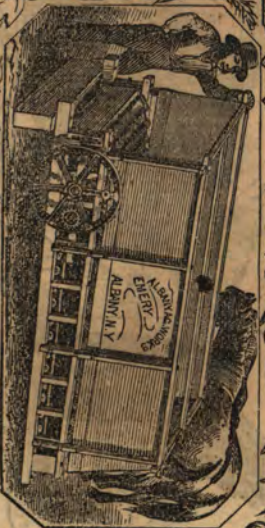
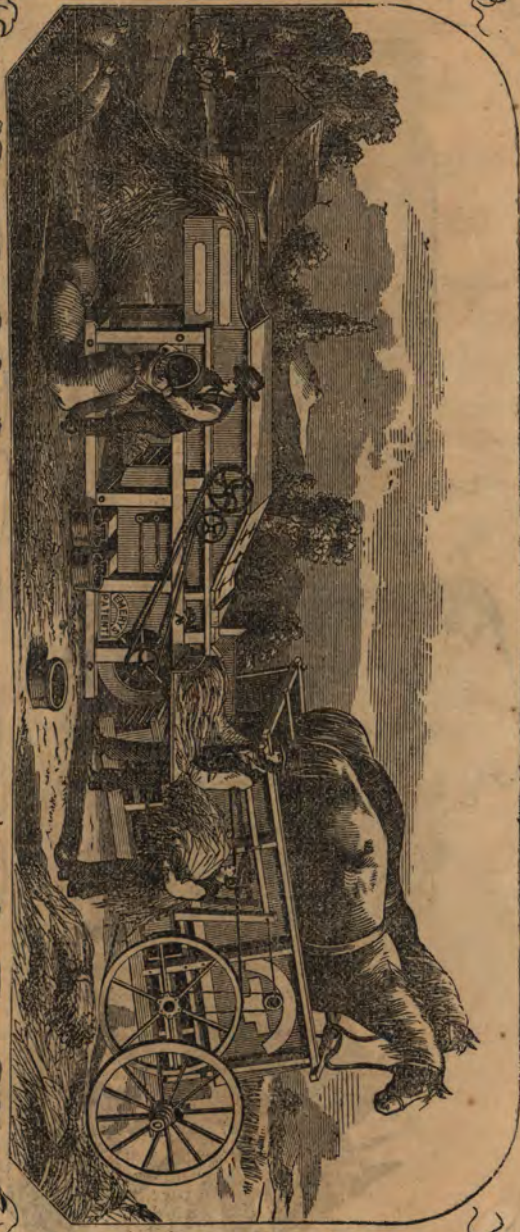
The capacity of the Threshing Machine and Cleaner, with 14x26 inch Cylinder, when driven by two horses, upon the Endless Railway Power, averages One Hundred and Fifty to Two Hundred bushels of wheat or rye per day, and double that amount of oats, buckwheat, rice and barley.

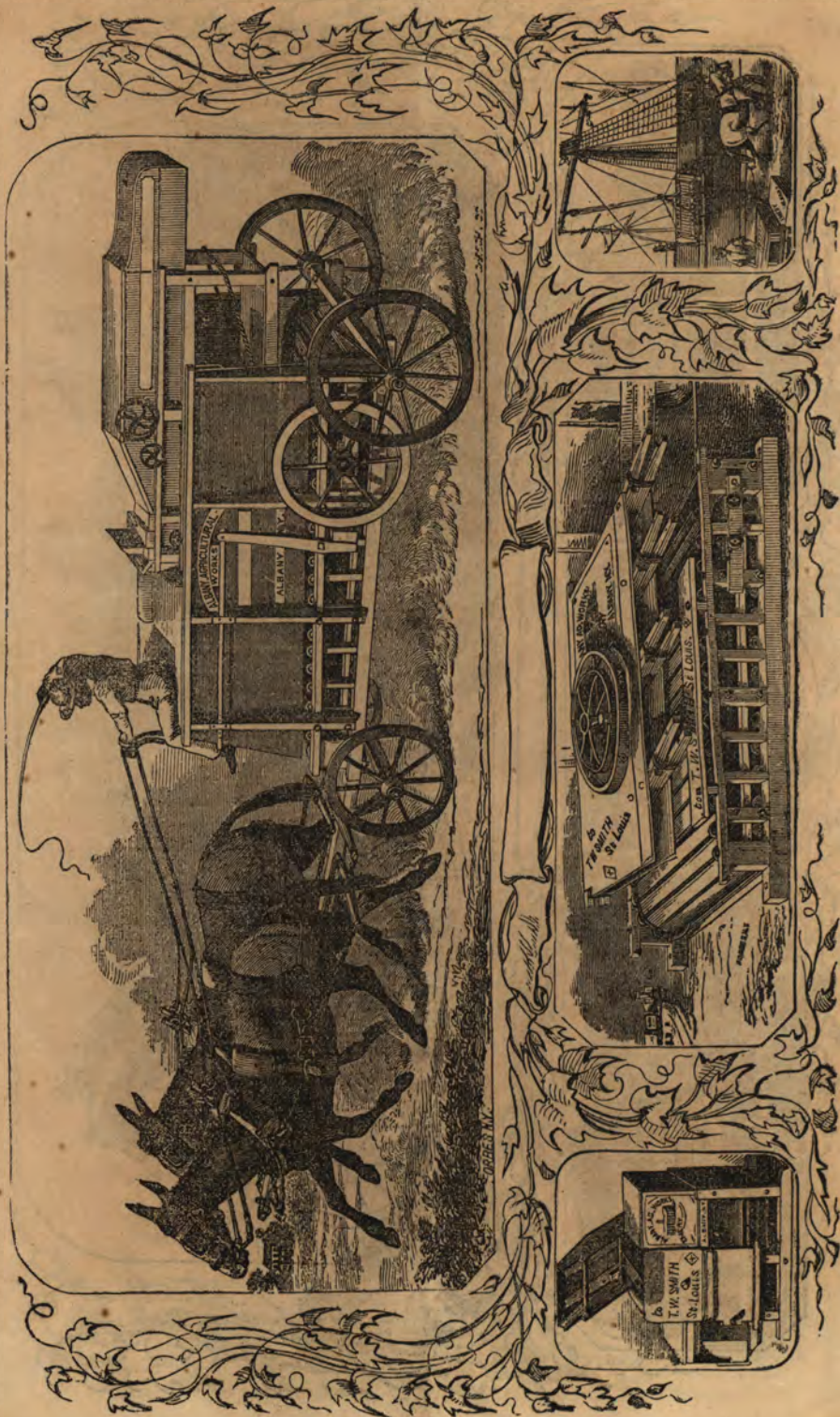
With Four Horses on the Lever Power about one-half more work can be done.

The larger sizes, with more horses, will do proportionably more work per day.



REVISED 1882 & 1883 CATALOGUE 1883 and 1884 N. Y.





