

*Kelly & Jones Co 30*

# DOMESTIC ENGINEERING

PLUMBING . HEATING . LIGHTING . VENTILATING

Whole No. 237

32-42 Dearborn Street, Chicago, Saturday, July 17, 1897.

Vol. X. No. 3



HAVEMEYER BUILDING, BROADWAY AND PRINCE STREET, NEW YORK CITY.

George B. Post, Architect

Baker, Smith & Co., Heating Contractors.

HEATED WITH **AMERICAN RADIATORS** MADE BY

**AMERICAN RADIATOR COMPANY**

New York, 92 Centre Street  
Philadelphia, 506 Arch Street  
Minneapolis, 316 Third Avenue N.  
Denver  
Boston, 44 Oliver Street  
St. Louis, 52-53 De Menil Bldg.  
London, 143 Queen Victoria St.

LAKE AND DEARBORN STS  
CHICAGO

Factories: Detroit and Buffalo

DOMESTIC ENGINEERING

# SOLVED AT LAST

## Combined Grate and Mantel Heater

Heating suite of rooms by hot water from grate fire at small expense. Write for descriptive circulars

MANUFACTURERS OF BREMEN AND RELIANCE RADIATORS

### HOLLAND RADIATOR COMPANY

WORKS, BREMEN, IND.

89 LAKE STREET, CHICAGO

orient \* zenith \* orient \* zenith \* orient \* zenith \* orient \* zenith \*

**Why?**

The owners of the following buildings had all decided to use other radiators than ours. After the radiators had been specified the owners, upon further consideration of the merits of the respective radiators, and after the most exhaustive tests concluded to substitute Titusville Radiators for those that had first been chosen. Why?

University of the City of New York	Manhattan Life Ins. Co.'s Bldg.
Home Life Ins. Co.'s Bldg.	Mutual Reserve Fund Life Ass'n Bldg.
Hotel Waldorf	Hotel Marie Antoinette
Sheldon Building	Barnard College, new buildings
D. O. Mill's Hotel	— All of New York City

This list might be lengthened considerably, but space forbids.

TITUSVILLE IRON CO., 36 Dearborn St., Chicago: 152 Centre St., New York City

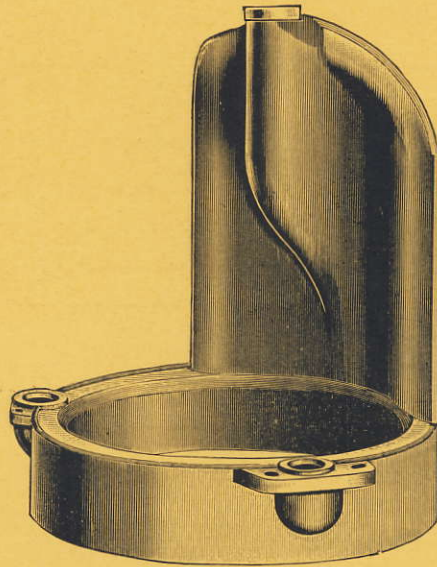
orient \* zenith \* orient \* zenith \* orient \* zenith \* orient \* zenith \*

## The Capitol Mascot

Sectional

See that Section ?

It is the latest improvement in round boiler construction.



## United States Heater Company

127 Worth Street  
New York

260 Campbell Avenue  
Detroit

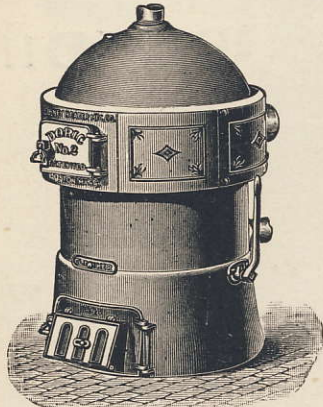
37 Dearborn Street  
Chicago

New England Sales Agent...N. E. FROST, 106 High Street, Boston

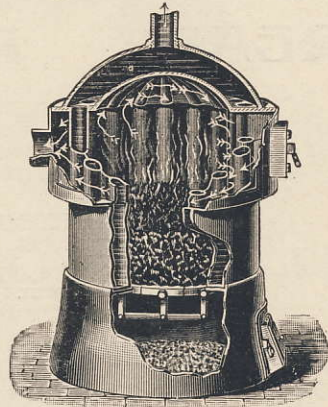
# Gurney

They are the product of long experience and the highest possible intelligence in the study of heating.

## What Customers Say



Doric Seamless Tubular Hot Water Heater.



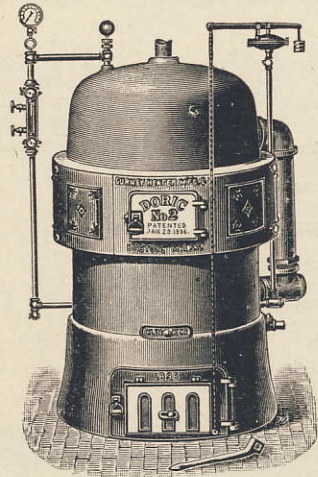
Doric Seamless Tubular Hot Water Heater.

West Nyack, N.Y.  
Jan. 4, 1897  
We have had the No. 4 Doric Steam Heater placed in our school and would say that we are perfectly satisfied with the results obtained. We have found no trouble in heating the building, or in running the heater. We would very heartily recommend them to any one desiring new heaters.

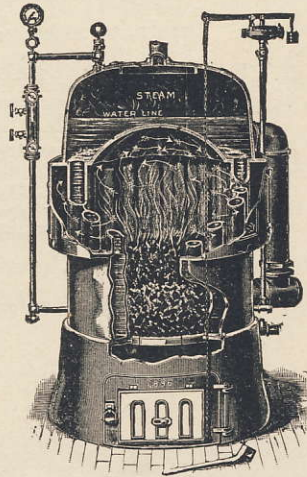
Respectfully,  
JOHN CAMPBELL  
WM. ROTH  
CHAS. S. HILL  
Trustees.

Bangor, Maine.  
Gentlemen:  
The No. 4 Doric boiler that was put into my house in October is a perfect success, as far as anything that I can see now. Can heat my house to 70° or 90°, or anywhere between, just as I like; do not see how anything could work better; perhaps there may be something in the future, but have not seen it as yet.  
Yours very truly,  
JAMES H. HAYNES.

Endorsed by the  
Leading Engineers.  
Send for latest  
Trade Catalogue and  
Price List.



Doric Seamless Tubular Steam Boiler.



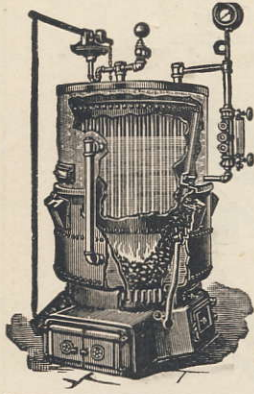
Doric Seamless Tubular Steam Boiler.

Home Office:  
163 Franklin Street  
Boston, Mass.

New York Branch: 48 Centre Street

# GURNEY HEATER MFG. CO.

Works: East Doston, Mass.



## The Gorton Side-Feed Boilers

Have advantages over any other  
Heating Boilers on the market

**YOU WANT THE BEST  
WE HAVE IT  
INVESTIGATE FOR YOURSELF**

We will send further information, on application

**Gorton & Lidgerwood Co.**

96 Liberty Street  
NEW YORK

201 Congress St., Boston  
Old Colony Building, Chicago

**READ!**

**READ!!**

**READ!!!**

JULIUS MARTINI

...Florist...

450 EAST DIVISION STREET,

Bet. La Salle Ave. and Clark St.

Chicago, March, 9th, '07.

The D. F. Morgan Boiler Co.,

#15 W. Lake St., City,

Gentlemen:-

Regarding the steamfitting done in our new store, flat and greenhouse, it gives me pleasure to state to you, that the same is very satisfactory; also your new Morgan's "Twentieth Century" boiler. Boiler gives very little smoke and saves considerable money as we are able to use the cheapest coal on the market.

Respectfully yours,

*Julius Martini*

(Copy of original letter.)

**If you will write us we will tell you all about the "Twentieth Century."—MORGAN & CO., 40 Dearborn Street**



# Summer Tours

Rivers  
Mountains  
and  
Seashore

## Grand Trunk Ry. System

The sale of summer tourist tickets from Chicago to Eastern Tourists' Resorts reached by the lines of the Grand Trunk Railway System, embracing Niagara Falls, Muskoka Lakes, St. Lawrence River, White Mountains, Portland and Seacoast Resorts, commences **June 1st**, continuing to September 30, inclusive

### SEASIDE AND WHITE MOUNTAIN SPECIAL

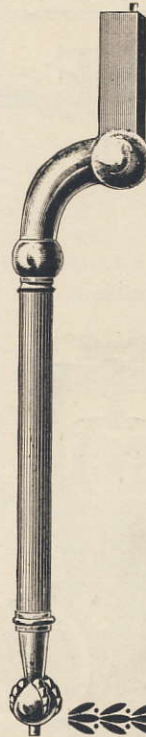
"The Finest Train in the World"  
making weekly trips between  
Chicago, Portland and Old Orchard Beach

### FIRST TRIP EASTBOUND from CHICAGO JUNE 24

The elegance and comfort of this train, combined with the ever-changing panorama of Nature's grand and beautiful scenery thro' which it passes, makes it the most desirable train between Chicago and the Sea Shore and Mountain Resorts of the Ea.t.

For further particulars, Excursion Folders, Time Tables, Berths in Sleepers, or Tickets, apply to

L. R. MORROW, G. P. & T. A.,  
NO. 103 CLARK STREET, CHICAGO



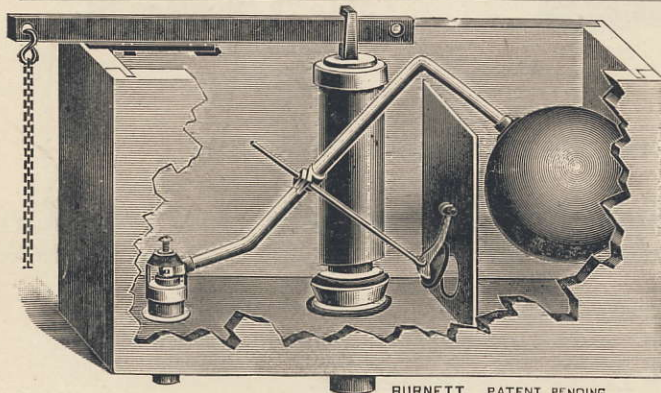
## The Cut

we illustrate is an addition to our line of LAVATORY LEGS of which we have sold a surprisingly large number in a very short time. The price is very reasonable, and we are confident of pleasing you after you have received a sample :::::::::::

## Remember

we manufacture a regular line of nickel-plated Sanitary Specialties, which we know will commend themselves, if price, finish and design are worth considering

The C. F. Hunger  
Co. Cleveland, Ohio




BURNETT PATENT PENDING

## The Burnett Tank..

Noiseless, Quick Closing Ball Cock ... Lock Joint Seams ... Neat Appearance

WRITE TO  
Eugene Burnett  
127 E. 7th St.  
CINCINNATI, OHIO



# THE "ROYAL"

TRADE MARK.

## A FLOAT VALVE OF THE HIGHEST GRADE

NO SOLDER JOINTS.  
WILL RELIEVE A WATER LOCKED RADIATOR  
UP TO 10<sup>LB</sup> PRESSURE.

**ALWAYS** AUTOMATIC & NOT AN EXPERIMENT.

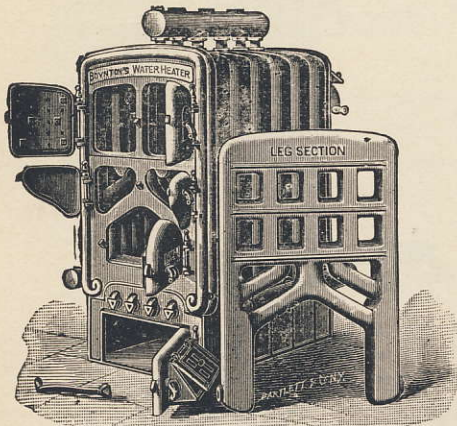
AUTOMATIC AGAINST WATER BY FLOTATION.  
" STEAM BY EXPANSION.

