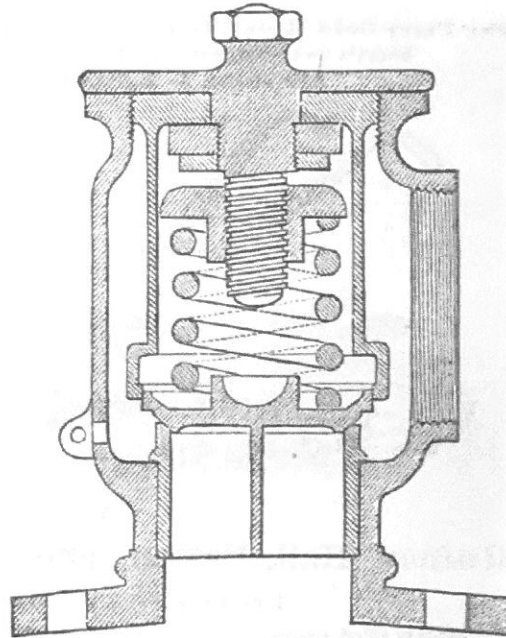
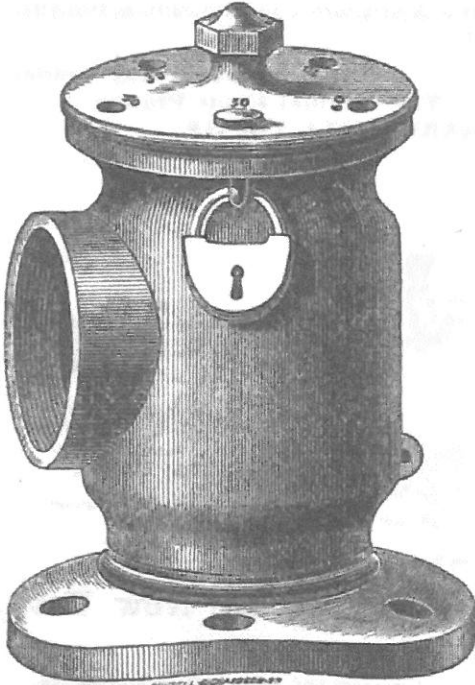


HENRY G. ASHTON,
Founder of
The Ashton Valve Company.

ASHTON'S PATENT Insulated Lock Safety Valve.



Adopted by U. S. Board of Supervising Inspectors of Steamboats, at the Annual Meeting held at Washington, D. C., in 1872.

The undersigned are sole Manufacturers of

ASHTON'S LOCK SAFETY VALVES.

Perfect Security against Boiler Explosions, whether Steamboat, Locomotive, or Stationary.

The great advantage of the use of this valve is, that it perfectly relieves the Boiler of over-pressure of Steam at the exact point at which it is set. In spite of the attempts of the fireman to get more steam than the owner, chief engineer in charge, or inspector shall determine, the key being kept by one of the above three. It is sensitive in action, and always perfectly reliable, and will fully recommend itself to any practical mechanic or the public, who are constantly being shocked by the horrors of "BOILER EXPLOSIONS."

As will be seen by the above sketch, the valve is so arranged that no tampering or excess of pressure can be obtained. At the given pressure, the valve "WILL RISE," and cannot be stopped blowing until the pressure of steam in the boiler is diminished, when it will "CLOSE ITSELF" at the pressure at which it opened — this is a point at which other valves have failed. Thus the Boiler is completely under control of the valve. A lever is also arranged as an extra precaution, to enable the engineer to raise or try the valve, to fully satisfy himself it is in perfect order, at the same time giving no opportunity to prop up or tamper with it to obtain more pressure.

The valve, when raised off its seat by excess of pressure, slides up a very nicely-fitted brass cylinder and guard, inside of which is the spring with all connections, thus preventing any possible means of being tampered with by "ANY ONE."

The spring and all working parts being quite insulated and completely inclosed in the cylinder, cannot be affected by the steam or other elements.

The above sketch represents a Valve for stationary and steamboat boilers, in the nozzle of which a pipe is screwed to conduct the steam outside of the building, and prevent its blowing about the boiler-room. Others are made for locomotives and all outdoor engines, with same internal arrangements, but with slot-holes in outside case.