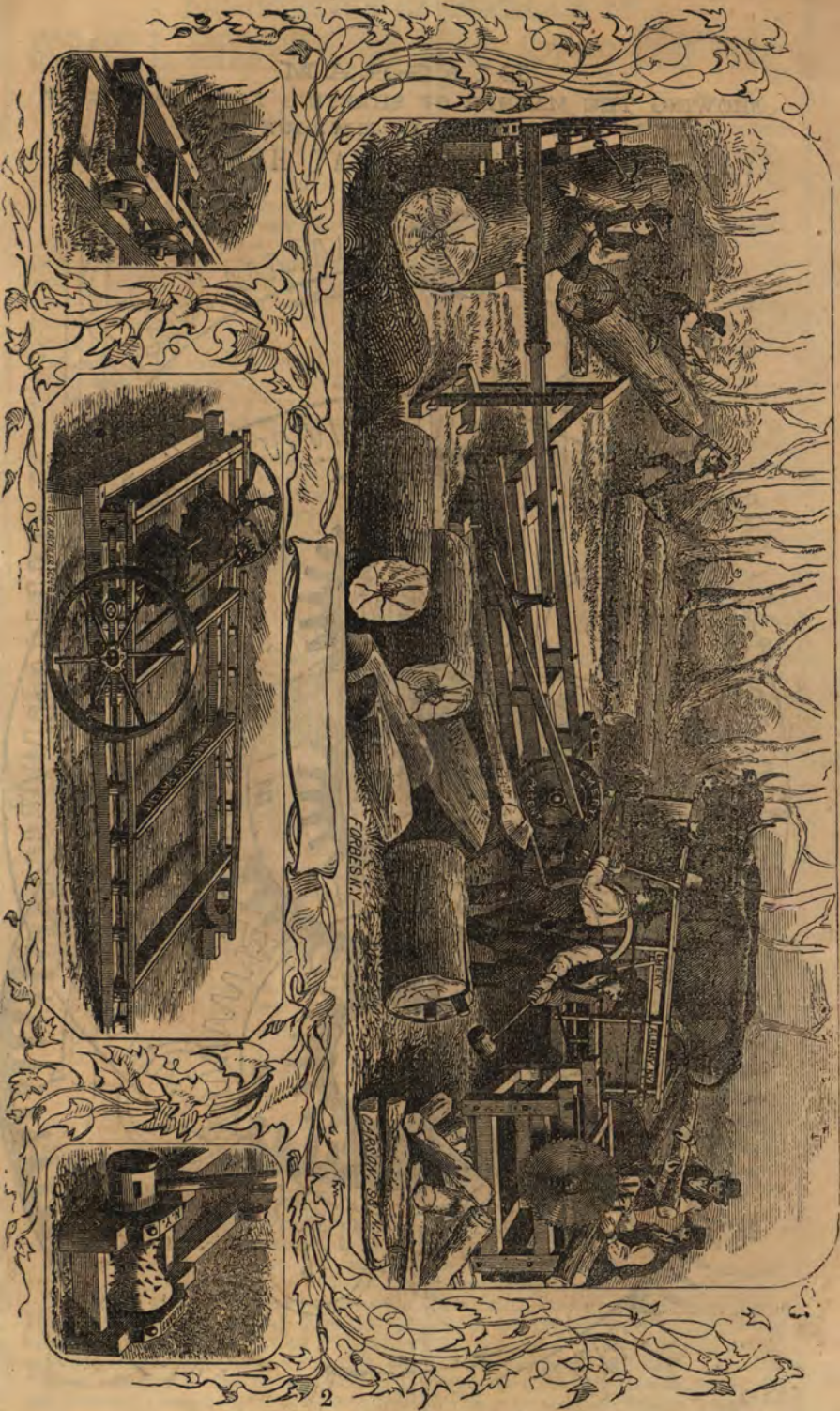
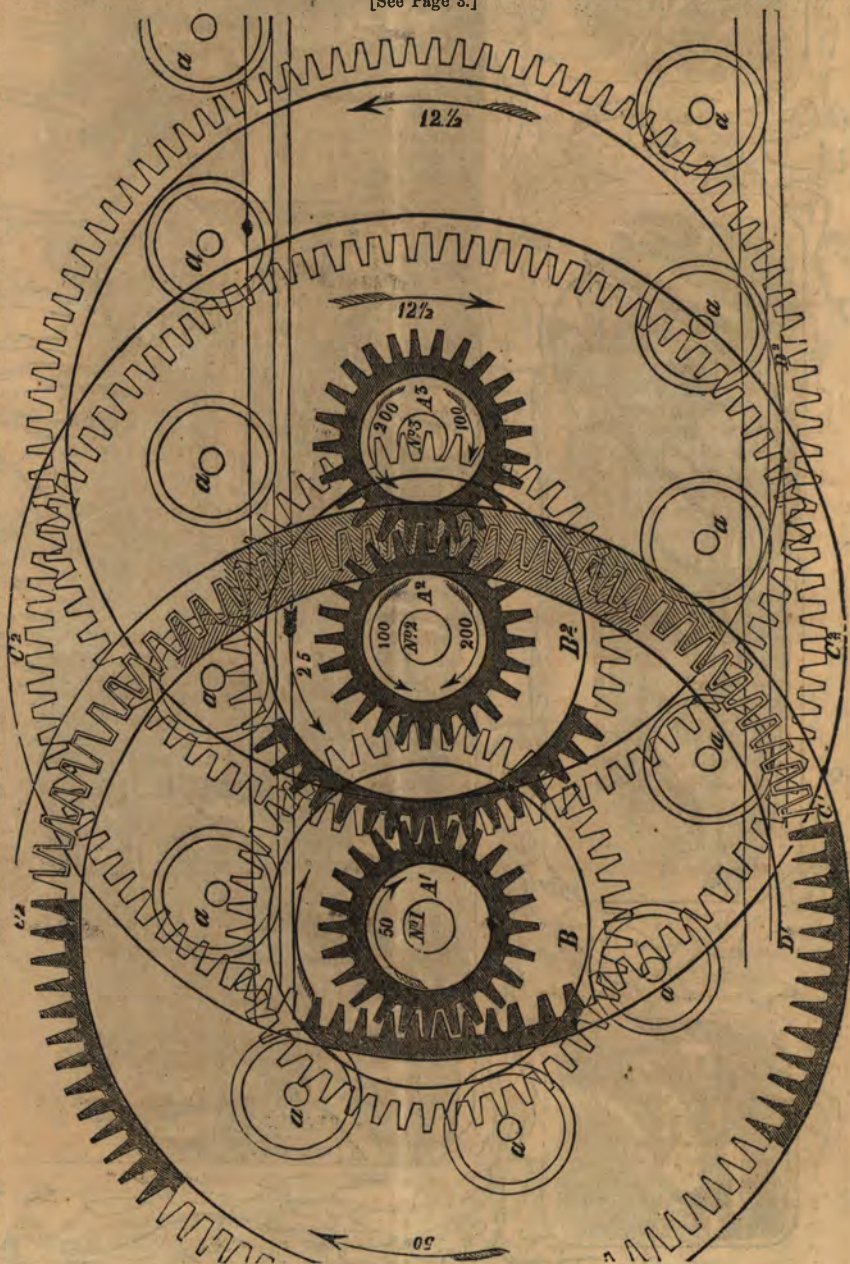


DIAGRAM
SHOWING THE MANNER OF SHAFTING AND GEARING OF
HORACE L. EMERY'S
PATENT ENDLESS RAILWAY HORSE POWER.

