

#26

WRIGHT  
S T E A M  
SPECIALTIES



WRIGHT MANUFACTURING CO  
*Detroit, Mich., U.S.A.*

*"The Wright Quality"*

# Wright Manufacturing Company

*Detroit, Michigan*  
*U. S. A.*

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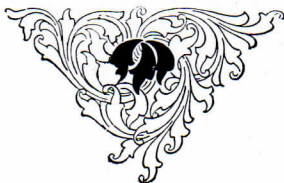
*Catalogue Number Nine*  
*1903 - 1904*

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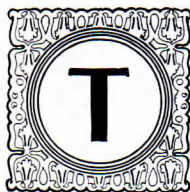
*Manufacturers of*  
Wright "Emergency" Steam Traps,  
Wright "Victor" Low-Pressure Steam Traps,  
Improved Safety Water Columns,  
"Cyclone" Exhaust Heads,  
*Etc., Etc.*

“RESULTS GUARANTEED”





## Introduction



THE Steam Specialties which are illustrated and described in the following pages have been developed and perfected by us in the course of many years of specialization, and are offered to the steam-using public with the entire confidence that they will be found fully equal to the more and more exacting requirements of modern steam practice. Our entire efforts are concentrated in the manufacture of the specialties herein described, each of which has been made the subject of careful study and experiment. Not only can we assure perfect operation, and the highest excellence in materials and workmanship, but we are enabled to advise intelligently in regard to the adaptability of our products for any special requirements.

The facilities of our engineering department are always at the service of our patrons.

We believe the Wright Steam Specialties to be the most efficient devices of their kind now on the market, and this confidence has been justified by their remarkable success, as indicated by their wide adoption in leading power plants at home and abroad.

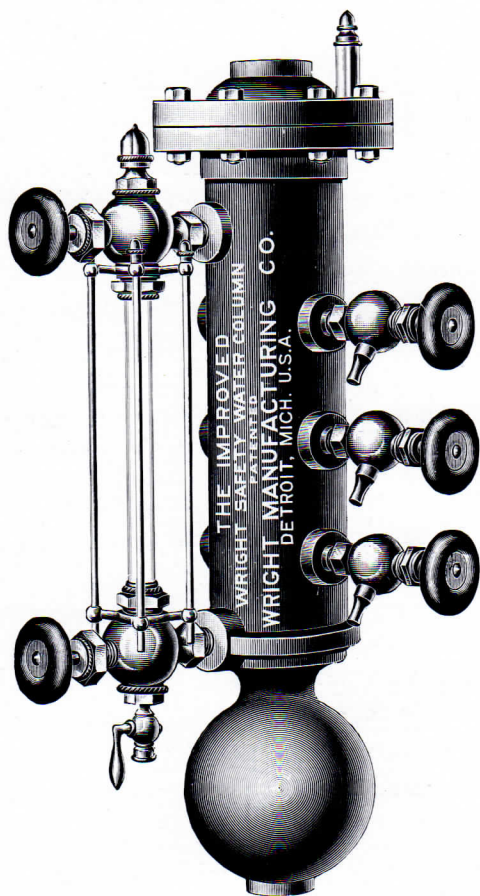
Correspondence is invited with the view of furnishing any information not contained in these pages. Your inquiries will receive prompt and courteous attention.

Wright Manufacturing Co.

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

## The Wright Improved Safety Water Column

**Safeguards Life and Property**—The first and most important object of a safety water column is to give warning to those in charge of a boiler in case the water varies above or below the proper level. When this happens the whistle



sounds an alarm, continuing to blow until the feed water supply has been regulated. In the event of low water this warning may be the means of averting a boiler disaster.

**Its Economic Value**—The protection afforded is in itself sufficient reason for equipping every boiler with this device. But in addition there are several economic advantages to be gained from its use, all of which are the natural result of keeping the water steady at the proper level.

**A Saving in Fuel**—When the water level is constantly changing there is bound to be great loss of heat and fuel. If the water is too high an unnecessary amount of heat is required, involving wasteful consumption of fuel. If it is too low it necessitates the sudden forcing in of a large quantity of water at a lower temperature to absorb the heat and reduce the steam pressure. Another waste of heat, fuel and money.

**Dry Steam**—High water in the boiler is not only the cause of wet steam, but gives opportunity for water to be drawn over to the engine in considerable quantities. A blown out cylinder head, or possibly the complete wrecking of the engine may follow. The gain in engine efficiency resulting from steady steam pressure and the use of dry, elastic steam, is too well understood to need discussion.

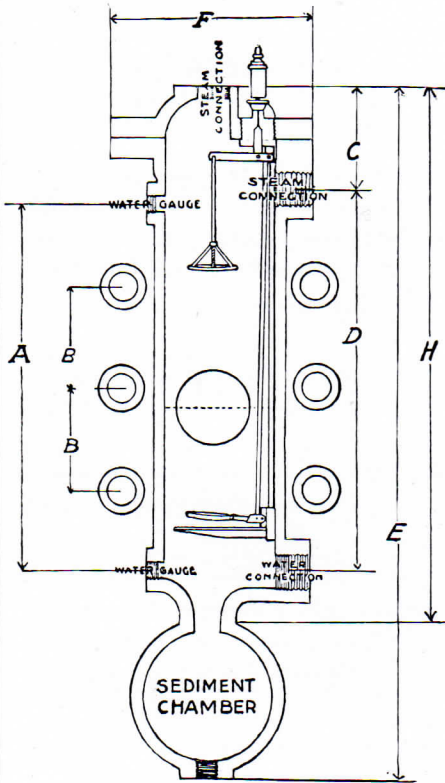
**Increased Durability of Boilers**—Another effect of unsteady water is to cause fluctuations of temperature and pressure, which in turn result in constant expansion and contraction of the boiler. This racking and straining is destructive to the life of the boiler and the source of frequent repair bills as well.

**Makes the Attendants Watchful**—All the advantages we have mentioned are brought about by the Wright Safety Water Column from the fact that it insures constant watchfulness and care upon the part of the attendants—THE ONLY WAY THAT THE WHISTLE CAN BE KEPT QUIET. It is continually on guard in the interests of the proprietor, the superintendent and the engineer, attracting their attention in any emergency.

**Can be Tested Instantly**—Anyone interested can ascertain whether the Column is in perfect working order by simply opening the blow-off valve, letting the water out of the Column. This causes the whistle to blow, the same as if low water actually existed in the boiler, and at the same time serves to thoroughly cleanse the working parts inside of the Column.

**Gauge Cocks on Either Side**—Provision is made for gauge cocks on either side of these Columns, doing away with confusion and bother in ordering. Every Column fits, and can be used for either right or left hand.

**You Want the Best**—A makeshift should not be considered for an instant in the selection of a Safety Water Column. Too much depends upon it. The Wright Safety Water Columns should be included in all boiler specifications, because they are unmistakably correct in principle and are high grade in every detail of construction, assuring permanent reliability.



We present herewith, in condensed form, illustrations showing the construction of the Wright Improved Safety Water Columns, including both the Combined High and Low Water Alarm, illustrated on this page, and the Low Water Alarm, which is shown on the page opposite. Below are given such details of construction and dimensions as will be needed in writing specifications, getting out material, etc.

### Detailed Dimensions

COMBINED HIGH AND LOW WATER ALARMS

Size of Column	A. Water Gauge Centers	B. Gauge Cock Centers	C. Steam Connection to Top of Column	D. Distance of Centers, Water to Steam Connection	E. Length Over all	F. Diameter of Flanges	Thickness of Flanges	Number and Size of Bolts	Water Gauge and Gauge Cocks Tapped, Standard	Size of Water and Steam Con- nections	Sediment Cham- ber Tapped	H Victor Column Length over all (Has no Sediment Chamber)
1	1n.	1n.	1n.	1n.	1n.	1n.	1n.	6— $\frac{1}{2}$	$\frac{1}{2}$	1n.	1n.	1n.
3	14	3	4 $\frac{1}{2}$	14	26	7 $\frac{1}{2}$	$\frac{3}{4}$	6— $\frac{5}{8}$	$\frac{3}{4}$	1	$\frac{3}{4}$	20 $\frac{1}{4}$
5	18	4	6	15	30	8 $\frac{1}{4}$	1	6— $\frac{3}{4}$	$\frac{3}{4}$	1 $\frac{1}{4}$	$\frac{3}{4}$	23 $\frac{1}{4}$
7	18	6	6	18	33	9	1 $\frac{1}{8}$	6— $\frac{3}{4}$	$\frac{3}{4}$	1 $\frac{1}{2}$	$\frac{3}{4}$	26 $\frac{1}{4}$
9	24	9	6	24	39	9	1 $\frac{1}{8}$	6— $\frac{3}{4}$	$\frac{3}{4}$	1 $\frac{1}{2}$	$\frac{3}{4}$	32 $\frac{1}{4}$
11	30	12	7	29	45	9	1 $\frac{1}{8}$	6— $\frac{3}{4}$	$\frac{3}{4}$	1 $\frac{1}{2}$	$\frac{3}{4}$	38 $\frac{1}{4}$
13	36	10	7	35	51	9	1 $\frac{1}{8}$	6— $\frac{3}{4}$	$\frac{3}{4}$	1 $\frac{1}{2}$	$\frac{3}{4}$	44 $\frac{1}{4}$
15	42	12	7	41	57	9	1 $\frac{1}{8}$	6— $\frac{3}{4}$	$\frac{3}{4}$	1 $\frac{1}{2}$	$\frac{3}{4}$	50 $\frac{1}{4}$

LOW WATER ALARMS

2	14	3	4 $\frac{1}{2}$	14	26	7 $\frac{1}{2}$	$\frac{3}{4}$	6— $\frac{1}{2}$	$\frac{1}{2}$	1	$\frac{3}{4}$	20 $\frac{1}{4}$
6	14	4	6	14	29	8 $\frac{1}{4}$	1	6— $\frac{5}{8}$	$\frac{3}{4}$	1 $\frac{1}{4}$	$\frac{3}{4}$	22 $\frac{1}{4}$
8	18	6	6	18	33	9	1 $\frac{1}{8}$	6— $\frac{3}{4}$	$\frac{3}{4}$	1 $\frac{1}{2}$	$\frac{3}{4}$	26 $\frac{1}{4}$

These Columns are 25 per cent heavier than any other safety water column and are designed to meet the requirements of high-pressure practice. They will work at any pressure.

## The Improvements in the Wright Safety Water Column

**Only One Float and One Valve**—The superiority of the Wright Safety Water Columns will at once be recognized for the reasons stated below. All engineers and mechanics recognize the fact that there is much more likelihood of repairs to a column having two oblong floats with seams, and two horizontal valves, than to a column with only one seamless round float and one vertical valve, and that the inconvenience and expense of making any repairs that may be necessary is reduced to a minimum when all the working parts are attached to the cap, as in the case of the Wright Column.