A GOOD ARTICLE = A FAIR PRICE.

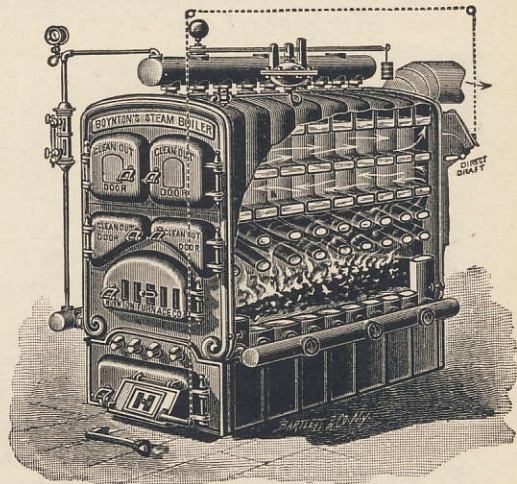
### FRED D. JOHNSON & Co.

FOR SALE BY ALL JOBBERS. 80 CENTRE ST. NEW YORK.

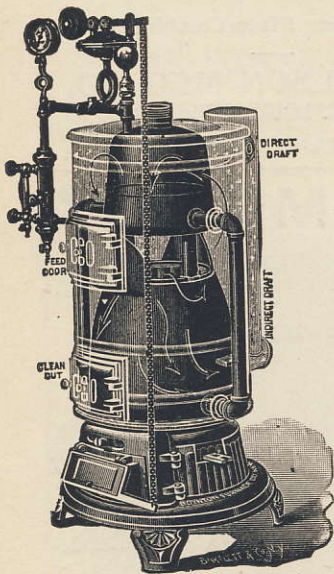
# The Boynton Furnace Company



Boynton's New Soft Coal Water Heater



Boynton's New Steam Heater

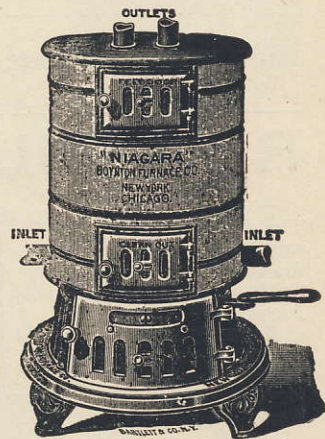


Boynton's Niagara Steam Heater

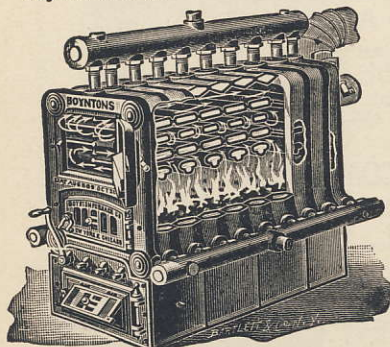
**Always Satisfactory  
Always Reliable.....**



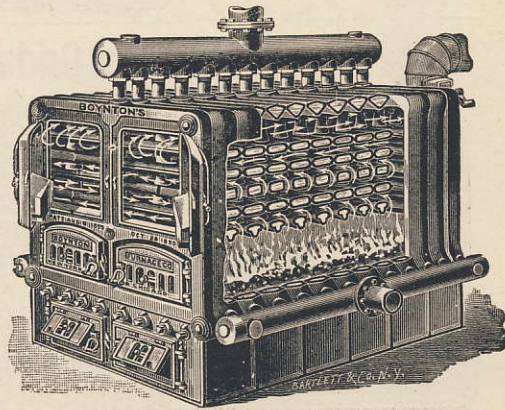
Some of our heaters are made for hard coal only, but most of them are constructed to operate successfully with hard and soft coal, wood or natural gas. Send for our booklet of illustrations, descriptive matter and convincing testimonials.



Boynton's Niagara Water Heater



Boynton's Hard Coal Water Heater



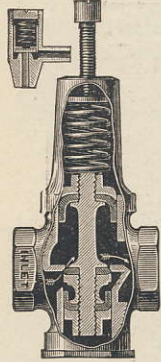
Boynton's Double Duty Water Heater

207-209 Water St., New York

44-46 Dearborn St., Chicago

# Mueller

## Water Pressure Regulator



Guaranteed to reduce the highest pressure to any low domestic pressure. Successfully used for the last fifteen years.



Send for our new booklet, just issued

**"There's Money In It."**

It tells all about our Regulator.

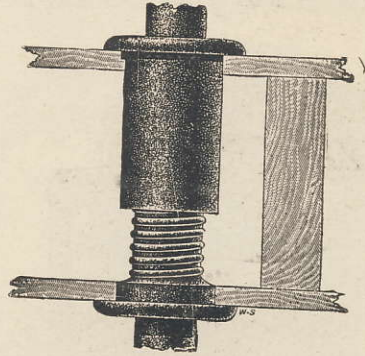
SOLD BY LEADING JOBBERS

MANUFACTURED BY

**H. MUELLER MFG. CO.**  
Decatur, Illinois

How would this space suit you?

# SEE! "IT SPEAKS FOR ITSELF."



**VOSBURGH**  
PATENT ADJUSTABLE

## Floor Thimble

and Ceiling Plate Combined

**N. O. NELSON MFG. CO.**  
ST. LOUIS, MO.

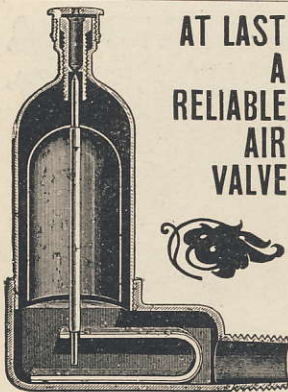
SOLE MANUFACTURERS

# R. M. WILSON, ROME, N. Y.

The originator and only manufacturer of the Double Seamed Solid Copper Bath Tub. Also manufacturer of Copper Range Boilers, Closet Seats and Tanks and Plumbers' Brass Work.



Write for my '96 Catalogue.



**AT LAST A RELIABLE AIR VALVE**



## The Onderdonk RELIABLE AIR VALVE

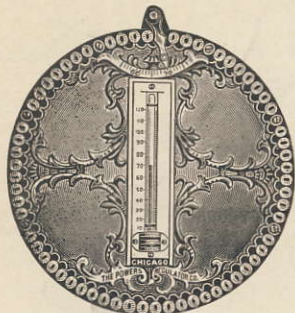
Made entirely of metal. Will not leak. Nothing to get out of order, corrode, or melt. Has no vegetable expansion piece to be destroyed by heat. The expansion piece is made of two metals soldered together, the upper end of which raises and closes the outlet when steam fills the radiator.

**ONDERDONK COMPANY**

520 Commerce St., Philadelphia, Pa., U.S.A.







The Thermostat.

## TEMPERATURE REGULATED

### IN LARGE BUILDINGS

Such as Office Buildings, Schools, Hotels, Apartments, Etc., without the annoyances and failures of systems heretofore used.

### The Powers System

Has always been known as a simple, practical and perfect method of regulating temperature. By recent patents we have protected our methods as applied to large work, and can send you a circular more fully describing its application if desired.

## THE POWERS REGULATOR COMPANY

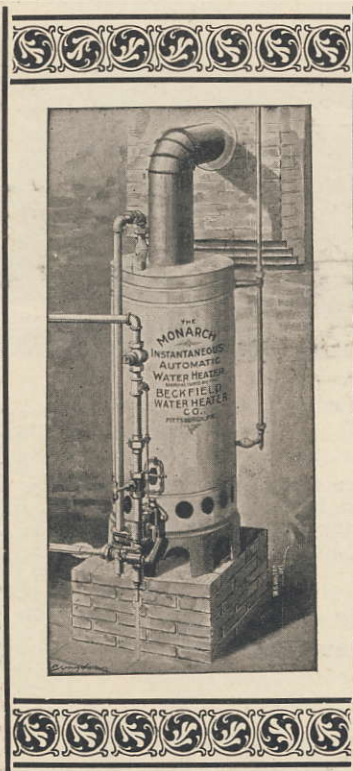
Address for Catalogue.

Main Office

36 Dearborn Street  
Chicago  
54 John Street  
New York  
45 Oliver Street  
Boston  
508 Union Trust Bldg.  
St. Louis



The Valve.



# THE MONARCH WATER HEATER

### Instantaneous and Automatic

No odor. No trouble. Without Storage and Economical. Will not heat your house, **but WILL Heat Water** for Laundry, Kitchen and Bath in twenty to thirty seconds, with a continuous flow. You open the faucet, the "Monarch" will do the rest. Write for catalogue.

## THE BECKFIELD WATER HEATER COMPANY

Pittsburg, Pa.

## No. 8

### Ideal Universal High Pressure Compound Lever Ball-Cock:::



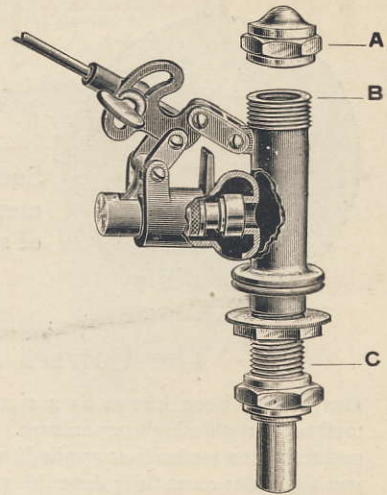
The best Ball-Cock placed on the market up to date. Connections can be made to top or bottom of Ball-Cock without changing its position in the tank.

For Bottom Supply screw Cap, "A" on the pipe at "B."

For Top Supply, screw Cap "A" on the valve at "C" and connect supply at "B."

Air Chamber can be attached by screwing on at "B" a tubing  $\frac{3}{8}$ -inch or  $\frac{5}{8}$ -inch iron pipe size.

Under all pressures this VALVE works smoothly. No hammering. No irregular action. Every Valve is tested up to 250 pounds. Will work equally well whether the pressure is developed steadily, suddenly, or is intermitting. As noiseless in action as any Valve made. Easily repaired, and all parts duplicated by number. Order sample and be convinced. Catalogue furnished upon application.

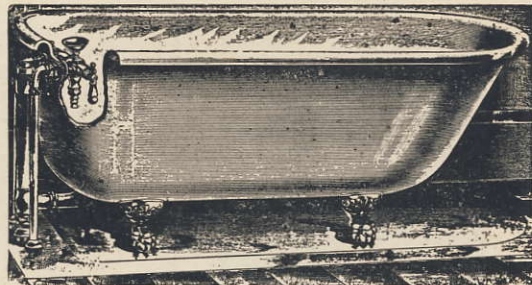


## "THE PATH

of success in business is usually  
the path of common sense."

Is it not commonly sensible to believe that a firm whose special business it is to make Porcelain Enameled Baths, and who has made them for years, should be able to produce as good baths as can be made? We ask you to believe this, and ask your jobber for our goods.

**Dawes & Myler**  
New Brighton, Pa.



# DOMESTIC ENGINEERING

PLUMBING . HEATING . LIGHTING . VENTILATING

WHOLE No. 237.

SATURDAY, JULY 17, 1897

VOL. X. No. 3.

## DOMESTIC ENGINEERING

PLUMBING, HEATING, LIGHTING, VENTILATING  
WEEKLY EDITION

FOR MANUFACTURERS AND JOBBERS

JNO. K. ALLEN . . . . . President  
JNO. S. PALMER . . . . . Treasurer  
E. T. BABBITT . . . . . Secretary

32-42 Dearborn St. (Corner of Lake) . . . Chicago  
Telephone Express 723

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Member of the Chicago Trade Press Association.

