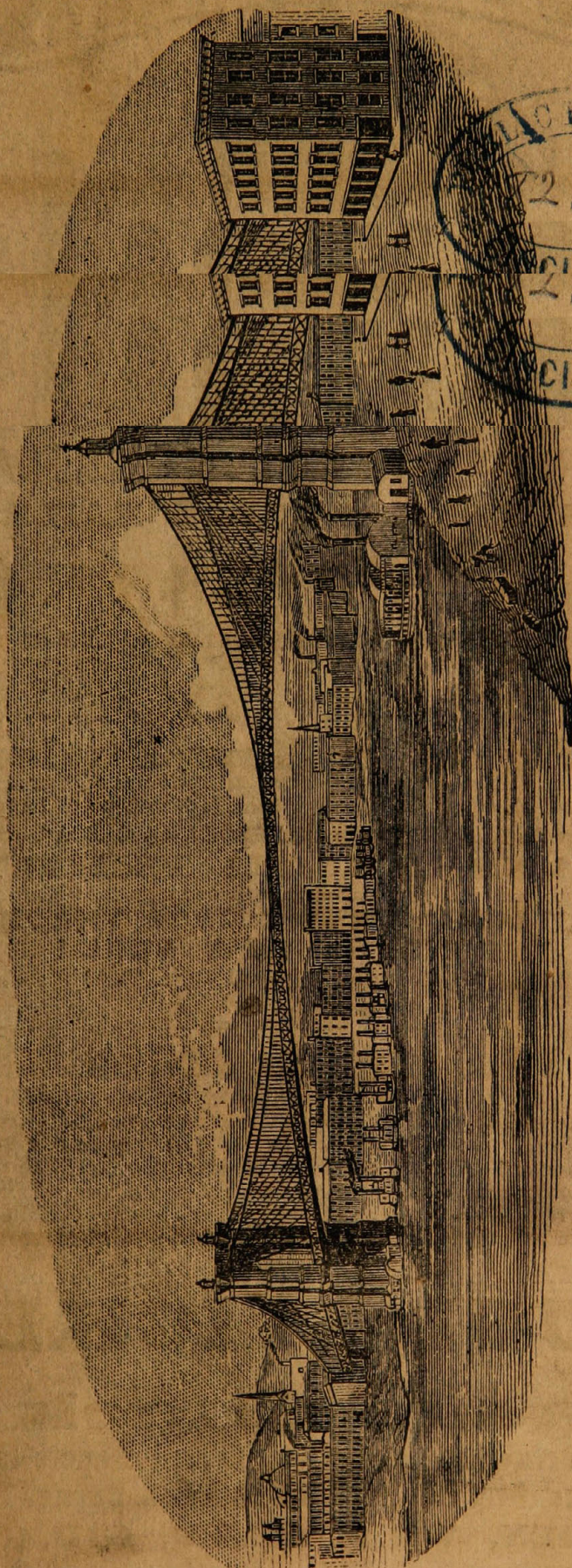


# HISTORICAL SKETCH, FULL DESCRIPTION AND DETAILS -OF- 26547

**The Great Suspension Bridge**

**MCHENRY & CARR, N,**



Nos. 8 East Fourth and 162 Main Street,

WHOLESALE DEALERS IN

**GAS FIXTURES, COAL OIL LAMPS AND LAMP TRIMMINGS.**

WESTERN DEPOT FOR

**Wrought Iron Pipe for Gas, Steam water, &c.**

Gas and Steam Fittings, Valves, Cocks, &c. Gas and Fitters' Tools.

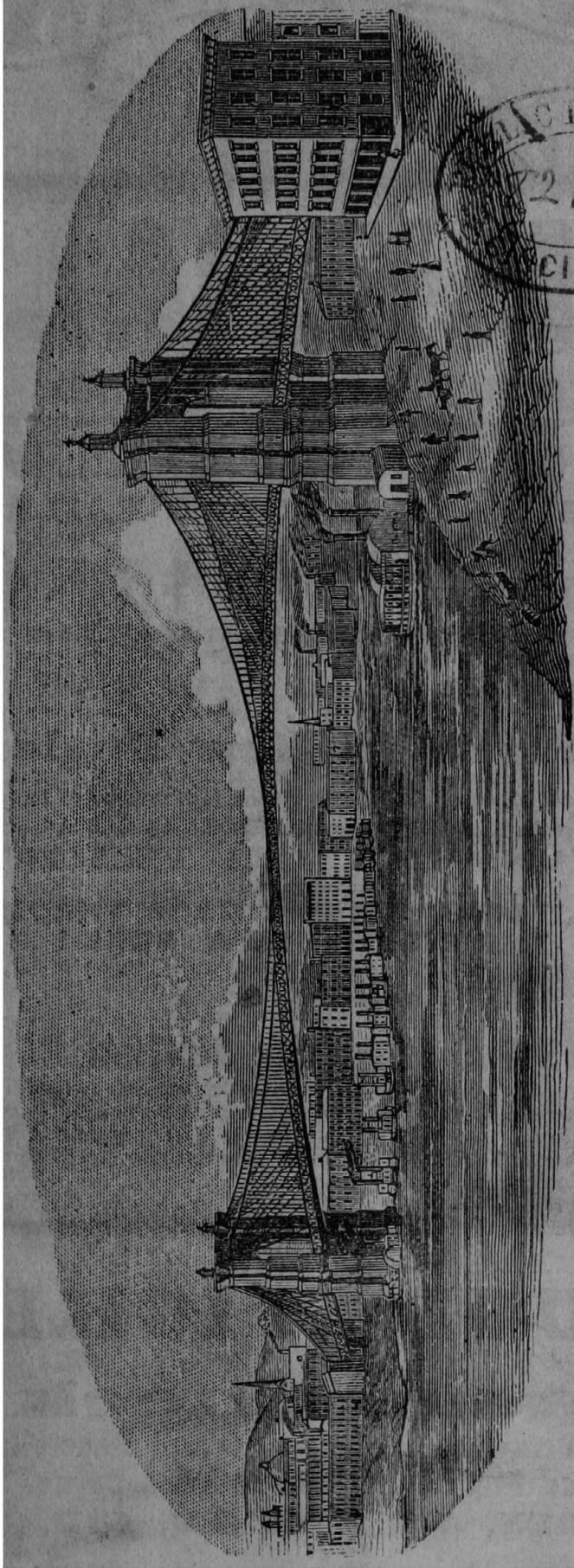
**BETWEEN COVINGTON & CINCINNATI.**



*This page intentionally left blank.*

# The Great Suspension Bridge

**MCHEENRY & CARSON,**



Nos. 8 East Fourth and 162 Main Street,

CINCINNATI, O.

WHOLESALE DEALERS IN

**GAS FIXTURES, COAL OIL LAMPS AND LAMP TRIMMINGS.**

WESTERN DEPOT FOR

**Wrought Iron Pipe for Gas, Steam or Water.**

Gas and Steam Fittings, Valves, Cocks, &c. Gas and Steam Fitters' Tools.

**BETWEEN COVINGTON & CINCINNATI.**

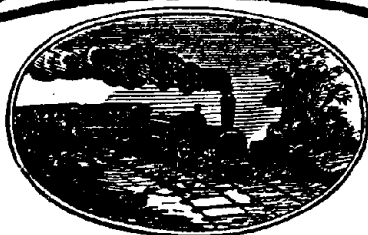
**HISTORICAL SKETCH,  
FULL DESCRIPTION AND DETAILS  
-OF-**

**NEW YORK AND BOSTON EXPRESS ROUTE!**

**From 8 to 16 Hours**  
**THE QUICKEST ROUTE TO**

**BOSTON**

**NEW-YORK**



**CENTRAL**

**DOUBLE TRACK RAIL ROAD.**

**NEW YORK!**  
**TO**  
**QUICKEST ROUTE!**

**PASSENGERS CANNOT BE DETAINED**  
**BY THE NEW YORK CENTRAL RAILROAD,**  
**AS THERE ARE**

**10 DAILY EXPRESS TRAINS**

Leaving **BUFFALO** and **NIAGARA FALLS** for

**NEW YORK, BOSTON,**

**And all Points in New England.**

Express Trains have New and Elegant "Red Line" Passenger Coaches and Luxurious Sleeping Cars, running over the **NEW HUDSON RIVER BRIDGE** at Albany,

**Without TRANSFER OR FERRYING.**

**THIS IS THE ONLY LINE RUNNING CARS THROUGH AND INTO THE CITY OF NEW YORK!**

Landing Passengers at Fourth and Ninth Avenues, Chambers Street, Canal Street, and Broadway Depots.

**ASK FOR TICKETS VIA NEW YORK CENTRAL RAILROAD,**

And thereby secure the advantages of this Popular Passenger Route, its new and improved equipments, Smooth Track, Air Line and High Speed, passing through the great Cities and Garden Districts of the Empire State, and in full view of Niagara Falls, the Great Suspension Bridge and Magnificent Scenery of the Mohawk and the Hudson, the River Rhine of America.

Passengers holding "all rail" Tickets can at Albany, if they choose, take either the Night or Day Line of Steamers on the Hudson, the accommodations and splendor of which are not Equalled in the Old or New World.

**THROUGH TICKETS**

—AND—

**Baggage Checks**

Can be had at all Principal Ticket offices and Depots in the West and South, and at the Company's office No. 3 Burnet House.

**H. W. CHITTENDEN, WM. L. DOYLE, G. B. GIBSON,**

Gen'l Superintendent.

Gen'l Passenger Agent.

S. W. Pass. Agt.

HISTORICAL SKETCH  
OF THE  
Great Suspension Bridge,

CONNECTING  
COVINGTON AND CINCINNATI,

TOGETHER WITH  
RELIABLE DETAILS AND FULL DESCRIPTION  
OF ALL ITS PARTS.

Compiled from Official Sources.

---

To which is added correct and interesting Descriptions of the  
**“Niagara Suspension Bridge,”**

AND THE PROPOSED  
**“New York and Brooklyn Suspension Bridge.”**

---

**PUBLISHED BY T. J. SMITH & CO.**

60 West Fourth Street, - - CINCINNATI, O.

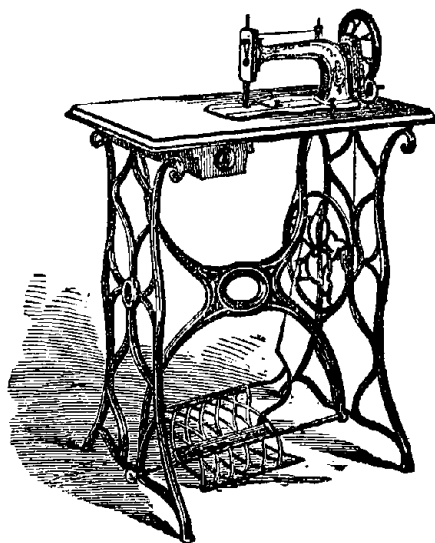
---

1867.

---

Entered according to Act of Congress, in the year 1867, by T. J. SMITH, in the Clerk's Office of the  
District Court of the United States, for the Southern District of Ohio.

# OUR NEW FAMILY SEWING MACHINE.



The superior merits of the "Singer" Machines over all others, for either Family use or Manufacturing purposes, are so well established and so generally admitted, that an enumeration of their relative excellences is no longer considered necessary.

## THE LETTER "A" FAMILY MACHINE,

Hitherto manufactured by this company, has gained and maintained, the world over, and for years past, an unparelled reputation and sale. But notwithstanding the excellence of this Machine, we have now to announce that it has been superseded by our

## NEW FAMILY MACHINE

Which has been over two years in preparation, and which has been brought to perfection regardless of TIME, LABOR, or EXPENSE, and is now confidently presented to the public as incomparably the BEST SEWING MACHINE IN EXISTENCE.

The Machine in question is simple, compact, durable, and beautiful. It is quiet, light running, and capable of performing a range and variety of work never before attempted upon a single Machine—using either Silk, Twist, Linen, or Cotton Thread, and sewing with equal facility the very finest and coarsest materials, and any thing between the two extremes, in the most beautiful and substantial manner. Its attachments for Hemming, Braiding, cording, Tucking, Quilting, Felling, Trimming, Binding, etc, are Novel and Practical, and have been invented and adjusted especially for this Machine.

New designs of the Unique, Useful, and Popular Folding Tops and Cabinet Cases, peculiar to the Machines manufactured by this Company, have been prepared for enclosing the new Machine.