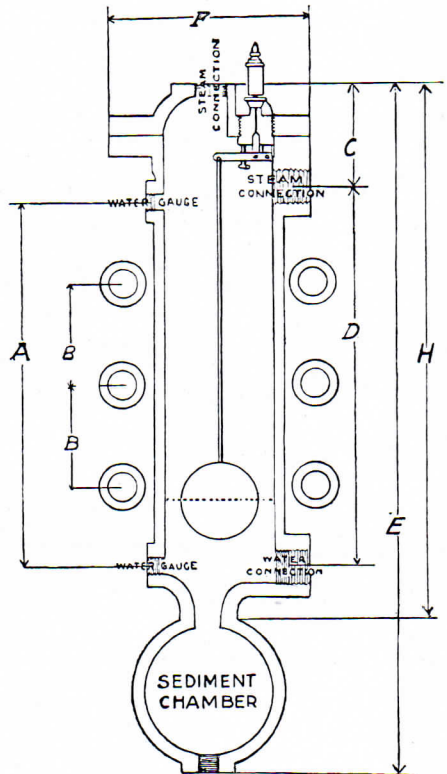
**All Parts Easily Accessible**—

Any repairs that may be necessary may be made to our Columns by simply removing the bolts from the flanges, when every part is not only accessible, but also removable.

**Points That Speak for Themselves**—

There is no doubt about the advantage of having all the working parts attached to the cap; neither is there any question as to the advantage of having the valves placed vertically instead of horizontally, nor of using one valve instead of two; nor can there be any doubt about the superiority of seamless round floats over oblong floats with seams and flat surfaces, for a sphere is certainly the strongest.

**The Most Modern Type of Water Column**—Briefly, the improvements in our Columns are: One vertical instead of two horizontal valves; one seamless round float instead of two oblong floats with seams; all parts attached to the cap; gauge cocks on either side; extra heavy construction. These points of superiority put the Wright Safety Water Column at the head of the list.





# Price List of The Wright Improved Safety Water Columns

(Subject to Discount)

## Combined High and Low Water Alarms

Size of Column	Kind and Size of Boiler	Variation Between Alarms	List Price of Columns Without Water Gauge and Gauge Cocks	Prices on Water Gauges and Gauge Cocks, as shown, will be furnished upon application.
1	36" to 54"	6"	\$28.00	
5	56" to 72"	8"	30.00	
7	Water Tube	12"	35.00	
9	Others determined by	18"	40.00	
11	natural variation of	24"	42.50	
13	water in boiler	30"	45.00	
15	See Note	36"	50.00	

Low Water Alarms			
2	36" to 54"	.....	\$25.00
6	56" to 72"	.....	28.00
8	Water Tube	.....	35.00

## General Dimensions in Inches

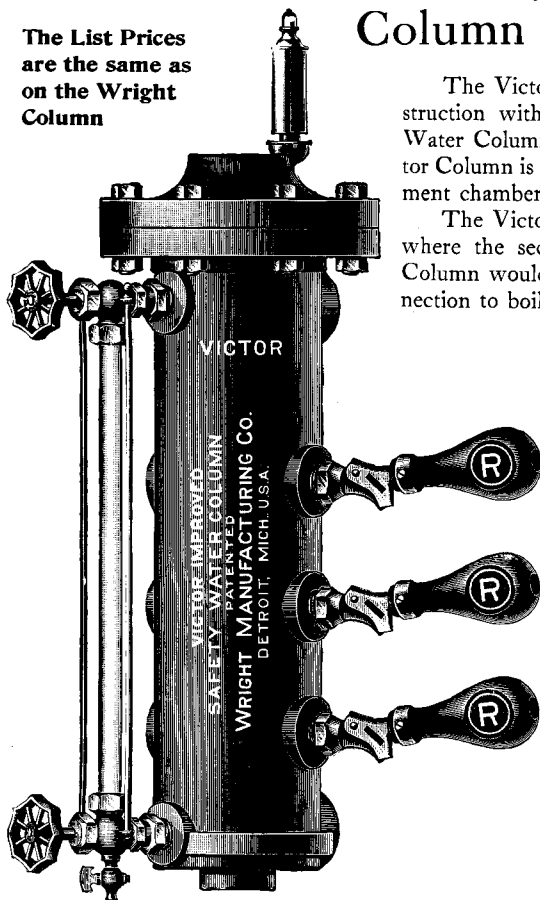
Size of Column	Steam and Water Connections	Blow-off	Water Gauge	Gauge Glass	Gauge Cocks Centers	Gauge Cocks Size	Center of Water Connection to Top of Column	Diameter of Column	Length Over All
1	1	$\frac{3}{4}$	$\frac{1}{2} \times 14$	$\frac{5}{8} \times 12$	3	$\frac{1}{2}$	18 $\frac{1}{2}$	4 $\frac{1}{2}$	26
5	1 $\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{4} \times 18$	$\frac{3}{4} \times 16$	4	$\frac{3}{4}$	21	5	30
7	1 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4} \times 18$	$\frac{3}{4} \times 16$	6	$\frac{3}{4}$	24	5	33
9	1 $\frac{1}{2}$	1	$\frac{3}{4} \times 24$	$\frac{3}{4} \times 22$	9	$\frac{3}{4}$	30	5	39
11	1 $\frac{1}{2}$	1	$\frac{3}{4} \times 30$	$\frac{3}{4} \times 28$	12	$\frac{3}{4}$	36	5	45
13	1 $\frac{1}{2}$	1	$\frac{3}{4} \times 36$	* $\frac{3}{4} \times 34$	10	$\frac{3}{4}$	42	5	51
15	1 $\frac{1}{2}$	1	$\frac{3}{4} \times 42$	* $\frac{3}{4} \times 40$	12	$\frac{3}{4}$	49	5	57
2	1	$\frac{3}{4}$	$\frac{1}{2} \times 14$	$\frac{5}{8} \times 12$	3	$\frac{1}{2}$	18 $\frac{1}{2}$	4 $\frac{1}{2}$	26
6	1 $\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{4} \times 14$	$\frac{3}{4} \times 12$	4	$\frac{3}{4}$	20	5	29
8	1 $\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4} \times 18$	$\frac{3}{4} \times 16$	6	$\frac{3}{4}$	24	5	33

\*Two Glasses joined at center with Stuffing Box. Four Gauge Cocks.

NOTE—The size of the Column is in all cases determined by the natural variation of the water in the boiler on which it is to be used. No mistake will be made ordinarily by selecting one of our Columns having the extreme gauge cocks the same distance apart as on the plain Column furnished with boiler.

# The Victor Safety Water Column

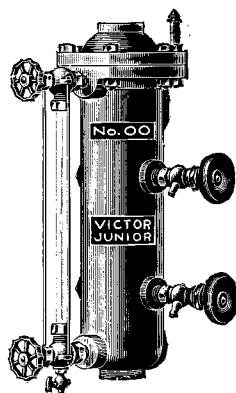
The List Prices are the same as on the Wright Column



The Victor Column is identical in construction with the Wright Improved Safety Water Column, with this exception, the Victor Column is manufactured without the sediment chamber.

The Victor Column can be used in cases where the sediment chamber of the Wright Column would interfere in making pipe connection to boiler.

## Victor Junior Safety Water Column



The Victor Junior Safety Water Column is made in but one size, with low-water alarm only. No sediment chamber. Provision is made for water gauge and two gauge cocks. This pattern Column is designed especially for small portable and traction engine boilers, also vertical boilers.

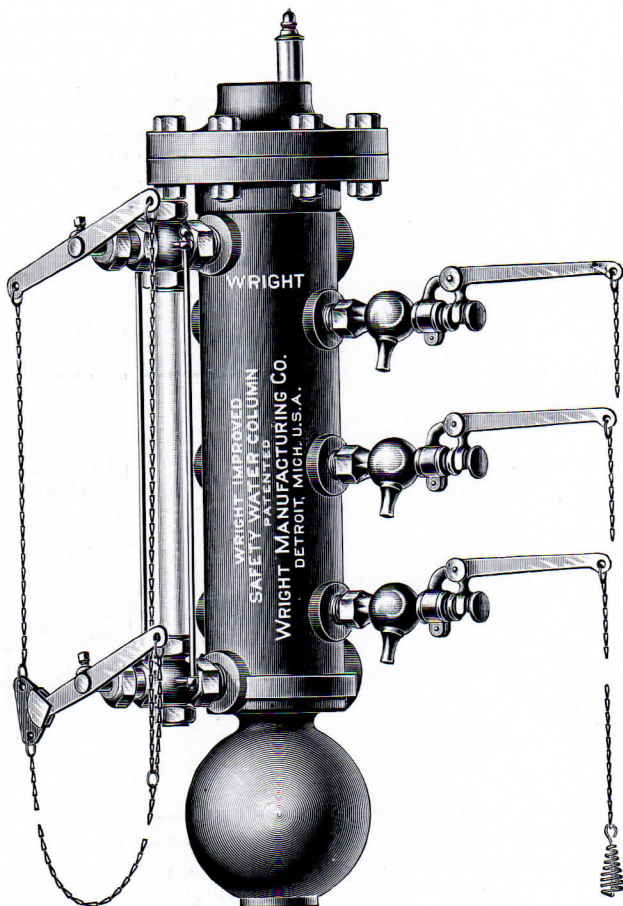
### Detailed Dimensions

Water Gauge Centers	Gauge Cock Centers	Length Over All	Thickness of Flanges	Diameter of Flanges	Water Gauge and Gauge Cocks Tapped, Standard	Size of Water and Steam Connections	Center of Steam Connection to Water Connection
7 5/8"	4"	13 1/2"	3/4"	4 7/8"	3/8"	1"	7 5/8"

Price Quoted on Application

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

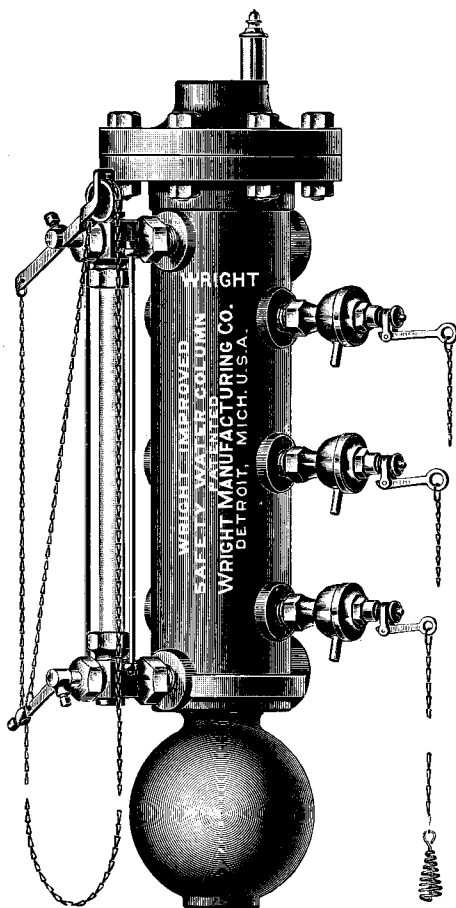
## The Wright Improved Safety Water Column



