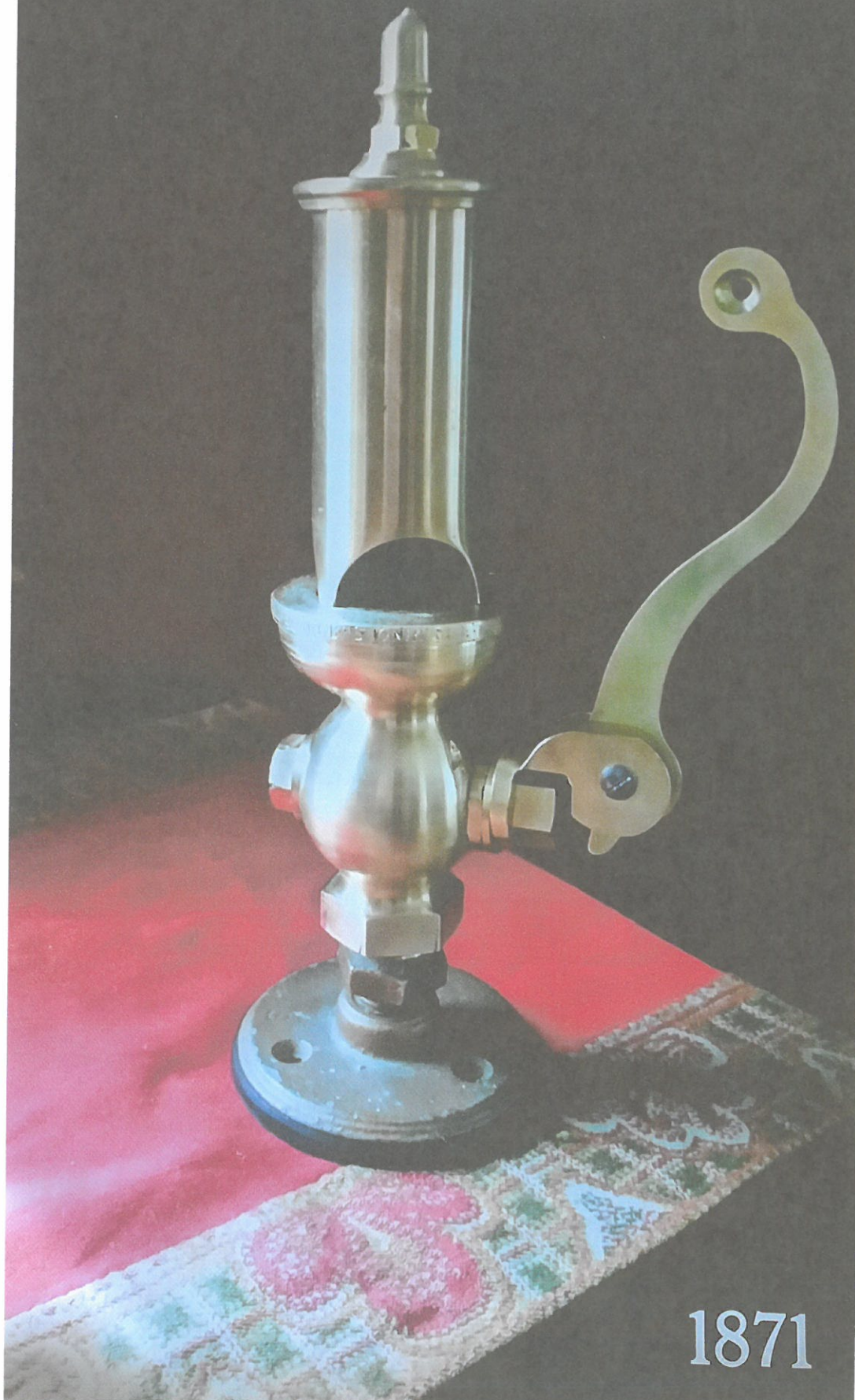


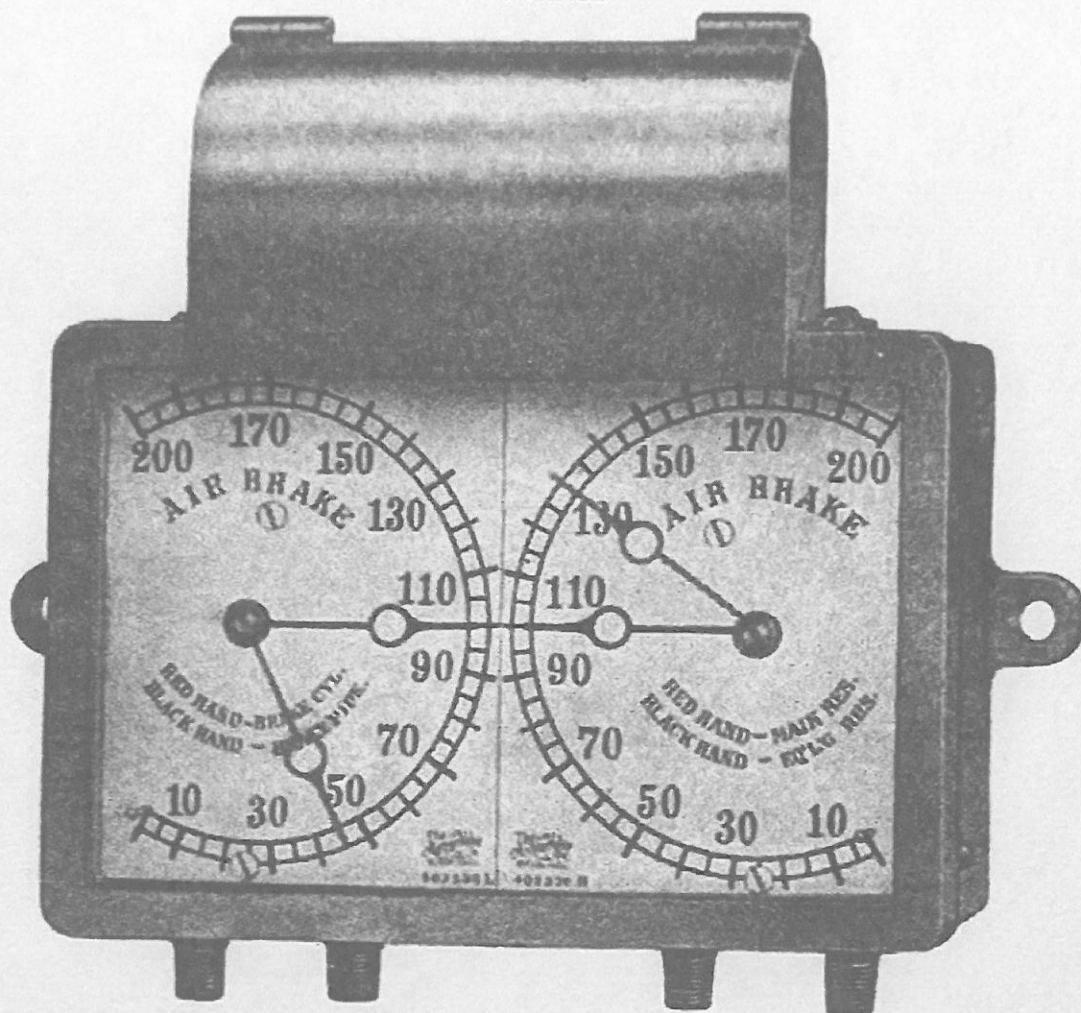
ASHTON VALVE



1871

The Ashton 5" Dial Quadruplex Air Brake Gage

Patented



No. 62-Q-E with Electric Light Attachment
No. 62-Q without Electric Light Attachment

Write for Circular No. 66-A

THE ASHTON VALVE COMPANY

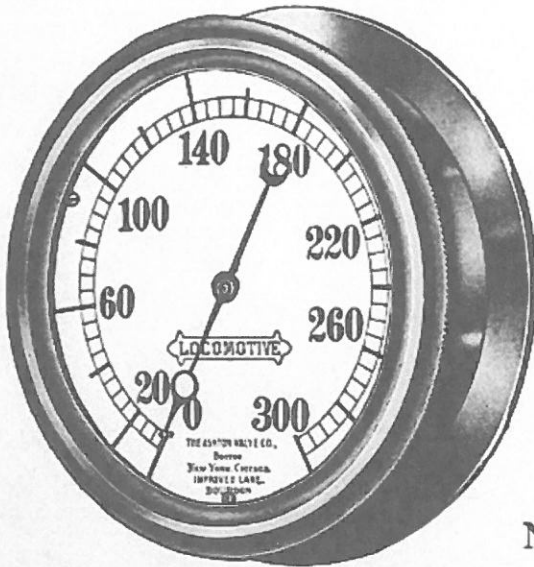
161 First Street, Cambridge 41, Boston, Mass.