A faint idea, however, can at best be conveyed through the medium of a (necessarily) limited advertisement: and we therefore urge every person in quest of a Sewing Machine by all means to examine and test, if they can do so, all the leading rival Machines before making a purchase. A selection can then be made understandingly. Branches or agencies for supplying the "Singer" Machines will be found in nearly every city and town throughout the civilized world, where Machines will be cheerfully exhibited and any information promptly furnished. Or communications may be addressed for Circulars or otherwise, to

**THE SINGER MANUFACTURING COMPANY,**

**61 West 4th St.,**

(Second Door East of PIKE'S OPERA HOUSE BUILDING,)

**CINCINNATI, OHIO.**

**J. F. ELLIOTT, - - - - - Agent.**

## THE GREAT SUSPENSION BRIDGE.

---

### INITIAL MOVEMENTS.

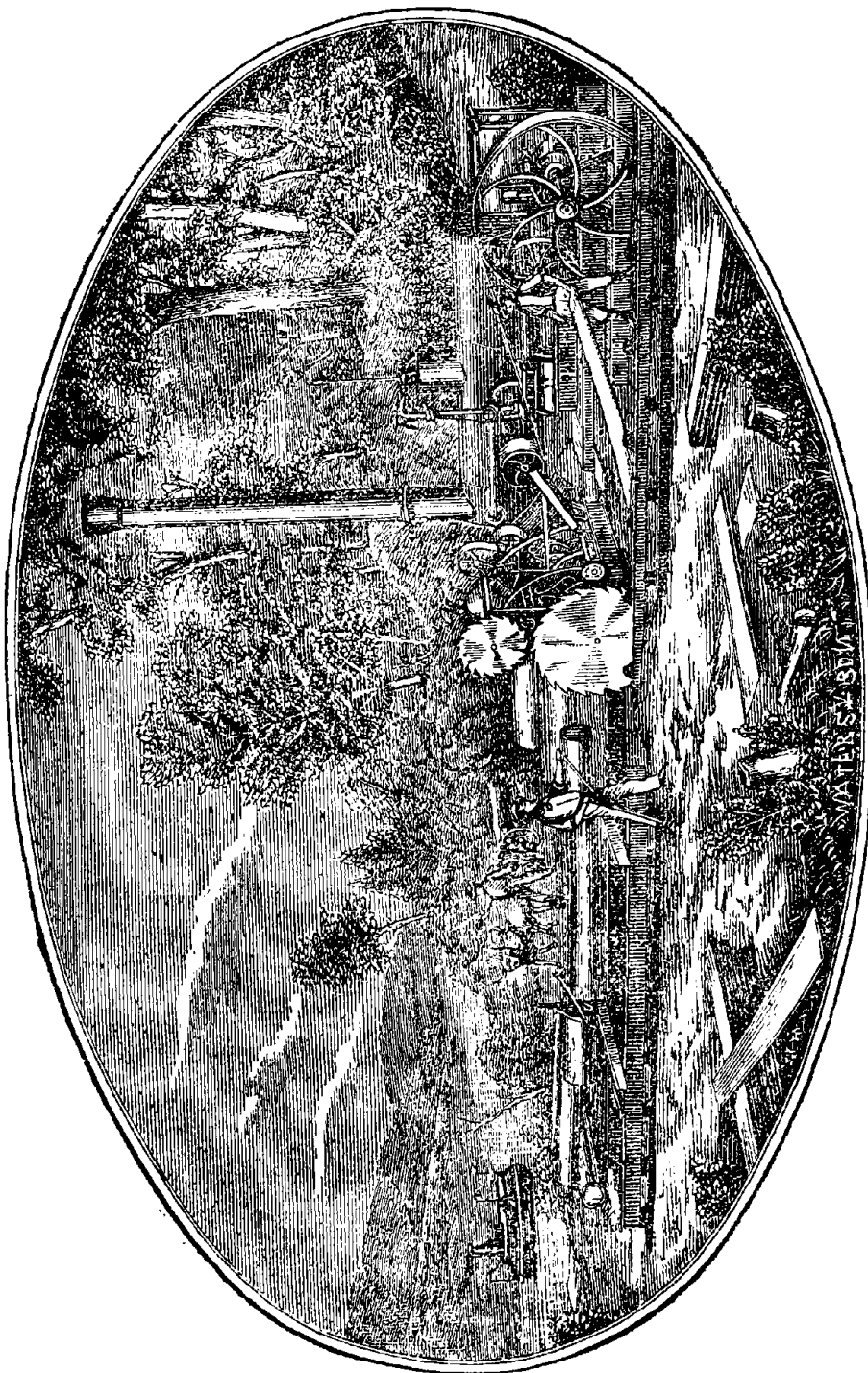
The proposition to construct a bridge uniting the cities of Covington and Cincinnati, was first agitated in 1846. Amos Shinkle, now President of the Company, was a prominent, if not the prime mover of the matter. The construction of a vast structure, like the one just completed, was not even dreamed of at that time. An ordinary wooden bridge, built upon piers, was all that was contemplated.

On the 17th of February, 1846, the Legislature of Kentucky passed an act, creating the corporation of the Covington and Cincinnati Bridge Company. The following persons were named as the original corporators: James Goodloe, George Carlisle, E. Foote, Robert Buchanan, Thomas H. Minor, and William S. Johnson, of Cincinnati, Ohio. James G. Arnold, John S. Finley, John B. Casey, Charles A. Withers, Herman J. Groesbeck, Frederick G. Gedge, John K. McNickle, George M. Southgate, and Mortimer M. Benton, of Covington, Kentucky. The capital stock of the original company was three hundred thousand dollars, in shares of one hundred dollars each. This company was prohibited from erecting a bridge with centre piers; and the main span was to be not less than 1,400 feet in length, and not less than 112 feet in the centre above low water mark.

Much opposition had to be overcome before a charter was obtained from the Legislature of Ohio. Courtesy, flattery, champagne and other "delicacies of the season" were distributed AD LIBITUM before the thing was accomplished. Steamboatmen, as a matter of course, opposed the scheme as conflicting with their interests; but perseverance triumphed and the official permit was given. The work was not commenced until September, 1856. Much difficulty was experienced in keeping the water down, so that the foundation could be laid. Numerous pumps and con-

**THE LANE & BODLEY PORTABLE STEAM CIRCULAR SAW MILLS.**

**WROUGHT-IRON HEAD BLOCKS SIMULTANEOUS & INDEPENDENT.**  
Friction Feed and Gig Back, Operated by a Single Lever.



**SHINGLE & LATH MACHINES, WOOD-WORKING MACHINES.**  
Portable & Stationary Steam-Engines.

For Descriptive Pamphlets and Prices address **LANE & BODLEY, Cor. John & Water Sts., Cin'ti.**



trialances were used for many weeks with only partial success, until a rotary pump, built by Miles Greenwood, was brought to work, when no further difficulty was experienced.

#### CONSTRUCTION.

The foundations on which the towers rest, are made of heavy oak timbers, as many as thirteen courses being found necessary on the Kentucky side of the river. These timbers were hewed square, and were laid crossing each other, and then bolted together. The whole mass was made solid by a plentiful use of cement.

The drought in the autumn of 1856, afforded a good opportunity for laying the foundations of the towers. We believe no such opportunity has since occurred. The financial panic of 1857 put a stop to the work, when the piers were raised just beyond the reach of ordinary freshets. This circumstance was unfortunate at that time, and for five or six years little effort was made to recommence operations. It was not until the spring of 1863 that work was resumed. Since that time work has continued without cessation, except during two winters.

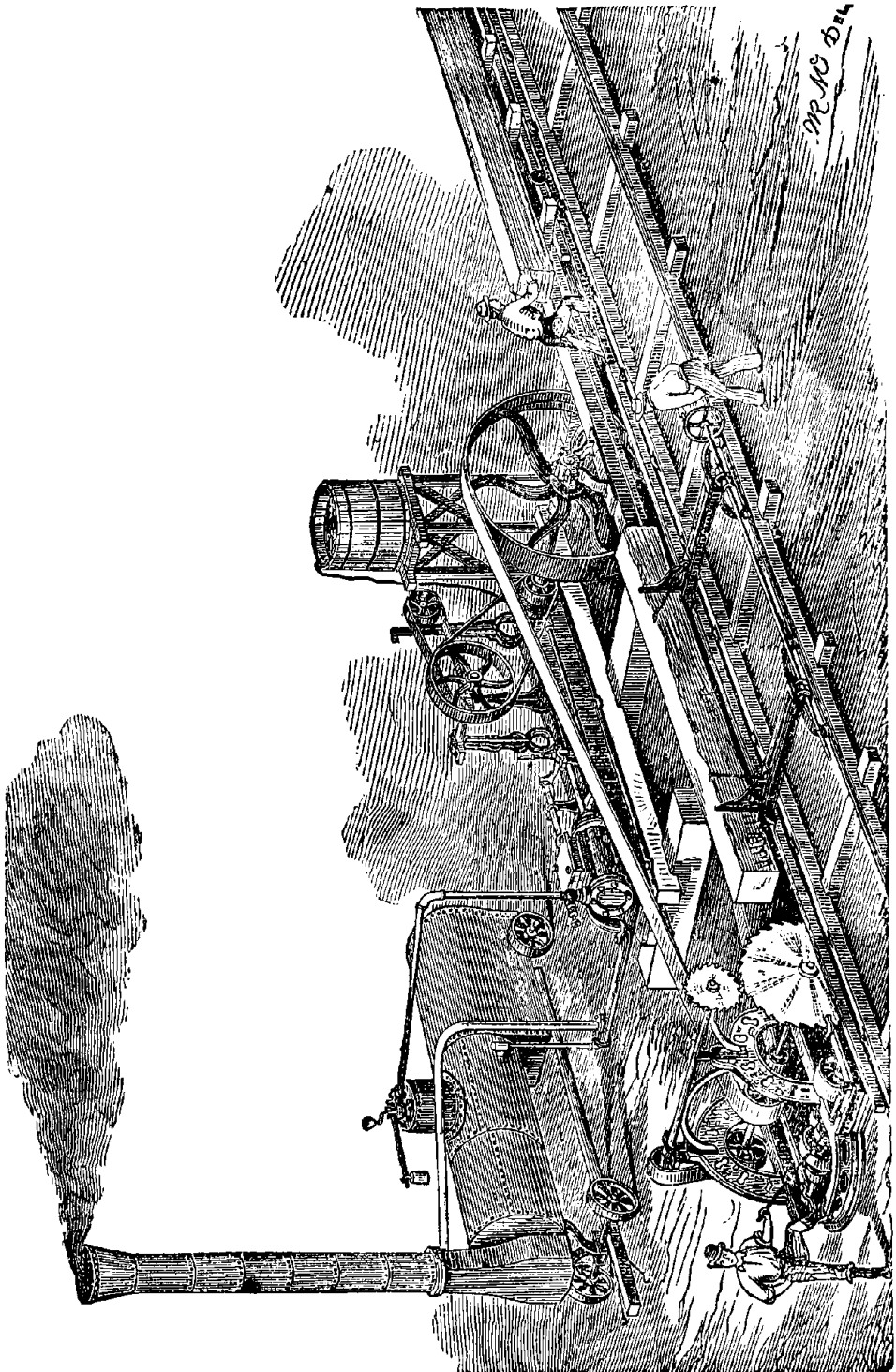
#### JOHN A. ROEBLING, THE MASTER MIND

Of this great work, was born in Mulhausen, Prussia, in 1806, graduated at the Royal Polytechnic School in Berlin, and received an appointment in the corps of government engineers, making the subject of suspension bridges his special study. He finally devoted his entire attention to it upon coming to this country in 1830. In 1840 he established near Pittsburg the first wire-rope manufactory in this country. In 1844 he built the Pittsburg suspension bridge over the Alleghany, 1,000 feet long. He also built a seven-span suspension bridge across the Monongahela, 1,000 feet, which is now in use. This was completed in 1846. From '48 to '52 he constructed five or six suspension aqueducts in New York State, on the Delaware and Hudson canal. In 1850 he commenced the beautiful structure known as the Niagara Suspension Bridge, and completed it in 1854. While engaged at this he commenced the bridge for the Southern Railroad, over the Kentucky river, thirty miles from Lexington. The stone work was completed, but the work was suspended, when the idea of the road was for the time abandoned. It is again coming into notice, however. Mr. Roebling also built the new Allegheny bridge at Pittsburg. In 1856 he engaged himself to build the Covington and Cincinnati bridge, which is now, we might say, completed. When,

# A. B. HOLABIRD & CO.,

Manufacturers of

**WESTERN FOUNDRY,**  
ESTABLISHED 1826.



Steam Engines, Boilers, Portable, Circular Saw and Grist Mills.  
Especial attention given to the Southern trade. Call and see us,  
**Nos. 333 to 341 West Front Street, - - - CINCINNATI, O.**

under his direction, the first foundation stones were laid, the water was lower than it has ever been since. It was the only time in fact that it could have been done. Every stone laid, and every wire stretched has received the attention of either Mr. Roebling or of his son, W. A. Roebling, familiarly called "the Colonel," another genius in this great business.