With "Wright" Pattern  
Chain Lever, Quick-Closing Water Gauge  
and Gauge Cocks

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

## The Wright Improved Safety Water Column



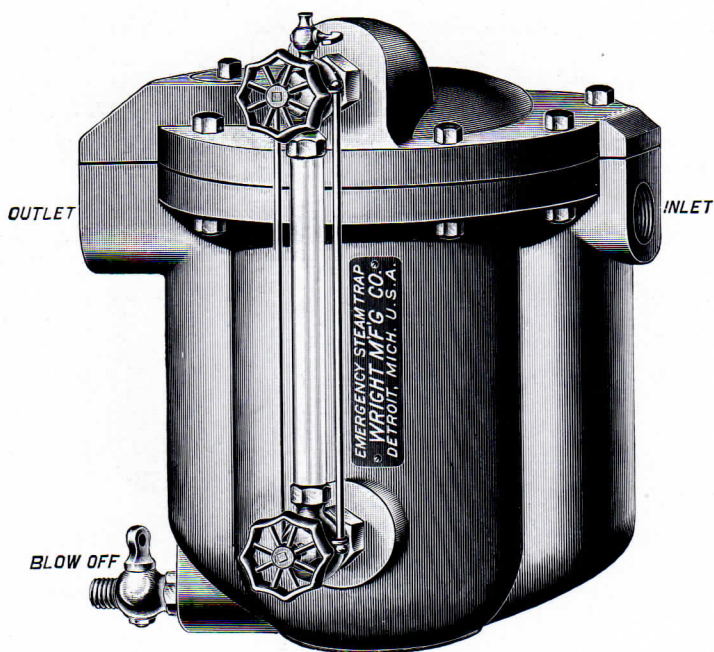
With "Detroit" Pattern  
Chain Lever, Quick-Closing Water Gauge  
and Gauge Cocks

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

## The Wright "Emergency" Steam Trap

*A Trap Which will Dispose of an Unusual Inflow of Water  
Instantly and Waste no Steam.*

**In a Class by Itself**—The Wright Emergency Steam Trap has gained an enviable reputation for efficiency and general excellence, and will be found today

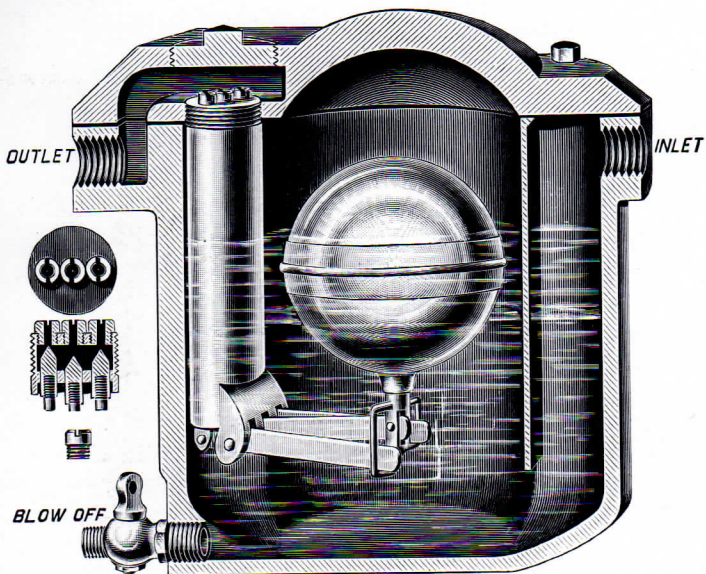


in a majority of the steam plants in which thoroughly modern equipment is made a feature. No effort has been spared to make this Trap perfect down to the smallest detail.

**Built on New Lines**—As a radical departure from the old style steam traps, both in principle and design, it has merited the quick appreciation of engineers and steam users generally, but the principle involved is so simple that no one with practical ideas will question its success for a moment.

**Guaranteed Throughout**—Wright Emergency Steam Traps are guaranteed to operate successfully on all steam pressures up to 200 pounds. No special adjustments or change of valves are required to suit different steam pressures. Materials and workmanship are strictly high-grade in every particular.

**Valves at Top**—Three steam-tight outlet valves are employed instead of one. These valves are placed at the HIGHEST POINT OF THE TRAP, where they are entirely removed from the inevitable grit, scale and sediment, and therefore will not become inoperative from these causes.

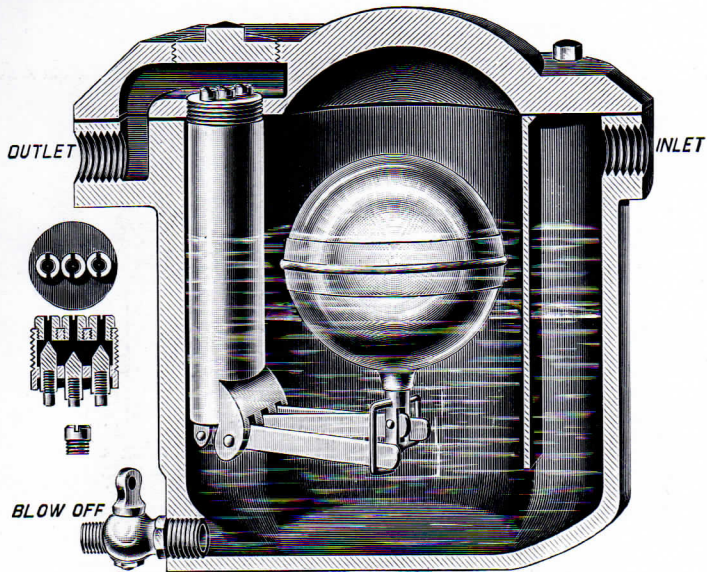


**In Emergencies**—The action of this Trap in emergencies is instantaneous, a feature which renders it invaluable for many uses. The discharge from each of the valves being continuous, is very great—much greater than is possible with an intermittent trap.

**Operation**—The condensation enters the Trap, filling it to about the center and forming a seal of from four to six inches of water at both inlet and outlet, which prevents any possible escape and waste of steam. When thus filled, the float rises and opens the center valve (indicated as valve No. 1 in the enlarged view of valve arrangement, shown on following page).

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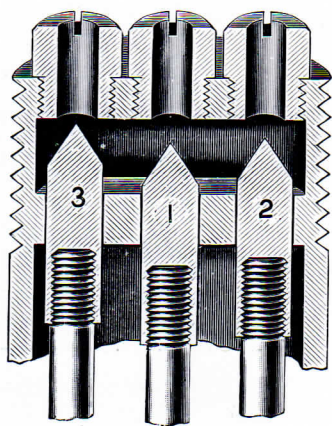
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**Operation**—The condensation enters the Trap, filling it to about the center and forming a seal of from four to six inches of water at both inlet and outlet, which prevents any possible escape and waste of steam. When thus filled, the float rises and opens the center valve (indicated as valve No. 1 in the enlarged view of valve arrangement, shown on following page).

**Operation, Continued**—Valve No. 1 is opened slightly, if there is but little water coming in, but widely in event of a sudden inflow. This one valve is equal to the task of taking care of the flow under ordinary conditions, but if the water comes into the Trap faster than one valve can discharge it, the water rises in the Trap, carrying the float with it and opening valve No. 2 sufficiently to discharge the surplus water, or wide open if necessary. Valve No. 3 is opened in the same manner, providing for the FULL CAPACITY OF THE INLET PIPE, but it rarely happens that the volume of condensation coming into the Trap is sufficient to tax the combined capacity of all three valves. Ordinarily, one valve alone is able to do all the work, leaving two valves in reserve for emergencies.

**All Working Parts** are attached to the cover and are accessible without in any way disturbing the piping.

**Valves and Valve Seats**—These are clearly shown in the cut on this page. Both valves and valve seats are made of the best steam jet metal, and may be repaired or renewed, if necessary, without taking the cover off the Trap, by removing the iron plug over the tube, when the valve seats may be easily taken out with a screw driver.



**Attention is Called** to the bar extending across the interior of tube at top. This serves to center the valves into the valve seats—an illustration of the care which has been expended upon the smallest details in the making of this Trap, with the idea of insuring faultless operation and avoiding many small sources of annoyance.

**No Steam Can Escape**—Discharge takes place from the bottom of a perfect water seal, which covers both inlet and outlet of Trap.

**The Float**—The copper floats used in our Traps are of our own special construction. They are seamless and round—the strongest possible form for a float, and are reinforced at the most essential point by an extra thickness of metal, represented in the cut as a band. In addition, this band is itself reinforced by a heavy, narrow ridge of metal through its center, making a float that cannot collapse. Severe tests under extremely high steam pressures, as well as the perfect results obtained in extensive practical use, have demonstrated that this is the strongest, most durable float yet devised.

**A Water Gauge** and gauge glass are provided, with which the operation of the Trap is always visible.



**The Inlet and Outlet** are on the same line—a very important consideration in some cases, and never a disadvantage.

**A Blow-off** is provided and the Trap may be blown free from sediment as often as necessary. This is an important advantage possessed by very few traps.

**Materials and Workmanship** are strictly first-class. Wide and thick flanges, proper gaskets and plenty of bolts.

**Our Guarantee**—Every Wright Emergency Steam Trap is unequivocally guaranteed to work perfectly on all steam pressures up to 200 pounds, without adjustment or change of valves.

**The Discounts** are very liberal. The “Emergency” does not cost any more than many inferior traps of less capacity, and the guarantee removes all risk.

**To Operate**—Open blow-off valve in bottom. As soon as Trap is blown out and becomes warm, close blow-off valve. Trap will then fill about two-thirds full of water, which will show in gauge glass.