[See Page 3.]



DESCRIPTION OF DIAGRAM OF HORACE L. EMERY'S Patent Endless Railway Horse Power.

In order to enable the reader to understand and distinguish the Emery Horse Power from all others, a diagram has been carefully drawn, engraved and published herewith, showing its System of Shafting, Gears and Pulleys, and all their various Applications, Changes and Transpositions for producing the numerous degrees of Forces and Motions required for driving different machines, &c.

There are Four Gear Wheels represented, marked A' B' C' D', all fitted upon the main driving shaft, marked No. 1. The Second Main Shaft is shown by No. 2, also this same shaft is shown in its second position, marked No. 3. As only two of these gears can be used at one time, the others, in meantime, are laid aside. The main shaft No. 1, around which the endless platform revolves, receives from it about fifty revolutions per minute, giving that velocity to the gears and pulleys which may be coupled to it, and in the direction of the arrow. (Any two of these Gear Wheels are sold with the Power—the others, when ordered, are sent at prices to cover their first cost.)

Therefore, if the gear wheel C' (which is 24 inches diameter) be coupled to shaft No. 1, and as it is an internal gear wheel, it engages the small gear A'' (which is six inches diameter), on shaft No. 2, communicating to it four times fifty or 200 revolutions per minute, and in the same direction as the large gear wheel C', as shown by the arrow. The driving Band Pulley being coupled to the opposite end of shaft No. 2, receives the same velocity of 200, which is required for Threshing, Sawing and many other uses.

By substituting the gear wheel B' (which is 12 inches diameter) for C' on shaft No. 1, it engages the small gear wheel A'', and gives it a reversed motion of 100 revolutions per minute, the band wheel receiving the same velocity, which is just what is required for driving Chaff Cutters, Feed Mills, Drag Saws, Pumps, Churns, Machine Shops, &c.

By transposing the gear wheel A'' to shaft No. 1, and B' to shaft No. 2, the shaft No. 2 and band wheel will receive a velocity of 25 per minute, and which is adapted to the purpose of propelling Boats, Elevators, Dredging Machines, &c., where slow motion and increased force is required.

By coupling gear wheel C'' to shaft No. 2, so as to engage A' on shaft No. 1, a velocity of only $12\frac{1}{2}$ revolutions per minute is obtained, which is required for working heavy presses, screws and similar mechanical uses. a a a a represent the small traveling wheels of the endless platform.

In order to avoid the necessity of crossing of bands for driving different machines, the gear wheel D' or D'' (which is 24 inches diameter) is often applied to No. 1 and No. 3 shafts. The advantages of these several speeds, together with the different degrees of power produced, which power is always greater or less than that of the shaft No. 1, just in proportion of the increased or decreased velocities over that of No. 1, are too apparent to require comment, further than to say, that to obtain and apply their advantages to any single shafted rack and pinion power, would cost not less than 50 to 60 dollars.

One other important and distinguishing point of the Emery's Horse Power is readily seen in the double shoulders, turned upon the ends of all the small traveling shafts, where they receive the links and small wheels. The second shoulders, at the inside of the wheels, serve to keep both wheels and shafts exactly in position, while the links and floorings have ample freedom without impinging upon the small wheels. Another distinguishing feature, the words and letters, Emery's Patent, are cast upon all the small traveling wheels and links of the Endless Platform. Also the words, HORACE L. EMERY & SON, Albany Agricultural Works, upon the frame work.

CAPACITY OF MACHINES.

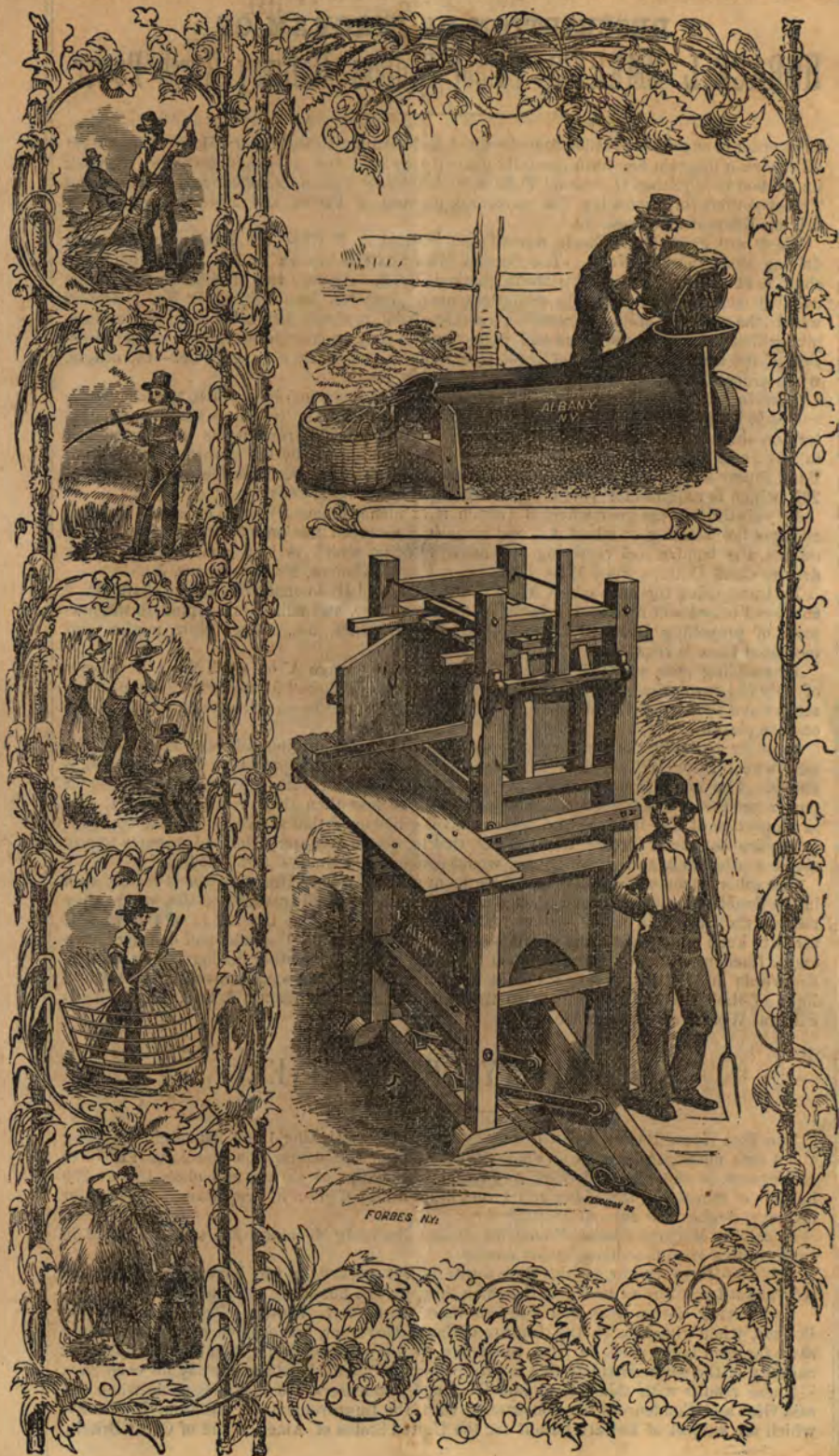
The Two-Horse Power, when driven by two horses weighing 1,000 lbs. each, traveling about two miles per hour, at an angle of elevation or inclination from the horizon of 10 to 12 degrees, is capable of driving a Threshing Machine to thresh and clean 150 to 250 bushels of wheat per day of ten hours, and other kinds of grain in proportion. In Oats, for instance, double that amount is easily done.