We may here say, that the length of the span was finally reduced to not less than 1,000 feet, in the clear, and the height from the water, to not less than 100 feet from low water mark. Medium sized steamers can pass under the bridge with every thing standing, when the river is at its ordinary height; but at other times they will be obliged to lower their smoke pipes.

The most important parts of the structure may be enumerated as follows:

The Anchor Piers and the Cable Piers are made of stone work.

The Cables, the Suspenders, and the Stays and Braces are made of wire rope.

The Floor Beams, the Girders, and the Truss Railings are made of wrought iron.

The Floors are made of oak and white pine.

The other important parts are the Anchor Plates, the Bed Plates, and the Saddles, which are made of cast iron.

The Anchor Bars are made of wrought iron.

A brief description of each is here appended:

#### THE STONE WORK

Comprises the anchor-piers, the cable-piers, and the abutments. These are all built with lime stone bases, and finished with a light colored free-stone, brought principally from quarries near Portsmouth, Ohio.

The anchor piers have their foundations nearly thirty feet below the grade of Water street, Cincinnati, and Front street, Covington; and under them are the enormous cast iron plates to which the cables are attached. On another page will be found the dimensions and weight of these plates, and also of all the most important parts of the work. This form will be found convenient and valuable as a table of reference.

The anchor piers measure, in Covington, 60 feet by 90 feet on the ground; and, in Cincinnati, 60 feet by 100 feet in round numbers. The height from the sidewalk on Water street, Cincinnati, to the floor, is sixteen feet; and from the sidewalk of Front street, Covington, about 20



---

**For the Best Coal Cooking Stoves,**  
Go to BUSH & RICHARDS.

---

**For the Best Cooking Ranges,**  
Go to BUSH & RICHARDS.

---

**For the Best Wood Cooking Stoves,**  
Go to BUSH & RICHARDS.

---

**For the "Challenge" Refrigerators,**  
The best made and most economical one in use,  
Go to BUSH & RICHARDS.

---


**For the Best Stoves of all Kinds,**  
Go to BUSH & RICHARDS.

---

**Wholesale and Retail Dealers in**  
**STOVES, RANGES, GRATES, &c**  
13 & 15 W. Fifth Street, bet. Main & Walnut,  
CINCINNATI, O.

---

## **BILLIARDS.**

  
**PHIL TIEMAN,**  
**210 & 212 Vine Street,**  
**CINCINNATI, O.**

**General Agent for**  
**JULIUS BALKE'S BILLIARD TABLES,**  
**WITH PHELAN'S CUSHIONS.**

feet. They are not solid, but have spacious arched rooms under the carriage ways, some twenty feet wide, well suited for storage purposes. They rise above and on each side of the carriage ways, twenty-five feet high, completely enclosing the cables and their attachments.

The cable piers or towers are quite irregular in form, with projecting buttresses to strengthen them on each side. They are models of architectural strength and beauty, if we except, perhaps, the rather diminutive turrets which form the finials. These turrets are made of brick, and cemented on the outside. They cover the cables and saddles which are accessible through iron doors. The stone balustrade around the tops of the towers is four feet high. The filling for the panels is of wood, painted and sanded, to imitate the stone, and to preserve them from the effects of the weather. Just at the spring of the arch, over the carriage-way, is a small opening, which is reached from the floor by a wire rope ladder. From this opening, stone steps and wooden ladders extend to a scuttle in the roof of the tower. There are two open spaces above the arches, about four feet wide, and extending up to the roof. To gain the requisite strength, it was not necessary to build this part of the work up solid, hence these openings were left. The measurement of these towers will be given elsewhere.

The carriage way, and also the sidewalk, passes through an arched opening in the stone work. There is also a walk around on the outside of the towers. People intent on business, or in haste, can pass straight through; while those who have leisure to view the busy scene on the landing, can loiter around outside.

The main support of the superstructure is the cables. These are made of best quality iron wire, (No. 9) from the manufactory of Johnson & Nephew, Manchester, England. They are each composed of 5,180 wires, laid straight and then wrapped around closely with one thickness of the same sized wire galvanized; many people, particularly strangers, have an idea that the interior of these cables are formed of twisted wire, in the manner of ropes. This is not so—twisting strains the fibre of the iron, and weakens the wire. Each single wire will sustain a weight of 1,500 lbs. The cables were laid under a tension of 100 lbs.

A single wire was first stretched from one anchorage, over both towers, to the other. One end of this wire was made fast to one anchor pier, and the other passed over a pulley, with a weight of 100 lbs. attached to the end. This brought it up to the proper position for laying the cable s

# STAR FLOORING AND PLANING MILL.

**MILLS, LOUCHEAD & CO.,**  
368, 370 & 372 W. Third St., bet. Smith & Park, Cincinnati,  
MANUFACTURERS OF

## PORTABLE HOUSES, DOORS, SASH,

Outside & Inside Venetian Pivot & Panel Shutters,  
STORE DOORS, DOORS & WINDOW SHADES,  
Mantles, Moldings, Stairs, Brackets, Cornice,  
Base, Architraves, Store Fronts, Counters,  
Shelving, Weatherboarding, &c.

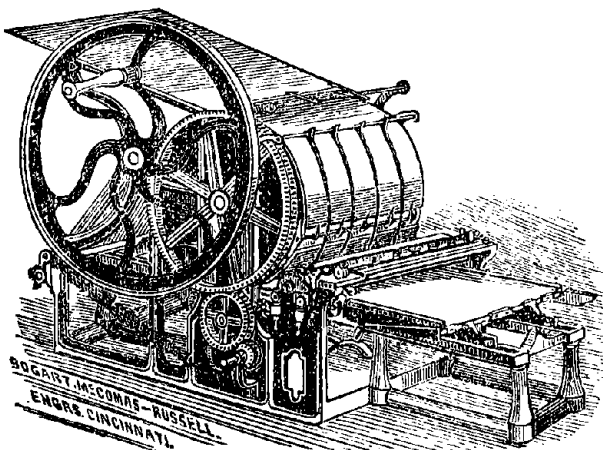
KEEP CONSTANTLY ON HAND A LARGE STOCK OF  
**WHITE AND YELLOW PINE FLOORING,**  
*And all Kinds of Rough and Planed Lumber.*

## TYPE & PRINTING MACHINERY

OF EVERY VARIETY IN USE.

Complete Offices Fitted Out on Shortest Notice.

*Send to us for Specimens and estimates.*



**ELECTROTYPING**  
OF  
**CUTS,**  
**LABELS,**  
**BOOKS,**  
**JOBS,**  
**&c.**

**CINCINNATI TYPE FOUNDRY,**  
**201 Vine St., - - - CINCINNATI, O.**



This wire was called a "guide wire," and by it all others in the cable were regulated.

We presume most of our readers have become familiar with the operation of running out the wire and making the cable, and it will be necessary to give only a general outline of the operation. The first thing done was to oil the wire. Linseed oil was used, and three coats were put on. Wire so treated will never rust, so long as the oiling is renewed at proper intervals. After oiling, the next process was splicing. This was done by flattening the ends of two coils—placing, or lapping them together, and wrapping them with small enameled wire. These splices are very strong, equal in fact, to the original wire itself.

Nearly every resident of Cincinnati, has at one time or another, during the progress of the work, seen the spider-like wheels which carried the wire across the river, to Covington. They were hard workers. Ten thousand three hundred and sixty times, they crossed the space, now spanned by the completed bridge. Beginning in the early part of November, 1865, they kept steadily at work, through cold and heat, through sunshine and storm; stopping only at night, or when the winds which sweep up the river, rendered it impossible for them to perform their duty. The last wire was run over at 10 minutes past 11 A. M., June 23, 1866. Much pleasure was felt by all concerned in the progress of the work, on the completion of this the most important and tedious part of it.

The next operation was compressing these two bundles of 5,180 wires, into the proper form and wrapping them. Powerful iron clamps with strong bolts and nuts were used for this purpose, and the wrapping was done by an ingenious machine rather difficult to describe intelligibly to those who never saw it. From twenty feet to twenty-five feet per day, was the average progress in wrapping. As the wrapping was done, and in fact all through the progress of the wire work, it was kept saturated with oil, or paint. The first coating of paint was made of linseed oil and Spanish brown, but the last coats are of pure white lead and oil.

For wrapping, and for other purposes where it was necessary for workmen to leave terra firma, traveling scaffolds suspended from the cables were used. These were attached to iron shrieves which rested on the cables, and could be moved along them, to suit the convenience of the workmen. This working in the air was at times rather dangerous, but every precaution was taken to ensure safety, by those having the matter in charge. And, though by long familiarity the men became contemp-

C. J. W. SMITH.

WM. WINTERS.

JNO. G. JONES

**SMITH, WINTERS & CO.,**  
**REAL ESTATE BROKERS,**  
**AND AUCTIONEERS,**  
**No. 221 Vine Street, CINCINNATI, O.**

Particular Attention Paid to the Sale of

**PERSONAL PROPERTY AT AUCTION.**

Also, the Drawing of Deeds, Mortgages, Leases, Contracts, and the Examination of Titles.

**BUTTEMILLER HOTEL,**

**No. 40 Court Street,**

**Between Main and Walnut,**

**CINCINNATI, O.**

**JOHN RYAN, - - Proprietor.**

Travelers and Boarders will find good accommodation at reasonable prices. New Furniture throughout the house.

**Omnibuses will convey Travelers to and from the Depots.**

tuous and careless of danger, no fatal accident occurred on this part of the work. A small wire rope which still remains suspended above the cables, was used as a guide rope by the men, to steady themselves as they walked up and down on the cables, in going to and from their work.

After the cables were finished, the suspenders were attached. These were cut to their proper length, by a scale, with mathematical precision. The flat iron bands which encircle the cables and to which the suspenders are attached, were first made in the Company's shop in Cincinnati, and then heated in a portable forge, placed on the foot bridge, and opened so as to slip easily over the cable; in this condition they were passed up at a dark red heat to the men on the staging, who shrunk and fitted them fairly around the wires. The suspenders were then attached to the straps, by sockets and bolts, and allowed to hang down in readiness to receive the floor beams.

There are three hundred and three suspended floor beams, and twenty beams through the towers, which are upheld by the iron trusses, and have no connection with the cables. These beams are in two pieces, spliced together, and strengthened by truss rods underneath. Their full length is thirty-nine feet. For full dimensions, etc., see another page. Two wrought iron girders run through the center of the floor, one under and one over the floor beams. These are shaped like the floor beams as near like a two headed letter T as any thing we know of. The same shaped iron is used for the posts to the high truss railing which separates the carriage way from the foot walk. This railing is ten feet high, and assists materially to sustain and strengthen the floor. It prevents almost wholly, that wave like motion, which would otherwise be the result of passing heavily loaded carriages over the bridge. The outside railing of the side walk, four feet high, is on the same principle, and strengthens and steadies the outer ends of the floor beams, thus doing away with the necessity of having an extra pair of small cables, such as are some times used in that position.

There are overfloor stays, as they are called. They are formed of No. 1 (trade mark) iron wire rope, one hundred and thirty-three wires. Circumference six 62-100 inches, capable of sustaining seventy four tons of two thousand lbs. The suspenders are No. 11, forty-nine wires, circumference four 45-100 inches, and their ultimate strength is thirty-six tons of two thousand lbs. each. All the fastenings of the stays and suspenders are made with sockets and stirrups or shackles. Where the drilling of holes in any part of the beams, would materially weaken them, the plan has been, to put the connection around the part. Having got the



**FAIRBANKS'**  
**STANDARD**  
**SCALES,**  
 OF ALL KINDS.

Also, Baggage Barrows, Warehouse Trucks, Copying Presses, &c.

**FAIRBANKS, MORSE & CO.,**

125 Walnut St., Cincinnati, O.

Be Careful to buy only the Genuine. Scales Repaired Promptly.

**SHUESLER'S RENNET WINE,**  
 FOR FORMING  
**MILK JELLY,**  
**OR A CUSTARD WITHOUT EGGS.**

Makes a Delicious Dessert and a Wholesome Food for

**INVALIDS OR CHILDREN.**

PRICE 25 CENTS PER BOTTLE.

MADE ONLY BY

**L. H. SMITH,**

Mechanics Institute Drug Store,

Cor. Sixth & Vine Sts., Cincinnati.

**J. J. BUTLER'S**  
**RECORD, MERCANTILE AND COPYING**  
**EXCELSIOR WRITING FLUID.**  
**CARMINE INK AND MUCILAGE.**

Factory Removed from 39 Vine Street to  
 34 & 36 Sycamore St., S. E. Cor. Sycamore & Second Sts.,  
 CINCINNATI, OHIO.

The sale of these Inks is the largest West of the Mountains. They have given general satisfaction for many years. The quality is uniform and reliable.

The **MERCANTILE FLUID** in Pints and Quarts, is adapted for all purposes, **BLOTTER, LEDGER AND COPYING**, and is a Combined Writing and Copying fluid, equal in all respects to any Ink yet produced, combining fluidity with good copying properties.