## Price List of the Wright “Emergency” Steam Trap

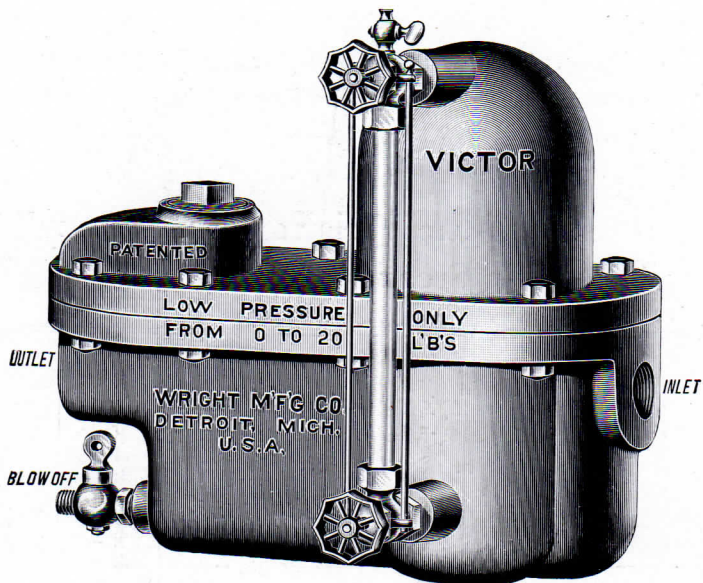
Number of Trap.	Size of Inlet and Outlet.	Distance Through Inlet and Outlet.	Maximum Discharge in Gallons per Hour.	Intended for Square Feet of Radiating Surface.	Intended for Lineal Feet of 1-inch Pipe.	List Price.
1 .....	1/2"	11 1/4"	75	900	2700	\$20.50
2 .....	3/4"	12"	110	1350	4000	22.50
3 .....	1"	12 3/4"	180	2250	6750	28.00
4 .....	1 1/4"	13 3/4"	300	4500	13500	35.00
5 .....	1 1/2"	15 1/4"	480	6000	18000	50.00
6 .....	2"	16 1/2"	720	9000	27000	70.00
7 .....	2 1/2"	18"	1200	15000	45000	100.00
8 .....	3"	19 1/2"	1680	21000	63000	130.00

NOTE.—For actual or emergency capacity of these Traps add 50 per cent.

## The Wright "Victor" Low-Pressure Steam Trap

(For Pressures from 0 to 20 Pounds)

**Extremely Large Valve**—The difference between this Trap and a host of other low-pressure steam traps is that it has a valve which is as large, approximately, as the pipe connections at inlet and outlet. This is a point which the users of low-pressure steam traps have long demanded.



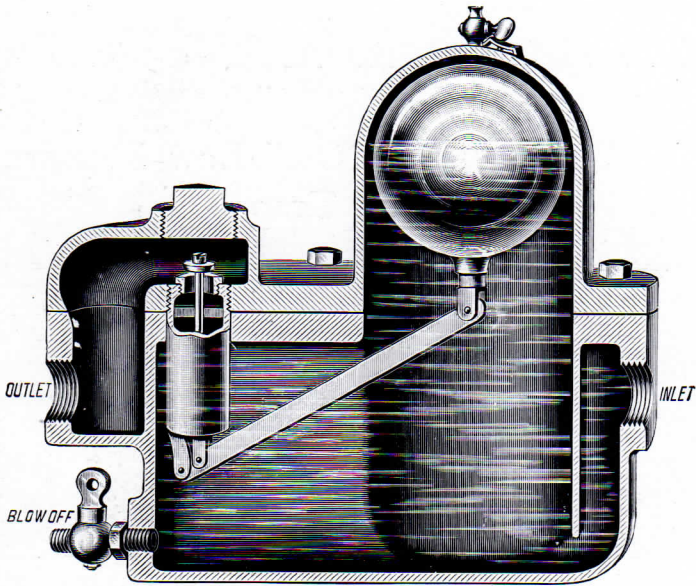
**Its Great Capacity**—By having a valve of large area the "VICTOR" is able to handle an immense amount of condensation; as much, in fact, as the pipe can bring to it. It will not waste steam under any condition. The maximum discharge of each size of trap is noted in gallons in the table on page 18.

**The Vital Point**—The question is a natural one: Why hasn't a trap with a similarly large valve been brought out before? It's one thing to provide a large valve, but to have it operate perfectly on different steam pressures, or no pressure at all, and with large and small quantities of condensation coming into the trap, intermittently—that is another matter.

**Results Guaranteed**—The “VICTOR” Low-Pressure Steam Trap is guaranteed to operate successfully on ALL steam pressures up to 20 lbs. It will operate, also, when there is no pressure whatever, the incoming condensation alone being sufficient to lift the valve.

The amount of condensation coming into the Trap does not affect its operation. It will take care of small, intermittent flows, as well as continuous floods.

**Operation**—The water enters the Trap, filling it to the level of the valve and raising the float. At the same time the valve is lifted from its seat. Discharge then takes place, continuing until the inflow ceases, when the valve closes as the float descends.



**A Perfect Water Seal**—The deep water seal, covering both inlet and outlet of Trap, makes it impossible for steam to escape. This seal is maintained steadily, as discharge does not take place until the water reaches the level of the valve.

**A Water Gauge**—Without which no first-class steam trap is really complete, is provided, and makes the working of the Trap plainly visible at all times. It is so installed that the air valve gives vent to the air when Trap is working under very low pressure.

**The Blow-off**—This provides for the removal of accumulated grit and sediment.

**Valve and Valve Seats**—These are constructed of the best steam jet metal and may be easily removed, if necessary, by means of a screw driver and a wrench. They are located in the top of the Trap, where sediment does not reach them. The absence of any intricate parts is also an important consideration.

**Round, Seamless Float**—The float is one which long experience in steam trap making has proven to be the strongest, most durable and most satisfactory in every way.

**Construction**—The working parts are attached to the cover and can be removed without disturbing the piping. Inlet and outlet are on the same line, which in some cases is a decided advantage. All material is first-class and workmanship of the most perfect order.

PRICE LIST  
OF  
The Wright "VICTOR" Low-Pressure  
Steam Trap

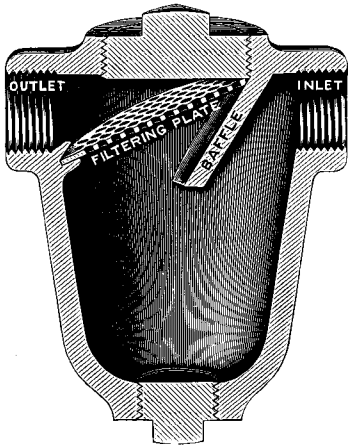
Number of Trap	Size Inlet and Outlet.	Distance Inlet to Outlet.	Distance From Floor to Center of Pipe.	Height of Trap over all.	Gallons Discharged per Hour, 3 lbs. Pressure.	List Price.
0 .....	½"	9¼"	3⅝"	9¼"	350	\$16.50
1 .....	½"	12¾"	5"	11¼"	600	20.50
2 .....	¾"	14"	5¼"	12½"	950	22.50
3 .....	1"	15½"	5½"	14½"	1500	28.00
4 .....	1¼"	18"	6"	15¼"	2500	35.00
5 .....	1½"	19½"	6½"	17½"	3000	50.00
6 .....	2"	22"	7"	20"	3500	70.00
7 .....	2½"	23"	7½"	21"	5000	100.00
8 .....	3"	24"	8"	22"	8000	130.00

The above List is subject to Liberal Discount.

## The Wright Combined Filterer, Dirt and Scale Separator

(For Use on Steam or Water Systems)

Prevents scale, dirt and other foreign substances from entering the system. Placed at the inlet to steam traps, it keeps out all substances which would otherwise injure the valves and valve seats. An inexpensive safeguard. When connected in the water pipe entering the building, it prevents the admission of vegetable matter, etc., into the water system.



**Easily Cleaned**—A distinct advantage in the Wright Filterer and Separator is that it can be cleaned in a few moments and without disconnecting it from the pipe line, by simply removing the plug at bottom, permitting the interior to be thoroughly flushed. The filtering plate can be removed and renewed when necessary, by taking out large plug at top. Perforations in filtering plate can be of any desired number to the square inch. The Wright Filterer and Separator is made for the following sizes of pipe:

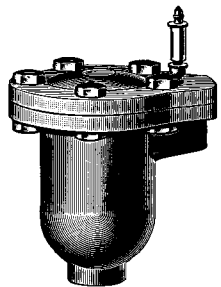
$\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$  and 3 inch. **Prices quoted on application.**

## The Wright Air Trap

This Trap is designed for removing air from water under pressure, for which purpose it is without an equal. It has large capacity, is positive in action and simple in construction. The float is seamless and round. When used upon hot water heating systems, the Trap is placed on the highest points, or air pockets. Where the pipe is laid in the street and is consequently uneven, this Air Trap will remove, automatically, all air pockets at high points. It can be covered up in the street and requires no attention.

Other uses of this Trap are for removing the air from closed-water receivers, and for giving notice when the water in closed tanks reaches a lower point than is desired. For the latter service the Trap is equipped with a whistle.

Size of Trap, 6 x 7 inches; inlet,  $\frac{1}{2}$  inch. **Price quoted on application.**



## The Wright "Cyclone" Exhaust Head

**Prevents Damage**—Where the exhaust steam from an engine is discharged into the atmosphere, it is generally necessary to provide a means for preventing the condensation, mingled with oil, from damaging the building and from causing annoyance to persons in the vicinity.

**Eliminates Trouble**—A dripping exhaust pipe is an expensive nuisance in more ways than one, by causing damage to roofs; disfigurement of walls—your own and perhaps your neighbors; wet and icy sidewalks; injury to clothing of persons passing by, etc. All trouble from these sources is prevented by the Wright "CYCLONE" Exhaust Head, and the disagreeable noise is muffled, besides.

**How it Operates**—The exhaust steam after leaving the exhaust pipe is impinged against the inverted cone. It is then deflected outward against the sides of the inner shell, where the oil and condensation adhere and drip into the gutter, to be carried below the flow of steam by means of the drip pipes.

**Perfect Separation**—The steam, after being deflected by the cone, passes up between the outer and inner shells (follow the course of the arrows shown in the cut) and is again impinged against another inverted cone which forms the top. The steam then turns and passes down between the inner shell and the outlet pipe, the remaining condensation being removed from the steam by its contact with the under side of the top cone and the outlet pipe.