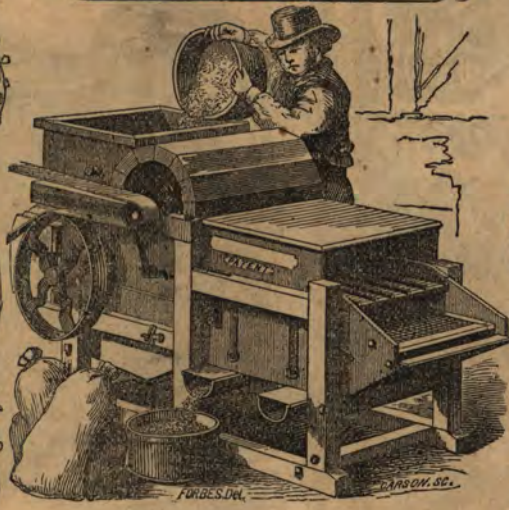
In driving Machine Shops, Foundries, Boats, Dredging Machines, &c., they are equal in capacity to a good four-horse steam engine.

The One-Horse Power, or the Two-Horse Power worked by one horse, will accomplish only about two-fifths as much, in the same time, as two horses on the wide Power.

For driving Cotton Gins and Condensers, of HORACE L. EMERY'S Patent, these Horse Powers, when rigged with the Improved Speed Governor, are capable of driving twenty saws for each horse used, or from thirty-five to forty-five saws for two horses to the full capacity of the saws, or thirty-five to fifty pounds of Cleaned Cotton per day for each Saw.

These results with this Power, and Gins and Condensers, are only attainable when the said Gins and Condensers are constructed with the Improvements of HORACE L. EMERY, which are subject of Letters Patent for the United States of America and of Great Britain.









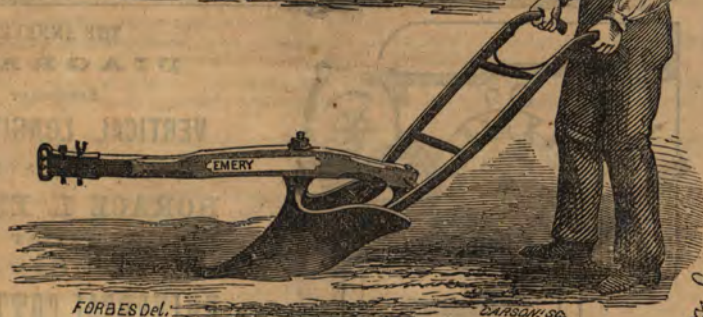
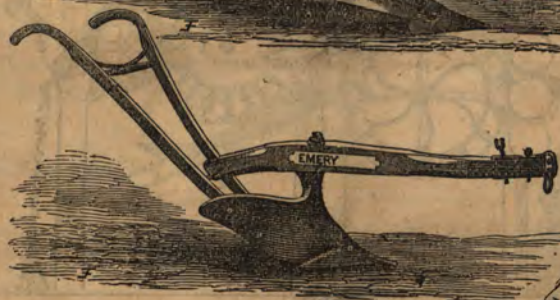
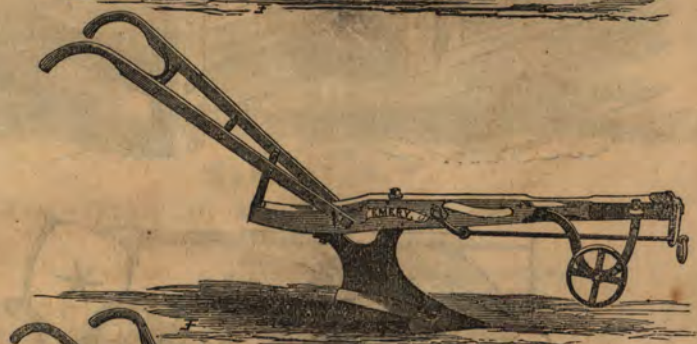