The most liberal discounts will at all times be made in wholesale lots, that the current cash value of material will allow.

supporting apparatus composed of the cables, stays, suspenders, beams, truss-railing, etc., in position, the floor comes next in order.

Some six hundred thousand feet of oak and pine lumber, have been consumed in making this floor. The full thickness of the floor in the carriage way is seven and a half inches, in three thicknesses. The lower floor is three inches, the second floor is two inches, and the cross floor of the horse track is two and a half inches thick, all of kiln dried oak. The middle floor was soaked in coal tar, and the two upper floors were laid in a mixture of coal tar and rosin. To obviate the effects of the acid in the tar, upon the wood, dry slacked lime was used, in the proportion of three-fourths of one bushel to a barrel of tar. Nearly three hundred barrels of tar were used in the construction of the bridge, the largest portion being upon the wood work. The under floor of the side walk is made of white pine, three inches thick, and the top floor is of oak two and one-eighth inches thick. The under floor is fastened to the iron beams, by bolts and nuts, and the top floors are fastened by wood screws. The screws are countersunk, and the holes are filled with putty to keep out water. It has been found by actual experiment, on the Monongahela Bridges, at Pittsburgh, that spikes when used for fastening oak plank, will rust entirely off, and leave the planks loose, while screws will hold and keep sound for a time; probably because water, particularly that from melted snow, more readily follows the course of the spike into the wood. The weight of the oak flooring, per foot, board measure, when thoroughly seasoned is about four lbs. to the foot B. M.

A great amount of poplar lumber was used, in carrying up the stone work of the towers. Four heavy frames some six feet wide, were used, extending from the floor of the bridge to the top of the stone work. These frames supported a railway reaching across the front part of the towers. On this two little tracks were placed, on wheels, to receive the stones as they were hoisted and carry them to the derricks on either side of the towers, as they might be required. Enclosed between two of these frames, were a series of wooden ladders, by which workmen ascended to the top of the towers. Several ladies tested their nerves by this operation, usually in the evening when there were few observers. There was a foot bridge, built on the same principle of the main bridge, for convenience in carrying on the work, and to save the ferry charges of the workmen. This bridge was only twenty-seven inches wide; it was quite substantial, however, and with two or three breaks, made by high winds, it lasted about a year, until it was taken down to make way for the main structure.

**SOMETHING NEW.**



**HOW TO CUT AND MAKE YOUR OWN DRESSES.**

During the present hard times, every lady could save money by knowing how to cut and make her own dresses, which is now being taught by

**MISS R. A. WILLIAMS,**  
**No. 183 1-2 West Fourth Street,**  
**CINCINNATI, OHIO.**

**Full Sets of Trimmed Patterns**  
 OF THE  
**LATEST STYLES**

Of Ladies' and Childrens' Apparel, including

**MANTILLAS, CLOAKS, SACQUES, AND BASQUES,**

With a Variety of Sleeves, also,

**Boys' and Misses' Apparel.**

Patterns can be sent by mail to any part of the U. S., enclosing stamp, or can be sent by Express if too large for Mail.

A portion of the approaches are paved with Nicholson pavement, as it is called, only the blocks used are of seasoned oak, in place of pine, which we believe is used in Cincinnati and other places. This pavement seems to wear well, but, owing to its being put down in winter, when the ground was frozen, it does not hold a uniform surface. It will be probably re-laid with a good bed of gravel, and then it can have a fair test.

Stone flagging nine feet wide are laid on either side of the carriage way, in Covington ; and, we understand that, that portion of the approach not covered in this manner, is to be sodded and planted with trees ; this will give the Covington end a cheerful appearance and a most inviting look. On the Cincinnati end, there is little chance for improvement, beyond putting up neat refreshment and fancy stalls, on each side of the bridge, north of Water street. At present, things have a most dilapidated and poverty stricken look in that vicinity.

Water street, Cincinnati, is spanned by five wrought iron, plate girders, on which the flooring is laid. The sidewalks here, and in Covington, will pass on the outside of the anchor piers, so that pedestrians will run no risks from coming in contact with passing vehicles. The rule to be observed to avoid collisions and crowds, will be, "Keep to the Right." By the way, the ticket collector, knowing what a wide circulation our little work will have, wish us to impress on the public the importance of abiding by this rule and, as in duty bound, "will ever pray, etc."

Rails for street cars are laid through the whole length of the bridge, and, at this time, the work of putting down the track in Covington has been commenced. When this institution is in operation, travelers may escape the heat of summer, and the cold blasts of winter, which are powerful on the bridge.

Major Malcolm McDowell, brother of General McDowell, formerly commander of the "Army of the Potomac," is at the head of this enterprise ; and the prospect now is that, in a few weeks, cars will be running through Madison, Third, and Scott streets, over the bridge to Cincinnati. The right of way through Cincinnati, up to Fourth street, has not yet been obtained, but the managers of the enterprise are sanguine of eventually making an arrangement, whereby people can be transported from any part of Covington or Newport, to the heart of Cincinnati, with ease and at a moderate expense ; "a consummation devoutly to be wished."

We will now give some of the dimensions and weights of the most important parts of this great structure, which we have attempted briefly to describe ; and we will here say that we have measured some of the most

# **W. & G. W. ROBSON, COPPERSMITHS,**

**Nos. 198 & 200 East Front St.,**

**Between Pike and Butler.**

**CINCINNATI.**

Manufacture and have constantly on hand a large and general assortment of articles in their line, such as Copper Kettles, Copper Stills, Liquor Pumps, Lift and Force Pumps, Yeast Kettles, Yeast Jugs, Oil Well Pumps, Copper and Brass Tubing. We also manufacture Grain and Alcohol Distillery Work, on the most approved plan. Also, Brew Kettles, from three hundred to three thousand gallons. Engine and Lard Steamer Work done on the shortest notice and in the best manner.

W. M. ROBSON.

G. W. ROBSON.

W. H. ROBSON

## **ROBSON & CO., BRASS FOUNDERS,**

**Wrought Iron Steam Pipe Manufacturing  
and Fitting Shop.**

**[No. 196 (Old No. 154,) East Front Street,**

**Between Pike and Butler,**

**CINCINNATI, O.**

Stop, Bibb, Flange, Valve and Gauge Cocks, Cylinder, Oil Cups, Oil Cocks, Oil Globes, Couplings, Poppet Valves, Hinge Valves, Slide Valves, Vacuum Valves, Steam Shifter, Steam Whistles, Spelter Solder, Babbitt Metal, Oil Well Pumps and Fittings always on hand. Brass Pumps. Particular attention paid to Distillery Work. Steamboat Jobbing, &c. Brass and Composition Castings.

**Cash paid for Old Copper and Brass.**



accessible parts ourself, and other data has been gained from Mr. Roebling, and other parties engaged in construction.

Height of cable piers from the foundation to the top of the brick turrets, 230 feet.

Height of cable piers from the foundation to top of the cross, 242 feet.

Height of passage through towers, 75 feet.

Width of " " " 30 feet.

Size of towers at the base, 86 by 52 feet.

" " " at the top, 74 by 40 feet.

Size of Cincinnati anchor pier, 60 by 100 feet.

Height from sidewalk on Water street, to the carriage-way, 16 feet.

Height of the sides above the road, 25 feet.

Size of Covington anchor pier, 60 by 90 feet.

Height above Front street, 24 feet.

Length of bridge over Water street, Cincinnati, 66 feet.

Length of main span, from centre of towers in a direct line, 1,057 feet.

" " " " " " " following the curve of the floor, 1,079 feet.

Length of each short span, 262 feet.

Full length over all, from Front street, Cincinnati, to Second street, Covington, 2,225 feet:

Estimated length of each cable, 1,400 feet.

Deflection of cables, nearly 90 feet.

Number of wires in each cable, 5,180.

Diameter of cables,  $12\frac{1}{4}$  inches.

Weight of cables, 1,000,000 lbs.

Camber, or arch of floor, nearly 16 feet.

Width of carriage-way, 20 feet.

Width of sidewalk, 7 feet.

Full length of floor beams, 39 feet.

Full width, covered by floor, 34 feet.

Height of truss railings, 10 feet.

Height of side railings, 4 feet.

Depth of floor beams, 7 inches.

Width of flanges,  $4\frac{1}{2}$  inches.

Depth of girder under the beams, 12 inches.

Depth of girder over the beams, 9 inches.

Width of flanges, 4 inches.

Size of cast iron anchor plates,  $14\frac{1}{2}$  by  $17\frac{1}{2}$  feet.

Thickness of each anchor plate, 2 feet.

**CHAS. GRAHAM,**  
**MANUFACTURER OF**  
**IRON BRIDGES, BRIDGE CASTINGS,**  
**BRIDGE BOLTS,**  
**GIRDERS, TANKS, GAS HOLDERS,**  
**AND ALL KINDS OF**  
**WROUGHT IRON WORK,**  
**Nos. 274, 276 & 278 West Front Street,**  
**Cincinnati.**

---

**My Improved Machinery for the Man-**  
**ufacture of BRIDGE BOLTS,**  
**enables me to furnish them**  
**at the Lowest Rates.**

**SQUARE THREAD SCREWS CUT.**

Weight of each anchor plate, 11 tons.  
Anchor bars, connecting cables with the anchor plates—length of, 11 ft.  
Width of same—length of, 8 inches.  
Thickness of same—length of,  $1\frac{1}{2}$  inches.  
Weight of same—length of, 600 lbs.  
Number of sections, reaching from anchor plates, through the masonry to the cables, 10.  
Number of bars in each section, 16.  
Size of each bed-plate under the cables on the towers, 9 by 11 feet.  
Weight of same, 9 tons.  
Weight of saddles, 13,000 lbs.  
Number of wrought iron rollers between each saddle and bed-plate, 32  
Feet of oak and pine flooring used, 600,000 feet.  
Weight of oak per foot, 4 lbs.  
Number of  $\frac{1}{2}$  inch bolts in floor, 36,000.  
Number of 3 inch wood screws, (No. 22.) 36,000.  
Number of suspenders, 606.  
Circumference of suspenders, 4 45-100 inches.  
Number of wires in each, 49.  
Ultimate strength of each suspender, 36 tons.  
Number of over-floor stays, 100.  
Circumference of each, 6 62-100 inches.  
Sustaining power of each, 74 tons.  
The engineer estimates the sustaining power of the bridge at 16,800 tons, of 2,000 lbs. each

MR. CHARLES GRAHAM.

As an act of justice to a worthy and ingenious machinist, we would say that a great portion of the screw-bolts and nuts, used on the Suspension Bridge, were cut at the works of the above named gentleman, 282 Front Street, Cincinnati. And his work, we learn from those in charge on the Bridge, was highly appreciated by Mr. Roebling, and gave entire satisfaction.

Prompt and reliable in business, Mr. Graham has well earned the favor bestowed on him by a discerning public.

The bridge was first opened to the public December 1st, 1866, but vehicles were not allowed to cross until January 1st, 1867, when the ice clogged the river to such an extent as to stop the passage of the ferry-boats. It is variously estimated that from 60,000 to 100,000 people


J. M. WATERS.

S. M. BARRETT

**WATERS & BARRETT,  
METROPOLITAN WORKS,  
Corner Freeman and Ninth Sts.  
CINCINNATI.**

**PLANING, RE-SAWING, RIPPING, WORKING**  
Flooring, Weatherboarding, Facing, Scroll Sawing, etc.,  
**DONE TO ORDER.**

**Also, Manufacturers of Churns, Tubs, Plow Handles,  
Bent Oak Chair Rims, and Seats, Zinc Wash-  
boards, Packing Boxes of every description,  
Sash, Doors, Blinds, and Mouldings of  
all kinds.**

 All Lumber held in trust for Milling purposes, is kept under sheds, and covered by ample Insurance.

**PERRY FENALSON,**



**ROOFING,**

Office and Manufactory

No. 331 West Sixth Street, bet. Smith and Mound.

**Shingle, Metal or Composition Roofs can be Re-  
paired as good as new without removing them.**

**ALL WORK WARRANTED TO GIVE SATISFACTION.**

**ROOFING MATERIALS FOR SALE, WITH DIRECTIONS FOR USING.**

crossed on the opening day. This can never be accurately known, as the arrangements for collecting fares were imperfect, and, in the rush and pressure of the great crowd, there were necessarily many "dead heads."

No severer test of the strength of the work will ever be had. Only one-half of the stays were up, and the truss railing was not completed; yet, with all the mass of jostling, surging humanity upon it, no part of the work was displaced or overstrained.