In ordering the Insulated Valve, please state the size of boiler and working-pressure of steam.

PRICES:

Size, 1 1-2 in., \$25; 2 in., \$30; 2 1-2 in., \$40; 3 in., \$55; 4 in., \$70; 5 in., \$85.
Locomotive size, \$80. Other sizes on application.

All communications should be addressed

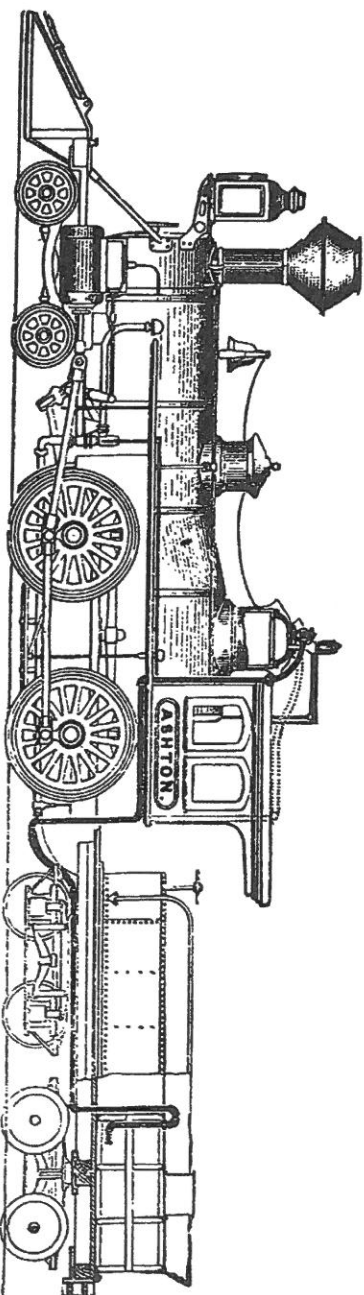
ASHTON'S LOCK SAFETY-VALVE CO.,

Office, 133 Pearl Street, BOSTON, MASS.

H. G. ASHTON, PATENTEE.

C. J. BISHOP, TREASURER.

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.

1889

Young is the athlete that easily leads

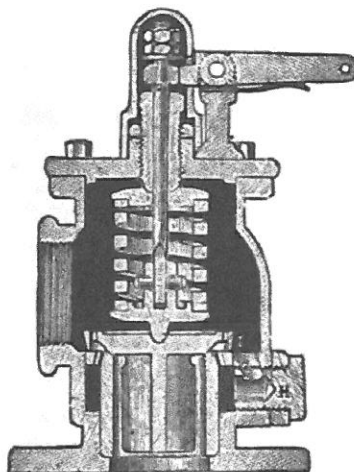
THE ASHTON VALVE CO.

MANUFACTURERS OF

LOCKED "POP" SAFETY VALVES

For Stationary, Marine and Portable Boilers.

FINE STEAM YACHT VALVES A SPECIALTY



FOR STATIONARY BOILERS.

Absolute Security against Boiler Explosions. Automatic, Non-Corrosive, Durable, Accurate. Cannot be tampered with.

Water Relief Valves

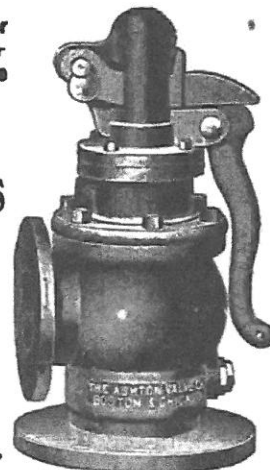
FOR

STEAM PUMPS

AND

STAND PIPES,

ALWAYS CONTROLLING PRESSURE.



FOR MARINE BOILERS.

The product of the Ashton Valve Co., of Boston, has become widely known as the best of its kind in material and workmanship. The best skill attainable in the art, together with the most accurate methods known in this department of mechanics, is employed, and every valve bearing their stamp challenges comparison with the best now made in the world. SEND FOR CATALOGUE.