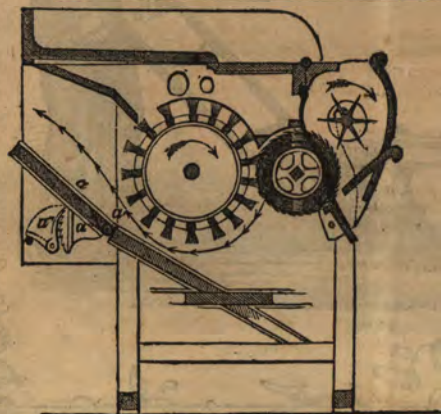
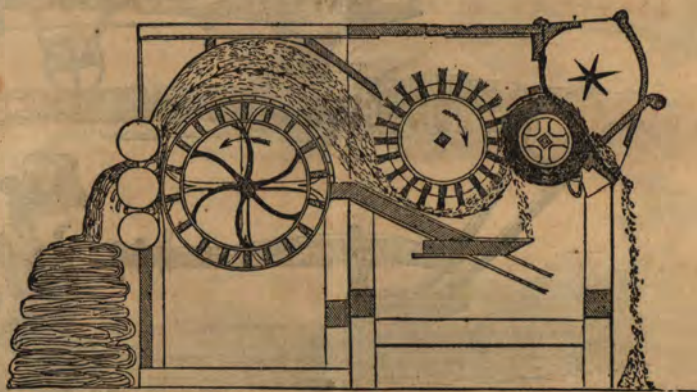
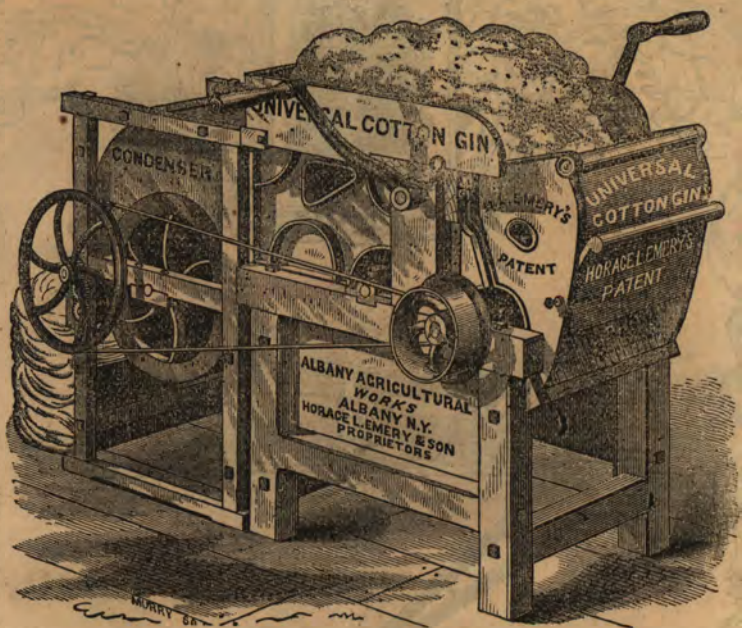






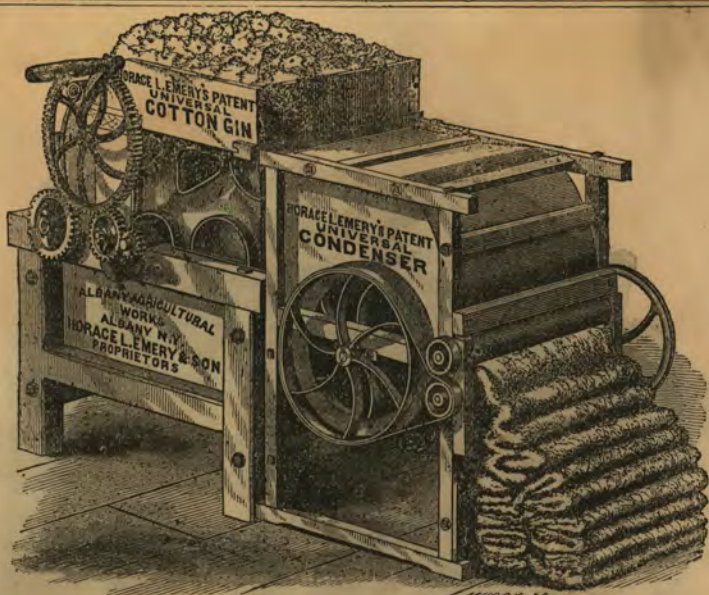
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THE ANNEXED
DIAGRAMS
 REPRESENT
VERTICAL LONGITUDINAL
 SECTIONS OF
HORACE L. EMERY'S
 PATENT
AMERICAN
UNIVERSAL COTTON GIN

WITH AND WITHOUT THE
CONDENSER and CLEANER.



ALBANY AGRICULTURAL WORKS, ALBANY, N. Y.

HORACE L. EMERY & SON,

PROPRIETORS AND MANAGERS,

AND EXCLUSIVE MANUFACTURERS OF THE CELEBRATED

UNIVERSAL COTTON GINS AND CONDENSERS.

These Cotton Gins and Condensers are adapted to Ginning and Cleaning
ALL KINDS AND CONDITIONS OF COTTON,
and fitted for

Steam, Water, Horse, Wind, or Manual Power.

These Machines have never failed to receive the highest honors and awards wherever they have been tried; and they have been tested in competition with nearly all other kinds in use.

THE COTTON SUPPLY ASSOCIATION, of Manchester, England, awarded it the highest honors, over all other saw gins, and declared the samples ginned by it entirely uninjured—a compliment never before or since given to any other saw gin by that Association.

The Georgia State Agricultural Society gave it their highest award, beside the best gins in use at the South, after several days constant and thorough trial, in competition with their best gins.

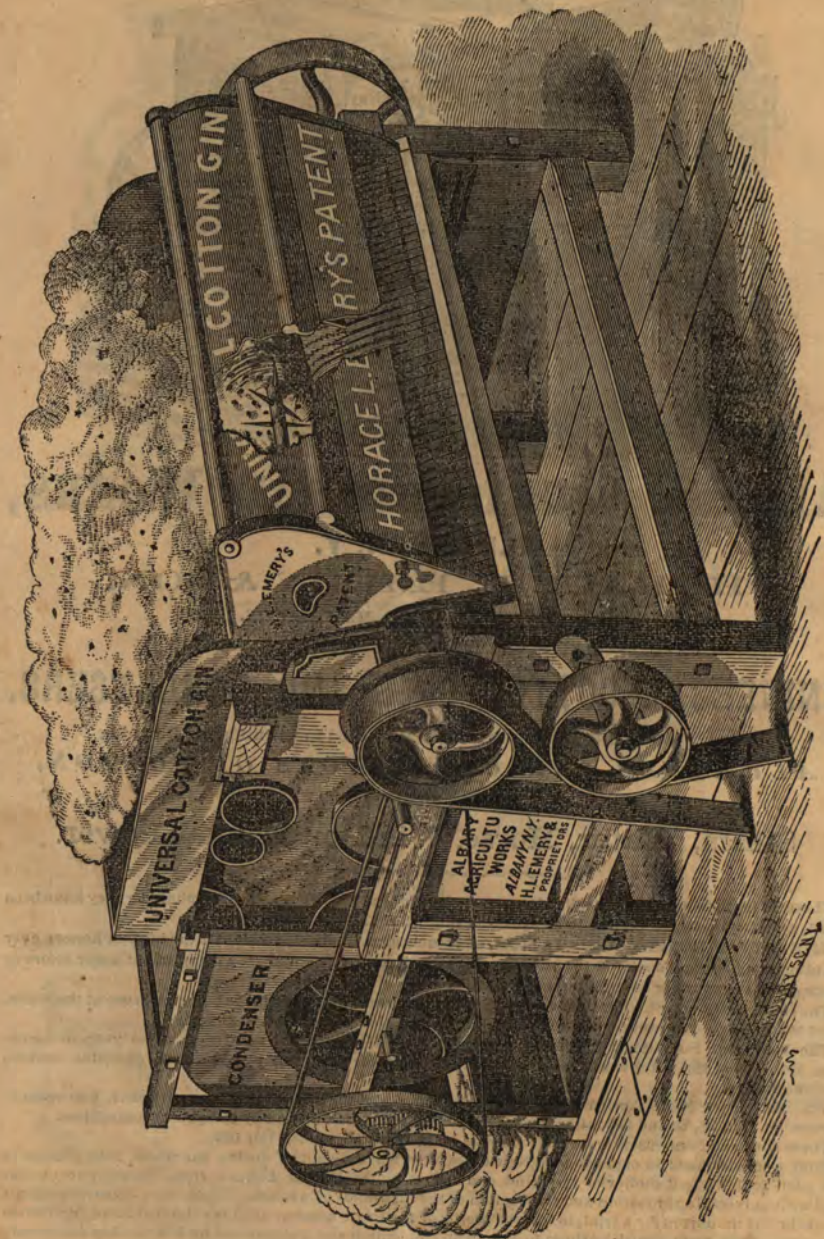
The Maryland Institute, at Baltimore, awarded it their HIGHEST PRIZE MEDAL three years in succession, 1865, '66 and 1867, after weeks constant operation at their fairs, and by committees of cotton brokers and mechanics.