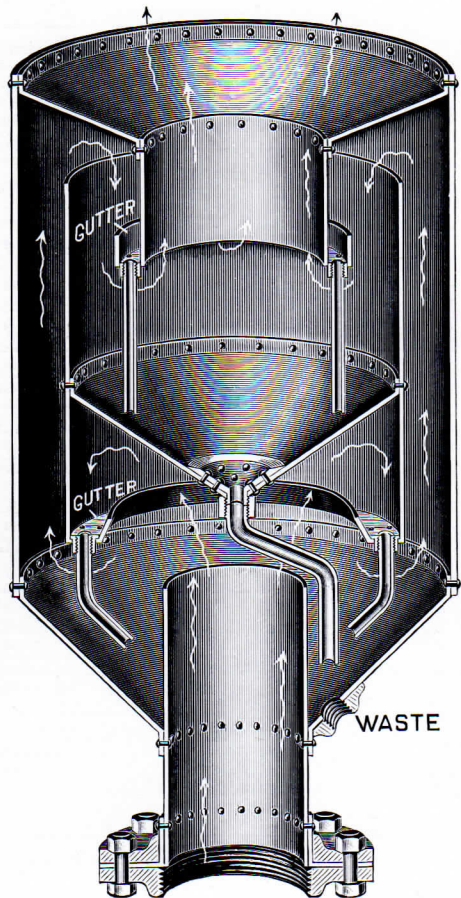
**An Important Feature**—This condensation is then collected by means of the gutter which surrounds the outlet pipe. This gutter is covered by letters patent and is used solely in connection with the Wright "CYCLONE" Exhaust Head. The drip pipes, five in number, lead all condensation below the flow of steam to the waste pipe.

**Other Superior Features**—The great amount of condensing surface contained in the Wright "CYCLONE" Exhaust Head is a distinct advantage. This is also true of the large passages which permit increased expansion of steam, and of the free outlet, which makes this head especially adaptable for high-speed engines. All back pressure is avoided.

**Construction Details**—The Wright "CYCLONE" Exhaust Head is built for long service. It is practically indestructible, being made throughout of extra heavy galvanized steel plate, riveted, soldered and thoroughly braced. The outer shell is heavily coated with a rust resisting paint. The drip pipes from gutters and cone are of galvanized iron with brass flange connections. The waste flange is of heavy brass and is strongly riveted and soldered to the shell.

**Our Aim**—We have not attempted to make a cheap exhaust head, but one constructed on scientific principles, at as reasonable a price as possible consistent with first-class workmanship and material.

**Our Guarantee**—We guarantee the Wright "CYCLONE" Exhaust head to be larger, made of heavier material, and to be more efficient than any head on the market. If they are not as we represent them, and entirely satisfactory to the purchaser, we extend full privilege of return at our expense.



## Price List of The Wright "Cyclone" Exhaust Head

Size of Exhaust Pipe	Size of Drip Pipe	PRICE
1 inch	½ inch	\$20.00
1½ "	½ "	22.50
2 "	¾ "	25.00
2½ "	¾ "	27.50
3 "	1 "	30.00
3½ "	1 "	35.00
4 "	1 "	40.00
4½ "	1 "	50.00
5 "	1¼ "	60.00
6 "	1¼ "	75.00
7 "	1¼ "	90.00
8 "	1½ "	105.00
9 "	1½ "	125.00
10 "	1½ "	135.00
11 "	2 "	150.00
12 "	2 "	175.00
14 "	2½ "	200.00
16 "	2½ "	250.00
18 "	3 "	300.00
20 "	3 "	360.00

### Write for Discounts

Prices on larger sizes quoted on application. Small sizes up to 2½ inch are fitted with standard threaded nipples. Sizes 3 inch to 12 inch are fitted with standard flange unions. In large sizes the flange on Exhaust Head is made to conform, in diameter and drilling, to flange on the exhaust pipe.

A Complete Line of Sizes Carried in Stock.





## Testimonials

### Endorsing Wright Safety Water Columns

#### ILLINOIS STATE REFORMATORY

WRIGHT MANUFACTURING CO.

PONTIAC, ILL.

*Gentlemen:*—The High and Low Water Alarm Columns purchased from you one year ago have worked with perfect satisfaction and proved themselves perfectly reliable. They suit the needs of this institution precisely, and now that we know their value we would not be without them.

Yours respectfully,

W. J. GORDON, C. E.

#### THE THOMAS PHILLIPS Co.

WRIGHT MANUFACTURING CO.

AKRON, OHIO.

*Dear Sirs:*—Replying to your favor of the 30th inst., it gives us pleasure to be able to state that the Safety Water Columns of your manufacture have been in constant use day and night on our boilers for the past three years and have given excellent satisfaction and are now in good shape.

Yours truly,

THE THOMAS PHILLIPS CO.

#### SANDUSKY PORTLAND CEMENT Co.

WRIGHT MANUFACTURING CO.

SANDUSKY, OHIO.

*Gentlemen:*—Replying to your recent inquiry, would say that we have four of your Safety Water Columns in service on the boilers at our Ohio plant, and are well satisfied with them.

Yours very truly,

SANDUSKY PORTLAND CEMENT Co.

*P. B. Berry, Ass't Manager.*

#### NATIONAL BISCUIT COMPANY

WRIGHT MANUFACTURING CO.

MANSFIELD, OHIO.

*Gentlemen:*—The Safety Water Columns which we are using of your manufacture we are glad to say give absolute satisfaction, and we could not say any more for them.

Yours truly,

NATIONAL BISCUIT COMPANY.

*W. H. Taylor, Manager.*

#### SUBURBAN BRICK COMPANY

WRIGHT MANUFACTURING CO.

WHEELING, W. VA.

*Gentlemen:*—We are in receipt of yours of the 16th inst., and after consulting our General Superintendent, find that the Water Columns of your make in use at our different factories are giving splendid satisfaction. We have had no trouble with them whatever.

Yours truly,

SUBURBAN BRICK COMPANY.

#### CLEVELAND HYDRAULIC PRESSED BRICK Co.

WRIGHT MANUFACTURING CO.

CLEVELAND, OHIO.

*Gentlemen:*—Our superintendent informs me that your Improved Safety Water Columns in use at our plant, South Park, Ohio, are entirely satisfactory. To date there have been no repairs upon them. In point of efficiency they cover every possible requirement.

Yours very truly,

WM. H. HUNT, Gen'l Manager.

#### GRIEB RUBBER Co., INC.

WRIGHT MANUFACTURING CO.

TRENTON, N. J.

*Gentlemen:*—The Safety Water Columns furnished us by your Company some two years ago have proven entirely satisfactory.

Yours respectfully,

GRIEB RUBBER COMPANY,

*C. H. Oakly, Supt.*

#### THOMPSON BROS., MACHINISTS

WRIGHT MANUFACTURING CO.

MILLINGTON, MICH.

*Gentlemen:*—Your Water Column is the best I ever saw. The water we use is very poor, it being rock water from which a good deal of lime or rock boils out, but it makes no difference to the alarm. We cannot say too much for it.

Yours truly,

THOMPSON BROS.

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

**J. C. CORBIN, PLANING MILLS**

WRIGHT MANUFACTURING CO.

APALACHIA, N. C.

*Gentlemen:*—Your inquiry at hand. Will say in reply that two years ago I purchased two of your Low Water Alarm Water Columns and placed them on my boilers at Sidnaw, Mich., and last year bought another one for my boilers at Apalachia, N. C., and wish to state that they work to perfection. There is no other Safety Water Column made that will beat them as far as my two years' experience has gone.

Respectfully,

J. C. CORBIN.

**HANCOCK CHEMICAL CO.  
HIGH EXPLOSIVE BLASTING POWDER**

WRIGHT MANUFACTURING CO.

DOLLAR BAY, MICH.

*Gentlemen:*—Regarding the Water Columns of your make which we are using, would say that they are giving perfect satisfaction and we believe they are as good as any in the market.

Yours very truly,

HANCOCK CHEMICAL CO.

*J. H. Edwards, Sec'y and Treas.*

**GREAT WESTERN POTTERY CO.**

WRIGHT MANUFACTURING CO.

KOKOMO, IND.

*Gentlemen:*—We are pleased to say that we have installed in our plant here two of your Improved Safety Water Columns, and our experience with them has been entirely satisfactory in every way.

Yours very truly,

THE GREAT WESTERN POTTERY CO.

*A. V. Cowradt, Secretary.*

**GEORGE T. COURTRIGHT**

WRIGHT MANUFACTURING CO.

CALDWELL, OHIO.

*Gentlemen:*—The Wright Low Water Alarm Column placed on our 75 H. P. boiler gives entire satisfaction to the firm. Never has required the least attention to keep in order, but is a *sure thing* to call attention if the water runs below the proper level in the boiler.

Very truly,

ALLEN C. NEEDS, Engineer.

*For Geo. T. Courtright.*

**COLUMBIA CHEMICAL COMPANY**

WRIGHT MANUFACTURING CO.

BARBERTON, OHIO.

*Gentlemen:*—Replying to your favor of the 17th inst., relative to Water Columns, beg to say we have had these columns on our boilers since our plant started three years ago, and they have been giving us excellent service.

Yours very truly,

COLUMBIA CHEMICAL CO.

*H. A. Gall, Supt.*

**DAKOTA REFORM SCHOOL**

WRIGHT MANUFACTURING CO.

PLANKINTON, S. D.

*Gentlemen:*—Regarding the efficiency of the Safety Alarm Water Columns purchased of you in 1901, would say that I consider them one of the best investments we ever made in our electric plant. I investigated several other makes of columns before purchasing yours and have had no reason to regret my decision. We have had no repairs to them of any kind since they were put up, and they seem always ready to operate when occasion demands. They are a fine check on a careless fireman and as such have saved us a great deal of uneasiness.

Respectfully yours,

F. G. FAIRCHILD, Electrician and C. E.

**MONROE COUNTY PENITENTIARY**

WRIGHT MANUFACTURING CO.

ROCHESTER, N. Y.

*Gentlemen:*—I am pleased to state that the two Improved Water Columns purchased of you in February, 1902, have been in constant use ever since, and have given perfect satisfaction.

Very truly yours,

CHAS. A. WEBSTER, Supt.

**ASHLAND LEATHER COMPANY, INC.**

WRIGHT MANUFACTURING CO.

ASHLAND, KY.

*Gentlemen:*—Since using your Improved Safety Water Columns for the last three months we have found them satisfactory in every respect and cheerfully recommend them to all users of steam. We believe they are a valuable safeguard to low water in boilers. We have always found them to give the alarm immediately upon the water getting too low or too high in the boilers.

Wishing you success, we remain,

Yours truly,

ASHLAND LEATHER CO., INC.,

*T. J. Shaul, V. P. & G. M.*

**FIRST NATIONAL BANK BUILDING**

WRIGHT MANUFACTURING CO.

UNIONTOWN, PA.

*Gentlemen:*—We have been using four of your No. 6 Improved Safety Water Columns for the past eight months and they have given entire satisfaction. Our chief engineer thinks they are the best made.