New York

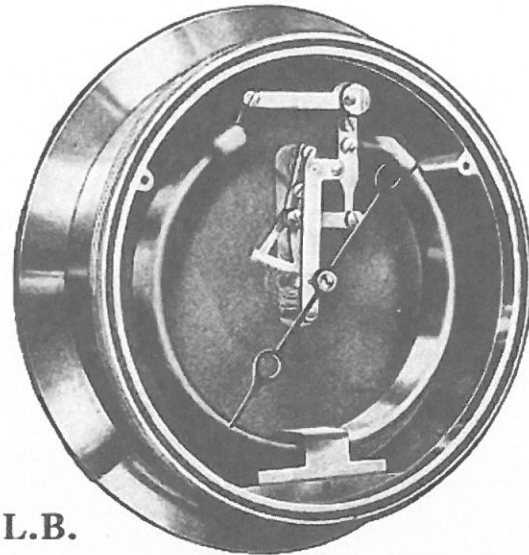
Chicago

San Francisco

Ashton - Lane - Bourdon Locomotive Gage



WHITE ENAMELED DIAL AND
FLUSH RING



SHOWING SCREWED RING WITH
DUST-PROOF FELT GASKET

No. 52 L.B.

This improved gage, particularly adapted to high-pressure locomotive service, meets the conditions of close regulation required by the rules of the Federal Boiler Inspectors.

It combines the durability, rigidity, and non-freezing features of the Lane double spring with the Bourdon movement, which by reducing vibration makes it possible to keep the gage in perfect adjustment and yet sensitive in action.

A dust-proof (felt gasket) screwed ring reduces the glass breakage, caused by expansion, and saves time in making test. Other distinctive features are an eccentric adjustment, wide sector and pinion of nickel silver, bushed movement, and the individual graduation of dial to correspond with individual movement in the gage.

Made with O. G. or flush ring, black, silvered, or white enameled dial; graduated to 300 or to 400 pounds, or as specified.

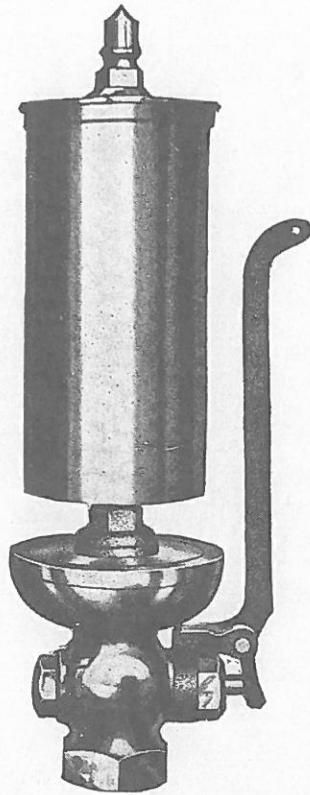
Locomotive standard size, $6\frac{3}{4}$ inch dial.

LIST PRICES

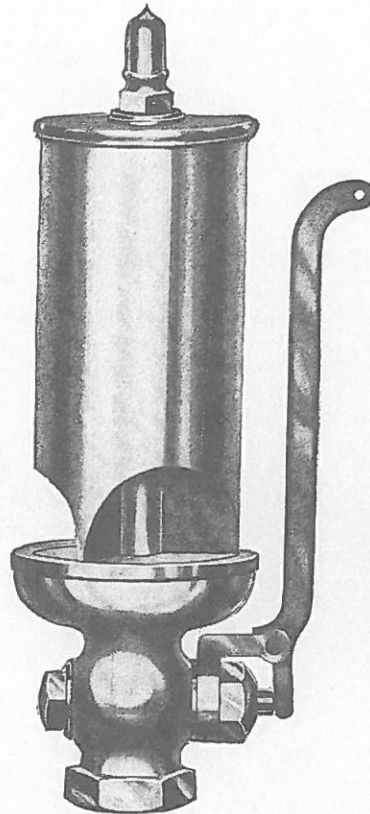
Size	Iron Case, Brass Ring	Iron Case, N. P. Ring	Brass Case	N. P. Case
$8\frac{1}{2}$ inch Dial	\$25.00	\$25.75	\$34.00	\$36.50
$6\frac{3}{4}$ inch Dial	18.00	18.60	22.00	24.00
6 inch Dial	15.00	15.50	18.00	19.50

Subject to discount

Ashton Locomotive Steam Whistles



No. 90
PLAIN WHISTLE



No. 91
CHIME WHISTLE

These whistles are particularly designed for the extreme hard service on locomotives, the bodies being extra heavy to stand the constant jar and vibration. They are made from the best steam metal and suitable for the highest pressure.

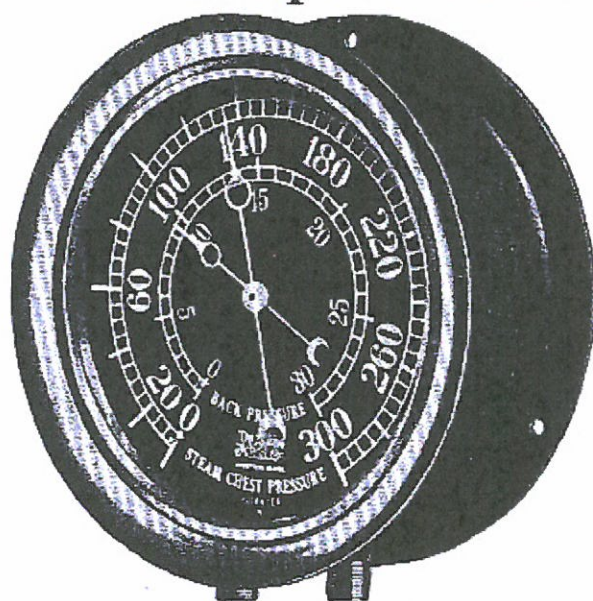
The No. 90 Plain Whistle is more often used on freight locomotives.

The No. 91 Chime Whistle is recommended for passenger locomotives and is adjusted to produce the most agreeable and penetrating tone.

LIST PRICES

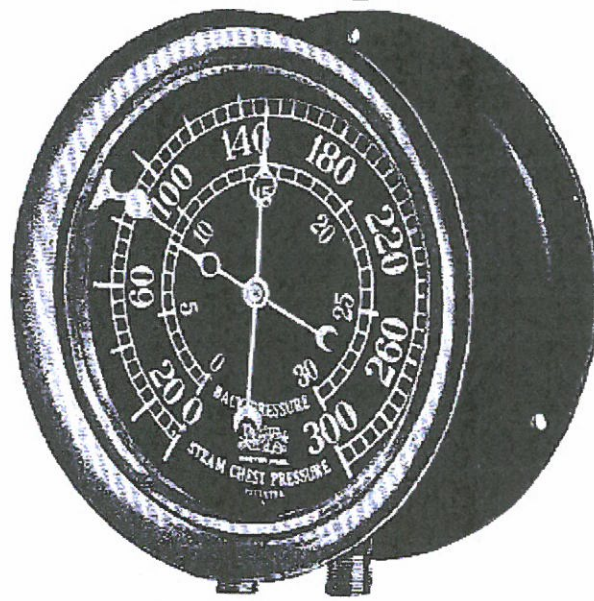
Diameter of Bell	Size Steam Pipe		No. 90 Plain Whistle	No. 91 Chime Whistle
4 inch	1 inch		\$25.00	\$26.00
5 inch	1¼ inch		35.00	37.00
6 inch	1½ inch		50.00	55.00

Ashton Locomotive Duplex Back Pressure Gage



No. 62 B.A.

Patented



No. 62 B.A.A.

The Ashton No. 62 B. A. style Gage is designed for indicating the steam chest and back pressures in locomotive cylinders. It has been instrumental in producing some very satisfactory results in fuel economy by materially reducing the back pressure on locomotives. Without such a gage the enginemen have but a vague idea of what constitutes a full throttle and how to adjust the cut-off to the best advantage.

The standard graduation of inside circle on dial is 30 pounds and the hand indicates back pressure. The outer circle is graduated to 300 pounds and the hand indicates steam chest pressure, enabling the engineman at a glance to take advantage of the longest expansion possible in the cylinder and thus secure the maximum efficiency and economy. Corresponding graduations of 50 and 400 pounds may be had if specified.

Furthermore, the gage provides a telltale or indicator by which the enginemen may, from day to day, repeat the performance of individual runs and not be dependent, as heretofore, on the sense of hearing or feeling to determine the best locomotive performance.

This gage is made in the 6 $\frac{3}{4}$ -inch size only, in either iron or brass case with style "A" threaded ring and black dial.

Sockets are cast in one piece, are of heavy construction and made to resist pipe strains that frequently affect the accuracy of some gages.

For a small additional charge this gage can be fitted with a lazy hand which can be set to indicate the most advantageous point at which to carry the back pressure as described in fourth paragraph on page 84.

When ordering with lazy hand specify No. 62 B. A. A. See cut.

Siphons must be used with all steam gages. Connections are $\frac{1}{4}$ -inch pipe size, male.

Orders should specify style number of gage, style of case, and maximum pressures.