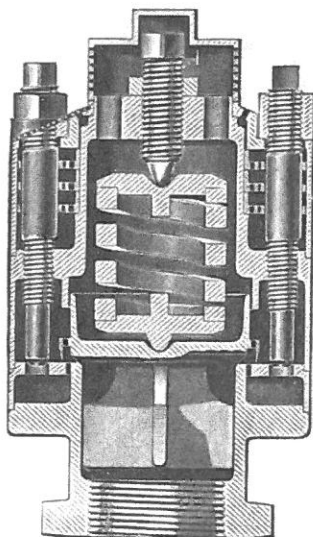
OFFICE and WORKS, 271 Franklin St., BOSTON, MASS.

New York Office, 92 Liberty St. Western Office, 218 Lake St., Chicago, Ill.

In parlor gymnastics, at Ninety-one's feeds.

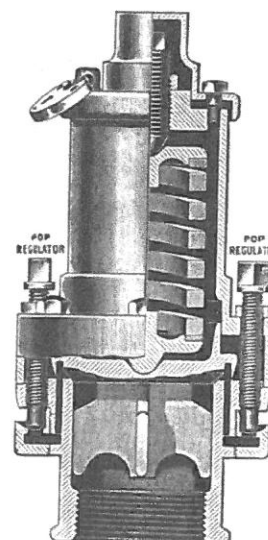
Ashton High Grade

Locomotive Mufflers, Open Pop Valves, Steam and Air Gages



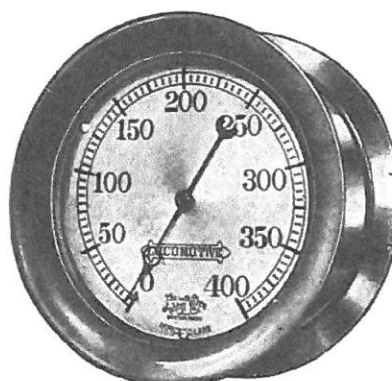
No. 30—Ashton Muffler

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.



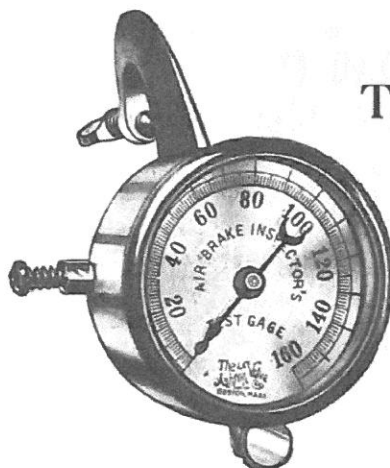
No. 28—Open Pop Valve

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.



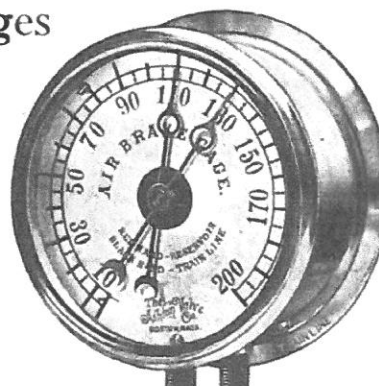
No. 52—LOCOMOTIVE STEAM GAGE.

The Ashton Gages



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

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.)

1910

The Ashton Valve Company

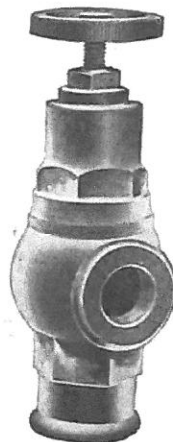
Boston, Mass.

The Ashton High Quality Ammonia Relief Valves and Pressure Gages

Ashton Valves

have Jessop steel springs and special made seats that will remain tight in continued service.

Inlet and outlet connections are on the base casting, whereby the valves can be taken apart without disturbing the piping.



No. 23 Style, Relief Valve, made with either screwed or flanged connections.

NOT

Lowest Priced, Poorest and Dearest

BUT

Highest Priced, Best and Cheapest

Made for those who discriminate for quality in preference to first cost

Guaranteed

to be the most durable and reliable, and made of the best quality of material and workmanship, insuring perfect satisfaction.

Specify the Ashton and get the best.