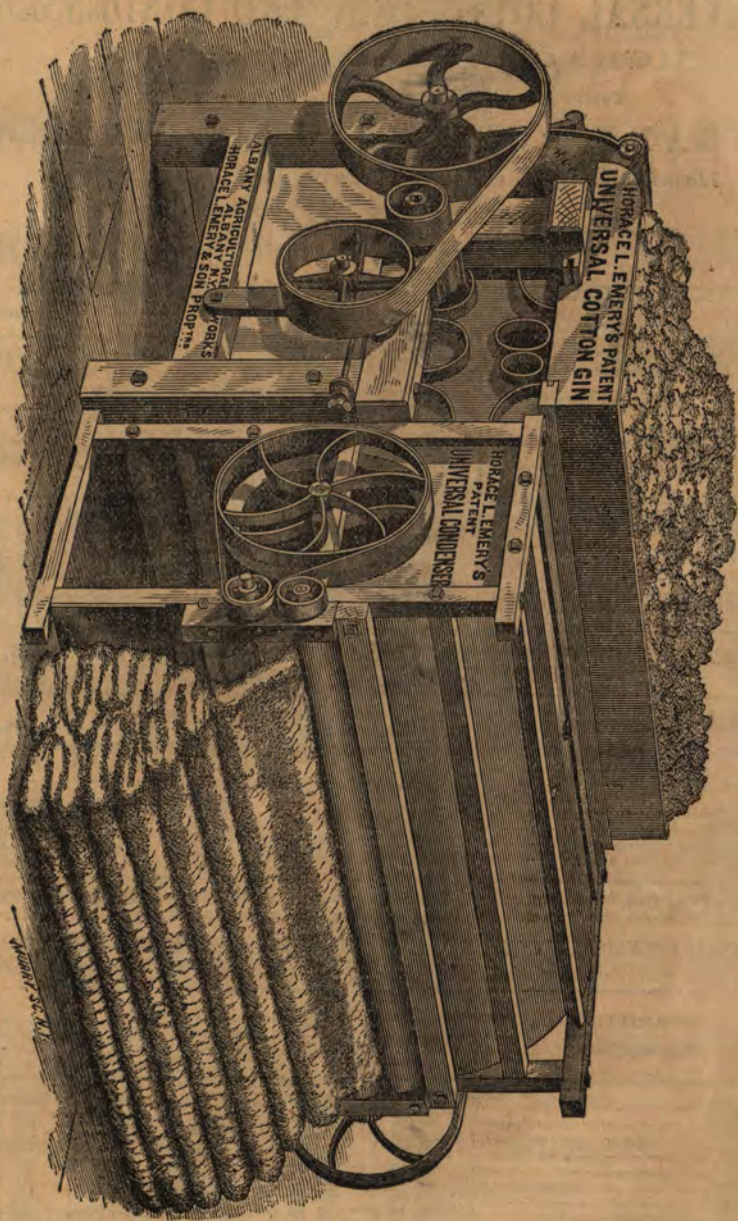
The New York State Agricultural Society also awarded it their HIGHEST PRIZE MEDAL four years in succession, 1864, '65, '66 and 1867, after several days constant operation, and by competent committees.

These Gins and Condensers were not exhibited at St. Louis Fair in 1866 nor 1867.

They were exhibited in operation at New Orleans, in November, 1866, during the whole Fair, ginning in the open field, without shelter of any kind, and driven by the *Endless Railway Horse Power* by two mules and with universal approbation and satisfaction of the thousands of visitors. There were no arrangements made by the managers for a trial, to test the merits of the great number of gins exhibited there; and when the competitors were asked by them to join in an application and programme for a trial, they all readily joined in the request, excepting only the agents of the machine to which the honors were subsequently awarded. The positive refusal of said agents to join in the application defeated any trial, as well as the appointment of any jury of experts, and consequently nearly all of the exhibitors refused to operate their machines during said fair, and as a consequence the proprietors of the UNIVERSAL GIN and CONDENSER declined to exhibit at the last fairs 1867 and '68.

THE UNITED STATES COMMISSIONERS for the late PARIS EXPOSITION, selected and sent out the UNIVERSAL COTTON GIN and CONDENSER, of HORACE L. EMERY & SONS, as the best sample from among the large number offered by different makers, and after a most careful and thorough investigation of the credentials and merits claimed by the applicant.





NEW PRICE LIST.

1868-1869.

UNIVERSAL COTTON GIN AND CONDENSER.

HORACE L. EMERY & SON,

Patentees, and Sole Proprietors and Managers of the

ALBANY AGRICULTURAL WORKS,

Hamilton Street, corner of Liberty and Union Streets,

ALBANY, N. Y.

PRICES FOR UNIVERSAL HAND GINS AND CONDENSERS.

1867.

(Fitted for Hand Power only.)

1867.

Fitted with two Crank Handles and Geared to drive the Saws Two, Three or Four Revolutions for each turn of the Cranks, according to the size of Gin and kind of Cotton.—Wrenches, Oil Can and Extras included.

Intermediate sizes made to order at proportionate prices.

DESCRIPTION. Number of Saws.	Price of Gin per Saw.	Price of Gin.	Price of Condenser per Saw.	Price of Condenser.	Price of both together.
10 Saw Gin,.....	\$7 00	\$70 00	\$4 00	\$40 00	\$110 00
12 do	6 50	78 00	4 00	48 00	126 00
15 do	6 00	90 00	3 75	56 25	146 25
18 do	5 50	99 00	3 75	67 50	166 50
20 do	5 25	105 00	3 50	70 00	175 00
25 do	5 00	125 00	3 50	87 50	212 50

PRICES FOR UNIVERSAL HAND GINS AND CONDENSERS,

(Fitted for both Hand and Horse Power.)