The pulsating pressures to which Gage No. 62 B. A. is subjected are extremely severe, and to reduce these to a minimum we recommend that the Ashton No. 120 Retard Device, shown on page 107, be provided for both the steam chest and back pressure lines.

Blue print showing piping arrangement for connecting gages and retard devices will be furnished on request. Without cocks or fittings.

Size, 6 $\frac{3}{4}$ -inch DialDimensions, inches, 8 $\frac{1}{2}$ x 3 $\frac{1}{2}$

Weight, 9 pounds

PRICES ON APPLICATION

For reference list of parts and prices see pages 100 and 104.

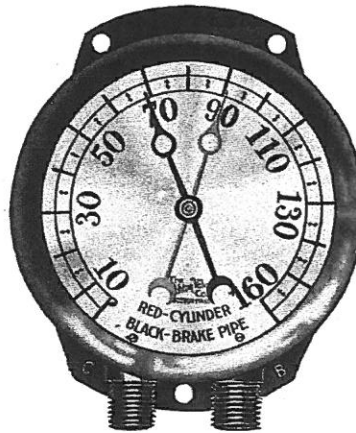
BOSTON
NEW YORK

THE ASHTON VALVE COMPANY

CHICAGO
SAN FRANCISCO

Ashton Improved Duplex Air Brake Gage

Small Pattern



No. 62 C.

This gage is similar in construction and operation to the No. 62 B. Duplex Air Brake Gage shown on page 88, but is made of smaller size with $3\frac{1}{2}$ inch diameter dial. It is used specially on locomotive driving wheel brake systems, and is made with special back flange so as to occupy as small a space in the locomotive cab as possible.

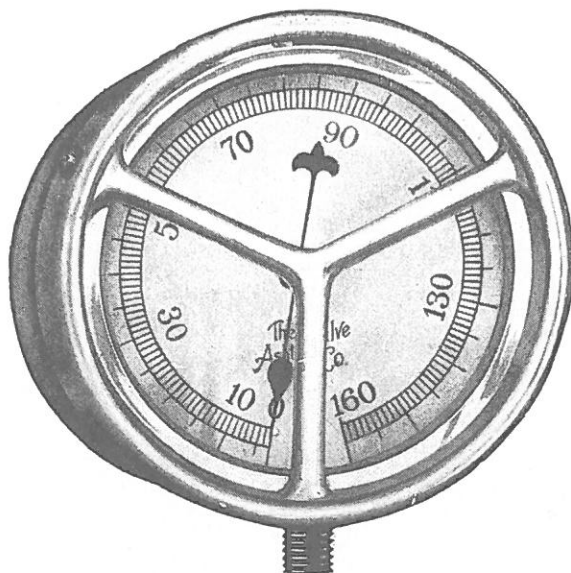
LIST PRICES

Size	Brass Case	Iron Case
$3\frac{1}{2}$ inch Dial	\$10.00	\$8.00

Subject to discount

For reference list of parts and prices see pages 95 and 98.

Ashton Protected Dial Pressure Gage



No. 59 B.

The Ashton Protected Dial Gage is a specially constructed gage to suit the requirements in air brake service and particularly in connection with the rear end train brake cock. With such a gage rear end trainmen having in charge the backing of trains can know at a glance the exact pressure on the brake system, assuring perfect control. It is also a handy and practical instrument for use of Air Brake Inspectors in repair, classification, and passenger-car yards.

The face of the gage is protected from damage by having the glass and dial set considerably below the top rim, and furthermore by protecting cross-bars. These bars will not only prevent ordinary projections from penetrating the gage, but will also stand being struck with considerable force without breaking, and when broken can be readily replaced.

These gages are made in two styles, both of which are of the 3 inch dial size, with $\frac{1}{4}$ inch connection. That as shown above has aluminum case and ring with the crossbars combined with the ring in one casting. Those with the iron or brass case have separate crossbars which can be replaced without change of ring.

LIST PRICES

3 inch Dial Size, with Iron Case and Brass Ring	\$7.00
3 inch Dial Size, with Brass Case and Ring	9.50
3 inch Dial Size, with Nickel-Plated Case and Ring	10.00
3 inch Dial Size, with Aluminum Case and Ring	11.00

Subject to discount

1894

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VOLUME XXV,
NUMBER 6

TWENTY-FIFTH YEAR

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SEE PAGE 19.

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Two Combination Passenger and Baggage, 31 ft. 6 in., four-wheeled trucks, walnut and ash finish.
Six Coaches, 46 ft. 6 in., four-wheeled trucks, ash and mahogany finish.
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Eight Coaches, 46 ft. 6 in., four-wheeled trucks, painted finish (Miller platform).
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One Baggage Car, 44 ft., four-wheeled truck, side and end doors, raised roof.
All these cars have Westinghouse brakes, Janney platforms, plush seats, bronze lamps and trimmings, Spear stoves, etc., complete. Besides these we have two private cars and five excursion or hotel cars.

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(Successor to PAINE & LADD)
WASHINGTON, D. C.

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CORRESPONDENCE INVITED.

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ATLANTIC BUILDING, 930 F STREET,
WASHINGTON, D. C.
Member of the Bar of the Supreme Court of the United States.
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THE KINSMAN BLOCK SYSTEM CO.,

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MARCH, 1894.

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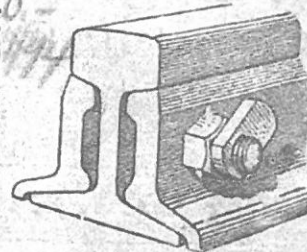
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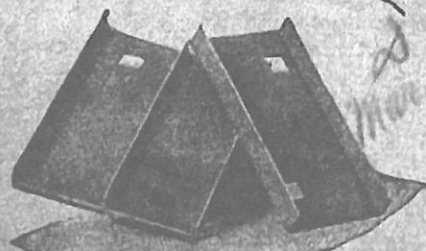
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Annual Subscription \$3.

For Index to Advertisements see pages iv., v., vi and vii.

JUNE, 1895.

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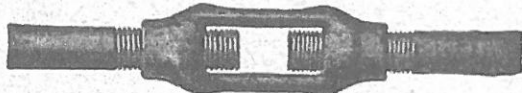
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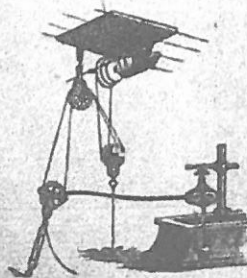
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No. 197,073.

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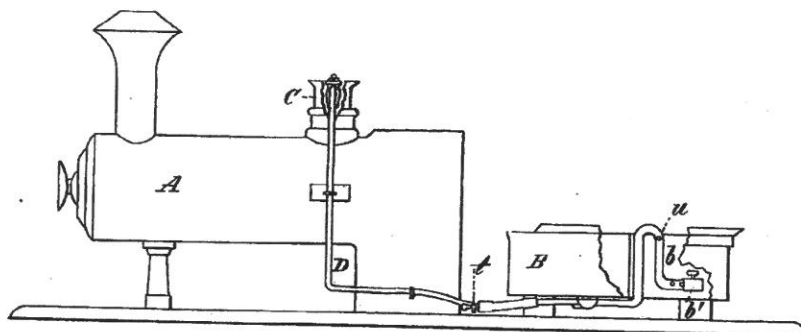


Fig. 1

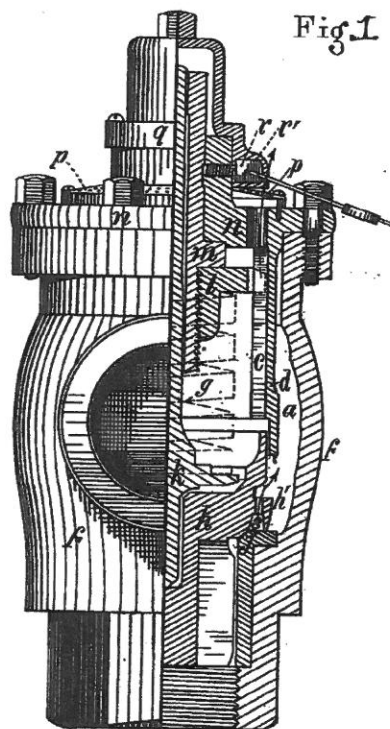


Fig. 2.

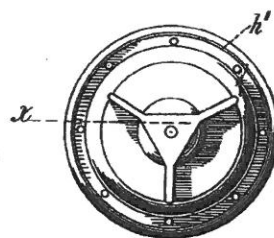


Fig. 3.

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C. H. Wade.

Henry G. Ashton
J. E. Maynard
his atty.

H. G. ASHTON.
Exhaust Mechanism for Locomotives and other
Steam Engines.

No. 201,862.