No. 57 Style Gage
Graduated to any desired maximum of pressure and vacuum.

Ashton Gages

are made with all the interior parts of iron, excepting the springs, which are of seamless steel tubing. The dials are accurately graduated to exactly correspond with the spring and movement in the gages to which they are fitted.

THE ASHTON VALVE CO.

271 Franklin St., Boston, Mass.

128 Liberty St., New York, N. Y.

174 Lake St., Chicago, Ill.

THE ASHTON VALVE COMPANY

Manufacturers of Pop Safety and Relief Valves, Pressure and Vacuum Gauges

Main Office, 271 Franklin Street
BOSTON, MASS.

Works, Cambridge, Mass.

NEW YORK: 128 Liberty St. CHICAGO, ILL.: 174 N. Market St. LONDON, ENG.: St. John's House.

PRODUCTS

ASHTON POP SAFETY AND WATER RELIEF VALVES; ASHTON PRESSURE AND VACUUM GAUGES; ASHTON RECORDING GAUGES.

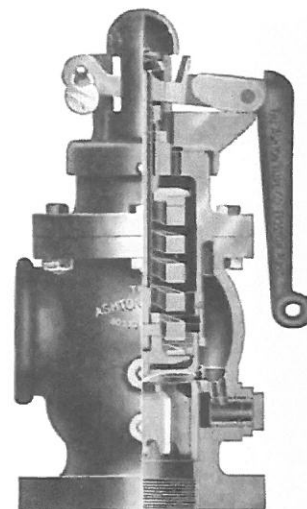
ASHTON POP SAFETY VALVE NO. 20 STYLE

For use on Stationary Boilers. It is made with compound lifting attachment capable of raising the valve part off the seat, one-eighth the diameter of the valve opening; bevel seat at an angle of forty-five degrees; encased spring, protecting it from the volume of steam and preventing back pressure; spherical or ball-bearing pressure screw and bottom spring disk. It has full sized connections to both inlet and outlet.

This valve embodies, also, the following exclusive features, well known to users of Ashton Valves:

Knife-edge pop lip, which wears evenly with the seat, insuring an unvarying pop in long service.

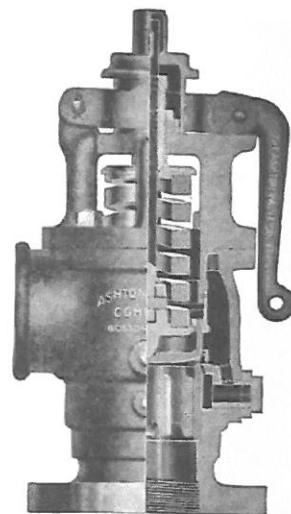
Outside screw-plug pop regulator, affording quick and ready means of adjustment of pop while pressure is on boiler and without taking valve apart.



No. 20 Style

ASHTON SUPERHEAT POP SAFETY VALVE NO. 17 STYLE

For use on Superheaters. It is constructed with body of cast steel, with the valve part and seat bushing of solid nickel, and spring of Jessop's steel, outside the valve body, whereby it does not come in contact with the steam. It has compound lifting attachment easily raised by hand, and the set pressure adjustment is locked to prevent tampering. This valve has proven the most satisfactory on superheat installations, and can therefore be consistently guaranteed to give perfect satisfaction.



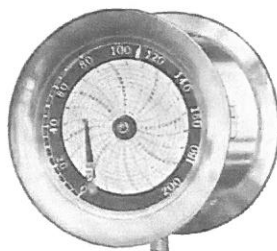
No. 17 Style

ASHTON PRESSURE AND VACUUM RECORDING GAGES ADAPTA- BILITY

Carefully made of the best materials and workmanship, the clock movement being particularly high grade and made especially for the purpose, thus insuring absolute accuracy and durability.

They are adapted for steam, water, ammonia, air or gas, and in steam boiler plants insure careful firing, steady pressure and greater efficiency and economy.

Produces a daily record or chart, showing the exact variations in pressure, both by day and night, giving the time and duration of all changes. The pressure line is recorded in red ink on the paper chart, which is graduated in pressure lines, and also fractions of an hour.