DESCRIPTION. Number of Saws.	Price of Gin per Saw.	Price of Gin.	Price of Condenser per Saw.	Price of Condenser.	Price of both together.
15 Saws,.....	\$7 00	\$105 00	\$8 75	\$56 25	\$161 25
18 do	6 50	117 00	3 75	67 50	184 50
20 do	6 25	125 00	3 50	70 00	195 00
25 do	6 00	150 00	3 50	87 50	237 50

Capacity of Hand Gin will average from Two Hundred (200) to Two Hundred and Fifty Pounds (250) clean lint per each able hand working at the cranks per day of ten hours.

PRICES FOR UNIVERSAL POWER GINS AND CONDENSERS,

Fitted with Right and Left Hand Attachments. Also with Belts, Wrenches, Oilers, Extras.

DESCRIPTION. Number of Saws.	Price of Gin per Saw.	Price of Gin.	Price of Condenser per Saw.	Price of Condenser.	Price of both together.
20 Saws,.....	\$6 00	\$120 00	\$3 50	\$70 00	\$190 00
25 do	5 75	143 75	3 50	87 50	231 25
30 do	5 50	165 00	3 50	105 00	270 00
35 do	5 50	192 50	3 25	113 75	306 25
40 do	5 25	210 00	3 25	130 00	340 00
45 do	5 25	236 25	3 12½	140 62	376 87
50 do	5 25	262 50	3 00	150 00	412 50
55 do	5 12½	281 88	3 00	165 00	446 88
60 do	5 00	300 00	3 00	180 00	480 00
65 do	5 00	325 00	3 00	195 00	520 00
70 do	5 00	350 00	3 00	210 00	560 00
75 do	5 00	375 00	3 00	225 00	600 00
80 do	5 00	400 00	3 00	240 00	640 00
85 do	5 00	425 00	3 00	255 00	680 00
90 do	5 00	450 00	3 00	270 00	720 00
95 do	5 00	475 00	3 00	285 00	760 00
100 do	5 00	500 00	3 00	300 00	800 00



NEW PRICE LIST.

1868-1869.

UNIVERSAL COTTON GIN & CONDENSER.

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Hamilton Street, cor. of Liberty and Union Streets,

ALBANY, N. Y.

HORACE L. EMERY'S PATENT

HORSE POWERS AND UNIVERSAL COTTON GINS AND CONDENSERS.

PRICES FOR

Two Horse Railway Power,	\$190 00
Main Band Wheel (Extra) to drive Gin,	12 00
Speed Governor and Safety Brake for Horse Power,	15 00
Universal Cotton Gin with Forty Saws (for other sizes see Price List of Gins),	210 00
Condenser and Cleaner Attachment for same,	130 00
Bands for Power, Gin and Condenser,	18 00
Boxing and packing Gin and Condenser, &c., for shipment, at cost,	
	\$575 00

Capacity, with two Good Horses, Mules or Oxen, Two and a Half to Three Bales of Cleaned Cotton (500 lbs. each) per ten hours.

PRICES FOR

Four to Six Horse Lever Power,	\$195 00
Universal Cotton Gin with Fifty Saws (for other sizes see Price List of Gins),	262 50
Condenser and Cleaner Attachment for same,	150 00
Bands for Power, Gin and Condenser,	20 00
Boxing and packing Gin and Condenser, &c., for shipment, at cost,	
	\$627 50

Capacity, with Four Horses, Mules or Oxen, Three to Four Bales (of 500 lbs.) per ten hours, and with Six Horses, Mules or Oxen, Five to Six Bales (of 500 lbs.) per ten hours.

PRICES FOR

Six to Eight Horse Lever Power,	\$200 00
Universal Cotton Gin with Seventy Saws (for other sizes see Price List of Gins),	350 00
Condenser and Cleaner Attachment for same,	210 00
Bands for Power, Gin and Condenser,	25 00
Boxing and packing Gin and Condenser for shipment, at cost,	
	\$785 00

Capacity, One Bale (500 lbs.) for each Horse, Mule or Oxen used for ten hours.

PRICE FOR COTTON PRESSES.

Cotton Presses, Hand Power (Portable), for 400 lbs. Bale,	\$225 00
Cotton Presses, Hand Power (Portable), 500 lbs. Bale,	250 00
Cotton Presses, Horse Power (Portable), 400 lbs. Bale,	300 00
Cotton Presses, Horse Power (Portable), 500 lbs. Bale,	325 00

Plans and Estimates made and furnished for Erecting Buildings, Purchasing and Arranging Machinery for Cleaning and Preparing Cotton for market without charge. Address distinctly to avoid errors and delays in correspondence.

HORACE L. EMERY & SON,

ALBANY AGRICULTURAL WORKS,

Hamilton Street, cor. Liberty and Union Streets,

ALBANY, N. Y.

DESCRIPTION
OF THE
CONSTRUCTION AND OPERATION
OF
HORACE L. EMERY & SON'S
UNIVERSAL COTTON GIN
AND CONDENSER.

PICKER ROLL SUPPORTER.

By means of the PICKER ROLL SUPPORTER, which is mounted within the Saw Chamber or Hopper of this Gin, together with the other patented improvements, the ROLL of SEED COTTON is at all times equally and EVENLY DISTRIBUTED, SUPPORTED and ROTATED throughout its entire length, and is presented to the action of each and every saw alike, causing EACH SAW to do its FULL AMOUNT OF WORK at all times and under all circumstances; and, as a consequence, producing a much LARGER OUT-TURN of cleaned cotton per hour or day, also all BRIDGING, BREAKING OR CHOKING of the Cotton Roll in the Hopper is EFFECTUALLY and ABSOLUTELY PREVENTED, and the requisite amount of DRIVING POWER is reduced almost or fully ONE-HALF.

The Roll of Seed Cotton being thus supported and rotated, all necessity of RAISING THE BREAST or hopper from the saws of the Gin for starting it, or for relieving the saws or the power when in operation, is ENTIRELY AVOIDED, thereby enabling any person of ordinary intelligence, whether weak or strong, to attend the ginning process with equal ease and efficiency.

Another advantage gained by the use of the Picker Roll Supporter is the IMPOSSIBILITY of COTTON BECOMING PACKED between any two of the ribs from any cause such as wet or damp cotton or over-feeding, the effect of which is to generate fire which frequently occurs with all gins made without this safeguard, whereas not one of the thousands of these gins in use have ever generated fire in their operation.

BREAST OR HOPPER.