CHICAGO, JULY 17, 1897

## OCCASIONAL NOTES.

London, June 30.—In this, the home of the early apprenticeship regulations of the plumbing trade, an attempt is being made to revive the apprenticeship system for London plumbers. The suggestions for a basis on which the system may be revived, spring from the operative plumbers' associations, which in this country are called lodges. They have been presented to the Worshipful Company of Plumbers (one of the few ancient guilds which preserves in any degree the character of its membership, or attempts to benefit the trade whose name it bears), and to the London Master Plumber' Association for consideration. They contemplate an entirely new departure, and as such it should be interesting to our American plumbers, who are constantly striving to improve the apprenticeship system in the United States. They are as follows:

1.—The Object. To provide training for apprentices to the plumbing trade, both in practice and theory, and to enable them to execute plumbers'

work in a thoroughly effective and capable manner, thus safeguarding the public health from dangers which have frequently arisen through ignorance of these subjects, and also to educate and elevate the status of the plumbing trade.

2.—Conditions. Each apprentice to be duly proposed, seconded, and approved at a special meeting, on terms arranged by the London lodges, Proportion—One apprentice to every twenty-five members of the lodges. The indentures of the apprentice to be made between the parents or guardians and the representatives of the lodge concerned.

This condition shall not affect the rights of masters to take apprentices.

3.—That twelve members of the lodge do undertake the training of the apprentice. Mutual transfer would be permitted to ensure continuous training.

4.—The period of apprenticeship shall be six years, a period of three months' trial being allowed prior to apprenticeship, under a provisional agreement in cases where it is advisable to either parties, and included in the term of apprenticeship.

5.—All members of the lodge to which apprentices are taken shall use their best endeavors to secure the employment of those apprentices as mates.

6.—All indentures shall contain a covenant, that the apprentice shall attend such classes of technical instruction for plumbers as may be approved by the lodge, and shall be bound to submit himself for examination in practical and theoretical subjects yearly or at such times as he may be called upon.

7.—No apprentice shall leave London to continue his apprenticeship elsewhere without the permission of the lodge. A covenant shall, however, be introduced into the indenture admitting of a break in the period of apprenticeship under certain conditions.

8.—That each lodge maintain supervision of its own apprentices; but a representative committee to be hereafter constituted shall superintend and regulate the teaching of the apprentices in London.

I know of many plumbers in the United States who preserve with great care the indentures which bound themselves or their fathers to master plumbers in this country. I wonder how they would look upon such indentures, if they had been made with a trades union instead of a master? It seems to me that the new proposition is distinctly a bad one. Judging from the conduct of the journeymen plumbers' associations of the United States, the principal aim is to prevent the education of apprentices. I should dislike being an apprentice to an American association whose members felt this way. The teaching which a boy would get from twelve journeymen plumbers, none of them charged particularly with the boy's educa-

tion, would be very deficient and defused. Under the present system, faulty as it is, it is possible for a boy to work continuously with one journeyman for some time and thus learn a reasonable method of work, but if he is changed round from one to another, I should not think he would be able ever to learn the plumbing trade as its importance demands.

Of course, the operative plumbers have a pocket to fill as the result of this scheme, and it comes out in other suggestions which have not yet been adopted, which are to be considered at future meetings. By this arrangement those members of the lodges who have agreed to teach apprentices are to be paid so much per hour from a fund which is to be established, called "The London Plumbers' Apprentice Fund," the receipts to the fund to be derived from donations by the Worshipful Company of Plumbers, the National Association of Master Plumbers, the London lodges, and from premiums paid by apprentices.

The London Master Plumbers' Association held its annual meeting last night, followed by a banquet at the Holborn restaurant, at which numerous toasts were eloquently responded to.

Everyone here who is cognizant with the affairs of the National Association of Master Plumbers is pleased with the election of T. P. Colloton as president. It is believed that his election will ensure a year of prosperity to the association. He has the confidence not only of the master plumbers, but of the manufacturers and jobbers with whom they are called upon to treat, and this will prove to be of immense advantage to the association.

#### BRICK CUTS A GASH.

Council Bluffs, Iowa.—J. C. Bixby, plumber, was in the basement of the new addition to the Neumayer hotel, superintending the plumbing, when a piece of brick fell from one of the scaffolds in the third story and struck Mr. Bixby a blow on the head. It cut a gash several inches long and laid bare the skull. He was taken into the hotel and a physician dressed the wound.

Cincinnati, Ohio.—Architect S. S. Godley, Neave building, has finished plans for remodeling a block of five business buildings on the south side of Second street, between Walnut and Main, for Freiberg & Workum.

## THE WHOLESALERS.

### News of the Manufacturing and Jobbing, Plumbing and Heating Trade.

#### OF INTEREST TO PLUMBING TRADE.

##### Will Issue a List.

New York, N. Y.—We are informed that the eastern lead trap manufacturers propose issuing a new standard list August 1st.

##### Increase in Business.

Paterson, N. J.—The Hayes Manufacturing Company report a marked increase in their business over the first six months of last year.

##### A New Corporation.

Cincinnati, Ohio.—The Walker Lead Company was given a certificate of incorporation by the secretary of state. Their capital stock is \$50,000.

##### Increase in Capital Stock.

Hartford, Conn.—The Phoenix Brass Foundry Company has filed a certificate of an increase in its capital stock from \$6,000 to \$18,000.

##### Purchased Stock of Plumbing Goods.

Seneca Falls, N. Y.—The Davis & Stevens Manufacturing Company have purchased the good-will and stock of plumbing goods of M. Toomey, who has been in the plumbing business in Seneca Falls for the past year.

##### Notice of Removal.

New York, N. Y.—The Instantaneous Water Heating Company are sending out to the trade a notice of removal in the shape of a slate, with the printed matter on the inside. They have moved their office from 838 Broadway to 48 Cliff street.

##### Fell While Jumping.

Louisville, Ky.—We are sorry to learn that Theo. Ahrens, Jr., met with an accident while jumping over a fence, falling and spraining his wrist and ankle. We trust that it is not of such serious a nature as to prevent him from attending to his business.

### Happenings of General Interest to the Wholesale Heating Trade.

#### Will Establish a Shop.

Boston, Mass.—Thomas Hoey, dealer in steamfitters' supplies, has leased the basement corner of Purchase and Oliver streets.

#### Boiler Company Fails.

Akron, O.—The D. F. Morgan Boiler Company made an assignment to C. A. Barnes, treasurer of the company. The assets and liabilities are about \$25,000 each.

#### Valves.

New York, N. Y.—Judson A. Goodrich & Company, 120 Beekman street, this city, are offering to the trade a full line of Jenkins, Frink, and brass disc steam and hot water radiator valves.

### PERSONAL.

Capt. D. Paul Hughes is in New York.

John Duncan, Crown Prince of Kewanee, was in the city this week.

V. M. Wellman, representing the C. F. Hunger Company, Cleveland, is in the city this week.

W. H. Ransom, New York, has left that city for a ten days' business trip through the state.

F. G. Harris, of Crane Company, New York, is away on his vacation, and at present is in Chicago.

Henry C. Adams of F. D. Johnson & Company, New York, is away on a short business trip.

J. J. Blackmore, of the J. L. Mott Iron Works, New York, left the city for a few days' business trip.

Peter Baker, president of the Baker Lead Works, Worcester, Mass., spent a few days in New York this week.

Treasurer C. V. Kellogg, of the American Boiler Company, Chicago, spent Thursday and Friday of last week in New York.

Jno. McPhail, vice-president of the Jas. Robertson Manufacturing Company, Baltimore, Md., visited New York last week.

President N. A. Boynton, of the Boynton Furnace Company, accompanied by his wife and daughter and daughter of E. E. Dickinson, left New York for a trip abroad; they are not expected to return until October.

### COAST TRADE.

SAN FRANCISCO, July 10, 1897.

Now that the tariff bill has passed the senate, it is to be hoped that a revival of trade will come about in a gradual and healthy manner, thereby proving that the promises of the present administration will and can be carried out.

The plumbing and heating trades have undergone little change of late, this being the usual dull season.

Holbrook, Merrill & Stetson have the following contracts: The steam heating in the Adams building, more commonly known as the "Hub building" (the system is overhead); a hot water heating system in the residence of Dr. Henry Wagner, on Jones near Washington street; a hot water heating system in the parochial residence of Reverend Father Doogan, at Vallejo, Cal.

The Health Office of this city will continue to assess plumbers, as they claim the right to do so under the rules of the Board. The situation in reference to this matter is a peculiar one, as it involves the right of the Board of Health to make rules and regulations which impose a tax on certain kinds of business. Dr. Williamson claims that the Board has such a right and that the taxation of plumbers will continue as heretofore until some competent court prohibits it from doing so. Dr. Rottanzi, on the other hand, claims that no such right exists in the Board of Health, and that such an order as that under which the Board collects these fees must be passed by the supervisors and approved by the mayor before it becomes operative. The matter will be brought up at a meeting of the Board of Supervisors on Tuesday, and a warm debate on the matter is anticipated.

Dr. Hatch, of the State Board of Lunacy, in company with the Board of Supervisors, recently inspected the new insane wards at the Ventura county hospital. They were all right with the exception of the plumbing, which needs to be rectified slightly.

The Idaho Plumbing and Heating Company, of Boise City, have disposed of their business to Jere D. Jones and J. R. Lusk.

Louis Gairaud and Peter Lund will start a plumbing establishment at Palo Alto, Cal.

## ST. LOUIS ITEMS.

On Monday of this week the N. O. Nelson Manufacturing Company secured the contract for a lot of steam pipe with special flanges for the city water works. Their bid amounted to \$2,526. The company has just employed E. R. Elliot, of Litchfield, Ill., to cover the plumbing trade in Central Illinois for them.

Hughes & Stone have just secured the contract for the hot water heating of H. C. Scott's new residence on Vanderverter avenue. H. W. Stone is spending a short vacation with a number of friends, fishing, at Cable, Wis.

The New Orleans Mill Supply Company have instituted suit on a mechanics lien against the Chemical building to secure a balance of \$3,200 due them on the heating contract.

Ambler & Materne have the contract for the steam-heating of the building just west of the Lindell hotel, and which is being remodelled by the Ames estate, the owners. The Paul steam system is specified.

The Karr Supply Company, of Belleville, Ill., recently secured the contract for the hot water heating of the Convent of the Sacred Blood, at East St. Louis.

The W. F. Cozzens Heating Company have secured the contract for the hot water heating for the new \$10,000 residence of John Weisert, on Grand and Chippewa avenues; also for the residence of D. Jno. Newdorf, on Jefferson, near Wyoming.

Mr. Shipley, representing Wm. Powell & Co., Cincinnati, and H. C. Freshour, of H. O. Canfield, rubber specialties, Bridgeport, Conn., are among the trade visitors this week.

## BUSINESS CHANGES.

Middleton, N. Y.—James A. Wood has purchased the interest of Mr. Evans in the plumbing business of Wood & Evans, on Wickham avenue.

Oakland, Cal.—The partnership existing between J. G. Poorman and C. L. Maxwell has been dissolved. The plumbing business will be continued by J. G. Poorman and George Lohr.

## NEW BUSINESS.

Mansfield, Ohio.—Julius Roemer has opened a plumbing shop on East Main street.

Silver City, New Mexico.—Cousland & Powell is the name of a new firm in this city engaged in the plumbing business.

Nashville, Tenn.—Mathews & Edwards is the name of a new plumbing firm in this city, with place of business at 2107 Main street.

South Bend, Ind.—George H. Kirkham & Co. is the name of a new firm in the plumbing business, located at 134 North Michigan street.

## FINANCIAL.

Cincinnati, Ohio.—Nolan & Armleder, plumbers, at 328 East Fourth street, assigned to Frank H. Shaffer, of Peck & Shaffer. The assets and liabilities are about \$7,500 each. A preference of \$1,600 was given to Julia Armleder. The cause for the assignment was dull business.

## DEATH.

## Keiger.

Morristown, Pa.—William G. Keiger died suddenly at the Hotel Hartranft, of heart trouble. Mr. Keiger was head plumber at the Hospital for the Insane almost since it was established. He was about forty-eight years old and is survived by his wife.

## A NEW SET OF RULES.

Shreveport, La.—The city council of Shreveport has adopted a set of rules and regulations for the government of plumbers, which provides that any master plumber employing any person who has not received a certificate as a competent plumber, shall be fined not less than \$25 nor more than \$50; that any master or journeyman plumber violating any article of the ordinance shall be subject to a fine not less than \$50 nor more than \$100, at the discretion of the mayor; and that any architect, owner or superintendent who shall design or put in any work contrary to the regulations, shall be deemed guilty of misdemeanor, and fined not less than \$50, or confined sixty days in jail, at the discretion of the mayor.