It was generally expected that, considering the magnitude of the work, and in accordance with almost universal usage, a formal opening with "a feast of reason and a flow of soul," illuminating a background of "critter comforts," would have been had; but in this the public were disappointed. The Engineer and his Assistant, the Board of Directors, and some city officers of Covington, accompanied by a cavalcade of two "solitary horsemen," A. L. James, passed quietly over to Cincinnati and returned, accompanied by a retinue of express wagons, &c., from that city. Paying customers succeeded, and the thing was done.

The Covington and Cincinnati bridge has proved to be a great convenience to the public, and we have no doubt that when the construction account is cut off, as it soon will be, and all parts of the running machinery get into smooth, working order, it will be a paying investment for the stockholders.

The present board of Directors are sagacious business men, and if they show an accommodating spirit toward the traveling public, the public will sustain the bridge. The bridge will undoubtedly be a place of great resort in warm weather on pleasant evenings; and, we think, that the safety of the public, and the interests of the company alike, demand that it should be patrolled day and night by policemen, either detailed especially by the two cities, or appointed by the company, as it has power to maintain policemen, granted by legislative enactment. The use of a watering cart on the approaches, would also add much to the comfort of passengers. We presume these and other necessary matters will receive the attention of the Directors in due time.

#### THE PRESENT DIRECTORS ARE

|                    |           |                          |
|--------------------|-----------|--------------------------|
| AMOS SHINKLE,      | - - - - - | President.               |
| N. B. STEVENS,     | - - - - - | Vice President.          |
| THEODORE COOK,     | - - - - - | Secretary and Treasurer. |
| G. W. PENDLETON,   |           |                          |
| J. R. SHOENBERGER. |           |                          |
| D. BANNING,        |           |                          |
| J. W. BANNING.     |           |                          |



**SCHMITT & BRO.,**  
**SHOW CASE WARE ROOMS,**  
 No. 66 Main Street, between Columbia and Pearl,  
**CINCINNATI, O.**

☞ All kinds of SHOW CASES kept on hand and made to order.

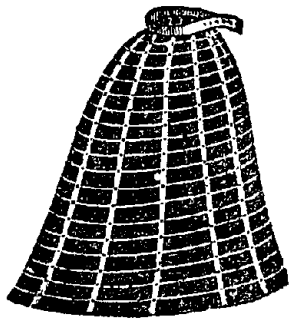
JAMES HAMILTON,  
 Late with F. A. Wright.

WM. S. MCKINNEY.

**JAS. HAMILTON & CO.,**  
**SHIRT MANUFACTURERS,**  
 AND DEALERS IN  
**GENTS' FURNISHING GOODS,**  
 No. 161 Main Street, Four Doors above Fourth,  
**CINCINNATI.**

☞ SHIRTS MADE TO ORDER. ☞

**UNION HOOP SKIRT MANUFACTORY.**



**J. ROSENTHAL,**

363 Central Avenue,

TWO DOORS FROM WEST COURT STREET,

**Cincinnati, O.**

Manufacturer of

**DOUBLE DIAMOND AND WOVEN TAPES,**  
**At the Lowest Prices.**

Hoop Skirts made to order in the Neatest Style and in the latest Fashion.

GEO. A. COFFIN,  
 Formerly with E. G. Leonard & Co.

FRED. C. SHAYS,  
 Formerly with E. G. Leonard & Co.

**COFFIN, SHAYS & CO.,**

Dealers in

**Hardware and Cutlery,**  
**CARPENTERS', COOPERS', BLACKSMITHS',**  
**AND OTHER TOOLS,**  
 No. 226 Main Street, between 6th and 7th Streets,  
 Just above the Galt House.  
**Sign of the Golden Rule. CINCINNATI.**

S. A. CHARLES, is Assistant Secretary.

R. H. Ransom, (deceased) was the first president of the company. Then followed, H. Bruce, Miles Greenwood, John W. Finnell, and Jesse Wilcox.

#### THE MASTERS OF CONSTRUCTION WERE

|                      |         |                        |
|----------------------|---------|------------------------|
| JOHN A. ROEBLING,    | - - - - | Designer and Engineer. |
| COL. W. A. ROEBLING, | - - - - | Assistant Engineer.    |
| JOHN MALLOY,         | - - - - | Stone Mason.           |
| D. S. RHULE,         | - - - - | Wire Worker.           |
| E. F. FARRINGTON,    | - - - - | Master Carpenter.      |
| WILLIAM APPERLY,     | - - - - | Master Machinist.      |

Other persons were employed in the early stage of construction whose names we have not at hand.

One ticket seller, one collector from teams, and one collector from foot passengers, with two relief men, are required for day work, at each end of the bridge; and, after 9 P. M., one collector at each end, with some assistance from the night watchman, is able to attend to the travel.

#### RATES OF FARE.

|  |         |           |
|--|---------|-----------|
| 1 Horse and Dray, or Cart,               | - - - - | 10 cents. |
| 1 Horse and Buggy,                       | - - - - | 15 "      |
| 2 Horses and Carriage,                   | - - - - | 20 "      |
| 3 Horses and Carriage,                   | - - - - | 25 "      |
| 4 Horses and Carriage, or other vehicle, | - - - - | 30 "      |
| 5 " " " " " " " " " "                    | - - - - | 35 "      |
| 6 " " " " " " " " " "                    | - - - - | 40 "      |
| Foot Passengers, Single Fare,            | - - - - | 03 "      |
| 100 fares for                            | - - - - | \$1 25 "  |

A discount of ten per cent is allowed on packages of tickets for vehicles.

|                               |         |                    |
|-------------------------------|---------|--------------------|
| Cattle, Horses and Mules, are | - - - - | 10 cents per head. |
| Swine,                        | - - - - | 02 " " "           |
| Sheep,                        | - - - - | 01 " " "           |

The total cost of the work, real estate, interest, taxes, etc., will amount to about two millions of dollars. Three-fourths of this sum properly belongs to the construction account.

We believe we have included, in this brief history, all items of general interest; and we are sure that our account is reliable. Our information

M. HARTH.

C. SCHMIDT.

**M. HARTH & CO.,**  
 Importers of  
**Wines, Liquors and Cigars,**  
**RECTIFIERS OF WHISKY,**  
**AND MANUFACTURERS OF VINEGAR,**  
**62 & 64 East 2d (or Columbia) St.,**  
 Between Sycamore and Broadway,  
**CINCINNATI, O.**



**Madame Swick,**  
 40 West Fourth St., Near Walnut

ALL KINDS OF  
**HAIR JEWELRY,**  
**MADE TO ORDER.**

The hair furnished by Customers always used, and the Gold Warranted.  
**LADIES' WIG STORE, BRAIDS, FRONTS, CURLS, ETC.**

**JNO. D. LOVELL,**  
**Sign, House and Ornamental**  
**PAINTER,**  
**NO. 118 WEST SECOND STREET,**  
**CINCINNATI, O.**

has been gained, in part, from Mr. Roebling himself, and other parties engaged in construction, and the balance from personal examination.

We believe that Wire Suspension Bridge building is in its infancy. They offer so many advantages over other systems, in the absence of intermediate piers, and their great strength and durability, that, notwithstanding their expensiveness at first, they will be generally adopted where the excellence of the principle on which they are constructed is understood.

---

### **New York Suspension Bridge.**

It may interest the readers to know that the New Yorkers are waking up to the necessity of providing increased facilities for communication with Brooklyn and other adjacent places on Long Island. Last winter, two companies were chartered by the Legislature for the purpose of bridging East River. One, the "New York Bridge Company," proposes to build a wire suspension bridge just east of Fulton Ferry; and the other at a point further east, to Astoria, across Blackwell's Island. This last named company have two years in which to commence their work.

The "New York Bridge Company" proposes to commence operations immediately, as soon as the necessary preliminary arrangements and surveys can be made. At a meeting of the corporators, held in Brooklyn, May 23, 1867, John A. Roebling was elected Chief Engineer, and an appropriation was made, to defray the cost of the necessary surveys, and Mr. Roebling immediately entered on his duties as Engineer. The precise points on either side at which to locate the openings had not at the last accounts been settled. It will require a great amount of engineering skill and experience to fix the foundations, particularly on the New York side, where it is thought hard bottom can not be found at a less depth than seventy feet. On the Brooklyn side probably an excavation of thirty feet will answer. We understand Mr. Roebling's plan is something like this—To have only one floor or story, from seventy feet to seventy-five feet wide, supported by three cables; one in the center and one on each side. The floor to be divided into car track and carriage ways, and foot walks, the latter to be in the center of the bridge. The cars to be operated by stationary engines and endless wire rope. As the floor will have an inclination of five feet in one hundred toward each end from the center, the cars will traverse one half the distance by their own momentum, under control of the brakes.

# Wholesale Tobacco Circular.

**JOBBER AND DEALERS IN MANUFACTURED**  
**Tobaccos** are referred to the annexed quotations of the following brands of my own manufacture.

**JOHN I. ROBBINS,**  
**EUREKA TOBACCO WORKS,**  
 181 and 183 West Second St., Cincinnati.

## DARK SWEET PLUG.

|  |  |
|--|--|
| Eureka 10s $\frac{1}{4}$ , and Navy $\frac{1}{2}$ s, caddies \$ 65             | Navy lbs., Virginia Home, boxes....\$ 65 |
| Premium 10s $\frac{1}{4}$ , and Navy $\frac{1}{2}$ s, caddies 66               | Short 10s, Pine Apple, boxes..... 65     |
| Neptune 10s $\frac{1}{4}$ , and Navy $\frac{1}{2}$ s, caddies 66 $\frac{1}{2}$ | Flounders, boxes..... 68                 |
| Pride of the Union, 10s $\frac{1}{4}$ ..... 63                                 | Spun Roll, caddies..... 79               |

## BRIGHT PLUG.

|  |  |
|--|--|
| Premium 905, lbs., Fine Virginia....\$1.15 | Orange, 10s, $\frac{1}{4}$ s.....\$ 75         |
| Premium 905 9-inch, fine Virginia... 1.15  | Planters' Choice, 10s, $\frac{1}{4}$ s..... 70 |
| Orange, lbs., good Virginia..... 85        | May Apple, fine Virginia.... 1.05              |
| Dew Drop, 9-inch, good Virginia.... 90     | May Apple, fine Missouri..... 90               |
| Hesperous, lbs., medium Missouri... 75     | Fig, fine Virginia..... 1.10                   |
| Planters' Choice, 0-inch medium Mo. 75     |  |

## FINE CUT CHEWING.

|                                      |   |
|--------------------------------------|---|
| Premium Ohio Valley, bulk.....\$1.10 | Premium Ohio Valley, in foil, $\frac{1}{2}$ gross |
| Eureka, bulk..... 90                 | boxes, per gross.....\$9.00                       |
| Champion, bulk..... 75               | Premium Ohio Valley, paper rolls.... 8.00         |

## SMOKING TOBACCO.

|                                     |  |
|-------------------------------------|--|
| American Gent, fine, bulk.....\$ 90 | Cozy Kinnikinic, 1-lb. bales.....\$ 25             |
| Gold Leaf, extra, bulk..... 70      | Eagle Kinnikinic, 2 $\frac{1}{2}$ oz. pkgs..... 28 |
| Mohawk, leaf, bulk..... 25          | German Canister, per case, one gross. 5 00         |
| Spanish Mixed, bulk..... 20         | Game Cock, per case, 1 gross..... 4.50             |
| Stem, bulk..... 18                  |  |

## SNUFF.

|   |   |
|---|---|
| Scotch, in bladders and cans.....\$ 72                | Rappee, fine.....▲..... 65                              |
| Scotch in $\frac{1}{2}$ lb. bottles per doz..... 4.25 | Rappee, Lutzback..... 1.00                              |
| Scotch, in 2-oz. paper pkgs. 72 in box 7.00           | Maccaboy, plain..... 60                                 |
| Rappee, plain..... 60                                 | Maccaboy, rose..... 80                                  |
| Rappee, French..... 75                                | Maccab y, rose, $\frac{1}{2}$ -lb. bottles per doz 5.00 |



Mr. R. proposes to have cars on a new and more convenient plan, easy of access, and holding a larger number of passengers without crowding, than the present style.

The bridge in the center is to be not less than one hundred and twenty feet above high water. The towers to be built of granite, either with a single arched opening seventy feet wide, or two smaller openings with a pier in the middle of the floor, under the center cable. The main span will be some one thousand three hundred feet, and the two short spans, partly over the roofs and dwellings on either side, not less than one thousand feet.

We learn that the Brooklyn people are enthusiastic over the idea, and that stock will be readily taken.

The capital stock is five millions of dollars, in one hundred dollar shares. Mr. Roebling thinks the work may be built for six millions. This is a monstrous undertaking, but there is little doubt that it will be accomplished.



### **The International Bridge**

At Niagara Falls was built by Mr. Roebling, we believe, in 1854. It has a single span of eight hundred feet in the clear. It has four towers not connected at the top, and four cables ten inches in diameter. This is a two story bridge. The upper floor has a railway and foot paths, and the carriage way is underneath.