Yours very truly,

FIRST NATIONAL BANK BUILDING,

*F. H. Rosboro, Agent.*

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

**NATIONAL CARBON COMPANY**

WRIGHT MANUFACTURING CO. CLEVELAND, OHIO.  
*Gentlemen:*—Your favor of the 17th, asking us regarding the efficiency of the Columns which you have supplied our several works, at hand. In reply would state that we have used the Columns at most of our works for the past three years and we infer that they have proved entirely satisfactory, as we have had no complaint from any source.  
Yours very truly,  
NATIONAL CARBON COMPANY,  
*D. D. Dickey, Gen'l Manager.*

**MUSKEGON TRACTION & LIGHTING CO.**

WRIGHT MANUFACTURING CO. MUSKEGON, MICH.  
*Gentlemen:*—Your favor of the 28th inst. received. We beg to inform you that your Safety Water Columns installed in our power house have given perfect satisfaction. They are all you claim for them.  
Very truly yours,  
MUSKEGON TRACTION & LIGHTING CO.,  
*S. A. Freshney, Gen'l Manager.*

**LINCOLN SASH, DOOR AND MFG. CO.**

WRIGHT MANUFACTURING CO. LINCOLN, NEB.  
*Gentlemen:*—In reply to yours of April 29th, will say that we are well pleased with the Wright Safety Water Columns we purchased from you some time ago, and if they were not the best on the market we would not have them around, as poor ones are a bad thing to experiment with.  
Yours truly,  
LINCOLN SASH, DOOR & MANUFACTURING CO.,  
*By N. H. Bedell.*

**THE MILLER LADDER CO.**

WRIGHT MANUFACTURING CO. CHICAGO, ILL.  
*Gentlemen:*—In reply to yours of the 27th inst., would say that the Water Column purchased of you over a year ago has been in daily use since on our factory boiler. Perhaps the best compliment we could pay, would be to say that in that time no word of complaint, or question of same, has come to us through our engineer, the apparatus performing its office in a perfectly satisfactory manner.  
Yours truly,  
THE MILLER LADDER CO.

**OFFICE OF CITY WATER WORKS**

WRIGHT MANUFACTURING CO. IRONTON, OHIO.  
*Gentlemen:*—Referring to your favor the 17th inst., our chief engineer states that the Water Column furnished by your firm to the plant here have always given the best of satisfaction.  
Very truly yours,  
TRUSTEES IRONTON CITY WATER WORKS,  
*D. H. Clark, Clerk.*

**JOHN H. MURPHY, SUGAR MACHINERY**

WRIGHT MANUFACTURING CO. NEW ORLEANS, LA.  
*Gentlemen:*—In the matter of the Wright Improved Safety Water Column, I beg to state that I am using them with entire satisfaction in both of my plants, where they have been in use for a number of years. I have sold quantities of them for use on boilers in almost every variety of power plants, and have yet to hear the first complaint relative to them.  
Yours truly,  
JOHN H. MURPHY.

**G. F. BECKER, OIL PRODUCER**

WRIGHT MANUFACTURING CO. SUMMERLAND, CAL.  
*Gentlemen:*—Replying to your favor of the 27th ult., in regard to your Improved Safety Water Column, I am pleased to say it is giving perfect satisfaction in every respect. I find it most reliable and fully up to your recommendation. It has been a source of much comfort to my chief engineer.  
Very truly,  
G. F. BECKER.

**KEARNEY LUMBER MILLS**

WRIGHT MANUFACTURING CO. KEARNEY, ARK.  
*Gentlemen:*—Replying to your recent favor, we are glad to say the Improved Safety Water Columns we purchased of you are giving entire satisfaction. We have all of our boilers equipped with them, as we consider them practically a necessity where continuous operation of boilers is required. We are glad to recommend them.  
Yours truly,  
KEARNEY LUMBER MILLS,  
*R. York, Manager.*

**THE "PILGRIM"**

WRIGHT MANUFACTURING CO. BATTLE CREEK, MICH.  
*Gentlemen:*—I can voice the praise of the Wright Safety Water Column in no uncertain words. In years of experience with steam plants I never succeeded in getting the satisfaction from other makes that I have from the operation of the Wright Column installed in the "Pilgrim" plant.  
Yours very truly,  
E. J. ORTON, Engineer-in-Chief.

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

**MICHIGAN SALT MFG. WORKS**

WRIGHT MANUFACTURING Co.

MARINE CITY, MICH.

*Gentlemen:*—We have been using for some time Safety Water Columns of your manufacture. We are also using some other kinds. We are pleased to say that there are several things about the "Wright" which we like very much better than any column we know of, and that in future we shall purchase Wright Columns, as they have given absolute satisfaction in every way.

Yours very truly,

MICHIGAN SALT MFG. Co.,

*S. C. McLouth, Sec'y and Treas.*

**THE DIAMOND MATCH COMPANY**

WRIGHT MANUFACTURING Co.

BARBERTON, OHIO.

*Gentlemen:*—Complying with your request of the 17th inst., would say that we have used your Improved Safety Water Columns for some time, and consider them A1 in every respect.

Yours truly,

THE DIAMOND MATCH Co.,

*By Thos. H. Palmer, Ass't Manager.*

**CENTENNIAL COPPER MINING Co.  
UNION COPPER LAND AND MINING Co.**

WRIGHT MANUFACTURING Co.

CALUMET, MICH.

*Gentlemen:*—Replying to yours of the 17th inst., would say that we have your Safety Water Columns in use in connection with all of our boilers, and our Master Mechanic reports their giving entire satisfaction.

Yours very truly,

A. D. NICHOLAS, Clerk,

**VICTORIA COPPER MINING Co.**

WRIGHT MANUFACTURING Co.

ROCKLAND, MICH.

*Gentlemen:*—On September 25th, 1901, we purchased of you one No. 1 and two No. 5 Wright High and Low Water Columns and soon afterwards put the two No. 5 Columns on our boilers and they have been in continuous use ever since, requiring no repairs. They have given entire satisfaction.

Yours truly,

VICTORIA COPPER MINING Co.

**THE MASS CONSOLIDATED MINING Co.**

WRIGHT MANUFACTURING Co.

MASS, MICH.

*Gentlemen:*—We are using your Improved Safety Water Columns and wish to state our appreciation of the manner in which they are doing their work. We will gladly recommend them to all who have use for same.

Very truly yours,

THE MASS CONSOLIDATED MINING Co.,

*By W. A. Brown, Purchasing Agent.*

**CRYSTAL FALLS IRON MINING Co.**

WRIGHT MANUFACTURING Co.

CRYSTAL FALLS, MICH.

*Gentlemen:*—We have used a number of your Safety Water Columns, and find the same to be entirely satisfactory. We are pleased to recommend them.

Yours truly,

W. J. RICHARDS, Gen'l Supt.

**MICHIGAN COPPER MINING Co.**

WRIGHT MANUFACTURING Co.

ROCKLAND, MICH.

*Gentlemen:*—In reply to yours of the 21st inst., would say that we have six Safety Water Columns of your make which we have found reliable and not liable to get out of order. We know of nothing better.

Yours truly,

MICHIGAN COPPER MINING Co.

*By S. S. Jennison, M. M.*

**THE HANSON LUMBER Co.**

WRIGHT MANUFACTURING Co.

GRAYLING, MICH.

*Gentlemen:*—We are in receipt of your favor of the 25th, and in reply beg to state that we have all our boilers equipped with your Safety Water Columns, and consider them the best we ever used. Trusting that this information will be of some service to you, and thanking you for past favors, we are,

Yours truly,

HANSON LUMBER Co.,

*By T. W. Hanson, G. M.*

**THE GRASSELLI CHEMICAL Co.**

WRIGHT MANUFACTURING Co.

CLEVELAND, OHIO.

*Gentlemen:*—We beg to acknowledge receipt of yours of the 25th ult., asking if we would favor you with a letter regarding the efficiency of the columns of your manufacture which we have in use in our various plants. In reply we beg to advise that our boilers at Cleveland, O., and Birmingham, Ala., were equipped with the Wright Manufacturing Co's Low Water Alarm Columns during the latter part of 1900, and since that time they have given entire satisfaction and have proven a valuable attachment to our boilers. When again in the market for any columns we shall be pleased to give you the preference.

Yours very truly,

THE GRASSELLI CHEMICAL Co.

*By N. C. Bailey, Ass't Purchasing Agent.*

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

**NEWBERRY LIGHT AND WATER WORKS**

WRIGHT MANUFACTURING Co.

NEWBERRY, MICH.

*Dear Sirs:*—We have not as yet bought an exhaust head, but presume to later on. Our engine is not yet in place and running, but will say that if your "Cyclone" Exhaust Head is as good as your High and Low Water Alarms, it is perfect, for we have had two of the latter in use three years and they do not cause us any trouble whatever, nor do I expect any from them—not a leak nor a sound. They are perfectly quiet until called upon to act, then you *know at once* that they are there.

Yours very truly,

FRED HART, Supt.

**THE DOVER MANUFACTURING Co.**

WRIGHT MANUFACTURING Co.

CANAL DOVER, OHIO.

*Gentlemen:*—As the name would imply, your Improved Safety Water Columns are just "right," and as far as we are concerned we would not use anything else.

Yours very truly,

THE DOVER MANUFACTURING Co.

Chas. T. Johnson, President.

Endorsing the "Emergency" Steam Trap

**TREASURER'S OFFICE, U. S. SOLDIERS' HOME**

WRIGHT MANUFACTURING Co.

WASHINGTON, D. C.

*Gentlemen:*—We have in use in the Home since September, 1902, three of the Wright Emergency Traps, which have given entire satisfaction.

H. M. KENDALL, Major U. S. Army.

Sec'y and Treasurer.

**ATLANTIC COAST LUMBER Co.**

WRIGHT MANUFACTURING Co.

GEORGETOWN, S. C.

*Gentlemen:*—Your Wright Emergency Steam Traps have given perfect satisfaction, and we will be pleased to have you refer anyone to us who is thinking of purchasing same.

Yours truly,

FREMAN S. FARR, Receiver.

**WELLESLEY COLLEGE**

WRIGHT MANUFACTURING Co.

WELLESLEY, MASS.

*Gentlemen:*—In answer to yours about Wright Emergency Trap, would say we have been using them on both high and low pressure for the last four years. They have given perfect satisfaction and *no trouble*. It is the best Trap we ever used and *the only one* for high pressure work.

Yours truly,

E. O. PERKINS, Supt.

**AETNA PORTLAND CEMENT Co.**

WRIGHT MANUFACTURING Co.

FENTON, GENESEE Co., MICH.

*Gentlemen:*—Your favor in regard to Emergency Traps has been received. In reply to same will say that they have given us excellent results.

Yours very truly,

AETNA PORTLAND CEMENT Co.