## BUSINESS NOTES.

Erie, Pa.—Ed. Driscoll has been awarded the contract for the construction of the Holland street sewer.

Pittsfield, Mass.—Robbins & Gamwell were awarded the contract for ventilating the court house in this city, at \$3,300.

Baltimore, Md.—D. J. Malane has secured the contract for the plumbing work in the Pine street school.

Ann Arbor, Mich.—J. F. Schuh has the contract for the plumbing in J. Wirt Newkirk's new house on North State street.

South Framingham, Mass.—Hand & Company have secured the plumbing contract for the new Framingham hospital on Evergreen street.

Clearwater Harbor, Fla.—J. W. Roberts & Company have secured the contract for the plumbing work in the Scott residence at Clearwater.

Niagara Falls, N. Y.—James Connolly was awarded the contract for the plumbing work in the Second Hospital for the Insane, at his bid of \$6,415.44.

Worcester, Mass.—The Worcester Steam heating company has secured the contracts for the heating in James Clancy's and M. Shulinski's houses, both in this city.

Bangor, Me.—Leighton, Davenport & Company have secured the contract for the plumbing in a block on Main street, now being improved for the Madocawando club.

Troy, N. Y.—The Rensselaer Manufacturing Company, this city, were awarded the contract for furnishing the valves for the new distributing water mains, being the lowest bidders.

Baltimore, Md.—Sealed proposals will be received for the construction of a two-story lavatory annex to Bay View Asylum until July 20th, 3 p. m., addressed to Trustees of the Poor, City Hall Annex.

Pittsburg, Pa.—Architect J. D. Allen, 1017 Chestnut street, Philadelphia, has finished plans, and bids are now being taken on a casino building to be built in this city for the Pittsburg Casino Company.

Utica, N. Y.—The contract for laying the pipe for the water works system in Port Leyden was awarded to John J. Siegrist, of this city, at \$15,100. The pipe of the Utica Pipe Foundry was adopted.

Philadelphia, Pa.—J. J. Nesbitt & Company have been awarded the contract for the steam heating, plumbing and gas fitting in the nine-story apartment house now being erected at Sixteenth and Spruce streets.

Baltimore, M. D.—A large apartment house will shortly be built at the southwest corner of St. Paul street and Mt. Royal avenue. The plans are being prepared by Wyatt & Nolting, the courthouse architects.

Philadelphia, Pa.—Architect Frank R. Watson, 1200 Chestnut street, has finished plans and is taking bids on a school building to be erected at Collegeville, Pa., for the board of education of that place, which will have steam heating, plumbing and ventilation.

Camden, N. J.—Architect A. H. Moses, 419 Walnut street, Philadelphia, Pa., has finished plans and specifications for an addition to a school building known as the Lincoln school, for the commissioners of education of this place. Estimates are now being taken.

Baltimore, M. D.—The Nashville Plumbing Company was awarded the contracts for constructing a running track in the sewer at the corner of Church street and Printers' alley, and for constructing an automatic sprinkling trough at the corner of Locust and College streets.

Atlantic City, N. J.—Architect J. L. Johnson, Harrison building, Philadelphia, Pa., is preparing plans for an addition to the Hotel Brighton, of this city. In the general contract will be steam heating, gas fixtures, plumbing, bath and toilet room fixtures.

Philadelphia, Pa.—Architect Charles Douglas, 1313 South Nineteenth street, is taking bids on a store building, to be erected at Fourth and South streets, for Krugel & Green, of this city. Steam heating and plumbing will be included in the general contract.

Philadelphia, Pa.—Architects Schermerhorn & Rinehold, 430 Walnut street, have finished plans for four dwellings that are to be built at Narbeth, Pa., for Clothier Bros., of that city. Plumbing, bath room fixtures and heating will be installed in the building, which will cost about \$18,000.

Philadelphia, Pa.—Architect J. L. Johnson, Harrison building, is preparing final drawings for a lavatory building to be erected in Fairmount Park, Philadelphia, for the commissioners of Fairmount Park.

Philadelphia, Pa.—Architect H. D. Dagit, 706 Walnut street, has finished drawings and specifications for a church that is to be built at Haddon Heights, N. J., for the St. Rose Roman Catholic Church congregation of that place. Steam heating, plumbing and toilet fixtures will be among the material required.

Springfield, Ohio.—Sealed proposals will be received by the board of education for heating and ventilating the annex to Central school building, according to plans and specifications prepared by Architect Robert C. Gotwald, 41 Gotwald building. Bids must be on file with clerk of board of education by twelve o'clock noon, Monday, August 2, 1897.

Hartford, Conn.—Thomas Oakes & Son have secured the following contracts: Plumbing and gas piping residences for Mrs. L. White, L. C. Fray, Mrs. Belle Towne, Mrs. Havemeyer, James Shipman, and W. O. Schelley; heating by hot water the residences of Mr. Hackanessen and W. O. Schelley; by steam, Mr. Atkins and E. L. Bliss, and by water, W. W. Lester's block.

Philadelphia, Pa.—J. J. Nesbitt & Company, 895 Master street, have secured the contracts for the plumbing, steam heating and gasfitting for the nine story apartment house, now being erected at Sixteenth and Spruce streets, E. Sutro & Sons' Hosiery Mill at Thompson and Division streets, and the Black Diamond Coal Company's stable at Ninth and Norris streets, for plumbing. The same firm is erecting a hot water heating plant for Dr. Chas. J. Jones, 1099 N. Sixth street, and a steam heating plant for L. Kearney, at Eighteenth and Moore streets.

Chicago, Ill.—Sealed proposals will be received by the city of Chicago until 11 a. m. Wednesday, July 21, 1897, for furnishing labor and material necessary to lay water service pipes, together with all necessary fixtures, in the following named streets and avenues in Chicago: Allen avenue, from Milwaukee to Kimball avenue; Central Park avenue, from Harrison to Twelfth street; Christian avenue, from Wellington to Belmont avenue; Cornelia street, from Western avenue to Rockwell street; Drake avenue,

from Elbridge to Belmont avenue; Dawson avenue, from Milwaukee to Wellington avenue; South Diversey avenue, from Lawndale to Central Park avenue; Eberly avenue, from Belmont to Noble avenue; Elbridge avenue, from Central Park to Noble avenue; Robey street, from Forty-seventh to Forty-first street; Robey street, from Fifty-first to Fifty-fourth street; Forty-seventh street, from Paulina street to Western avenue.

#### AN ORDINANCE.

Flint, Mich.—An ordinance providing for making connections with the water mains, gas pipe, sewers and other service pipes that are or may be laid in streets to be paved, or that are now paved in the city of Flint, reads as follows:

Section 1. Whenever the common council shall determine that a street or alley shall be paved in the city of Flint, it shall be the duty of the board of public works to serve, or cause to be served, a written or printed, or partly written and partly printed notice upon each and every one of the owners, occupants or agents along the line of such street where such pavements are proposed to be laid, if such owner, occupant or agent is a resident of the city of Flint, requiring him, her, or them, within ten days from the date of the serving or posting of such notice, to make connections in the manner prescribed by the common council, with water mains, gas pipes and sewers that may be laid in said streets.

Sec. 2. If along the line of such streets there is any lot, lots or premises, and the owners, agent or agents thereof are not resident of the city of Flint, or cannot be conveniently found, the said board of public works shall post, or cause to be posted, the aforesaid notice in some conspicuous place upon said lot, lots or premises.

Sec. 3. In case of default or neglect on the part of any owner, occupant, or agent to connect with the water main, gas pipe, service pipe and sewers as aforesaid, and the time specified in such notice has expired, the board of public works shall then cause such connections to be made, and the expense therefor shall be assessed upon the property, for the benefit of which connection was made, and such assessment shall be a lien upon the said property until paid, and such lien shall have the same force and effect as is provided in case of other special assessments.

Sec. 4. Connections with any water mains, water pipe, gas pipes, sewer or sewer pipes of any kind shall be made in the manner prescribed by the common council, and any person or persons after having been served with the notice above prescribed, who shall wilfully fail or refuse to make, or cause to be made connections as prescribed herein in the manner required by the common council, for a period of ten days, shall upon conviction thereof by a court of competent jurisdiction be punished by a fine of not exceeding \$100, or by imprisonment in the county jail of Genesee County for a period of not exceeding ninety days, or by both fine and imprisonment, in the discretion of the court trying the offender.

Sec. 5. This ordinance shall take effect on and after the 10th day of July, 1897.





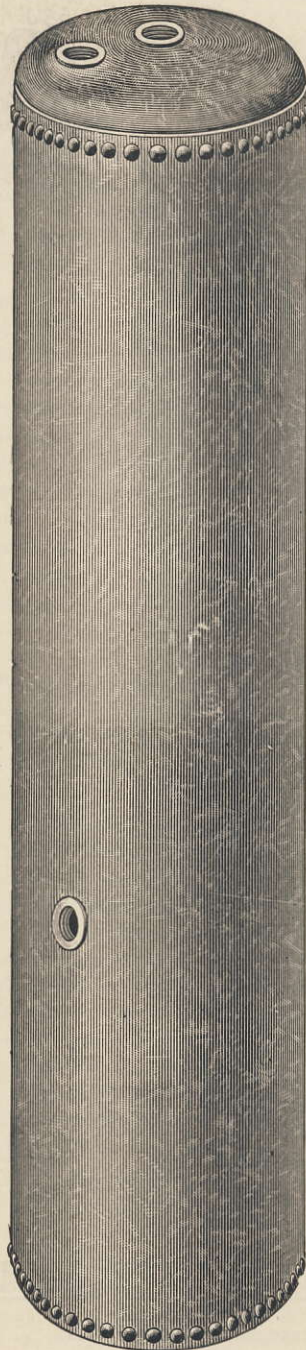
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## RETAIL TRADE.

### Attachment for Radiators.

Brooklyn, N. Y.—William D. Hoxie, of Brooklyn, was granted a patent on a pneumatic attachment for cleaning steam radiators.

### Son of Ex-Mayor Weds.

Springfield, Mo.—John Cunningham, a plumber, was married last week to Miss Emma B. Kirby, daughter of Mr. and Mrs. James M. Kirby of this city. Mr. Cunningham is the son of ex-Mayor Cunningham.

### Journeyman Elect New Officers.

Chicago, Ill.—The Chicago Journeymen Plumbers' Protective and Benevolent Association at their last meeting elected the following officers: President, John S. Kelly; vice-president, P. J. Mitchell; recording secretary, William W. Petrie; financial secretary, James E. Lyman; business agent, James Kennedy; trustees, Benj. Abbott, Robert Lenachen, J. Hawthorne, William Powers; financial committee, John G. Mitchell, Robert Farrell, Thomas Bevins; arbitration committee, James Kennedy, John Malone, Dan Riordan, Edward Mathers, Joseph Kelly.

### An Explosion.

Brooklyn, N. Y.—William C. Butler and Hattie McCutcheon were very badly injured by an explosion of a gasoline stove in the rear of Michael J. Butler's plumbing establishment, 454 Atlantic avenue, Brooklyn. Miss McCutcheon, the servant, started to light a fire in the range on which a gasoline stove was standing. W. C. Butler, brother of the proprietor, came in and was startled to see the fire in the range burning brightly with the stove just above it, and he told the girl to put the stove on the floor. As she did so the gasoline exploded and her clothes caught fire and both she and Mr. Butler were badly burned. Firemen had to be called to extinguish the flames, and the store was wrecked. Butler and Miss McCutcheon were removed to the hospital.

### Canada Plumbers Meet.

Toronto, Ont.—At the meeting of the National Association of Master Plumbers, held in Pythian Hall, July 2d, the following officers, were elected for the ensuing year:

President, John Wright, Toronto; first vice-president, William Smith, London; vice-

president for Ontario, J. McKinley, Ontario; vice-president for Quebec, P. J. Carroll, Montreal; vice-president for New Brunswick, J. H. Doody; vice-president for Nova Scotia, J. Borton, Halifax; vice-president for Manitoba, G. A. Irvine, Winnipeg; secretary, Wm. Mansell, Toronto; treasurer, William Briggs, Montreal.