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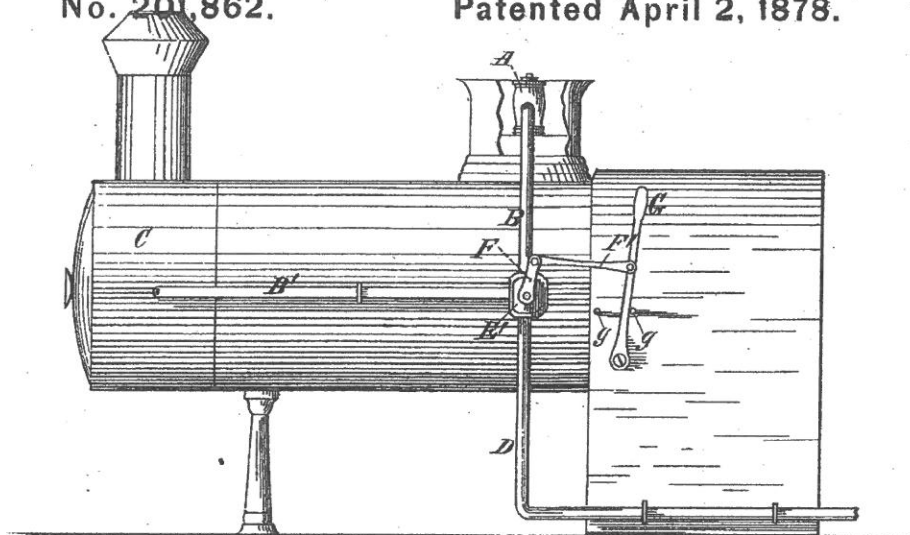


Fig. 1.

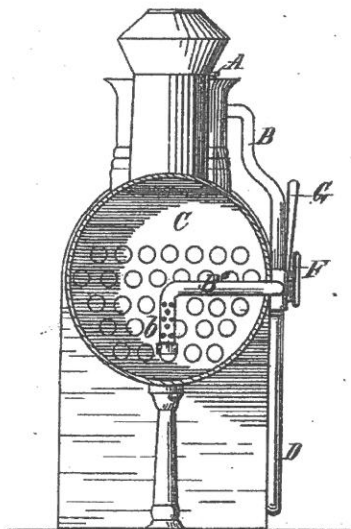


Fig. 2.

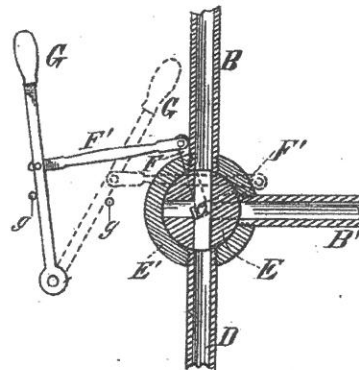
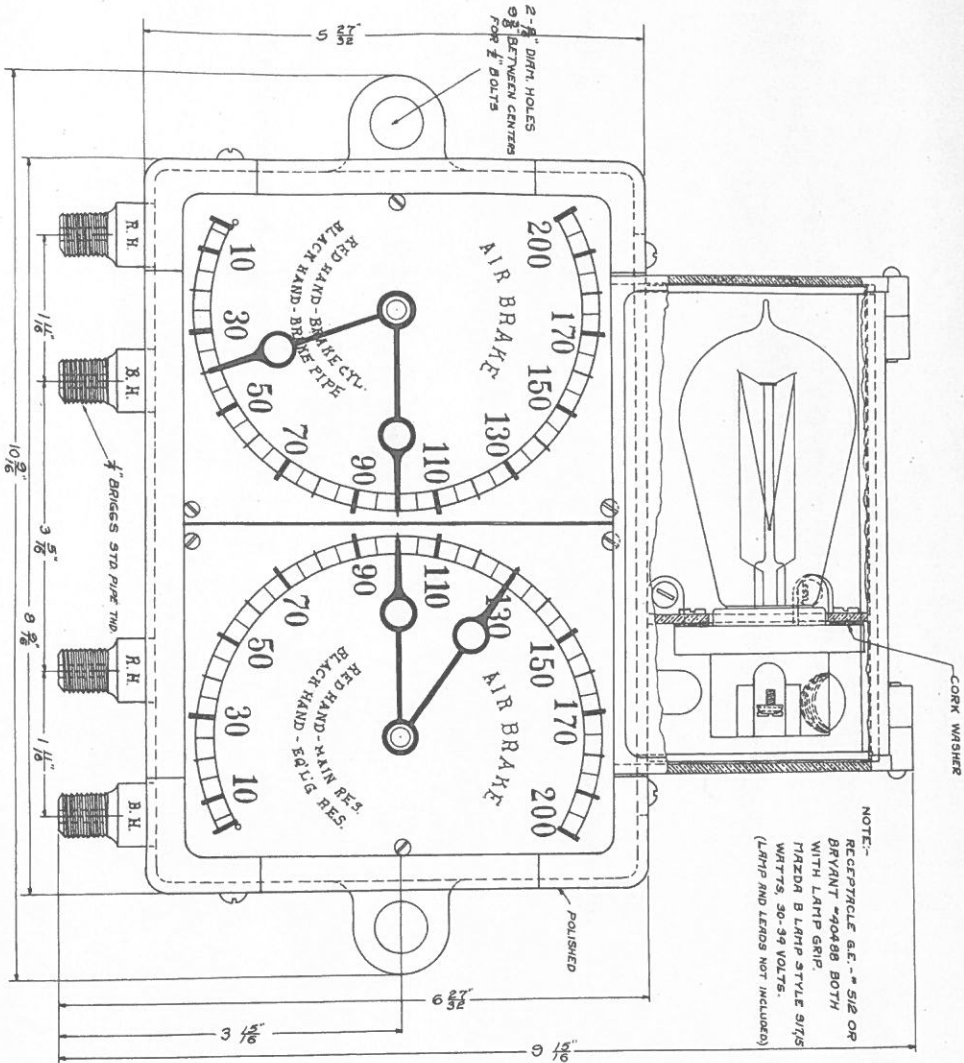


Fig. 3.

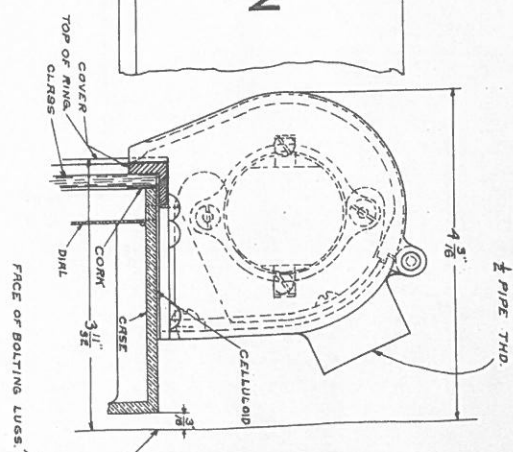
Witnesses
Georg O. G. Coale
L. H. Glade

Inventor
Henry G. Ashton
by J. R. Maynard
his atty.



NOTE:
NO. 62 Q WITH LIGHT ATTACHMENT AS SHOWN
NO. 62 Q WITHOUT LIGHT ATTACHMENT

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WATTS. 30-54 VOLTS.
(LAMP AND LENS NOT INCLUDED)



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(ASHTON VALVE CO)