Style No. 74. Recording and Indicating Gage

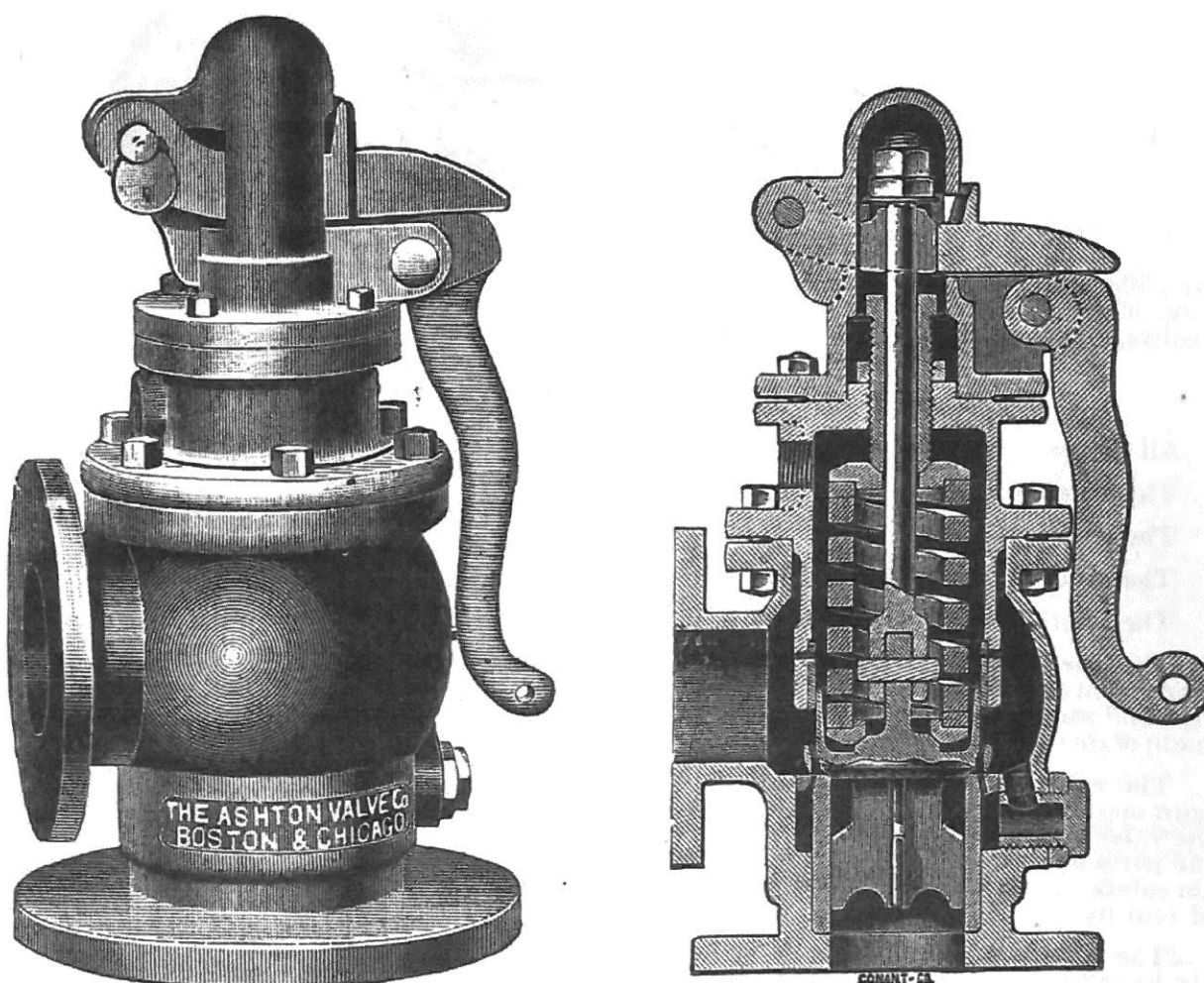
RECORDING AND INDICATING GAGE STYLE NO. 74

The indicating hand and figured dial outside the recording chart, enables the pressure to be easily read at any time.