The executive committee consisted of: Ontario, J. B. Fitzsimons; New Brunswick, Thomas Campbell; Nova Scotia, G. A. Perrier; Manitoba, W. Stevenson; Quebec, A. Picard.

Quebec was named as the place of next year's meeting, the date to be named by the executive committee.

### Workmen Scarce in Europe.

Chicago, Ill.—A letter from Thomas Burke, ex-president of the Chicago Plumbers' Union, who is now touring Ireland, states that there is not a journeyman plumber or steamfitter in that entire country, all having gone to Paris to work. Employers and apprentices do all the work.

This situation can be more readily understood when it is known that the number of building trades workmen in Great Britain and Europe is limited. There is very little building done, as compared with the work in the United States.

During the World's Fair in Chicago several of the representatives of Paris workmen who came over to study the conditions in this country said that there were very few buildings erected annually in France, and that the same was true of other countries of Europe.

When told of the number of men engaged in that line in Chicago they were astonished and recommended that if work should ever become dull on this side of the Atlantic many would find it to their advantage to visit Paris.

### Plumbers Protest.

Chicago, Ill.—The Chicago Journeymen Plumbers' Protective and Benevolent Association has passed a resolution, as they are opposed to the civil service examination, one of the prominent members saying that questions were asked that had no bearing on the qualifications necessary for the positions desired. He said there were few plumbers who could tell how many yards of dry gravel it would take to fill a ditch a mile long by six feet wide and ten feet deep. Following is the resolution:

Resolved, by the Chicago Journeymen Plumbers' Protective and Benevolent Association: That they condemn the present civil service examination as unfair and a menace to their members, inasmuch as under the present system of examinations an individual, no matter how practical he may be in the trade or profession he follows, is unjustly discriminated against in favor of those who by circumstances may have obtained college or other educational advantages, but who practically are unfitted for the positions given under the present system."

#### Plumber in Luck.

Newark, N. J.—Gustave Young, a plumber, in business at 56 South Orange avenue, has received word that he will shortly receive a fortune of more than \$200,000 left to him by an uncle who died two months ago in Denver, Colo. The first news he had of the matter was in a letter he received a few days ago from R. G. Smith, a confidential employe of his deceased uncle. He wrote that on the day preceding his death the uncle made a will bequeathing all his property, except \$70,000, to his Newark nephew. The estate is worth more than \$285,000, and out of it is to come \$45,000, which the uncle left to his housekeeper, and \$25,000 to Smith. Although Young was surprised to learn of his uncle's death, he was not surprised at being his heir. He was named after his uncle, he said, and the latter always said that his money should descend to his namesake. His uncle was born in Sweden and went to Colorado twenty years ago. He made his money at gold mining. Mr. Young last heard from his uncle three or four years ago, and is now waiting for more information from Denver.

#### Speedy and Effective.

Washington, D. C.—William Koch, a plumber, located near the corner of Twenty-first and G streets, has discovered a method of repairing water mains, the operation of which does not take over twenty minutes. One of the streets had been torn up by workmen, who were excavating it to lay wires for the Potomac Electric Light and Power Company. One of the laborers in digging struck a pipe, piercing it to such an extent as to cause quite an overflow of water from the hole. Heretofore it has been found necessary to dig up a street in order to remedy such a break, and as the water inundates the trench, this method is very unsatisfactory.

Mr. Koch's method is very speedy and efficacious. An ordinary soap box is placed underneath the leak, holes being cut in both ends to allow the pipe to settle half way. Then pieces of ice, coarse salt, ammonia and ether are placed in the box and packed tightly around the pipe. In a short while a plug of ice is formed which checks the flow of water from the street, leaving the plumber free to saw off the ruined portion of the pipe and join on a new piece.

#### Plumber Wins.

Waycross, Ga.—The supreme court rendered an important decision in the case of R. B. Keen against the mayor and council of Waycross, which may seriously affect the sale of meters by the local water works department. Keen is a licensed plumber in this city, and he brought suit against the city authorities to enjoin them from doing a plumbing business. The city claimed the numerous complaints against Keen's work made it necessary for them to go into the business, as he was the only plumber in the city. The city won the case in the superior court, but the supreme court has reversed the decision on the ground that the acts complained of were ultra vires on the part of the city. It was decided that a city owning its own waterworks department may purchase material and make such repairs as are necessary, but that such a city cannot engage in the regular plumbing business and sell supplies. Keen brought his suit on the grounds that he was a licensed plumber by the city, and that the city had no right to compete with him; that as a taxpayer, he had the right to demand that the city be restrained from acts beyond the scope of its authority.

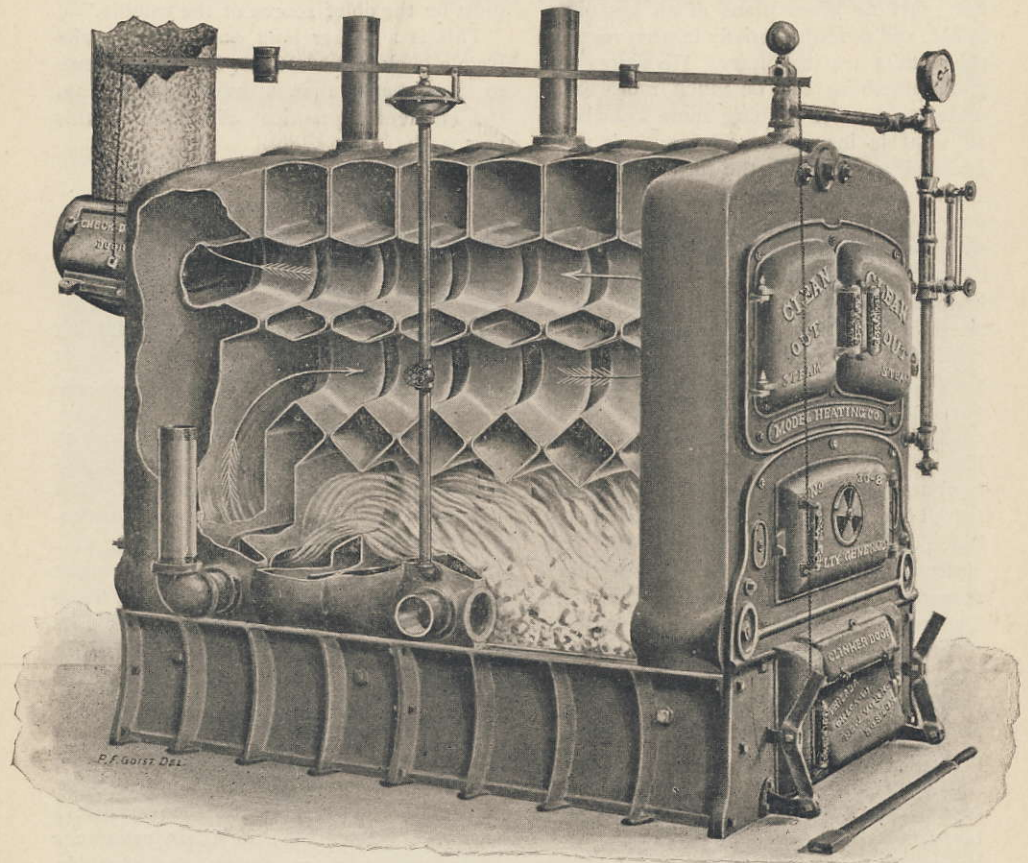
## NEW PUBLICATIONS.

We are furnished with the first part of an ambitious publication on "Plumbing and Sanitation," by George B. Davis, examiner of the worshipful company of plumbers, the city and guilds of London Institute, etc., and Frederick Dye, author of "Hood on Warming Buildings," etc. Mr. Davis is one of the best practical teachers and sanitarians of the day, bringing, from his responsible position with George Jennings, an abundant experience and a ripe knowledge of good plumbing. Mr. Dye is a valued contributor to DOMESTIC ENGINEERING

## “Wonderfully Efficient and Economical”

These are not our words; they were written by A. S. Eisenhower, Chief of Bureau of City Property, Philadelphia. Here's his letter:

“I desire to express my entire satisfaction with the results of your ‘Novelty’ Steam Heaters, which were placed in Independence Hall and five new fire-houses last fall. During the last unusually severe winter they were not only wonderfully efficient and economical, but the ease with which they can be run is deservedly commended. Another set of plans for fire, police and patrol stations is ready for your engineer.”



### Model Heating Company

American and Dauphin Sts. Philadelphia  
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and is known as a prolific writer on heating and domestic hot water supply. In collaborating on this new work we presume Mr. Davis will deal with the plumbing department, while Mr. Dye will treat of hot water for the house, heating, ventilation, steam-cooking, gasfitting, etc. The work is being published by E. and F. N. Spon. That portion now before us is the work of Mr. Davis, and in it he boldly departs from the method of previous writers on plumbing in that he includes what is needful as each branch of the subject is touched upon, instead of placing in the first chapters elementary knowledge only. By this method he interests all grades of readers at once. He also believes a good foundation can be laid by showing how not to do it, as he shows many dangers from the absence of plumbing and from defective plumbing. In this first part he gives plans of an insanitary house, and describes briefly in what respects the details are insanitary. He states that good plumbing can be much more easily understood after gaining some knowledge of what is incorrect and how it is to be guarded against. In the introduction, Mr. Davis says truly—and we wish to make more public his wise statement—"In writing to plumbers it is almost unnecessary to point out that a thorough and comprehensive knowledge of the trade is now absolutely necessary, and that only those who have it can look to succeed. Every plumber understands that his trade is now an important one, and for the proper elevation of his craft, something more than elementary ideas are required. A knowledge of what is right and an experience of what is wrong must be had, and this knowledge must embrace the most modern and approved principles and practices." The publishers have spared no expense in producing this work. The quality of the paper is superb, and from the sample illustration we are allowed to reprint, it will be seen that the illustrations (which are prepared by Mr. Dye and R. Stephen Ayling, A. R. I. B. A.), are not the least important feature of the work. It illustrates a defect in connecting the soil pipe to the house drain. After speaking in favor of keeping all soil pipes outside the house, Mr. Davis says: "Where a soil pipe has necessarily to be run inside, or is already there, its junction with the drain, and all joints, must be made so as to be absolutely air and water-tight *under pressure*. If this junction is arranged to come in sight just

above the cellar floor, it is a good plan. Some workers do not make the junction in the house at all, but continue the soil pipe to the outside and let it join the drain there. This is not a good plan; it is best to let the soil pipe join the drain at the nearest and most direct joint at floor level, and let the drain convey the sewage outside. In any case the soil pipe should not join the drain horizontally, but drop vertically, as illustrated (the illustration is not a defect in this one respect). The junction of a soil pipe with the drain is a vital point in any sanitary system, yet anyone who has made a number of sanitary inspections must be struck with the large number of defective connections between soil pipes and drains. The writer has seen hundreds, and it must be repeated that the division of the plumbing and drainage between two contractors must be the chief source of the trouble."

This is a rather long quotation to make from a book under review, but it will serve to show, better than a column of writing, the eminently practical character of this new work.

#### ELECTRIC HEATING.

NEW YORK, July 6, 1897.

Editor DOMESTIC ENGINEERING,  
Chicago, Ill.

At the midsummer meeting of the heating engineers, a Mr. Sills exhibited a direct electric radiator in working operation, and read a short paper descriptive of it.

I was particularly struck at the time by the fact that not one of the gentlemen present had a word of encouragement for this young inventor, who had gone to considerable trouble to bring electric heating in a practical manner before them, admitting at once that he had a personal and business reason for taking the trouble. This does not alter the fact that this old world remains about the same and always discourages the inventor and pioneer. Prof. Carpenter said, if I remember correctly, that his claims (the inventor) were rather extravagant. At the time I thought the professor was right, but on reflection, I am inclined to believe that the electricians, in their resistance theory, are perhaps wrong, and that Mr. Sills' theory, that the efficiency of electric radiators can be increased by not using magnetic metals in the construction of the radiators and preventing, as far as possible, the loss of energy to the magnetic field, and

changing a larger percentage of the energy into heat by a peculiar or different construction of radiators from any heretofore used may be right; and that the problem of changing electric energy into direct heating of air differs slightly from changing the same energy into work in the form of light or power. Electric heating is gradually and slowly advancing, as every innovation has had to advance.