**ALPHA PORTLAND CEMENT Co.**

WRIGHT MANUFACTURING Co.

EASTON, PA.

*Gentlemen:*—Replying to your communication of the 3rd inst., we regret to say that we cannot comply with your request, as it is against our rules to give testimonials in regard to the machinery which we are using. You doubtless know that we duplicated our original order with you.

Yours truly,

G. S. BROWN, Sec'y-Treas.

**MERCHANTS HEAT AND LIGHT Co.**

WRIGHT MANUFACTURING Co.

INDIANAPOLIS, IND.

*Gentlemen:*—Replying to your inquiry regarding the operation of your "Victor" Low-Pressure Traps now in operation upon our lines, I beg to say that we now have some forty or fifty of these Traps installed and that they are giving us entire satisfaction in every way.

Trusting that this is the information you desire, we beg to remain

Yours truly,

MERCHANTS HEAT AND LIGHT Co.

**PIEL BROS. STARCH Co.**

WRIGHT MANUFACTURING Co.

INDIANAPOLIS, IND.

*Gentlemen:*—Replying to inquiry regarding the operation of the Wright Emergency Steam Traps furnished this Company, would state that we have fifteen of these Traps in use and they have not given us one moment's trouble. They have performed their duty in a very satisfactory manner, and we can highly recommend them.

Very truly yours,

PIEL BROS. STARCH Co.

By Frank Straub, Jr., Supt. and Master Mechanic.

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

**BAYLESS PULP AND PAPER COMPANY**

WRIGHT MANUFACTURING CO. AUSTIN, POTTER COUNTY, PENN.  
*Gentlemen:*—Replying to your inquiry relative to the Wright Emergency Steam Trap, can say that we are better pleased with these Traps than any we ever used  
Very truly yours, BAYLESS PULP AND PAPER COMPANY.  
*Geo. C. Bayless, President.*

**BUCKEYE RUBBER COMPANY**

WRIGHT MANUFACTURING CO. AKRON, OHIO.  
*Gentlemen:*—We have had in use for several months your Emergency Steam Traps, and find that they are the best trap we have in the factory. They require no attention and seem to take care of the condensation perfectly. When we are in need of any more traps, you will hear from us.  
Yours very truly, BUCKEYE RUBBER COMPANY.

**THE REPUBLIC RUBBER COMPANY**

WRIGHT MANUFACTURING CO. YOUNGSTOWN, OHIO.  
*Gentlemen:*—Agreeable to your inquiry, beg to say that we have thirteen of your Steam Traps in use at our factory which have been in service for more than a year and are entirely satisfactory.  
Yours very truly, THE REPUBLIC RUBBER COMPANY.

**THE GOODYEAR TIRE AND RUBBER CO.**

WRIGHT MANUFACTURING CO. AKRON, OHIO.  
*Gentlemen:*—Answering your favor of the 9th will say, that we are using about forty of your Steam Traps, and they are first-class in every particular. They require very little attention, and we are very much pleased with them.  
Yours very truly,  
THE GOODYEAR TIRE & RUBBER CO.  
*By W. I. State, M. E.*

**YOUNG MEN'S CHRISTIAN ASSOCIATION**

WRIGHT MANUFACTURING CO. ELGIN, ILL.  
*Gentlemen:*—Replying to yours of the 29th ult., we are using six of your Emergency Steam Traps in our buildings and find that they are satisfactory in every respect  
Very truly yours, FRED. W. HOPPER, Gen'l Sec'y.

**AURORA STEAM HEATING CO.**

WRIGHT MANUFACTURING CO. AURORA, ILL.  
*Dear Sirs:*—The No. 8 Emergency Steam Trap purchased from you last fall has been in constant use ever since and has given complete satisfaction. It certainly does all you claim for it.  
Yours truly, JOHN PLAIN, President.

**UNION WADDING COMPANY**

WRIGHT MANUFACTURING CO. PAWTUCKET, R. I.  
*Gentlemen:*—We are pleased to say that the No. 4 Wright Emergency Steam Trap furnished by your company in December, 1902, has given us excellent satisfaction.  
Yours truly, UNION WADDING COMPANY.  
*By H. A. Stearns, V. P. and Supt.*

**COLLINS COLLIERY COMPANY**

WRIGHT MANUFACTURING CO. GLEN JEAN, W. VA.  
*Gentlemen:*—We have a high speed engine here which gave us a great deal of trouble on account of water. We installed your Emergency Steam Trap in connection with an Austin Separator and we find that it is equal to all demands made upon it. If there is a sudden rush of water the Trap promptly picks it up and relieves the situation, thereby averting all danger to the engine.  
Very truly, COLLINS COLLIERY COMPANY.

**SCHMULBACH BREWING COMPANY**

WRIGHT MANUFACTURING CO. WHEELING, W. VA.  
*Gentlemen:*—Replying to your recent favor, would say that we have two of your No. 5 Wright Emergency Traps in use, and both are working nicely and giving entire satisfaction.  
Yours very truly, SCHMULBACH BREWING COMPANY.

**SCHMICH BROS. BREWING CO.**

WRIGHT MANUFACTURING CO. FREEPORT, ILL.  
*Gentlemen:*—We have had one of your Emergency Steam Traps in use for nearly two years and as yet we have not the first fault to find with same. We deem it the best trap on the market, and can cheerfully recommend it.  
Yours very truly, SCHMICH BROS. BREWING CO.

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

**THE GEORGE J. RENNER BREWING CO.**

WRIGHT MANUFACTURING CO. AKRON, OHIO.  
*Gentlemen:*—We have had one of your Steam Traps in use for some time and it gives entire satisfaction; works good.  
Yours respectfully,  
THE GEORGE J. RENNER BREWING CO.

**PH. KLING BREWING CO.**

WRIGHT MANUFACTURING CO. DETROIT, MICH.  
*Gentlemen:*—In reply to yours of recent date, wish to say that we have been using one of your Steam Traps in our plant and have found the same satisfactory in every respect and all you claim it to be.  
Yours very truly,  
PH. KLING BREWING CO.  
*Per Kent Kling.*

**THE STEUBENVILLE TRACTION AND LIGHT CO.**

WRIGHT MANUFACTURING CO. STEUBENVILLE, OHIO.  
*Gentlemen:*—Replying to your inquiry relative to the efficiency of your No. 3 Emergency Steam Trap, would say that the same is working satisfactorily.  
Yours truly,  
J. C. Ross, Gen'l Manager.

**RICHMOND LIGHT AND RAILROAD CO.**

WRIGHT MANUFACTURING CO. NEW BRIGHTON, STATEN ISLAND, N. Y.  
*Gentlemen:*—Your No. 6 Traps, which we have in use in our lighting and power plant, are giving the best of satisfaction, and I can cheerfully recommend them as the best on the market for capacity and economy.  
FRANK O'MALLEY, Chief Engineer, Livingston P. H., S. I.

**MISSOURI, KANSAS & TEXAS RAILWAY SYSTEM**

WRIGHT MANUFACTURING CO. SEDALIA, MO.  
*Gentlemen:*—We have had three of your No. 2 Emergency Traps in service during the past three months. They are in use on engines at 300 R. P. M., with steam varying from 100 to 120 lbs. Two of the engines are in continuous use twenty-four hours per day, on electric light and power service. We have had no evidence of leaking steam so far. Our engines run quietly, and we consider the Traps satisfactory.  
Yours truly,  
S. K. BULLARD, Supt. Telegraph.

**KOKOMO STEEL AND WIRE CO.**

WRIGHT MANUFACTURING CO. KOKOMO, IND.  
*Gentlemen:*—We are pleased to advise that the No. 5 Traps which your Company furnished us have so far been very satisfactory, so much so that we placed an order a short time ago for additional Traps. We do not hesitate to recommend these Traps, and consider them the best on the market.  
Yours truly,  
KOKOMO STEEL AND WIRE CO.

**THE OHIO BRASS COMPANY**

WRIGHT MANUFACTURING CO. MANSFIELD, OHIO.  
*Gentlemen:*—The No. 3 Emergency Steam Trap recently shipped us seems to be the article required, and we will keep same. Enclosed find order for one No. 5 which we trust you will be able to send us promptly.  
Yours very truly,  
THE OHIO BRASS COMPANY.

**THE EMPIRE IRON AND STEEL COMPANY**

WRIGHT MANUFACTURING CO. NILES, OHIO.  
*Gentlemen:*—Your No. 4 Emergency Steam Trap has given most excellent satisfaction in every respect. We have used in other mills traps of different make, costing a great deal more money than yours, but we consider your Trap equal to any of them.  
Very truly yours,  
EMPIRE IRON & STEEL COMPANY.

**HOLLAND SUGAR COMPANY**

WRIGHT MANUFACTURING CO. HOLLAND, MICH.  
*Dear Sirs:*—The Steam Trap furnished by you last campaign has worked all right. There has been no complaint concerning it and the pan to which it was attached did good work.  
Yours truly,  
HOLLAND SUGAR COMPANY.

**SAGINAW SUGAR COMPANY**

WRIGHT MANUFACTURING CO. SAGINAW, MICH.  
*Gentlemen:*—We beg to advise that the No. 6, 2-in. Emergency Steam Trap, is giving perfect satisfaction in every respect.  
Yours truly,  
SAGINAW SUGAR COMPANY.  
*Wm. F. Sutherland, Chief Engineer.*

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

**THE AMERICAN CEREAL COMPANY**

WRIGHT MANUFACTURING CO.

AKRON, OHIO.

*Gentlemen:*—Replying to your letter of the 12th, would say, we have twelve of your Emergency Steam Traps in active use in our various plants in Akron. We have found them highly satisfactory, and take great pleasure in recommending them to any one interested.

Very truly yours,

THE AMERICAN CEREAL COMPANY.

*J. H. Andrews, Superintendent.*

**SANITAS NUT FOOD CO., LTD.**

WRIGHT MANUFACTURING CO.

BATTLE CREEK, MICH.

*Gentlemen:*—The No. 5 Emergency Steam Trap has done all that you claim for it and has given us first-class satisfaction.

Very truly yours,

SANITAS NUT FOOD CO., LTD.

**THE FOWLER PACKING COMPANY**

WRIGHT MANUFACTURING CO.

KANSAS CITY.

*Gentlemen:*—Replying to your letter concerning No. 3 Wright Emergency Trap furnished us in July, 1902, beg to advise that same is giving good satisfaction and since that time have placed two or three similar Traps in operation and all are doing good work.

Yours truly,

THE FOWLER PACKING COMPANY.

**THE BRENNER-GAZETT COMPANY**

MANUFACTURING CONFECTIONERS

WRIGHT MANUFACTURING CO.