THE SPRING SAFETY VALVE

Construction.—In this type of valve, the force due to the compression of a spring is used to oppose the steam pressure instead of a weighted lever.

The spring, as shown in figs. 30f and 30g is attached to the lower part of the valve spindle and may be placed inside or outside of the valve chamber.



FIGS. 30c and 30d.—Exterior and sectional views of Ashton spring pop safety valve. A spring of known strength, whose tension is adjustable to desired pressure, holds the valve upon its seat. By the lever attached to the valve stem, however, the valve may be raised, allowing the steam to blow off, whenever desired.

The upper end of the spring bears against a cup attached to an adjustable bushing by means of which the pressure on the valve is regulated.

The curved lever arm acting at the top of the spindle is for the purpose of operating the valve occasionally by hand to guard against it "sticking," and

ASHTON QUALITY PRODUCTS

Pop Safety Valves—Saturated & Superheated Steam Pressures
Relief Valves—Steam, Air, Gas and Liquid Pressures
Pressure & Vacuum Gages—Indicating and Recording
Altitude Gages Whistles
Alarm Gages Pressure & Vacuum Testing Pumps

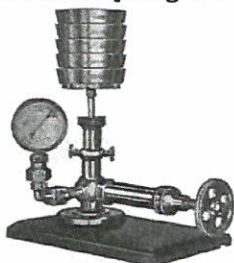
Approved by the United States Board of Supervising Inspectors of Steam Vessels; Bureau of Steam Engineering; United States Navy, and by Lloyds Register.

Ashton products have, for the past fifty years, been the standard for all discriminating buyers, and are specified by the leading Marine Architects and Engineers because of their mechanical superiority and accuracy.

Make Ashton Your Standard

ASHTON MARINE POP SAFETY VALVES

have successfully controlled all pressures. Manufactured of the highest grade material, with non-corrosive 45° or flat seats; bottom and top guide wing valves; Ashton patented blow-back head and never-failing outside pop regulator; hand-wound springs and cam lever, or rocker shaft, lifting apparatus. Manufactured in single or duplex type; enclosed or outside spring for saturated or superheated steam.



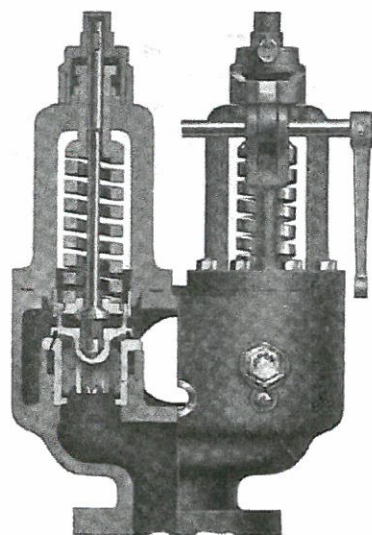
No. 79

ASHTON DEAD-WEIGHT PRESSURE GAGE TESTERS

are the standard of accuracy, easily transported, and fully as efficient as a mercury column. The testing or recalibration of pressure gages can be accomplished with but one-quarter the number of weights that are required by the ordinary tester. This is made possible by adjustment of the ASHTON PATENTED CONTROL VALVES on body of cylinder. Gage users cannot afford to be without this useful instrument.



No. 52



No. 16A

ASHTON IMPROVED PRESSURE GAGES

for accuracy and durability have no equal. Manufactured for all pressures of the highest grade material, with non-corrosive movements; seamless drawn expansion tubes, hand graduated dials accurately indicating the pressure on each individual expansion tube. For the marine service we recommend the No. 52 double spring pressure gage.

THE ASHTON VALVE CO.

161 First St., Cambridge, 41, Mass.

NEW YORK
137 Liberty St.

CHICAGO
318 W. Washington St.

SAN FRANCISCO
503 Mission St.

THE ASHTON VALVE COMPANY

Manufacturers of Pressure and Vacuum Gages

MAIN OFFICE AND WORKS

161 First Street, Cambridge 41
BOSTON, MASS.

BRANCHES

NEW YORK, N. Y., 137 Liberty Street

CHICAGO, ILL., 318 West Washington Street
SAN FRANCISCO, CAL., 503 Mission Street

Products.