It may not be entirely out of place here

to call attention to the testimony of the president of the New Haven railroad, Mr. Clarke, before a committee of the Connecticut legislature, referring to the successful use by their road of the third rail system of electric transmission. Mr. Clark said, as near as I can remember, that he called in eleven experts and got their opinions. They all differed on details, but ten of them agreed that he could never pull trains any distance by that method; that the losses would be enor-

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mous. One expert said he did not know anything about it, that the only way was to experiment on a large scale; that so little was known of the possibility or nature of electricity that it would not do to have too positive opinions. Mr. Clarke determined to take the eleventh man's advice, and the third rail system, as I understand it, is a perfect success. Now this is an illustration of what has happened so often and may happen in electric heating. Experts pronounce positively that a thing cannot be done, and, lo! it is done. Dr. Lardner ridiculed steam ocean navigation. The compound engine and the screw propeller were all opposed by men who were entitled to call themselves experts. In fact every advance in the world is a battle against the experts, and in the heating art, I think experts should be regarded with just a grain of skepticism.

H. J. BARRON.

#### ATTENTION TO DRAINAGE.

Supt. Taggart of the Bureau of Plumbing Inspection, says that a great deal of sickness in the summer time is caused by people closing their houses and not attending to the drainage. As a result their homes are infected with bacilli of disease and many deaths result. In speaking on this subject he gave out some valuable information that should be heeded by the public. He said: "Persons who go away for the summer shut up their houses and when they return they find them stuffy and ill-smelling and wonder what causes it. This is all caused by the drainage. The water in the pipes evaporates and the sewer gas comes through the pipes and infects everything in the house. The house is closed up and there is no place for the gas to escape.

"The people return home probably in the best of health. The house and even the bed clothing is infected with the bacilli of disease, and as a result there is one or two cases of typhoid fever or some other disease and death results. I have made a study of this matter, and I find that if the people will only take a little precaution this can all be avoided. A good remedy is to place glycerine in the pipes. It will not evaporate and will prevent the sewer gas from getting into the house. If this is too expensive, carbon oil may be used. Glycerine is the best, but carbon oil will do and is considerably cheaper. We have discovered that there is more disease prevalent after people come

home from the seashore and mountains than there is before they go away.

As I said before, most of this is caused by the sewer gas that gets into the houses while they are closed up, and if my advice is followed I think a lot of sickness can be prevented. The people who have money enough to go away and close up their houses surely have enough money to get some oil and place it in the pipes. All that is necessary is to place the oil in the waste pipes and there will not be any trouble. I think there should be a law to compel people to take precautions when they leave the city, but as it is impossible for a law to be passed this year in time to do any good, I think the people should do this anyway for their own protection. We are making rapid strides in house draining, and most of the citizens seem willing to comply with the house draining laws.

In the course of a year or so Pittsburgh should be one of the healthiest cities in the country. In my opinion most of the disease is caused by imperfect drainage. This year, so far, 745 plans for house drainage have been filed with me, while at the same time last year only 415 plans were filed. I think this goes to show that the public is getting more careful. At first people did not care to file their plans with the city, and we had some trouble over the matter and had to enter a number of suits, but lately they have been coming in with their plans and there are no complaints; in fact, many persons are asking for suggestions in relation to drainage."

#### WHAT MAKES FAUCETS HAMMER.

STILLWATER, MINN., July 1, 1897.

To the Editor of DOMESTIC ENGINEERING:

We are experiencing a great deal of trouble with compression faucets hammering when turned on about one-half. We carefully packed them and observed that nothing was loose inside. I stopped one from hammering the other day by putting on two washers. How in the world that stopped it I cannot understand. This hammering in some places shakes the whole plumbing system. Some argue it is for the want of air chambers, but I fail to see the use of an air chamber where the noise comes from a faucet when one-half turned on. I wish you could oblige me by throwing some light on this matter in your next issue of the DOMESTIC ENGINEERING. I have tried to solve the problem and so have many



practical plumbers, but all fail to give any scientific explanation.

Hoping for information through your valuable paper, I am

Yours,

A SUBSCRIBER.

ANSWER.

Hammering in pipes when compression faucets are used is generally noticed when but slightly opened and poorly packed, or when the parts have become worn, and are jostled by the eddying currents as they adapt themselves toward the point of least resistance. None of these conditions seem to be present, however, unless it may be in the packing which, being doubled, failed to give out the metallic sound as it swayed from side to side or struck against the seat: a very improbable conclusion. The results in the one case are more likely to be regarded as a coincidence. The shaking of the entire system in some cases gives a more reliable clue, and argues very strongly for an increased power suddenly developed and seeking relief, and unable to find it. There are two ways in the range of our experience for this increase; the sudden reduction of pressure and lowering of steam making point in a highly heated boiler is one, while in this case the one-half opened faucet, might add to the difficulty; it is more than likely that (unless peculiar conditions exist) the wider open the faucet is thrown the greater the reduction in pressures, and the more rapid development of steam in water back; in one sense this too seems to be an unlikely conclusion although of often occurrence. In all systems of water supply there is within a limited range a constant variation of pressures; gravity systems seemingly having less than the so-called direct pumping systems which in some cases, as when bearing extra pressure for fires, is very great; the steady pressure is of less consequence, however, than where every pulsation of the pumps is immediately transferred to the utmost part of the system which with the water at rest noiselessly increases and decreases the pressure without other effect, except upon some point weaker than the strain.

The action of hydraulic machinery of any kind which tends to increase and suddenly stop the flow, often tends to increase the pressure in neighboring houses. When in motion, however, the action of these shocks is somewhat different, as they tend to travel with the same speed as the flow, and in a

solid, compact knot or ball-shaped form (as may be seen in hose) when permitted to develop themselves. As these solid knots meet with each obstructing turn or bend, they are brought to a sharp stop with the resultant blow of sixty per cent., at least, of power of speed on sharp turns, which furnish the phenomena noticed in severe cases of shaking the entire system. This trouble would be more noticeable were the faucets permitted a certain flow as when half opened; if scarcely opened, the transmission would be from molecule to molecule, and but little noticed. If wide open while travelling in a solid body, and meeting obstructions on the turns, the relief in front would be sufficient to mitigate, if not entirely relieve, the force of blow; while a point could be reached between the extremes, in which the relief in front being insufficient and a partial change made from current to molecular transmission of shock and back again to its original ball-like current form, would furnish just sufficient time to produce the results noted. Having this in view, it is hardly necessary to state that a well air-chambered house system upon which these shocks can expend themselves, is all that is necessary to give a permanent relief; otherwise, sooner or later, some weak point will become enlarged to the form of the shocks (if of lead), and will most likely have to be cut out. This very often occurs at the entrance to a building, and even in houses well air-chambered it has been found necessary to provide an unusually large air-chamber at that point. As noiseless as water-meters are, air chambers on the large sizes are an absolute necessity for the same reason.

EDWIN S. MARSH.

### ADVERTISING HELP.

The Boynton Furnace Company has issued a little book of 56 pages,  $5\frac{7}{8} \times 4$  inches in size, which I am asked to criticize. "Always Satisfactory," is the title on the cover.

More than half the book is filled with testimonials from users of Boynton heaters. And that's its best feature. I believe in the liberal use of good testimonials. What a consumer (who is not as likely to be prejudiced as the manufacturer) says about a boiler—or about anything else—is likely to carry a great deal of weight with it. The list of testimonials in the Boynton book is quite lengthy. I don't believe many would attempt to read it through. But the length

of the list alone is likely to create a favorable impression. The testimonials are classified according to the geographical divisions of the United States, making it easy for the reader to pick out the testimonials from his own section of the country.

The book, evidently, is intended for the consumer. For that reason I think it ought to say something about the methods of heating by steam and hot water, as the average layman knows little about these methods. The volume in question attempts to tell something about steam and hot water heating, but does so only in a general way, and gives but little real information on the subject.

In advertisements and printed matter intended for laymen there is a tendency among advertisers to give too little information upon things that the reader is most likely to want to know about. The advertiser takes too many things for granted. If he could see his business not only with his own eyes, but with the eyes of the layman as well, he would know better how to talk to the latter.

The little book before me speaks of the "return flues" in the Boynton boilers. I don't believe there are very many outside of the heating trade who really know what return flues in a heating boiler are, or at least the value of them. The book doesn't make this very clear.

There are a number of cuts in the book which show sectional and transparent views of boilers. Such cuts are likely to confuse the average layman. There ought to be a line under them telling what they are. There ought to be something to tell what the arrows shown in the cuts represent. If they are to show the course of the products of combustion, that fact ought to be stated, as well as the value of a heater—as regards fuel consumption—having the sort of heating surface shown.

The advertiser can't be too plain in talking to the layman.

The Boynton book is tastefully gotten up. It is clean-looking and artistic. The ink used is an olive green, and the paper is of an extra good quality. The cover is of a brown crepe, and has the advantage of being both tough and flexible. It is fastened to the book "for keeps."

Placed into proper hands, the book ought to help sell heaters for the Boynton Furnace Company.

ALBERT H. SNYDER,  
Station Y, Chicago.

## CENTRIFUGAL AND CENTRIPETAL

Are rather imposing names to give to sink and basin traps, but as applied to the

Detroit

Ideal

Traps

are scientifically correct, and the successful application of Centrifugal and Centripetal action to the water in a trap has been achieved.

The results are a flushing power which nothing that can pass into the trap can withstand. This may seem a very large claim to make, but the Ideal Mfg. Co. of Detroit will prove it to any enquirer, or practical tests can be made on the sample trap in operation at the Institute of Building Arts, 65 Washington street, Chicago.—*Adv.*

## SAVES MONEY.

If you can save a customer \$25.00 on his yearly coal bill, will he not recommend your work to his neighbor? The makers of the Winchester Heater will tell you many instances where their heater saves even more than this. Write for prices to Smith & Thayer Company, Boston, Mass.—*Adv.*



CHICAGO STORES: 22-24 West Randolph Street,  
NEW YORK STORES, 26 Cortland Street.

## THE TRADE'S WANTS.

**WANTED - PARTNER, WITH SMALL CAPITAL, in heating business.** One who thoroughly understands soliciting and figuring. A good thing for the right party. Address C111, care of Domestic Engineering, 40 Dearborn street.

**WANTED - A TRAVELING MAN, EXPERIENCED in the plumbing and heating supply lines, who has traveled the state of Michigan.** For full particulars address C. S. T., care of DOMESTIC ENGINEERING, 40 Dearborn street, Chicago.

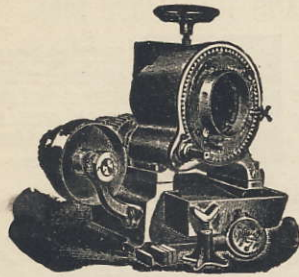
**SITUATION WANTED - BY A COMPETENT plumber and gasfitter.** Would like to go into the country. Best of references. Address G. F., care of DOMESTIC ENGINEERING. 6-19

**WANTED - Parties who have money to invest in the radiator business.** A rare opportunity to invest in a well paying established business, one who knows something about the business preferred. Will guarantee profits and no risk. Address G. I., care of DOMESTIC ENGINEERING, 40 Dearborn street, Chicago, Ill. 6-19

**POSITION DESIRED AS BOOKKEEPER AND estimator in the plumbing and heating business.** Thoroughly experienced. For further particulars apply to F. N., care of DOMESTIC ENGINEERING, 40 Dearborn street, Chicago.

**SIDE LINE - WANTED - Salesmen in every state in the union to sell our line of low down tank closets.** Write, with references to THE WALLACE PLUMBING IMPROVEMENT Co., Kokomo, Indiana.