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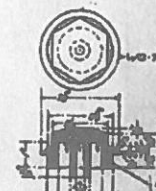
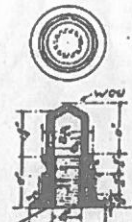
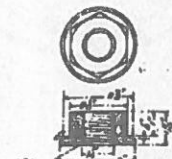
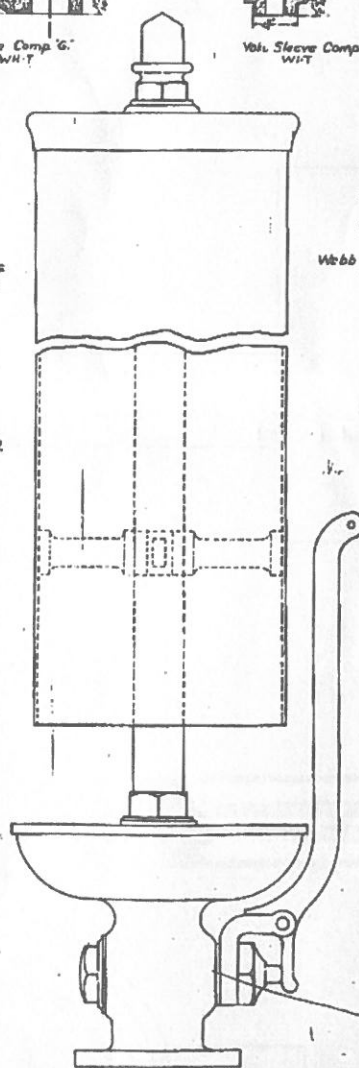
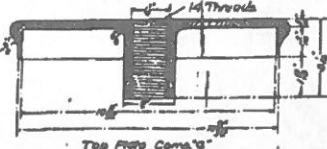
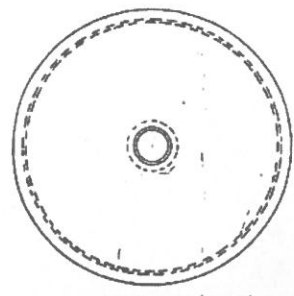
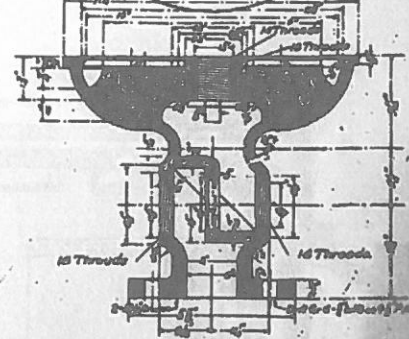
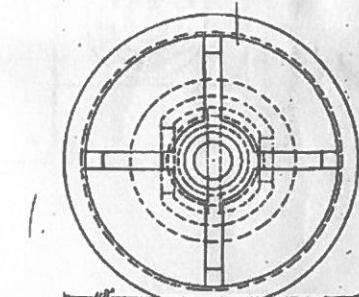
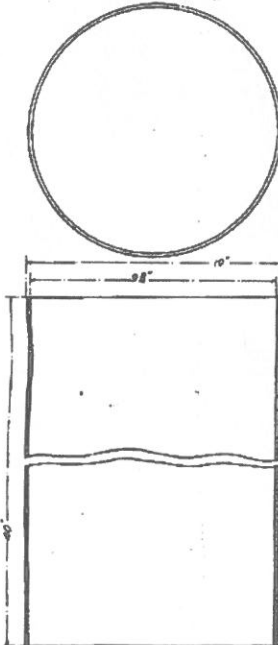
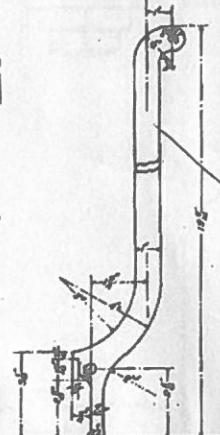
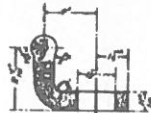
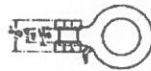
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MAY 1, 1930



ASHTON

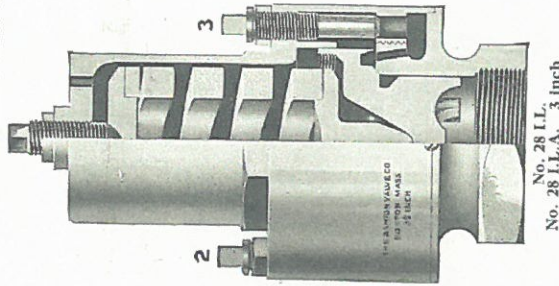
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ON three large railroads using Ashton Safety Valves exclusively, the total cost of valves and parts purchased for renewals averaged 23 cents per valve per year. These roads have approximately 4,000 Ashton Safety Valves, some of which have been in service over thirty years.

SPECIAL NOTICE: We will send one or more of our different styles of Locomotive valves on trial, subject to approval only if satisfactory after actual service test. The valves are usually made with standard pipe-thread connections the same size as the valve, but the I.L. and I.L.A. valves will be made without extra charge with special threads to fit any size dome connections, thus enabling a railroad to keep its present standard.

One of the most essential features in safety valve construction is the means provided for pop regulation with its reliability to control the blowdown, and accessibility to the men making the adjustments. The Ashton method requires no special wrenches, no rings or sleeves that are invariably corroded and cannot be moved. No outside casing to move that may be damaged by wrenches in removing or applying the valves. No danger to the workman. Read the following:



DIRECTIONS

To change "pop," or blowdown, slack check nut on one or both of the pop regulators 2 and 3, and screw down for increased "pop," or up for less "pop."

Never change set pressure of a safety valve until gage has been tested and found correct. To change set pressure, remove cap if any, slack check nut, turn pressure screw down for higher or up for lower pressure, set up check nut. For pressures 215 pounds or less, no change should be made exceeding 15 pounds above or below that stamped on the spring. For higher pressures, 20 pounds variation is allowable. When variation exceeds above limits, new springs should be ordered.

DIMENSIONS IN INCHES

Style of Valve	28 I.L.	28 I.L.	28 I.L.A.	28 I.L.	28 I.L.
Size of Valve	2 1/2	3	3	3 1/2	4
Diameter of Valve	6	6 1/2	6 1/2	7 1/8	8 5/8
Height of Valve	11 5/8	12 1/2	12 1/2	13 1/8	13 3/8
Inlet, Pipe Tap	2 1/2	3	3	3 1/2	4

We are prepared to furnish valves of smaller diameter and height if desired.

PRICES ON APPLICATION

THE ASHTON

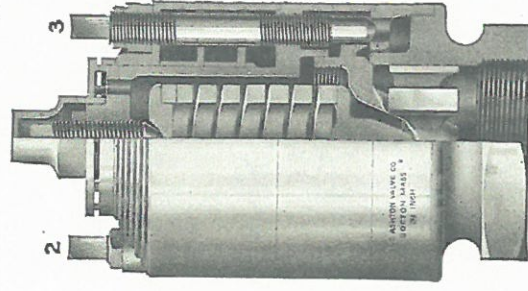
Improved Standard Locomotive MUFFLED Pop Safety Valves AND OPEN

A MUFFLED VALVE IN EFFECT — NOT IN NAME ONLY

EVER since the introduction of the first ASHTON PATENTED MUFFLED VALVE there has been a steady and ever-increasing interest among railroads in the adoption of this style valve, until now it is by far the greatest in demand. The quiet yet efficient relief given by the Muffler in contrast with the noisy Open Pop Valve is universally appreciated, and many railroads have adopted Muffled Valves for the working valves on their engines. ASHTON IMPROVED MUFFLED VALVES are unequalled for efficiency and durability, showing lowest cost for repairs.

GENERAL DESCRIPTION

The mechanical principles upon which our valves are constructed, and the philosophy embodied in their proportions, make them the most perfect and efficient safety valves of which we have any knowledge. When of proper size, these valves give instant and perfect relief to the boiler, and it is impossible to accumulate pressure above the point at which they are set. They are sensitive in action, and always reliable. At the set pressure the wing valve will rise, and will not stop blowing until relief is given, with nothing to be disarranged or get out of order. They have now been on the market for more than half a century, during which time they have met with unusual success, and held an unequalled reputation. It has always been the policy of the company to make its product in quality of material and workmanship the best possibly attainable in the state of the art. The result is that Ashton goods are recognized as being the most reliable and durable.



No. 30 M.M.
No. 30 M.M.B. 2 1/2 and 4 inch

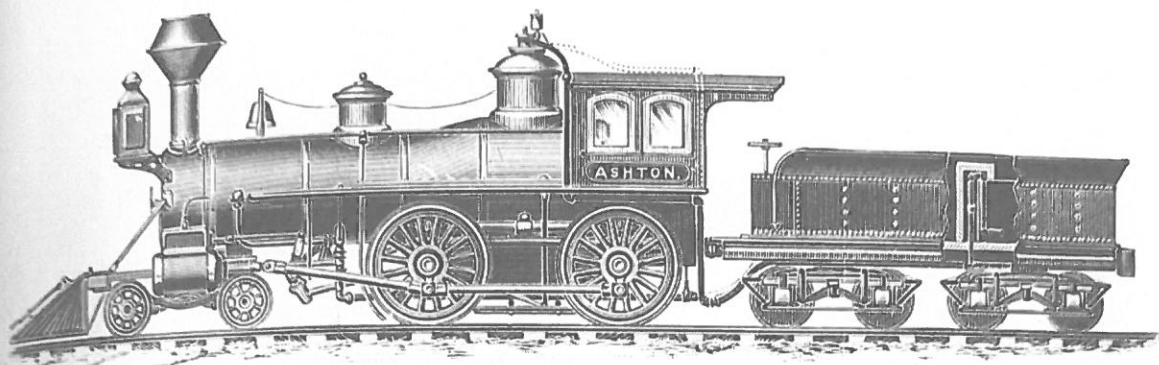
The only safety valves having a practical and efficient top outside adjustment for regulating the pop; saves time and expense, increases efficiency and durability. They also have an encased spring and the well-known knife edge pop tip which wears evenly with the seat, giving a constant pop or blowdown, controlled by regulators 2 and 3.

THE ASHTON VALVE COMPANY
161-179 FIRST STREET, CAMBRIDGE (BOSTON), MASS.
Chicago, Illinois
New York, N. Y.

San Francisco, Cal.

Printed in U.S.A.

The Ashton Noiseless Locomotive Blow-Back Pop Safety Valve.



THE above cut illustrates the usual way of piping the discharge from the Blow-Back Valve to the feed-water in the tender. It is equally applicable to pipe the valve into the smoke-arch or direct to a muffler, though a saving of fuel is effected only when piped to the tank as a feed-water heater.