The beams, etc., are all of wood. The carriage way is enclosed by a system of iron rods and wooden braces, some thing after the Howe Truss pattern. They are made to resist pressure, both upward and downward. There is little danger of falling to a wire suspension bridge properly built, but there is danger that a gale may lift one and break it down, if not properly secured at the ends, and stiffened through its whole length.

Unlike the Covington and Cincinnati bridge, there are no anchor piers to the Niagara bridge. Excavations varying from 18 to 30 feet in depth, are made in the limestone cliffs. These holes are widened at the bottom, and the anchor plates are there properly secured. The floor is 225 feet above the water, and there is a space of 15 feet between the upper and the lower floors. A locomotive and a train of loaded cars deflect the floor about one foot in the centre. Trains move very slow over the

# **J. D. MACKENZIE, Stencil Cutter,**

No. 180 Walnut Street, Cincinnati, O.

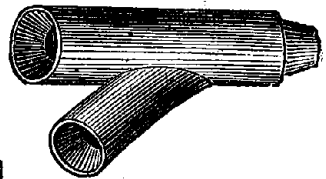


**MAKES BRANDS FOR  
Flour Mills, Distilleries, Stores, Manufactories, etc.**

IN SUPERIOR STYLE, TO SUIT ALL TRADES AND ALL TASTES.

P. O. BOX 1359.

## **C E M E N T**



# **DRAIN PIPE,**

**F O R**

# **CULVERTS, SEWERS, CISTERNS, CELLARS, AND DRAINS OF ALL KINDS.**

This pipe is composed of Hydraulic Cement and Gravel, and is imperishable in the earth.

**Manufactured by**

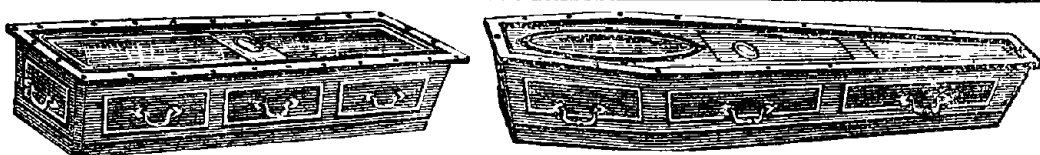
# **J. C. DEXTER,**

**46 MILL STREET,**

**CINCINNATI, O.**

structure, and the rule against trotting is rigidly enforced on the lower floor.

It is proposed to build another suspension bridge, two miles above the International. The first structure will be a foot bridge, to be completed as soon as possible, and a permanent carriage bridge, with wrought-iron columns, is to follow. The hotel keepers and owners are at the bottom of the affair, and no doubt it will be carried through and be found profitable.



# **JOHN P. EPPLY, UNDERTAKER,**

And Manufacturer and Dealer in Air-Tight  
**BURIAL CASES AND CASKETS,**

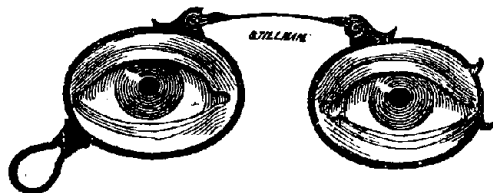
And all kinds of

**UNDERTAKER'S TRIMMINGS,  
WHOLESALE AND RETAIL,  
FIRST CLASS HEARSES AND CARRIAGES FOR FUNERALS.  
PLEASURE CARRIAGES.**

Carriages on Storage and for Sale. Carriages Painted and repaired in the best style.

**Factory, 182, 184, 186, and 188 Ninth Street,  
CINCINNATI, OHIO.**

# **H. WARE,**



# **OPTICIAN,**

**Nos. 5 and 7 West Fourth St., Cincinnati, O.**

Optical, Mathematical, and Philosophical Instruments, Spectacles, of every variety of style and quality, accurately fitted to the condition of the sight, and warranted to give satisfaction.

**SPECTACLES AT WHOLESALE.**

# KENTUCKY STATE LOTTERY,

TO BE DRAWN AT COVINGTON, KY.,  
The last day of each month during the Year  
**1867.**

---


|               |           |                      |
|---------------|-----------|----------------------|
| 1 prize of    | - - - - - | \$50,000 is \$50,000 |
| 1 prize of    | - - - - - | 20,000 is 20,000     |
| 1 prize of    | - - - - - | 8,000 is 8,000       |
| 1 prize of    | - - - - - | 7,000 is 7,000       |
| 2 prizes of   | - - - - - | 5,000 are 10,000     |
| 29 prizes of  | - - - - - | 1,000 are 29,000     |
| 63 prizes of  | - - - - - | 400 are 25,200       |
| 155 prizes of | - - - - - | 200 are 31,000       |
| 220 prizes of | - - - - - | 125 are 27,500       |
| 9 prizes of   | - - - - - | 300 are 2,700        |
| 9 prizes of   | - - - - - | 250 are 2,250        |
| 9 prizes of   | - - - - - | 200 are 1,800        |
| 9 prizes of   | - - - - - | 150 are 1,350        |
| 18 prizes of  | - - - - - | 100 are 1,800        |
| 261 prizes of | - - - - - | 50 are 13,050        |

---

**788** prizes, amounting to **\$230,650**

**32,000 Nos. and 788 Prizes drawn each Lottery.**

**Whole Tickets, \$12; Halves, \$6; Quarters, \$3.**

 We would call particular attention to the above Magnificent Lottery, which will be drawn in public by sworn Commissioners, in Covington, Ky., on the last day of each month during the year 1867, at one o'clock P. M., at the corner of Fourth and Scott Streets. The public are invited to witness the drawing. The Kentucky State Lotteries are drawn under the authority of a charter from the State, and bonds to a large amount are given for the payment of all prizes. The drawings will be published in the New York Herald and the Cincinnati Commercial.

Circulars of Lotteries drawing daily sent free by application to the Managers.

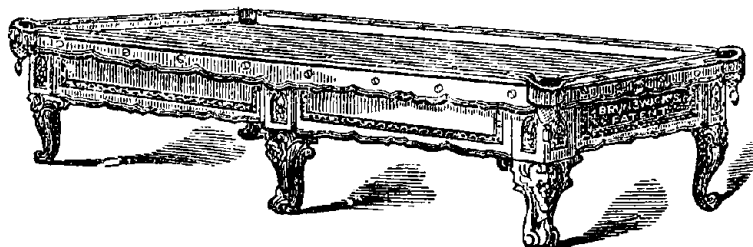
Address all orders for tickets to

**MURRAY, EDDY & CO.,**  
**COVINGTON, KY.**

J. M. BRUNSWICK.

J. BRUNSWICK

**J. M. BRUNSWICK & BRO.,**  
**BILLIARD TABLE**  
**MANUFACTURERS,**



**No. 8 West Sixth Street, - - - CINCINNATI, O.**

*J. M. Brunswick's Patent Combination Cushions.*

---

**L. WIEGEL & CO.,**

**SHOW CASE WAREROOMS,**

**17 MAIN STREET,**

**Show Cases of all kinds Constantly on Hand.**

---

**E. & J. McARDLE,**

**FASHIONABLE**

**MERCHANT TAILORS,**

**No. 176 Vine Street,**

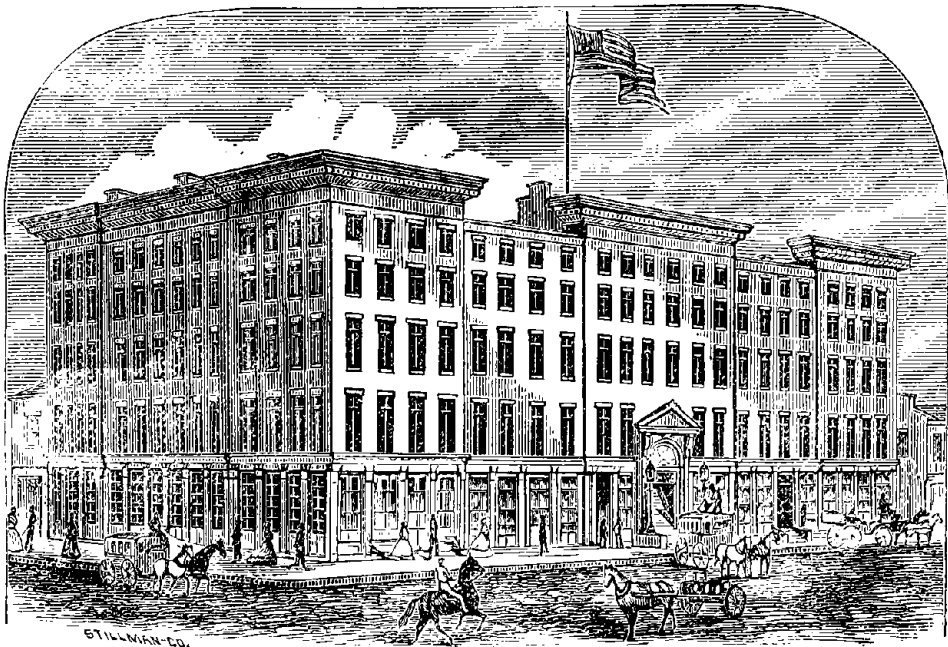
**CINCINNATI, OHIO.**

---

**Fine Ready Made Clothing.**



# SPENCER HOUSE,



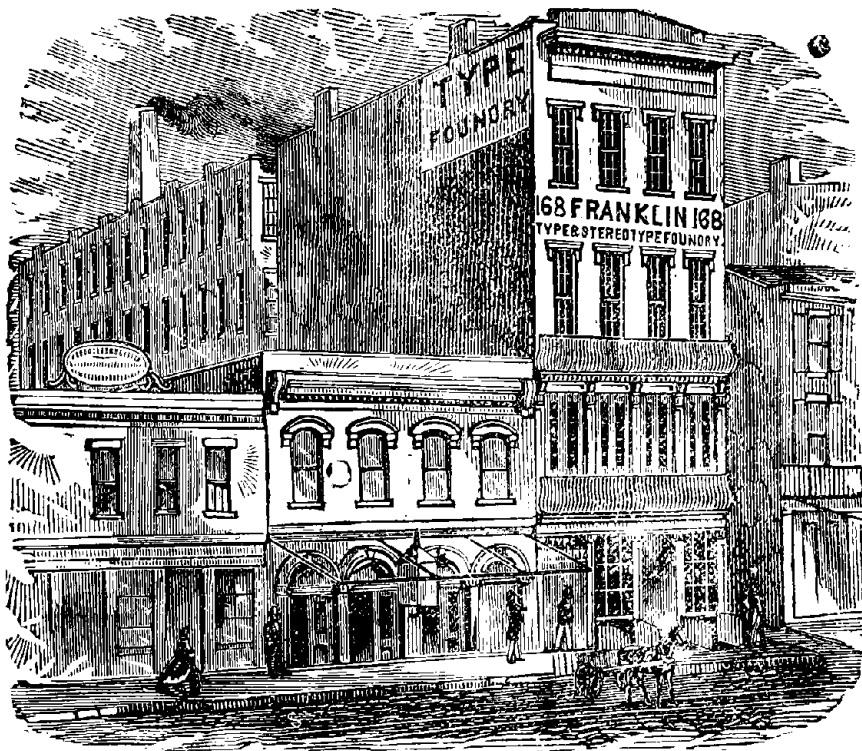
**L. A. PRATT, - - - Proprietor,**  
**Corner Front & Broadway, Cincinnati, O.**

From this House the guests have a splendid view of the Suspension Bridge, as also of the cities of Newport and Covington.

Your Patronage is Respectfully



SOLICITED.

**FRANKLIN TYPE FOUNDRY,****Electrotyping and Stereotyping,****Wood Engravings**

**R. ALLISON, SUPT.**  
**168 Vine Street, Cincinnati, O.**

**M. DEMAND,**  
 WHOLESALE  
**CANDY MANUFACTURER,**  
 AND DEALER IN

Fire Works, Foreign Fruits, Nuts, Etc.,  
**No. 207 Main Street, between Fifth and Sixth,**  
 Four Doors above Fifth, CINCINNATI.

**JOS. RICE,**  
**CONFECTIONER,**  
 212 WEST FIFTH STREET,  
 CINCINNATI.

Weddings, Parties, etc., Supplied  
 at the shortest notice, and most  
 liberal terms.

**MRS. J. HILLIARD,**  
 FASHIONABLE  
**MILLINERY,**  
 No. 182 West Fourth St.,  
 BET. ELM AND PLUM,  
 CINCINNATI.

Ladies, please favor us with your  
 Patronage.

CHAS. F. GEIGER.