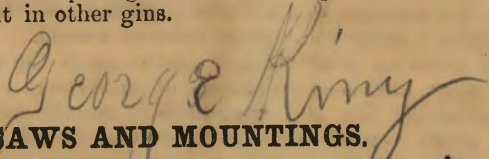
The Breast or Hoppers of these Gins in connection with the Picker Roll Supporter is so formed as to produce a PERFECTLY FREE and EASY ACTION, and UNIFORM DENSITY of the entire Cotton Roll, and also to retain the seeds until perfectly freed from all fibre, thereby obtaining a LARGER YIELD of LINT from the seed cotton than can be secured without these improvements, all other Gins discharging more or less seeds with a great portion of their lint still adhering to them, thereby causing a waste of lint cotton, averaging from three to six pounds of lint in every hundred pounds of seed cotton, besides the impracticability of planting the partially cleaned seeds by planting machines until they have first been subjected to some process to prepare them for the purpose. The HINGES or hangings of the breast or hopper, as also the SHAFTS and BEARINGS of the saw and brush cylinders are ALL ADJUSTABLE ENDWISE, which readily facilitates their adaptation to each other.

RIBS AND FASTENINGS.

The Ribs or Grates are all fitted to iron plates at their top and bottom ends by means of bolts and nuts, and ACCURATELY ADJUSTED by templates in their construction so as to FIT AGAINST EACH OTHER at both ends, top and bottom, which prevents their being subsequently moved or shifted from their proper position by any cause.

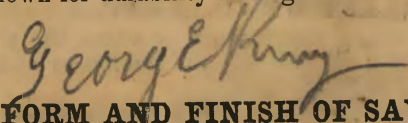
This method of securing the ribs to the breast, together with the construction of the Saw Cylinder, insures their UNIFORM EXPANSION and CONTRACTION endways, and causes them to MAINTAIN THEIR RELATIVE POSITIONS to each other UNDER ALL CHANGES OF TEMPERATURE OR CLIMATE, which cannot be done where the different parts working into each other expand and contract unequally, as is the case where the collars of wood or zinc metal, or other unequal expanding materials, are used.

The CORNERS of the ribs of these gins, where the fibres pass with the saw teeth, are ROUNDED and CASE HARDENED, preventing any injury to the fibre in passing, which must and does occur more or less where the fibres pass the angular corners of the ribs as used in other gins. By the use of the Picker Roll supporter, MUCH LESS SPACE is allowed BETWEEN THE RIBS, which prevents the passage of much foreign matter which goes through with the lint in other gins.



SAWS AND MOUNTINGS.

These saws are manufactured of SOLID PLATES of the finest of cast steel and THOROUGHLY HAMMERED, STRAIGHTENED and TEMPERED, and are mounted and secured upon heavy SQUARE IRON SHAFTS in such a manner as to enable any operator, by means of a common wrench, in a few minutes time to REMOVE and REPLACE a DAMAGED SAW with a new one, or to remove any or all of the saws from the shaft for filing, and without trouble readily replace them so they will run in the center of the spaces between the ribs or grate bars. The collars between the saws of these universal gins are of CAST IRON and MACHINE TURNED, and PERFECTLY FACED, which produce UNIFORM SPACES BETWEEN, and ACCURACY OF RUNNING of the saws, and are not liable to be affected by climatic causes injury or decay to which the wood collars and mountings of gins in general use are subject. All the journals of the shafts of the gins work in STRONG IRON BOXES which are LINED WITH BABBIT METAL, the best material known for durability and light friction.



FORM AND FINISH OF SAW TEETH.

The peculiar FORM and FINISH given to the TEETH of the saws of the Universal Cotton Gin by patented machinery invented for and especially adapted to the purpose and exclusively used in the manufacture of these gins is that of a PERFECTLY ROUNDED FACE OR THORN SHAPED TOOTH, and unlike those used by other manufacturers, and with the PICKER ROLL SUPPORTER and other patented improvements in these gins EFFECTUALLY PREVENTS all possibility of INJURY to the cotton BY NEPPING, CUTTING, ABRADING OR IMPINGING of the fibres, or the least ABRASION of the SEED which last are EVENLY AND PERFECTLY CLEANED to any degree desirable by the adjustment, up or down, of the seed board.

BRUSH CYLINDER AND AIR CHAMBER.

The construction of the Brush Cylinder and Air Chamber over it is such as to produce a more EVENLY DISTRIBUTED and STEADY SUPPLY and blast of air across the edge of the moting board, THROUGHOUT ITS WHOLE LENGTH for thorough moting, than can be obtained by those of any other manufacture. The HEADS of the brush cylinder are made with CONCAVE SOLID PLATES of cast iron in the form of an annular trough, for the purpose of PRODUCING A STRONG INWARD DRAFT of air at the centre, and thereby PREVENTING any ACCUMULATION of fibre around the journals, and keeping the ends of the cylinder free and clear and the BEARINGS and JOURNALS COOL. Their heads are cast with OPEN SOCKET FLANGES so as to admit of any one or more of the brush stocks being instantly removed or replaced, and WITHOUT INTERFERING with the others or the removing the cylinder from the machine, which cannot be done where the ends of the brush stocks are inserted into mortices in the heads as others are sometimes made.

The body of the brush cylinder is covered with HEAVY SHEET ZINC over which the brush stocks are attached and firmly screwed to the intermediate wood heads and firmly bound or hooped, which PREVENTS ALL POSSIBILITY OF EXPLODING with less than two thousand revolutions, which is double the velocity required for practical use, the whole being accurately balanced under the highest velocity named.

The air chamber, which is over and extends the whole length of the brush cylinder, RECEIVES ITS SUPPLY of air through the air openings from both sides of the Gin, and distributes it equally over the whole brush cylinder, which in turn carries it down, and by this means the cotton is EQUALLY WELL MOTED along the WHOLE LENGTH OF THE MOTE-BOARD, which has never before been well done, even with the open brush, and cannot be evenly done with any solid cylinder without the air supply and distributing chamber over the brush cylinder.

THE CONDENSER AND CLEANER ATTACHMENT.

This addition to the Gin proper REMOVES from the lint cotton ALL DIRT, SAND, DUST and OTHER FOREIGN MATTER detrimental to its CLASSIFICATION and SALE.

The superiority of the quality of cotton thus obtained generally COMMANDING A HIGHER PRICE, and where the Condenser is used with the PICKER ROLL SUPPORTER in Universal Cotton Gin, the cotton cleaned by them invariably commands from TEN to TWENTY-FIVE PER CENT HIGHER PRICE than the same grade of seed cotton cleaned by any other gin.

By the use of the Condenser with the Universal Cotton Gins, they are ESPECIALLY ADAPTED TO SMALL PLANTATIONS or where the planter does not desire to incur the cost of erecting the cumbrous and expensive gin houses and gearing as generally used.

The machines thus combined, together with any good portable Horse Power or steam engine, FORM A COMPLETE AND PORTABLE GINNING ESTABLISHMENT, in themselves, and may be removed from one plantation to another, and used almost entirely without buildings of any kind.

By the use of the Condenser, the SPACE REQUIRED IS GREATLY REDUCED, and the process is no more detrimental to the attendants than the threshing of grain with the ordinary threshing machine.

The compactness of the lint cotton at all times greatly lessens the danger from fire should it occur from any cause, as it would be limited to but a small space and quantity of material which could the more readily be extinguished.