List of fittings to be used in applying the Ashton Noiseless Blow-Back Safety Valve to locomotives:

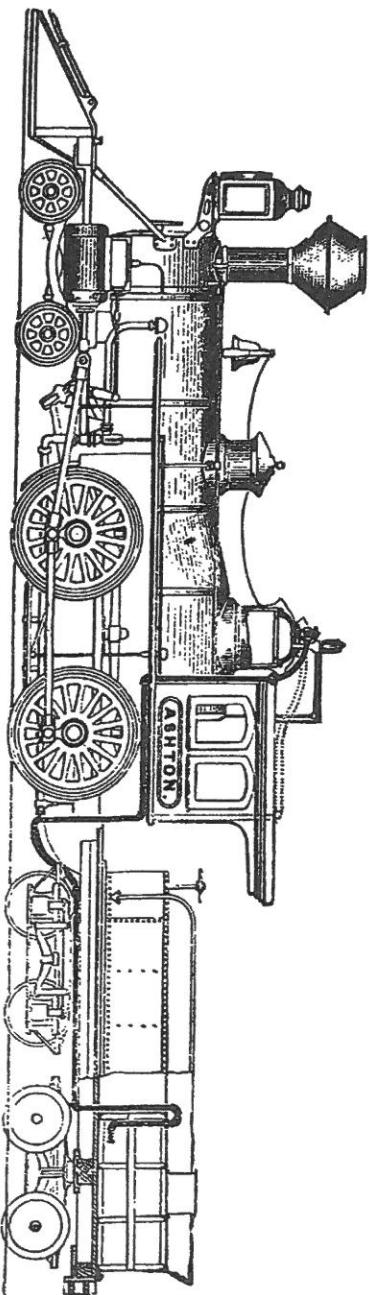
- | | |
|--|------------------------------------|
| 35 to 40 feet 1½-inch Pipe
(furnished by railroad). | 3 feet 4-ply Hose. |
| 1 Brass Offset
(according to build of engine). | 6 Elbows, 1½-inch, malleable. |
| 1 Bent Pipe (for dome). | 2 Unions, 1½-inch, malleable. |
| 1 Distributor (for tender). | 2 Lock-nuts, 1½-inch, malleable. |
| 1 Pair Hose Clamps. | 1 2-inch extra heavy Nipple. |
| 1 Set Hose Connections. | 1 Nipple, 1½-inch, 4 inches long. |
| | 1 Nipple, 1½-inch, 10 inches long. |
| | 1 ⅛-inch Pet Cock (brass). |

MARCH 1886

MONTHLY JOURNAL.

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THE ASHTON BLOW BACK VALVE.



Keep the "Pop" down when the engine is standing.

No noise in the cab.

Lighter labor for the fireman.

No blinding steam when valve is blowing.

Comfort for the engineer.

A better fuel record for the engine.

Most engineers like it after trial.

Better time ensured on grades.

Perfect relief to the boiler.

MANUFACTURED BY

THE ASHTON VALVE CO., 271 Franklin Street, Boston, Mass.

1902
THE ASHTON POP SAFETY VALVE.

This valve is made both open and with muffler. It is a particularly efficient valve and used very extensively on locomotives throughout the country. These valves may be regulated from the outside

LOCOMOTIVE APPLIANCES.

133

top of the pop and are ordinarily provided with a lock for securing the cap and thus preventing the adjustment being tampered with by irresponsibles.

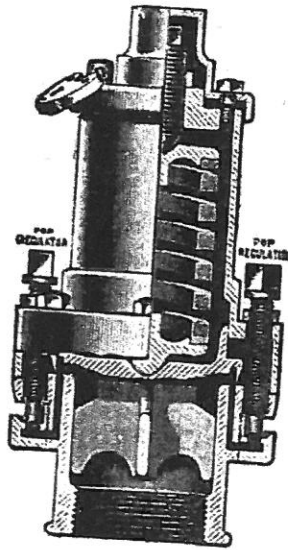


FIG. 15.
Ashton Open Pop Safety Valve.

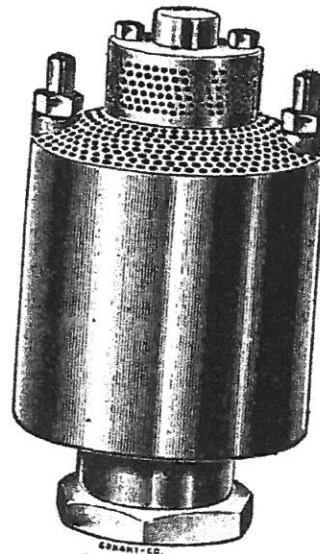
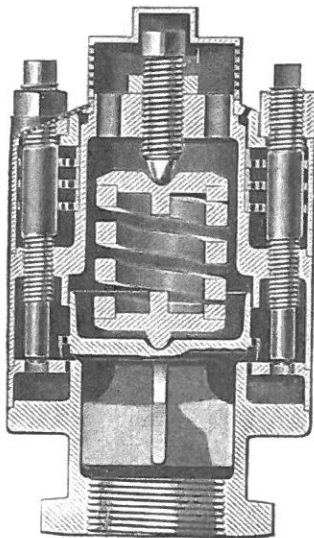


FIG. 16.
Ashton Muffler.



Ashton High Grade

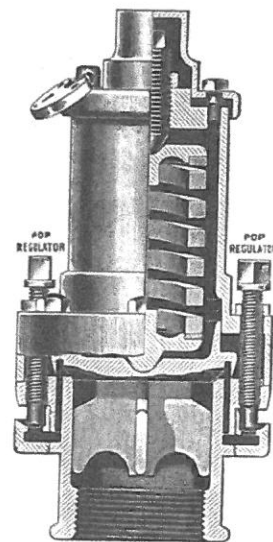


No. 30—Ashton Muffler

gives quiet relief without impairing efficiency. It has top outside adjustment of pop, and all working parts are made of best composition metal, with springs of Jessops steel.

Locomotive Mufflers, Open Pop Valves, Steam and Air Gages

The highest standard of excellence.
Guaranteed to give satisfaction and
greatest efficiency and durability.

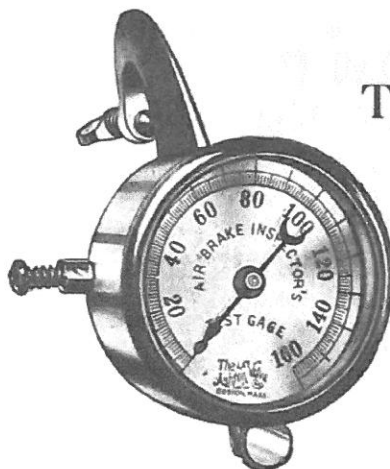


No. 28—Open Pop Valve

has downward discharge outlet, preventing cinders getting into the valve to clog it, also lock-up attachment, as well as other features as found in our standard muffler valves.



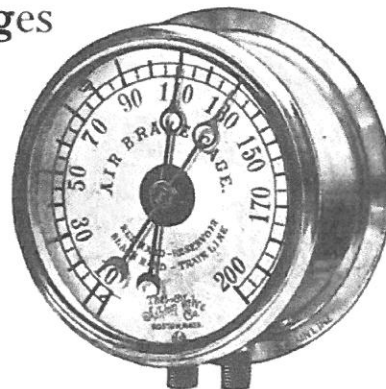
No. 52—LOCOMOTIVE STEAM GAGE.



No. 68—INSPECTOR'S TEST GAGE
with Air Brake Hose Coupling.

The Ashton Gages

embody the latest improvements in the art. They are accurately graduated, have non-corrosive movements and solid drawn seamless springs, carefully made and of best material.



No. 62—DUPLEX AIR BRAKE GAGE.

THE ASHTON VALVE CO.,

271 Franklin Street, Boston, Mass.

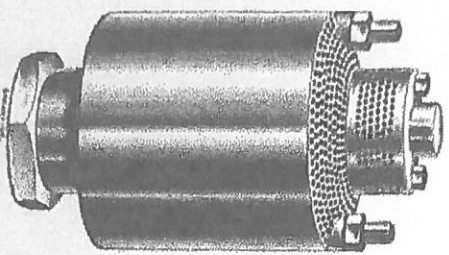
Branches—New York, Chicago, San Francisco, London, Vienna.

(References, see pages 301, 302, 303, 312.)

Ashton Muffler and Open Pop Safety Valves Steam Gages and Chime Whistles

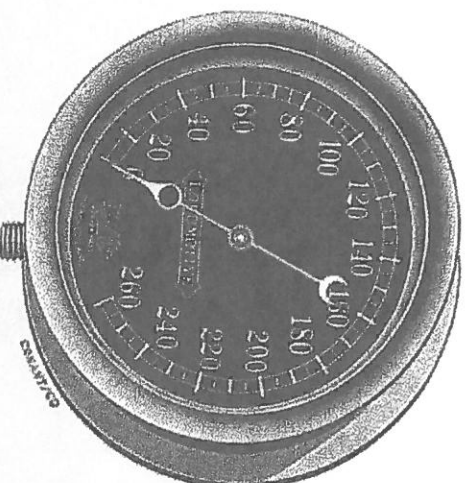
The Highest Standard Made, Guaranteed to Give Satisfaction

Ashton Valves give greatest efficiency and durability. They are the only ones having outside top regulation of the pop, insuring economy of steam and long service.