LOUIS MUND

**GEIGER & MUND,**

DEALERS IN

**SHEET MUSIC**

AND ALL KINDS OF

**MUSICAL INSTRUMENTS AND STRINGS,****252 West Fifth St., bet. Plum & Central Avenue,****CINCINNATI.** **Tuning and repairing promptly attended to.**V. O. PINCKARD,  
Late Pinckard & Hall.J. D. HEARNE,  
Late Hearne, Lee & Biggs.J. B. HALL,  
Late Pinckard & Hall.**PINCKARD, HEARNE & HALL,**

Wholesale Dealers in

**BOOTS & SHOES,****No. 65 W Pearl Street,**

(Bet. Walnut and Vine,)

**CINCINNATI, OHIO.**Keep constantly on hand and have made to order, best  
quality of City made goods, of such sizes and  
styles as desired.**J. D. HEARNE & CO.,**

Wholesale Manufacturers of

**Womens', Misses' and Children's****SHOES,****No. 65 W. Pearl St., up Stairs,****CINCINNATI, O.**

Orders promptly executed for all styles and of any desired sizes.

The Manufactory is in charge of

**W. G. ROGERS, Late Rogers & Co.**

WANTED THE EVIDENCE.—Judge Brady, of the Common Pleas of this city, will not blame us for reproducing, without his consent, the following, which he related a few evenings since:

An Irishman, who had doubtless been "blue moldin for want of a batin'," and could not resist the temptation to have a little exercise, was arraigned for an assault and battery. He listened with apparently rapt attention to the reading of the indictment. When the ceremony was ended Mr. Vandervoort, the clerk, asked him, in accordance with the form then in use: "Do you demand a trial on this indictment?" Pat, leaning forward, in seeming utter ignorance of what had been asked him, said; "What's that?" Mr. Vandervoort, a little dashed by the manner of the man, repeated the question; and the response was, "The divil a thrial I want! Ye needn't give yourself the throuble of thryin' me! Ye may as well save the expinse of that and put me down innocent! Con-tint am I to lave this with blessins' on ye! Indade I'm anxious, for me boss is waitin' for me beyant! Oh no, no; the divil a thrial do I want at all, at all!" All this was said so rapidly that Mr. Vandervoort could not interpose to stop it; and the prisoner having, as he supposed, settled the business, attempted to leave the court, but was of course prevented. Mr. Vandervoort, when the mirth had subsided, changed the question, and asked, "Are you guilty or not guilty?"

"What's that?" said he again, leaning forward with hand to his ear, as if he had not heard the question.

"Are you guilty or not guilty?"

The answer came at once; "Arrah! how the divil can I tell till I hear the evidence?"

He was permitted to hear just the least taste of testimony, that eventuated in his being sent to "quod" for one calendar month.

---

A little boy was sent to the mill one day, and the miller said.

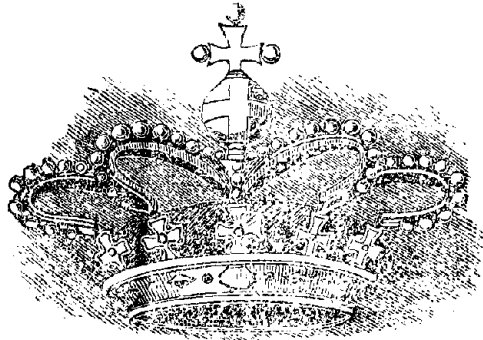
"John, some people say you are a fool. Now tell me what you know and what you don't know."

"Well, replied John, I know the miller's hogs are fat."

"Yes, that's well John! Now what don't you know?"

"I don't know whose corn fats 'em."

# QUEEN WASHING FLUID.



Once Used is

Indispensable.

The Cleansing Merits of this Superior Article, have stood the test of a

**FOUR YEAR'S TRIAL!**

It is Warranted NOT TO ROT, STAIN, DISCOLOR in any respect damage any kind of Clothes, and will not injure the hands. By its use

**ALL COLORS ARE BRIGHTENED,**

And the PECULIAR WHITENESS so desirable, invariably obtained when used according to Directions.

**It will Break Hard Water,**

Making it for all kinds of Washing purposes equal to Rain Water.

**FOR HOUSE CLEANING**

Purposes it is invaluable, and a SINGLE TRIAL will prove its superiority over all other Preparations.

The "Queen Washing Fluid" is used in thousands of families in the City of Cincinnati, and without exception has been pronounced "The one thing needful," in every household. The Company have certificates from the best Hotels in the city, as to its superiority over everything heretofore used, for washing clothes, paint, table ware, etc

**Manufactured by the**

**QUEEN TOILET FLUID COMPANY,**

**OFFICE No. 172 RACE STREET,**

**CINCINNATI, O.**

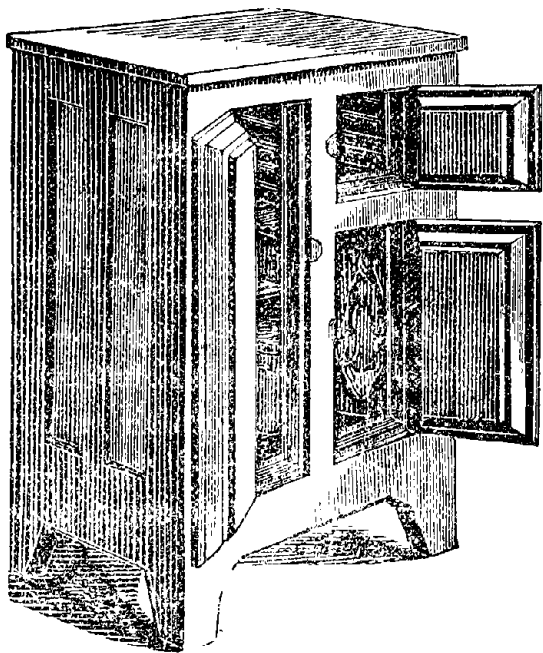
Price at Retail, \$1 per Gallon. 35 Cents per Quart Bottle.

**FOR SALE BY  
PRINCIPAL GROCERY HOUSES.**

# LONGACRE'S Champion Refrigerator

Patented March 15th, 1864.

Sold by **HAVENS & CADWELL,**  
497 West Third Street, **CINCINNATI, O.**



This Refrigerator is adapted to the use of

**Private Families, Meat Markets,  
Saloons, Restaurants,  
Steamboats, Hotels, &c.**

They are neatly finished, made of good material, are perfectly dry, and free from any bad odor or taste. They will keep cooler with less ice than any other Refrigerator, of the same capacity in the market.

We append the testimonials of a few well-known citizens of Cincinnati, as to its merits, selected at random from the many who use

and prefer our Refrigerator to any other in use.

## TESTIMONIALS:

Messrs. HAVENS & CADWELL—Gents:—I have in use one of your Patent Champion Refrigerators, for Saloon purposes. I consider it to be the best in use, for the preservation of Lager Beer and Mineral Water. I can fully recommend it to all those keeping Saloons and Dining Halls.

H. A. MATTHEWS,

S. W. Cor. Fifth and Mill Sts., Cincinnati.

I have in use one of the above named Refrigerators and fully indorse the above recommendation.

JAS. CASSIDAY, 24 Vine St.

I have now in use one of the above named Refrigerators in my Meat Market, and do recommend it to all my friends to be the best in use.

H. DINKELAKER, Meat Market, 139 W. Fifth St.

I have had in use for the last year one of your family Refrigerators and fully indorse the above recommendations.

Mrs. T. DAVIS,  
No. 119 Mill Street.

I have in use one of the above Refrigerators and fully indorse the above.

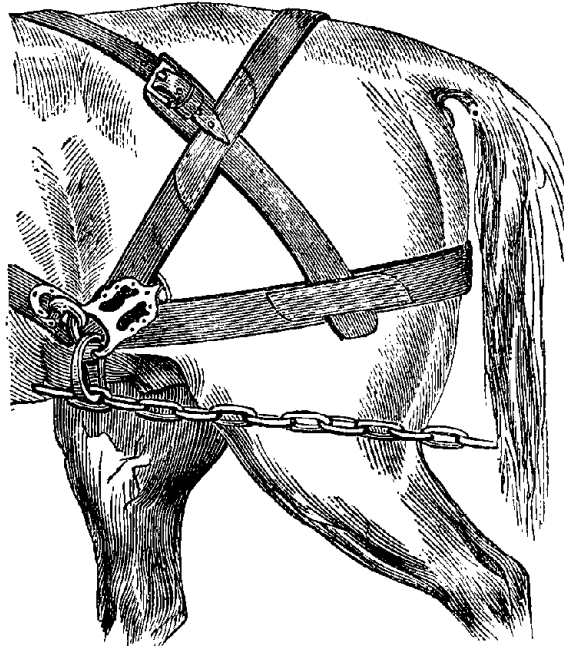
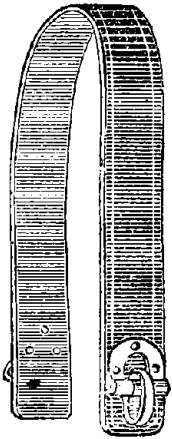
E. A. FITTON.

We have in our Saloon three of the above named Refrigerators and do fully indorse the above recommendations.

WEISS & RAIF,  
Washington Exchange.

# Trace Supporting Hook.

PATENT PENDING.



PATENT PENDING



**Can be attached to Breechen Backbands, Bellybands, Hip Straps, and other parts of Harness.**

**This device is strong, cheap, and very easily adjusted, not likely to get out of order, and not requiring any leather strings to keep them in place. The Trade supplied wholesale or retail, by the Inventor,**

**M. REILLY, Covington, Ky.**

---

## BROADWAY EXCHANGE RESTAURANT,

**H. PIEPENBRING, - - Proprietor.**

**N. E. Cor. Broadway & Columbia Sts., Cincinnati.**

**SLEEPING ROOMS, WITH OR WITHOUT BOARD,**

**ON THE EUROPEAN PLAN.**

**Every variety of Game, Fish and Oysters, in Season.**

**CENTRAL AVENUE**  
**DAILY MARKET,**  
**G. C. GALBRAITH,**  
**Nos. 385 & 387 CENTRAL AVENUE,**  
**CINCINNATI, OHIO.**

---

Meats. Game, Fish, Oysters, Vegetables, Fruits, etc.  
All Goods Delivered Free of Charge.

---

**JOHN A. MOHLENHOFF,**  
Importer of  
**FRENCH CHINA, GLASSWARE**  
**AND QUEENSWARE.**  
**BOHEMIAN, LAVA, PARIAN AND BISQUE GOODS,**  
**GERMAN FANCY GOODS.**  
**CHINA DECORATED TO ORDER,**  
**NOS. 46 AND 48 WEST FIFTH STREET,**  
**CINCINNATI.**



H. P. Hartmann

Otto Laist.

**HARTMANN & LAIST,***Manufacturers of***VINEGAR,****GLYCERIN,****GRAPE SUGAR SYRUP,****ACETIC ACID,****No. 47 East Second St., bet. Sycamore & Broadway,****Works, Providence Street & Miami Canal,**

BET. OLIVER AND FINDLAY STS.,

**CINCINNATI, OHIO.****“QUEEN OF THE SOUTH.”****H. P. STRAUB,**

Successor to Isaac Straub.

Manufacturer of Portable

**Wheat Flouring**

AND

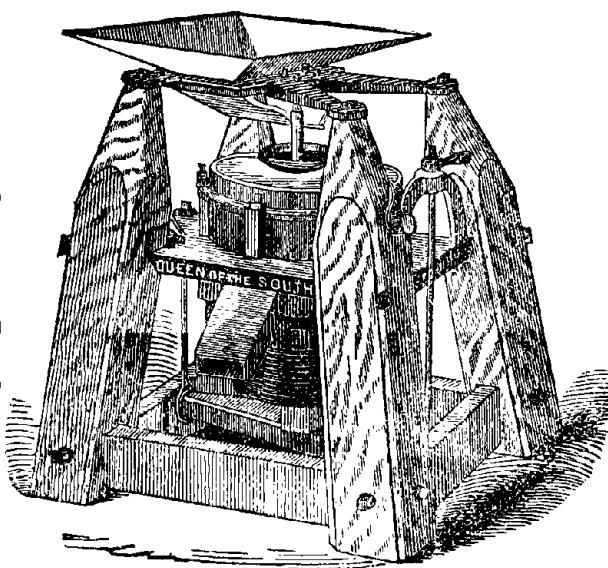
**CORN GRINDING MILLS.**

(Improvement Patented March 20, 1866.)

**Portable Bolting  
Chest,****SMUT MACHINES.****“Young America” Machine Bolt Cutter, etc., etc.,****450 Sixth Street, and 9 & 11 Hathaway St.,**

NEAR C. H. &amp; D. DEPOT.

(P. O. Box 738.)

**CINCINNATI, O.**

AS THEY RUN.—Many good stories are told of the late Judge Cooper, of Cooperstown, father of the novelist, but the following has never made its way to the public: Judge Cooper was one of the first, if not the very first, to break the wilderness in that region, and was possessed of large tracts of land in and about Cooperstown, which he sold out, sometimes on very liberal terms, to actual settlers.