PRESSURE and VACUUM GAGES.

For Pop Safety and Relief Valves, see page 1006.

Ashton Pressure and Vacuum Gages.

Ashton pressure and vacuum gages are conscientiously made of the best material. Solid drawn seamless tubes are used. The movements are non-corrosive, having German silver pinions and arbors. Each dial is accurately and separately made to exactly correspond with the spring and movement of the gage to which it is fitted. The graduations and figures are indented, so that they can be easily read, and will not wear off. The springs are well seasoned to prevent setting.

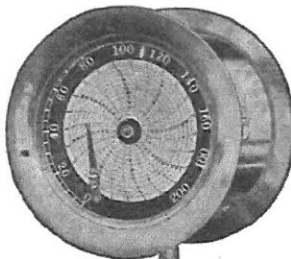
The No. 51 style pressure gage is commonly used on stationary boilers; is made in all sizes up to 24-in. diameter dial, and with either iron, brass or nickelplated case. The No. 52 style, with double spring, is similarly made; but more adapted for locomotive, marine or water pumping service where there is considerable vibration, or rapid fluctuation in pressure.

Recording pressure gages with 24-hour charts and graduated for any desired pressure are made in two styles, Nos. 73 and 74, and with brass or nickelplated cases. The latter is both registering and recording.

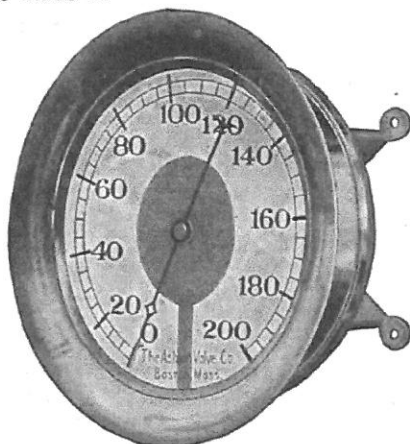
No. 69 is so constructed that an incandescent electric light may be placed behind it, and by means of a glass back the light is directed on to the ground glass dial. This is es-



NO. 51 PRESSURE GAGE



NO. 74 INDICATING AND RECORDING GAGE



NO. 69 ILLUMINATED DIAL GAGE

pecially valuable in poorly lighted boiler rooms, or for night operation.

No. 55 Ashton hydraulic pressure gage is constructed with heavy steel tube insuring great durability and accuracy. It is made suitable for any high pressure service over 1000 lbs. and with dial graduated in pounds pressure per sq. in. only, or tons on ram.



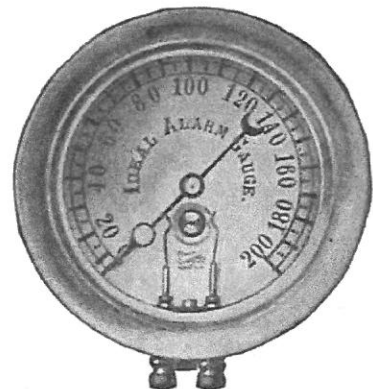
NO. 55 HYDRAULIC GAGE

No. 57 ammonia pressure gage is made with steel tube, and the other interior parts of iron. The dial is graduated to any desired maximum pressure, or pressure and vacuum. This gage is durable, accurate and sensitive in action, being guaranteed to give satisfactory service on any ammonia installation.



NO. 57 AMMONIA GAGE

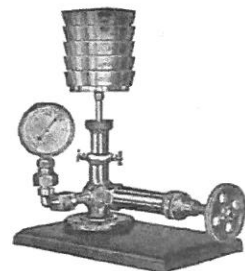
No. 78 is a new design alarm gage combined with an automatic electric circuit closing attachment, which can be operated to give an electric bell alarm at any desired pressure and at any distance away from the gage.



NO. 78 IDEAL ALARM GAGE

Ashton Dead-Weight Gage Testers.

The Ashton dead-weight gage testers are made in several styles and capacities up to 1000 lbs. These furnish the most accurate and reliable method of testing pressure gages.