No. 30 Muffler.

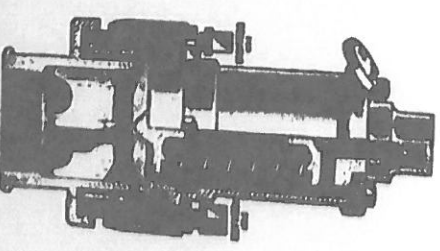
Three
Medals



No. 52 Steam Gage.

Ashton Gages embody the latest improvements in the art. They have non-corrosive movements, with German silver pinions and arbors, also solid drawn, seamless double tubes, and are non-freezing.

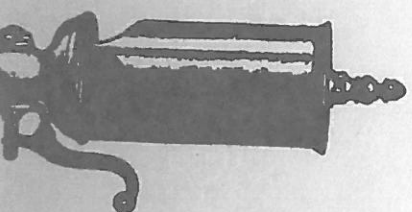
Highest Awards
at the
Paris Exposition
1900



No. 28 Open Pop.

Specify Ashton Fittings
and
Get the Best

The Ashton



Valve Company

Crial Orders Solicited
subject to
Approval Only if Satisfactory

ASHTON

Air Brake Inspector's

TEST GAGES

Single and Duplex

AIR BRAKE GAGES

Locomotive Huffer and Open Pop

SAFETY VALVES

Locomotive

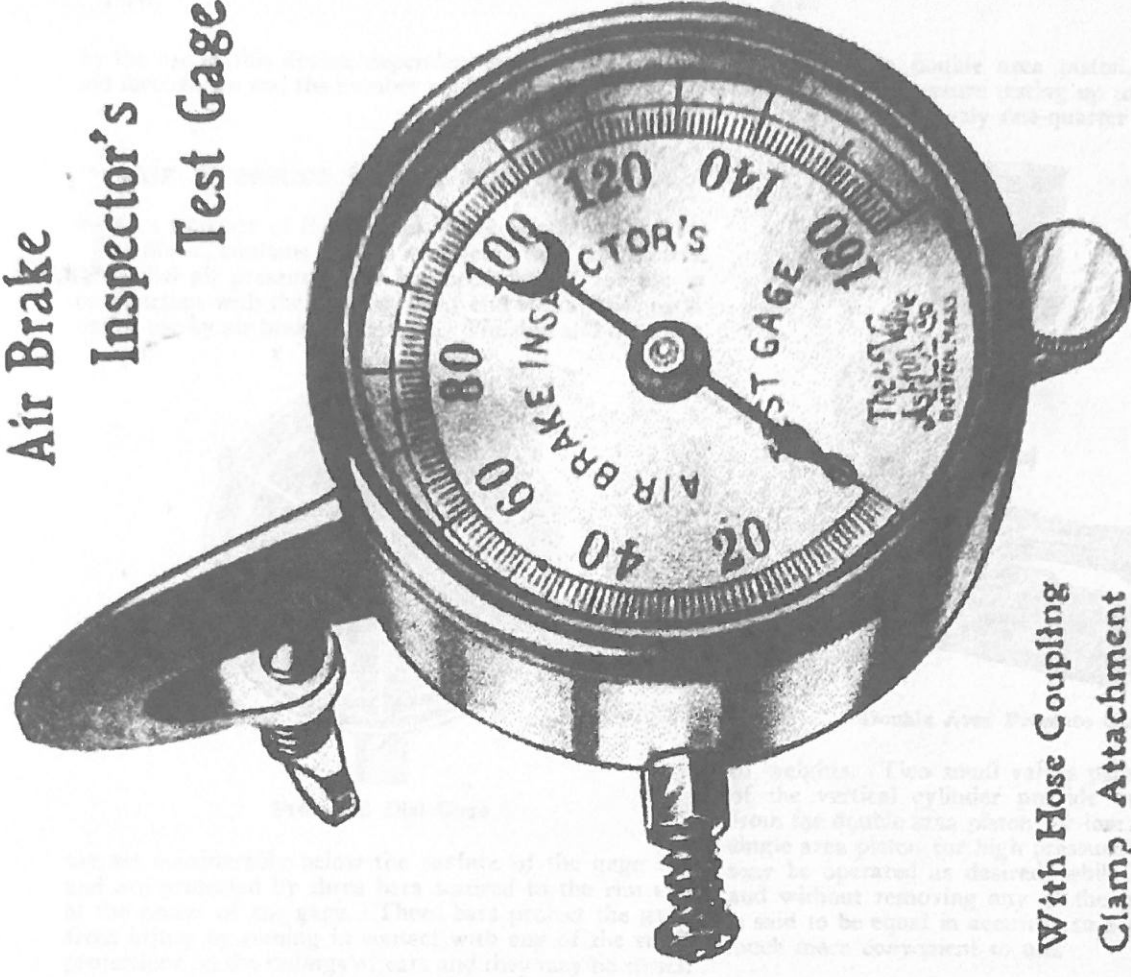
STEAM GAGES

ASHTON is a

STANDARD for

SUPERIORITY

Air Brake
Inspector's
Test Gage



With Hose Coupling
Clamp Attachment

THE ASHTON VALVE CO.

271 Franklin Street, - Boston, Mass., U. S. A.

sures crews, and lock nuts interchange in the several sizes with those of the No. 30 M. M. Muffler.

Ashton Muffled Pop Safety Valves
Style No. 30 M. M.

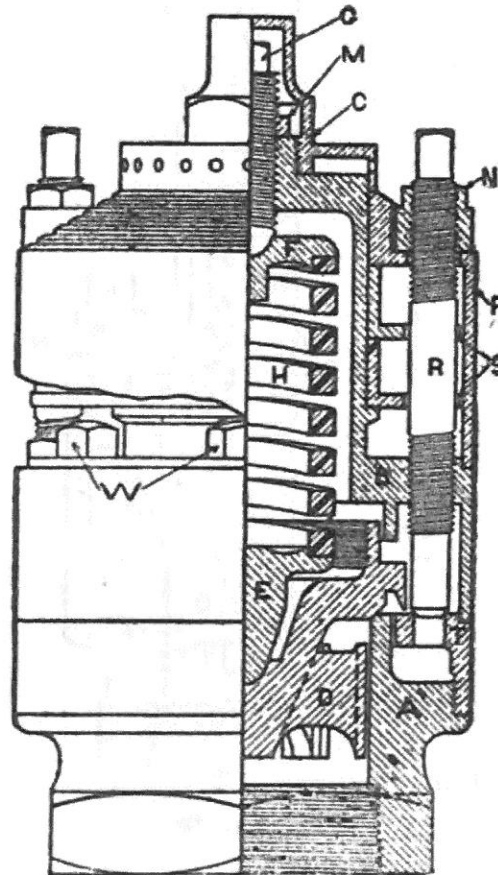


Fig. No. 50

No. 30 M. M. (Master Mechanics) Muffled Valve with outside pop regulators, bolted body type, connection standard pipe thread, same size as valve. Springs, spring discs, cap, wing valves, pressure screws, and lock nuts interchange with No. 28 M. M. Open Pop. Designed in accordance with recommended practice of the Committee on Safety Valves of the American Railway Master Mechanics' Association, 1912.

**Ashton
Locomotive
Gages and
Safety Valves**

For more than half a century the Ashton Valve Company has been engaged in the manufacture of safety valves and gages for locomotive service. During all of this exceptionally long industrial career this company's product has successfully met the most exacting railroad requirements. Improvements have been made constantly, and have kept the product always abreast of the needs of locomotive construction until today Ashton equipment is recognized generally as absolutely dependable.

The Ashton Master Pilot Steam Gage, style No. 62BB, is constructed with special dials having two circles of pressure graduations. The

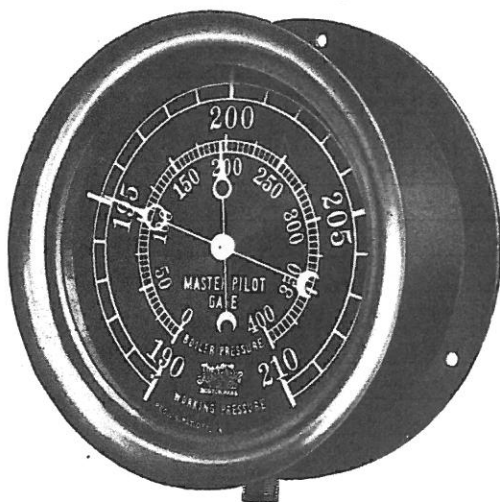


Fig. 770—This Ashton Master Pilot Steam Gage, No. 62BB, Gives More Accurate Readings Within the Working Pressure Range

outer circle is graduated only through the pressures from 190 to 210 lb., which permits graduation in one-pound spaces. The inner circle is graduated through the full range of pressure from zero to 400 lb. With the enlarged graduations of the outer circle the enginemen can easily detect slight fluctuations within the range of working pressure. This gage is particularly adapted for use on stoker fired and oil burning locomotives and its use will result in greater efficiency and economy.