One day a man came to him, wishing to purchase some wild land in a remote portion of the township. This tract of land lay upon the banks of the river, from which an abundance of fish was taken for the supply of the villagers; and the farmer asked if Judge Cooper would not be willing to take his pay in fish?—an arrangement to which the Judge consented. "But," said the farmer, "you know, Judge, that there's all kinds of fish in the river—pike and trout, and large and small. You'll be willing to take them as they run."

"Oh yes," said the Judge good naturedly; "only bring your fish along, I'll take them as they run."

And so the papers were made out and the farmer departed. But the summer drew on, and waxed and waned, yet none of the fish upon which he expected to regale himself, made thier appearance at his door. After many months had passed, the Judge, growing impatient about the promised payment for his land, mounted his horse and rode out in the region where it lay. As he expected, he found the settler at work upon his place. The Judge rode up to him, and asked him a little sharply about the fish he had promised to bring him.

"Fish! Judge," said the man, rising slowly from the ox-yoke he was mending, and looking with an amazed squint upon Judge Cooper. "Did I promise to bring you any fish?"

"To be sure you did!" said the Judge, roundly; "wasn't that the agreement? You promised to pay for your land in fish. And where's the fish?"

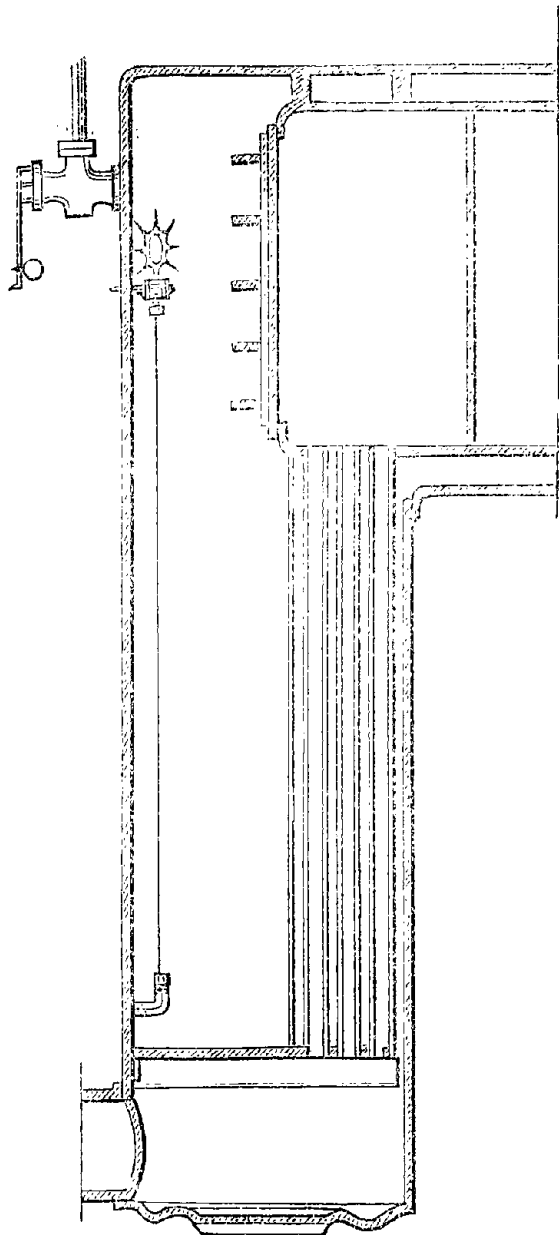
"But Judge" said the man, "didn't you promise to take the fish as they run?"

"To be sure," said the Judge, "but I have not had an opportunity to take them as they run, or in any other way, for not a basketful have you brought me."

"But, Judge," said the man, "there's the river; there they run, you can take as many as you like!"

The Judge wheeled his horse hastily and rode homeward, and the man

# CENTRAL Anti-Incubation Co.,



## FOR REMOVING SCALE IN BOILERS.

CAPITAL STOCK, - - - - - \$200,000.

OFFICE, NO. 34 VINE STREET.

S. D. ROCKHILL, Sec. and Treas. E. G. BECK, Prest. T. B. ROCKHILL Managing Director.

### DIRECTORS:

Frank S. Wilson, Philadelphia, Pa.  
Samuel Baker, "

E. G. Beck, Cincinnati, Ohio.  
T. B. Rockhill, "

S. D. Rockhill, Cincinnati, Ohio.

Send for Circulars. 

got his farm by his wits, for Judge Cooper never appealed to him for his fish—as they run, or in any other way. But he was accustomed to tell the story with great glee.

SHARP PRACTICE.—“Victor,” in the Practical Farmer, tells the following story, Joe Sharp, after reading in the Saturday Evening Post the saving fund proposition— one cent the first week. two the second and so on, doubling every week through the year—and figuring up results, said to himself, “I’ll fix somebody on that, see if I don’t. And Joe did in this way. Uncle Nat Fairly offered Joe \$22 per month and his board for a year to work on the farm. Joe waived that bid, and put in his proposition.

“Give me \$25, Uncle Nat, or else I’ll work for ye for one cent the first week, two the second, and so on, doubling every week as long as I stay with ye.”

Are you in earnest, Joe?” Uncle Nat asked, innocently.

“Yes, I am, ready to sign a written contract this minute.”

“Well, I’ll take your last bid, Joe. I guess you won’t need any extra pockets, though, to carry your wages in.”

“That’s my look out, Uncle Nat, I’m ready to go it.”

“So am I, Joe.” And so the contract was written, signed, witnessed, and Joe set to work. But Joe didn’t dig in very sharp the first or second week, arguing it was not worth while to work himself to death for one and two cents a week. “Wait,” he said to himself, “wait till about the eleventh week, when the pay gets up to \$20.48. Then I’ll pull out like a man.”

Uncle Joe never complained a word. He argued that Joe earned all bargained for. And so it went on to the end of the seventh week, when, Uncle Nat’s Spring hurry being over, Joe was called to an account.

“Look here, Joe Sharp,” Uncle Nat said, “our contract says I am to pay you one cent for the first week’s service, two for the second, and so on, doubling the amount every week as long as you work for me. You’ve been here seven weeks. I guess I can get along now without any extra help, so here’s your pay—\$1 25. That’s right, I guess.” Joe took his “fractionals” and went, saying to himself, “Next time I try to fix somebody with that dodge, I’ll begin about the the tenth week!”

**GEO. C. WARE,**

Wholesale Dealers in


**PURE CIDER**

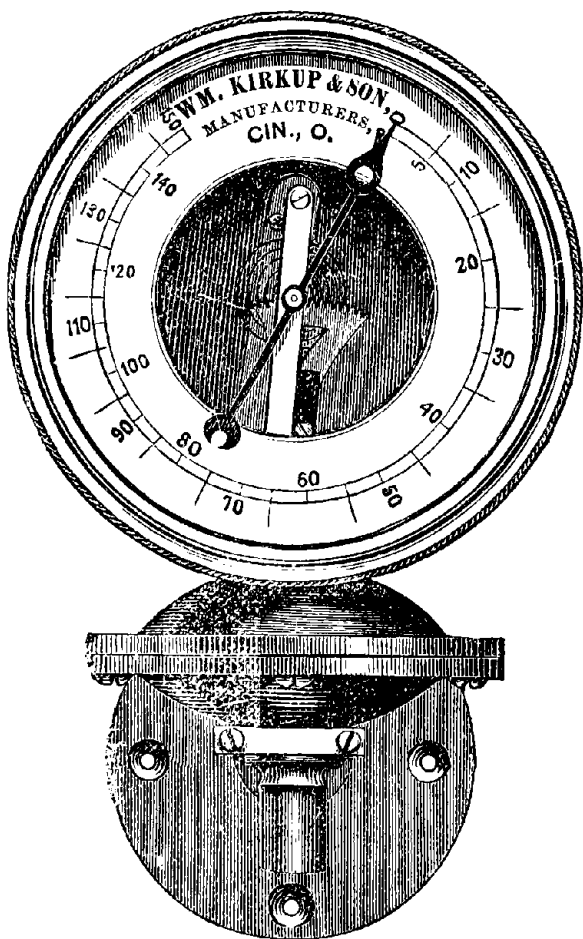
—AND—

**CIDER VINEGAR,**

**No. 287 West Third St.,**

**CINCINNATI.**

 All kinds of Produce Bought and Sold on Commission.



**Wm. Kirkup & Son,**  
**BRASS FOUNDERS**

And Manufacturers of

**Steam and Water Gauges,**

Dealers in

**Wrought Iron Pipe and  
Fittings, Globe Angle  
and Check Valves,**

**GAS, STEAM AND WATER COCKS,  
Etc., etc.**

**290 EAST FRONT STREET,**

OPPOSITE LITTLE MIAMI RAILROAD DEPOT,

**CINCINNATI.**

 Particular Attention  
given to Fitting up Steam  
Pipe.

# Cincinnati, Hamilton and Dayton RAILROAD. SHORTEST & QUICKEST ROUTE

BETWEEN  
CINCINNATI

—AND—

**Richmond.**

**Logansport.**

**Peoria.**

**Chicago.**

**Rock Island.**

**Dunleith.**

**Omaha.**

**Denver City.**

**Milwaukee.**

**La Crosse.**

**St. Paul.**

**And all Points in  
the Northwest.**

Sleeping Cars { without change  
Cin'ti to Chicago  
Cin'ti to Detroit

**Dayton.**

**Bellefontaine.**

**Sandusky.**

**Lima.**

**Fort Wayne.**

**Toledo.**

**Detroit.**

**Saginaw.**

**Toronto.**

**Montreal.**

**Quebec.**

**And all Points in  
the Canadas.**

## Baggage CHECKED THROUGH.

For Tickets and Information apply at the principal Railroad Offices in the country.

**SAMUEL STEVENSON,**  
General Ticket Agent.

**D. McLAREN,**  
General Superintendent.

**JAS. L. PENCE,**

**Madison Street, Near Seventh Street Market,**

*Next door to Planter's House,*

**COVINGTON, KY.**

**DEALER IN**

**HARDWARE,**

**SASH, DOORS AND BLINDS,**

**TIN WARE AND**

**HOUSE FURNISHING GOODS.**

**Mills Furnished with Beltings, Saws, Etc.**

**At Cincinnati Prices.**

**WM. H. CALVERT & CO.,**

**Importers and Jobbers of**

**FANCY GOODS,**

**AND NOTIONS,**

**NO. 67 PEARL ST.,**

**Cincinnati.**

---

**MORRIS & LYTLÉ,**

**Manufacturers and Wholesale Dealers in**

**BOOTS & SHOES**

**NO. 96 PEARL STREET,**

**CINCINNATI.**

---

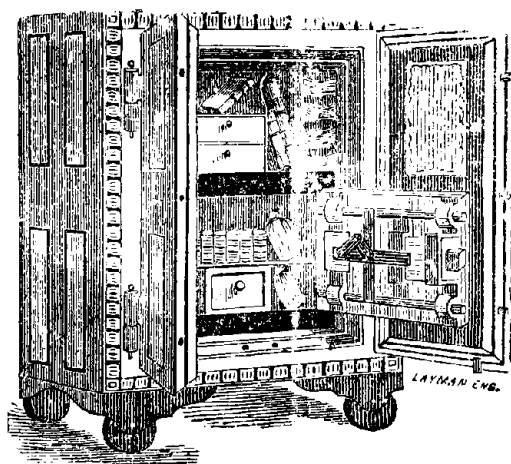
**Extra Wide Goods, and Large Sizes  
always on hand.**



# HALL'S SAFE & LOCK COMPANY

SUCCESSORS TO

JOS. L. HALL & CO.,



SOLE MANUFACTURERS OF HALL'S PATENT CONCRETE  
**FIRE AND BURGLAR-PROOF  
SAFES,**

—AND—

**HALL'S PATENT VICTOR BANK LOCKS.**

Over 20,000 of these Safes are now in use in the South and West. Over 500 have been tested in accidental fires, and preserved their contents in every instance.

ORDERS BY MAIL OR TELEGRAPH PROMPTLY ATTENDED TO.

ADDRESS,

**HALL'S SAFE AND LOCK CO.,**

CINCINNATI, O.

**And 93 Dearborn Street, Chicago, Ills.**

**"I wish I could  
get a shirt to fit."**



**"You can get a fit  
at Wilson & Clarks."**

**WILSON & CLARK,**  
*Manufacturers of the*  
**UNIVERSAL SHIRT,**

AND DEALERS IN

**GENTS' FURNISHING GOODS,**

**S. E. Cor. Fourth and Walnut,**

**CINCINNATI, O.**

**Shirts and Underwear made to Order.**

*Send for Price List and formula of measurement.*