**WANTED, by a large buyer, names and addresses of manufacturers of horizontal hand pumps.** Apply W. A. care DOMESTIC ENGINEERING, 40 Dearborn street, Chicago.



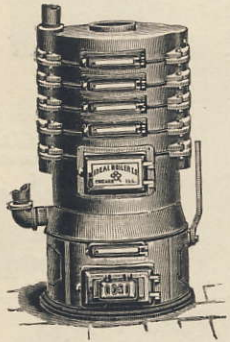
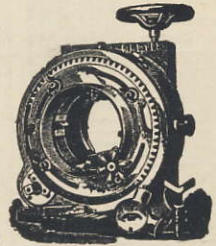
**CURTIS & CURTIS**

13 GARDEN STREET  
BRIDGEPORT, CONN.


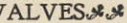
THE FORBES PATENT DIE STOCK... PIPE CUTTING  
AND THREADING MACHINERY

**THE CURTIS PATENT PIPE THREADING ATTACHMENT  
FOR LATHES**

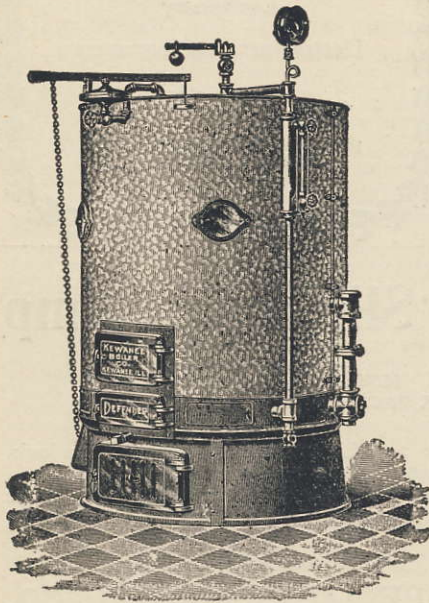
Ratchet Drills Ratchet Die Stock and Pipe Vices. See for Illustrated Catalogue



**IDEAL BOILERS** HOT WATER AND STEAM

DETROIT RADIATOR VALVES.   
 RUSSELL'S AUTOMATIC AIR VALVES.   
 RUSSELL'S POSITIVE AIR VALVES.   
 RUSSELL'S FLOOR AND CEILING PLATES  
 We try to sell the very best. Look at above and admit that  
 we control the best lines on the market. Then write us.

ADAMS & JONES.. 45 Oliver St.. BOSTON



ALL STEEL & SURFACE BURNER

THE  
**DEFENDER**  
BOILER

FOR STEAM AND HOT WATER

PORTABLE AND BRICK SET  
HARD AND SOFT COAL

SEND FOR SPECIAL CATALOGUE

**KEWANEE BOILER COMPANY**

KEWANEE, ILL... CHICAGO STORE AND OFFICE, 54 DEARBORN ST.

**Joseph Budde,**  
 MANUFACTURER OF THE  
 POPULAR GOLDEN GATE,  
 SUPREME, PIONEER,  
 OCEAN SPRAY,  
 SIPHON JET  
 AND  
 CYCLONE  
**Water Closets.**




SEND ORDERS TO  
 812 NORTH LEXINGTON AVENUE,  
 CHICAGO AND BRANCHES AT  
 875 MARKET ST., SAN FRANCISCO.

\* Closets from \$5 to \$75. In 14/16  
 and 18/18 sizes.  
 Closet Seats from \$2 to \$10.  
 Tanks from \$4 to \$10.

Send  
 copy  
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 for  
 next  
 issue

THE WALWORTH  
**"RUFF AND TUFF" PIPE DIES.**

These dies are made from  
 the finest and most ex-  
 pensive tool steel to be had  
 —tempered by experts...



No Finish, but rough  
 and tough—made to cut  
 threads on **steel pipe,**  
 on the **worst and**  
**best,** and lots of them—  
 good threads too.

Never mind the Looks—try them.

**Walworth Manufacturing Co.,**  
 14 to 24 Oliver Street, Boston.  
 New York Office, 141 Center Street.

If you  
 read  
 this ad  
 others  
 would  
 read  
 yours

CORRECT PRICES  
 PROMPT SHIPMENTS

**F. N. DU BOIS**

MANUFACTURER OF  
**DRAWN LEAD  
 TRAPS AND  
 BENDS**

LEAD PIPE, BRASS GOODS AND THE McCLELLAN ANTI-  
 SORPTION TRAP TEST, A FULL LINE OF  
 PLUMBERS' SUPPLIES

243-247 NINTH AVE., NEW YORK

NEW STYLE  
 OPERATOR-CONTROLLED  
**Broughton...  
 Self-Closing  
 Basin Cock...**

NO EXPOSED SURFACES  
 EASILY KEPT CLEAN

SEE First-Class Plumbing  
 AND SEE THESE DIES...

**Broughton Self-Closing  
 Bibbs and Locks**

Superior to all others  
 for simplicity and strength  
 Every one Warranted

**E. STEBBINS MFG. CO.**  
 SPRINGFIELD, MASS.

CORRUGATED  
 CONDUCTOR HOOK  
**TINNERS' SUPPLIES**  
 L. D. BERGER, PHILADELPHIA

**ZERO VALVE CO.**  
 304 Seneca St., BUFFALO, N. Y.



**ZERO  
 Anti-Freezing Valve**

SEND FOR CATALOGUE

**TANKS FOR PLUMBERS.**

We make a Specialty of Wooden Tanks  
 for Plumbers, Elevator Tanks, and all  
 kinds of Storage Tanks. Get estimates  
 for work of this kind from us.



**WENDNAGEL & CO.**  
 283-289 N. Fremont St., CHICAGO.  
 Telephone, South 7th.

WE MANUFACTURE STRICTLY FIRST-CLASS

**PLUMBERS  
 LEAD TRAPS**

and of these make  
 a LEAD TRAP TEST.

The trade is invited to send for our Catalogue of these  
 Goods—which is illustrated in great variety.

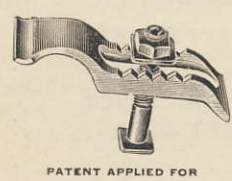
**THE WESTERN BRASS M'FG CO.,** 415-417 Walnut St.,  
 ST. LOUIS, MO.

**National Electrotyping  
 Company**

Electrotypers and Engravers

418-420 Dearborn St.  
 Chicago

Half-tone electrotyping a specialty.  
 Write for estimates.



**The Never Slip Basin Clamp**

ALWAYS A FIT  
 NO WEAK BACK—IS A STICKER

Perfect adjustment to any thickness of basin rim. The lock  
 nut resting on its points in the notches. Always presents a  
 level seat for the tightening bur, and when tightened down the  
 clamp is locked, and cannot slip.

PATENT APPLIED FOR

Sample mailed free to any  
 address upon application

Gross lots delivered any-  
 where in United States  
 upon receipt price \$5.25,  
 less number 50c. per doz.  
 Discount to jobbers.

MANUFACTURED BY  
**MICHIGAN SPECIALTY MAN'F'G CO.**  
 193 Randolph Street .. CHICAGO, ILL.

# MARYLAND POTTERY COMPANY

PIONEER MANUFACTURERS OF THE WORLD OF

**POSITIVELY  
NON-ABSORBENT.**

Absolutely guaranteed not to  
Craze (i. e., glaze cracking).

Offices and Works,  
BALTIMORE, U. S. A.



VITREOUS CHINA.

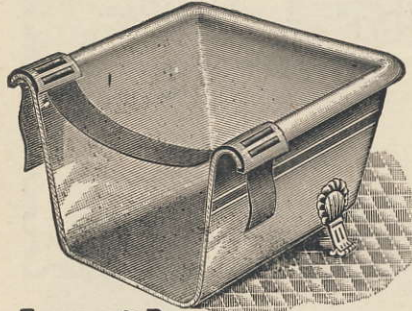
PLUMBERS' WARE  
AND SANITARY  
SPECIALTIES IN



**Vitreous  
China...**

**BEWARE OF SPURIOUS IMITATIONS**

**Price \$1.50**



TREIBER'S PAT.

## A Comfort Producer

is this Seat and Head Rest  
when applied to a Bathtub,  
which will then seem a Bath  
Couch. ❀ For invalids and  
children it is unequaled. ❀

**The Lehner, Johnson, Hoyer Mfg. Co.  
CHICAGO**

101 Beekman St., New York

69 Pearl St., Boston

### Location for Industries.

The name of the Chicago, Milwaukee & St. Paul Railway has long been identified with practical measures for the general upbuilding of its territory and the promotion of its commerce, hence manufacturers have an assurance that they will find themselves at home on the Company's lines.

The Company has all its territory districted in relation to resources, adaptability and advantages for manufacturing, and seeks to secure manufacturing plants and industries where the command of raw material markets and surroundings will ensure their permanent success.

Mines of coal, iron, copper, lead and zinc, forests of soft and hard wood, quarries, clays of all kinds, tanbark, flax and other raw materials exist in its territory in addition to the vast agricultural resources.

The Chicago, Milwaukee & St. Paul Railway Company owns 6,168 miles of railway, exclusive of second track, connecting track or sidings. The eight states traversed by the Company, Illinois, Wisconsin, Northern Michigan, Iowa, Missouri, Minnesota, South Dakota and North Dakota, possess, in addition to the advantages of raw material and proximity to markets, that which is the prime factor in the industrial success of a territory—a people who form one live and thriving community of business men, in whose midst it is safe and profitable to settle.

A number of new factories and industries have been induced to locate—largely through the instrumentality of this Company—at points along its lines. The central position of the States traversed by the Chicago, Milwaukee & St. Paul Railway, makes it possible to command all the markets of the United States. The trend of manufacturing is westward. Confidential inquiries are treated as such. The information furnished a particular industry is reliable. Address,

**LUIS JACKSON,**

Industrial Commissioner, C. M. & St. P. R'y,  
435 Old Colony Building, CHICAGO, ILL.

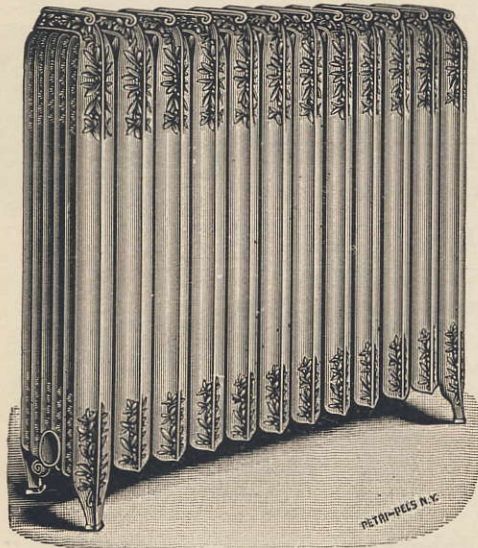
## losing opportunities

Every time you mail a letter without enclosing a circular or "envelope filler," you lose an opportunity—an opportunity to gain new business, — or an opportunity to strengthen your relations with old customers. ❀ "Envelope fillers" don't cost much for printing. We do n't charge much for writing them ❀ one of them, one side, size of this ad, for \$1.00; six for \$5.00; original illustrations, \$1.00 extra. ❀ Write us a letter about your business and send us any printed matter you may have is sued. ❀ We'll get up the matter and will tell you what the printing will cost. ❀ If there's anything wrong about our work send it back and we will make it right. ❀ ❀

**ALBERT H. SNYDER & Co**

❀ Advertising Specialists ❀  
❀ Station Y ❀ Chicago ❀

### STEAM AND WATER RADIATORS



**"GEM."**  
**GORRY RADIATOR CO.**  
**GORRY, PA.**

NEW YORK OFFICE 101 BEEKMAN STREET

Your  
 Friend

the . . .

**Kenwood  
 Bicycle**

A Wheel You Can  
 Depend Upon.

For Lightness, Swiftness and  
 Strength it is Unsurpassed.