The Ashton Protected-Dial Gage, No. 59C, Fig. 765—is a specially constructed gage to suit the requirements in air brake service and particularly in connection with the rear end train brake cock. With such a gage, rear end trainmen, when backing trains, can know at a glance the exact pressure on the brake system. It is also a handy and practical instrument for use of air brake inspectors in repair, classification, and passenger-car yards. The face of the gage is protected from damage by having the glass and dial set considerably below the top rim, and furthermore by protecting cross-bars.

The Ashton Quadruplex Air Brake Gage, No. 62Q.E. (with electric light attachment) and No. 62Q (without electric light attachment), Fig. 763—Combines two duplex gages in one case. It provides uniformity of dials, compactness, and

economy of space and the dials, being close together, allow the engineer to concentrate his attention on the brake pipe and equalizing reservoir hands, so that smoother train handling results.

The Ashton Double Dial Steam Gage, No. 52D.I., is particularly designed for use on stoker

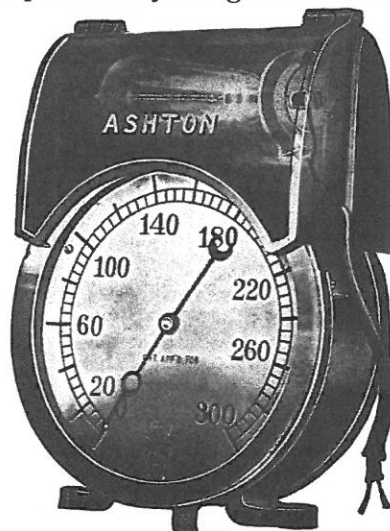


Fig. 771—The Ashton Double-Dial Steam Gage No. 52D.I., Can Be Read from Either Side of the Cab

fired and oil burning locomotives and those having large fire boxes which extend far into the cab. It can be mounted at right angles to the boiler backhead and the two dials, one on each face of the gage, allow both engineman and fireman to read the gage from their respective sides of the cab. No duplication of lighting or piping is required.

Ashton Pop Safety Valves—see Page 442—muffled and open, with top outside regulation, comply strictly with the recommended practice of the A. R. A. They have standard wrench size hexagon, full size standard pipe thread connections, 0.10-in. valve lift and 45-deg. bevel seats. The springs are handforged special steel. Working parts are high-grade composition and interchangeable in both open pop and muffled valves.

The Ashton Improved Quartering Gage, No.

110B, for locomotive driving wheels is a dependable time-saving device for testing crank pin locations. It



Fig. 772 — With This Ashton Quartering Gage, No. 110B, Crank Pins Can Be Tested in Any Position of Drivers

is of special advantage when applying new axles to old or new wheel centers and will accommodate 18-in. to 32-in. stroke engines.

For other products and branch offices, see classified and alphabetical indexes.

THE ASHTON VALVE COMPANY, BOSTON, MASS.



Fig. 762—Ashton Vertical Reading Steam Gage.

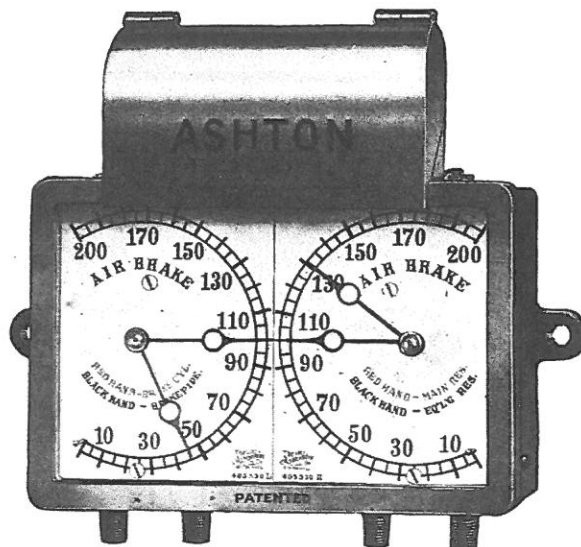


Fig. 763—Ashton 5-in. Dial Quadruplex Air Brake Gage No. 62 Q-E with Electric Light Attachment.

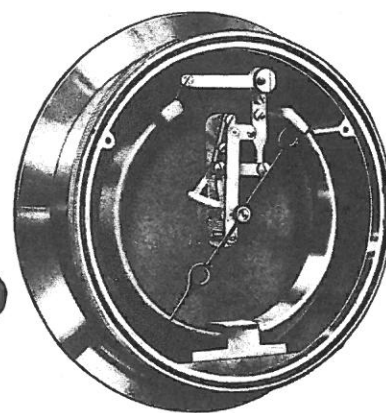


Fig. 764—Ashton-Lane Bourdon Double Spring Steam Gage.

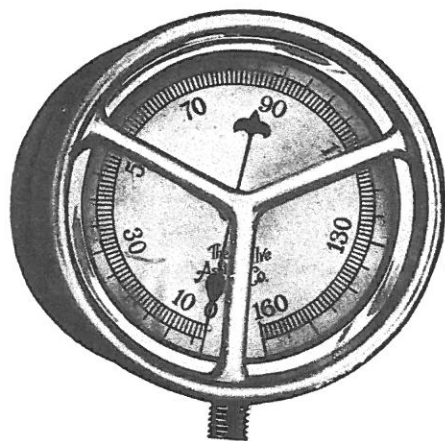


Fig. 765—Ashton Protected Dial Pressure Gage for Air Brake Back-up Hose.

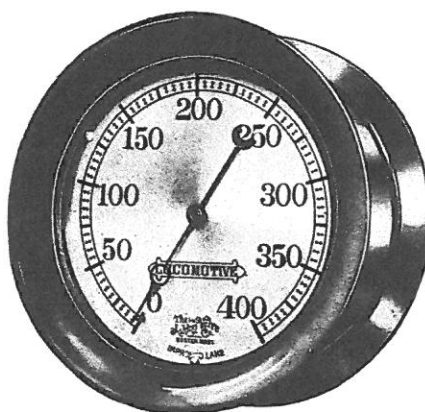


Fig. 766—Ashton-Lane Bourdon Double Spring Steam Gage.

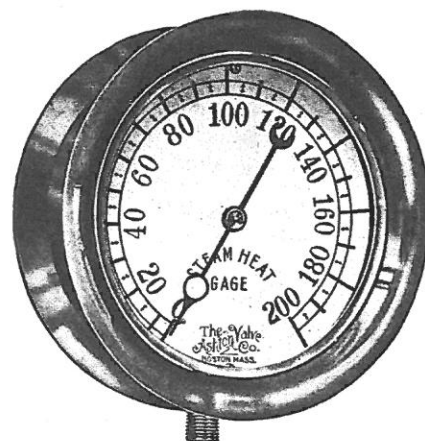


Fig. 767—Ashton Steam Heat Gage.

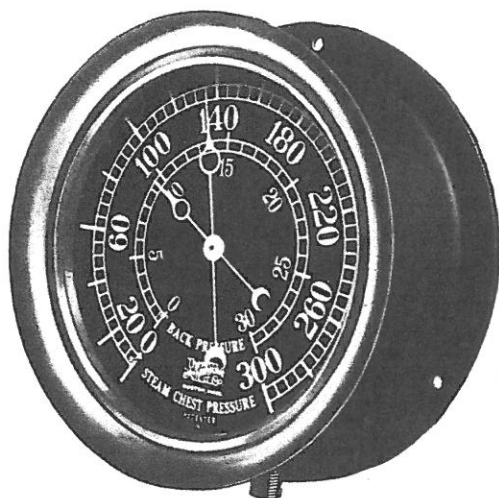


Fig. 768—Ashton Duplex Back Pressure Gage, No. 62 BA. Indicates Both Back Pressure and Steam Chest Pressure.

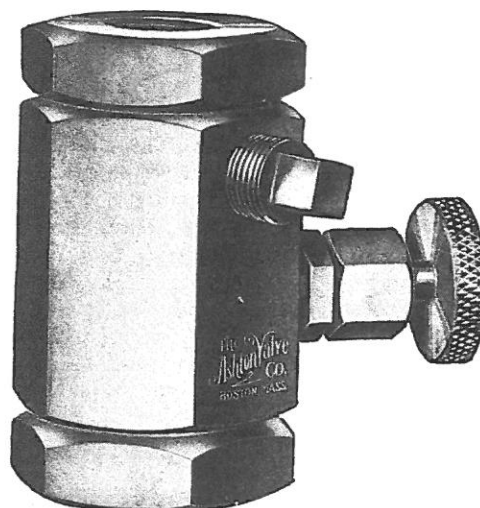


Fig. 769—Ashton Pulsation Retard Device Used with Duplex Back Pressure Gage.