GREEN BAY, WIS.

*Gentlemen:*—In reply to your inquiry as to the results obtained by us with one of your No. 3 Wright Emergency Steam Traps, will say that it works along just as nice and true as a clock. Have had no trouble at all. No waste of steam. And the tripping or working of the Trap seems to be perfection. We can cheerfully recommend it to anyone needing a trap to take care of the condensation from a steam kettle in our line of business, as it certainly is satisfactory to us.

Yours truly,

THE BRENNER-GAZETT COMPANY.

*Per Wm. P. Brenner.*

**HOTEL RICHMOND**

WRIGHT MANUFACTURING CO.

WASHINGTON, D. C.

*Gentlemen:*—Answering yours of the 2nd, I wish to state I am in every way pleased with your No. 4 Emergency Trap. It has been in use in "The Richmond" since September last and has been handling the condensation from the entire heating system of house and doing it in good shape, too. It displaced two large traps, either of which occupied a third more space than the Emergency, and is doing more work and better work. I should not hesitate in the future, should I require a steam trap, but at once order an Emergency.

Yours truly,

E. MURRAY, Chief Engineer, Potomac Hotel Co.

**THE AKRON LAUNDRY CO.**

WRIGHT MANUFACTURING CO.

AKRON, OHIO.

*Gentlemen:*—We have had a No. 4 Wright Emergency Steam Trap in use in our plant for the past four months and are very much pleased with it. We find the three valves, working as they do, of great advantage, as the drain that enters Trap is worked at different pressures and the amount of drainage varies. But your Trap has never failed to take care of it, and gives us good radiation from all pipes it drains under these various conditions.

Yours respectfully,

R. M. WILSON, Manager.

**SNOW FLAKE LAUNDRY**

WRIGHT MANUFACTURING CO.

WHEELING, W. VA.

*Gentlemen:*—Find money order for Trap furnished this Company. Wish to say that it is the best Trap in the market and gives good satisfaction.

Yours truly,

L. WEHRLE.

**NONPAREIL LAUNDRY**

*To Anyone Concerned:*—I have been using the Wright Emergency Steam Trap for some time and find it perfectly satisfactory in every respect.

BROOKLYN, N. Y.

JOHN A. WILDE.

**STAR LAUNDRY**

WRIGHT MANUFACTURING CO.

CENTRALIA, ILL.

*Dear Sirs:*—Yours of the 4th to hand. Will say we have been acquainted with a number of steam traps and have tried several, but for all emergencies, and more especially for steam laundries, your Trap is far superior.

Yours respectfully,

A. E. QUICK, Manager.



WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

**KEYSTONE LAUNDRY CO.**

WRIGHT MANUFACTURING CO.

ALLEGHENY, PA.

*Gentlemen:*—Regarding the efficiency of your Emergency Steam Traps, would say that for economy and capacity they excel any traps we have ever used, and we cheerfully recommend them to all steam users.

KEYSTONE LAUNDRY CO.

*J. W. Wilson, Chief Engineer.*

**GILLEN'S LAUNDRY AND DYE WORKS**

WRIGHT MANUFACTURING CO.

OSHKOSH, WIS.

*Gentlemen:*—Enclosed find Chicago draft in settlement of our account. It is a great pleasure to me to pay for this trap, inasmuch as the trap has taken the place of two other traps. I now trap the water from the dry room and from my mangle with your No. 1 Trap, and find it fully capable of taking care of the condensation at all times. I am,

Yours truly,

FRANK P. GILLEN.

**WHITE SWAN LAUNDRY**

WRIGHT MANUFACTURING CO.

WHEELING, W. VA.

*Gentlemen:*—I have had your Steam Trap in my plant and in operation for the past six weeks, and I thought so much of it that I called my friend Lutz in and explained the Trap to him. Mr. Lutz runs the Home Steam Laundry in our city, and, as you know, he has since ordered and installed one of your large Traps. He also seems to be very much delighted with your Trap. I have had experience with all kinds of traps, and I finally found the *right* trap by purchasing the *Wright* Trap. Anyone wishing to see the Trap in operation is very welcome to call at my plant and inspect same. The Trap is the best I ever saw.

Yours very truly,

FRANK R. SCROGGINS.

**HOME STEAM LAUNDRY**

WRIGHT MANUFACTURING CO.

WHEELING, W. VA.

*Gentlemen:*—Enclosed please find check in payment of the No. 5 Emergency Steam Trap furnished this company, which place to our credit. The trap proves to be the best we have ever had in our plant for twenty years.

Very truly,

LUTZ BROS.

**COLONIAL LAUNDRY COMPANY**

WRIGHT MANUFACTURING CO.

DETROIT, MICH.

*Gentlemen:*—We have had one of your No. 1 Emergency Traps in use in our laundry for about four months, and have recently installed a No. 2 trap in addition. We are pleased to say that the traps have given us the most perfect satisfaction, taking care of the condensation from our radiators, also from the dry rooms; the trap in the latter raises the water about twelve feet and carries it into the heater. It is always ready, and never fails to work whenever there is a surplus of water, as the three valves readily take care of it. We think you have the best trap on the market.

Yours very truly,

COLONIAL LAUNDRY COMPANY.

*H. S. Sykes, Secretary.*

**FRANKLIN STEAM LAUNDRY**

WRIGHT MANUFACTURING CO.

WASHINGTON, D. C.

*Gentlemen:*—As the Steam Trap has proven very satisfactory, I take pleasure in remitting check for same.

Yours truly,

F. V. KILLIAN.

**LEXINGTON STEAM LAUNDRY**

WRIGHT MANUFACTURING CO.

LEXINGTON, KY.

*Gentlemen:*—The four No. 2 Wright Emergency Steam Traps which we have in use in our plant are working very satisfactorily. We consider your Emergency Trap the leader of its class.

Yours truly,

I. N. WILLIAMS.

**KIMBALL'S LAUNDRY**

WRIGHT MANUFACTURING CO.

BEATRICE, NEB.

*Gentlemen:*—We notice your advertisement of a steam trap, "that will always work, do all the work required of it, never get out of order and waste no steam." Now, that is what we are looking for. We have in use two traps, but neither gives satisfaction, and in fact we never saw one that did. We trap to a receiver and pump to boiler. Will your trap work there? Would like to know something about it, and might purchase, provided it will do all you claim for it.

Yours truly,

F. J. KIMBALL & Co.

ABOVE CONCERN LATER WROTE AS FOLLOWS:

*Gentlemen:*—In reply to your favor would say that we procured one of your Emergency Steam Traps, and have been using it ever since with entire satisfaction, and only hope it will continue to give the same results that it does now.

Yours very truly,

F. J. KIMBALL & Co.

WRIGHT MANUFACTURING CO., DETROIT, MICH., U. S. A.

**ROCKFORD SILVER PLATE CO.**

WRIGHT MANUFACTURING CO. ROCKFORD, ILL.  
*Gentlemen:*—Replying to your favor of the 3rd, inquiring how the Traps suited us, would say that they are entirely satisfactory. We should not have replaced three traps of other makes this fall with three of yours had not the two we purchased about a year and a half ago been eminently satisfactory. Very truly yours, EDWARD TAYLOR, Secretary.

**CLEVELAND WINDOW GLASS CO.**

WRIGHT MANUFACTURING CO. CLEVELAND, OHIO.  
*Gentlemen:*—We have used your No. 3 Wright Emergency Steam Trap for over a year and will state that it has so far given us entire satisfaction. It takes care of the water from over four thousand (4,000) feet of pipe and raises it twelve (12) feet to the tank, and has up to date worked without a hitch. Yours very truly, CLEVELAND WINDOW GLASS CO.

**PEET BROS. MFG. CO.**

MANUFACTURERS OF SOAPS, WASHING POWDER, ETC.

WRIGHT MANUFACTURING CO. KANSAS CITY, MO.  
*Dear Sirs:*—We have had several of your Emergency Steam Traps in use since last November, and are pleased to say that they are giving us the best of satisfaction. Yours truly, WM. PEET, President.

**STANDARD TABLE OIL CLOTH CO.**

WRIGHT MANUFACTURING CO. Factory "A," AKRON, OHIO.  
*Gentlemen:*—Answering your favor of the 3rd inst., would say that the Wright Emergency Steam Traps which we purchased of you last November answer all purposes for which they are intended, in every particular. The only attention they ever receive from us is an occasional blowing out. Very truly yours, STANDARD TABLE OIL CLOTH CO.  
*Per E. A. Oviatt.*

**DEMPSTER MILL MFG. CO.**

MANUFACTURERS OF FARM AND RANCH WATER SUPPLIES

WRIGHT MANUFACTURING CO. BEATRICE, NEB.  
*Gentlemen:*—Your favor of the 18th, inquiring as to the efficiency of the No. 1 Wright Steam Trap that we purchased in November, 1902, is received, and are pleased to advise you in reply that this Trap is giving perfect satisfaction, and in fact our master mechanic states that it is working more satisfactorily than any trap that we have in use. You can understand, therefore, that we are, as already stated, very well pleased with it. Yours truly, DEMPSTER MILL MFG. CO.

**W. R. BENNETT COMPANY**

WRIGHT MANUFACTURING CO. OMAHA, NEB.  
*Gentlemen:*—Replying to yours of the 18th, in regard to our opinion of the No. 2 Wright Emergency Steam Traps, will say we have been using two of these Traps on 150 lbs. steam pressure one year, with perfect satisfaction. Yours very truly, W. R. BENNETT COMPANY,  
*George Cornelius, C. E.*

**CLOUGH & WARREN Co.**

MANUFACTURERS OF PIANOS AND ORGANS

ADRIAN, MICH.  
*To Whom This May Concern:*—The Wright Emergency Steam Trap meets fully the claims of the manufacturers. It is very sensitive to the requirements, the water in gauge glass showing very slight variation. It has received no attention since put in nine months ago. Our engineer is much pleased with it. Very respectfully, CLOUGH & WARREN Co.

**VANDERSLICE-LYNDS MERCANTILE Co.**

MANUFACTURERS OF ICE

WRIGHT MANUFACTURING CO. KANSAS CITY, MO.  
*Gentlemen:*—In reply to your inquiry, will say that the Wright Emergency Steam Traps in use by us have proved very satisfactory so far and are the best we have used. Yours truly, VANDERSLICE-LYNDS MERCANTILE Co.

**THE DEWEY STAVE COMPANY**

WRIGHT MANUFACTURING CO. DELTA, OHIO.  
*Gentlemen:*—Please allow us to commend you on the No. 4 Wright Emergency Steam Traps we purchased of you. We find them everything you recommended them to be. Yours truly, THE DEWEY STAVE Co.