You can learn all about it  
 by addressing

**Hamilton Kenwood Cycle Co.**  
 203-205-207 S. Canal St., Chicago.

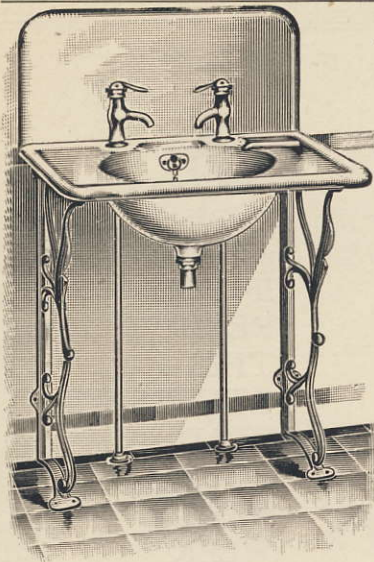
You take this space next week

**The Octa Brass  
 Union...**

These Unions are heavy  
 and well made, and on  
 account of their octagonal  
 shape can be made  
 upon pipe quickly with  
 a wrench, avoiding the  
 use of tongs

MANUFACTURED BY  
**The Kelly & Jones Co.**  
 GREENSBURG, PA.  
 104 John St. New York    48-50 N. Clinton St. Chicago    311-315 1st Av. Pittsburg

GROUND  
 JOINT  
 ROUGH  
 AND  
 FINISHED



**Latest and Best Designs**  
**WHITE ENAMELED**  
**IRON LAVATORIES**

Counter-Sunk Slabs with Roll Rim  
 Soap Tray and 12x15 inch Oval Pat-  
 ent Overflow Basin

**ALL CAST IN ONE PIECE**

With 10 1/4 inch high roll rim backs  
 furnished single or in sections of  
 two or more, with right or left hand  
 ends. Send for illustrated circular.

**THE AHRENS & OTT MFG. CO.**  
 Louisville, Ky.



N. S. BOUTON, PRESIDENT  
 E. H. SEDGWICK,  
 TREAS. & GEN. MGR

**Wilks' HOT WATER**  
**Heaters**  
 and **Steam**  
**Generators**

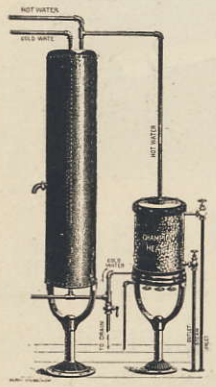
Best in use. All steel.  
 No coils. "Flues."

No Cast Iron Sections

SEND FOR CATALOGUE

**S. WILKS MFG. CO.**  
 123 S. Clinton Street  
 CHICAGO

NEW YORK OFFICE: 48 CLIFF STREET



**Hot Water and**  
**Plenty of it at a**  
**Nominal Cost**

**The Champion**

is a combination water  
 heater run by steam or hot  
 water from your house  
 heating apparatus in the  
 winter, and by gas or gaso-  
 line in the summer. Send  
 for descriptive circular.

**R. J. DILLON**  
 240 W. Lake St. Chicago, Ill.

**The Coast Line to MACKINAC**

— TAKE THE —



**TO** **MACKINAC**  
**DETROIT**  
**PETOSKEY**  
**CHICAGO**

**New Steel Passenger Steamers**

The Greatest Perfection yet attained in  
 Boat Construction—Luxurious Equipment,  
 Artistic Furnishing, Decoration and Effi-  
 cient Service, insuring the highest degree of  
**COMFORT, SPEED AND SAFETY**

FOUR TRIPS PER WEEK BETWEEN

**Toledo, Detroit and Mackinac**

PETOSKEY, "THE SOO," MARQUETTE  
 AND DULUTH.

**LOW RATES** to Picturesque Mackinacana  
 Return, including Meals and Berths. From  
 Cleveland, \$18; from Toledo, \$15; from  
 Detroit, \$13.50.

DAY AND NIGHT SERVICE.

**Between Detroit and Cleveland**

Connecting at Cleveland with Earliest  
 Trains for all points East, South and South-  
 west and at Detroit for all points North and  
 Northwest.

**Sunday Trips June, July, August and Sept. Only**

EVERY DAY BETWEEN

**Cleveland, Put-in-Bay and Toledo**

Send for Illustrated Pamphlet. Address  
**A. A. SCHANTZ, G. P. A., DETROIT, MICH.**  
**The Detroit & Cleveland Steam Nav. Co.**

**H. J. & C. CO.  
PLUMBER'S FURNACE**

We have made and sold this Furnace since 1878, and while many improvements have from time to time been added, it is practically the same as when first introduced. The many thousands that are daily in use attest to its popularity and effectiveness, and although it has been imitated its sale steadily increases. It is safe, quick and reliable and the best device of its kind on the market.

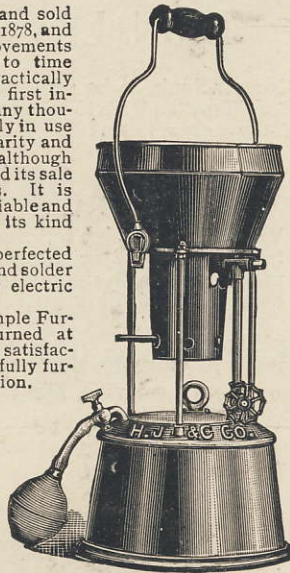
We have lately perfected an oblong shield and solder pot especially for electric linemen's use.

Circulars or Sample Furnaces (to be returned at our expense if not satisfactory) will be cheerfully furnished on application.

**FOR SALE  
BY ALL  
PLUMBERS'  
SUPPLY  
HOUSES**

Manufactured  
only by

**HAINES, JONES & CADBURY CO.  
PHILADELPHIA**



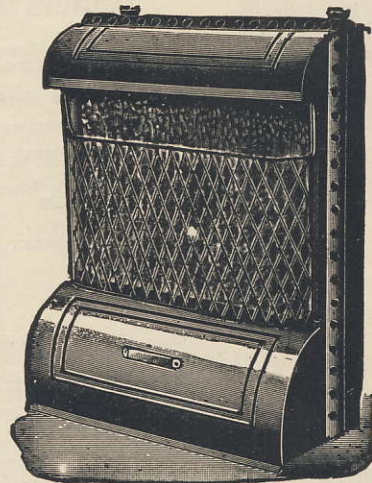
IF YOU  
READ  
THIS  
OTHERS WILL  
READ  
YOUR AD  
NEXT  
WEEK



**CLOSET PULLS** WITH CHAIN ATTACHED.  
READY FOR USE

THIS PATENT CAP WILL NOT PULL OFF

**THE SMITH & EGGE MFG. CO.  
BRIDGEPORT, CONN.**



**Natural Gas** of  
Supplies all kinds

**PITTSBURGH SUPPLY CO. Ltd.**

Pittsburgh, Pa.  
231 Water Street

Write for Catalogue





# The Yellow Book

... OF THE ...

**Plumbing, Gas and Steam Fitting Trades**  
JUST CORRECTED TO DATE



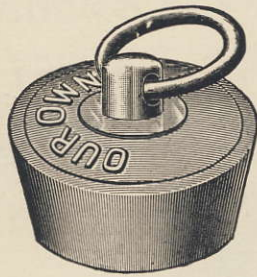
This "Yellow Book" is a complete directory and reference book of the plumbing, gas and steamfitting trades, containing the names, addresses (with street numbers in large cities) of each person or firm engaged in the business, together with a statement of the different lines carried on, and statements of responsibility. We believe it is the most complete directory ever made and its form permits corrections to date, so that each copy is corrected up to the time of its issuance, after which monthly corrections and additions are furnished each subscriber. The "Yellow Book" is leased at \$25.00 per year, which includes the corrections and additions.

We believe it the best book of reference for our trade.

## DOMESTIC ENGINEERING

40 Dearborn St.  
Chicago, Illinois.

**"OUR OWN"**



Is the **only** Rubber Stopper in the market for Basin and Bath Tubs that will stand hot water; will not soften and come apart. All dealers carry them in stock. Be sure to ask for **"Our Own"** and you will make no mistake. Made in all sizes, one dozen in a box. Sold to jobbers only. Sample free if you mention DOMESTIC ENGINEERING.

**H. O. CANFIELD,**

BRIDGEPORT, CONN.

MANUFACTURER OF

PLUMBERS' RUBBER SUPPLIES.

EDW. C. SMITH

WM. M. WEBSTER

**Smith & Webster**

MANUFACTURERS OF

**PLUMBING  
GOODS**

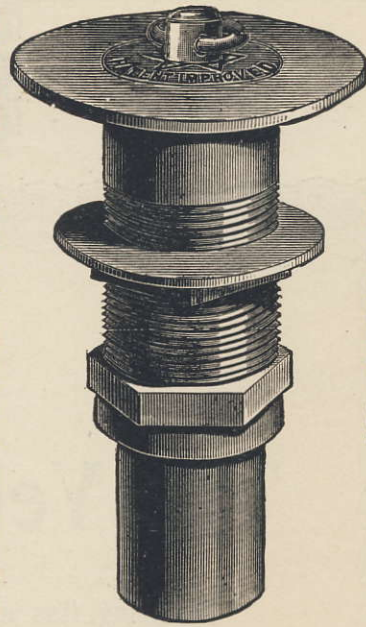
EXCLUSIVELY

**BRASS      COPPER  
IRON        MARBLE  
              SLATE**

19-21 NORTH CLINTON STREET  
CHICAGO

WRITE FOR CATALOGUE

**SOAPSTONE TRAY PLUGS**



WITH POWELL'S METAL CORED RUBBER STOPPER  
MAKES A PERFECT JOB

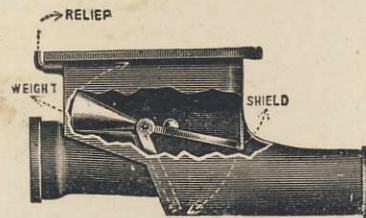
MANUFACTURED BY

**THE WM. POWELL CO.**  
CINCINNATI, OHIO.

WHOLESALE MANUFACTURERS OF PLUMBERS  
BRASS WORK.

The  
**Open Way**

Back Water Valves



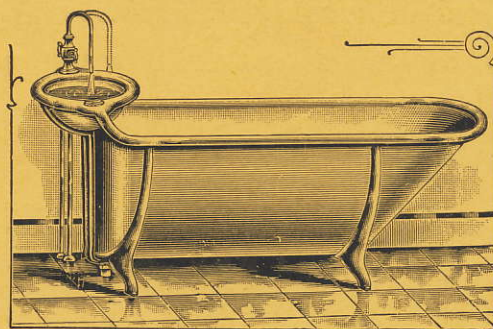
SEWERAGE VALVE

**E. S. Marsh Mfg. Co.**

32-36 East Erie Street

Chicago

**You  
Don't  
Want**



Your competitors to introduce all the new goods  
YOU MUST DO IT ❁ ❁ ❁



**The BUICK & SHERWOOD MFG. CO.**

Are the Largest Exclusive Manufacturers in the World of  
WATER-CLOSET TANKS, SEATS and BATH-TUBS

**DETROIT, MICH.**



STANDARD  
FOUR COLUMN

RESULTS invariably define the wisdom of any Policy. OUR POLICY to place on the market none but radiators of the highest and most approved types and styles, coupled with our ability to offer the trade an unrivaled assortment of sizes and patterns, has Resulted in securing for STANDARD RADIATORS the first consideration in the minds of those best qualified to pass judgment in such matters. We mean the heating engineers and steam fitters throughout the country whose wants in the radiator line we have supplied for years. ❁ ❁ ❁  
STANDARD RADIATORS embody in points of superiority and excellence all that the name given them implies, and are the acme of correct mechanical construction, honestly rated heating surface, symmetrical proportion, and beauty of design. ❁ ❁

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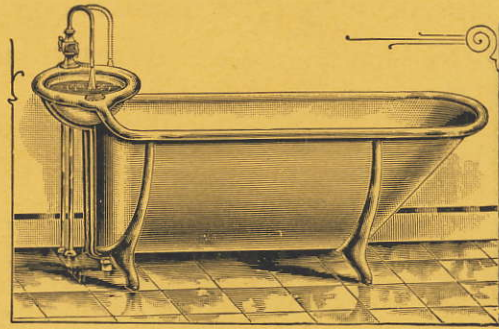
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