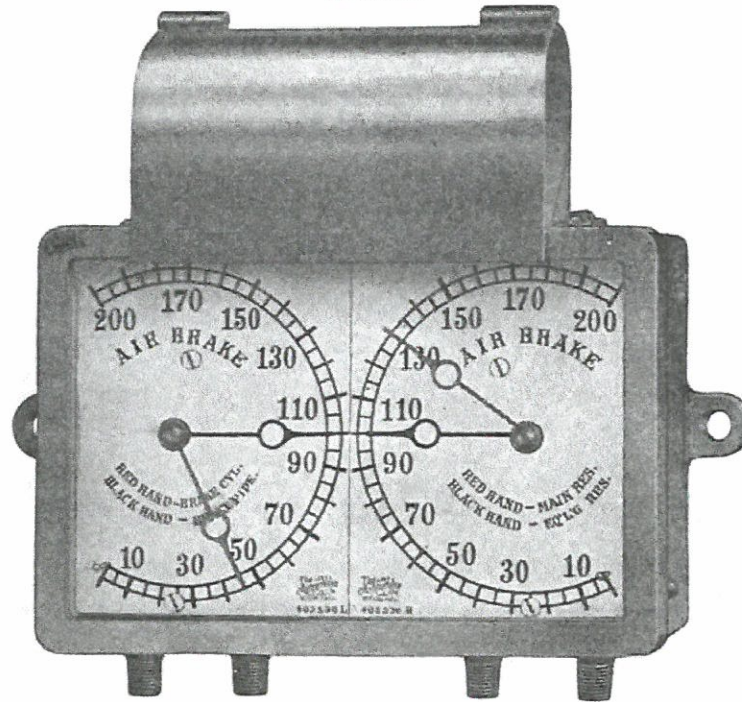
NO. 79 DEAD-WEIGHT GAGE TESTER

Engine Room Gage Frames and Tablets.

Furnished in slate, marble or wood, and in special designs of various dimensions to suit any required installation.

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

FLANGE LUBRICATION MEANS DOUBLE ECONOMY

Positive and automatic flange lubrication reduces flange wear—it increases the life of tires, rails on curves, frogs, and switch points.

DETROIT AUTOMATIC FLANGE OILERS

furnish positive lubrication direct to the flange. They are automatic, need no steam to operate, place no extra tax on air pumps and require little attention for proper maintenance. *Write for booklet F-6*

DETROIT LUBRICATOR COMPANY

DETROIT, U. S. A.

**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

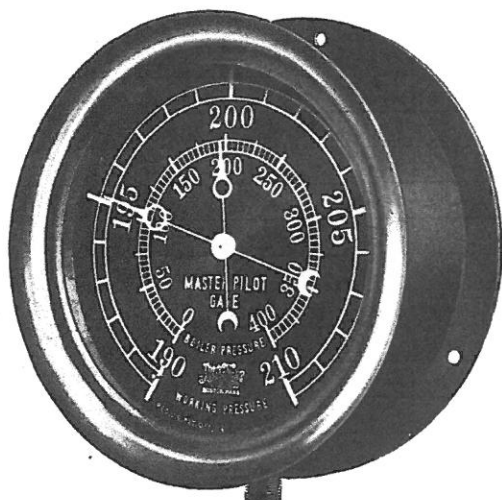


Fig. 770—This Ashton Master Pilot Steam Gage, No. 62BB, Gives More Accurate Readings Within the Working Pressure Range

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

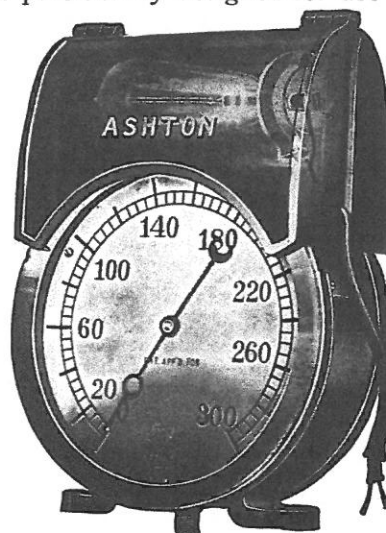


Fig. 771—The Ashton Double-Dial Steam Gage No. 52D.I., Can Be Read from Either Side of the Cab

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.

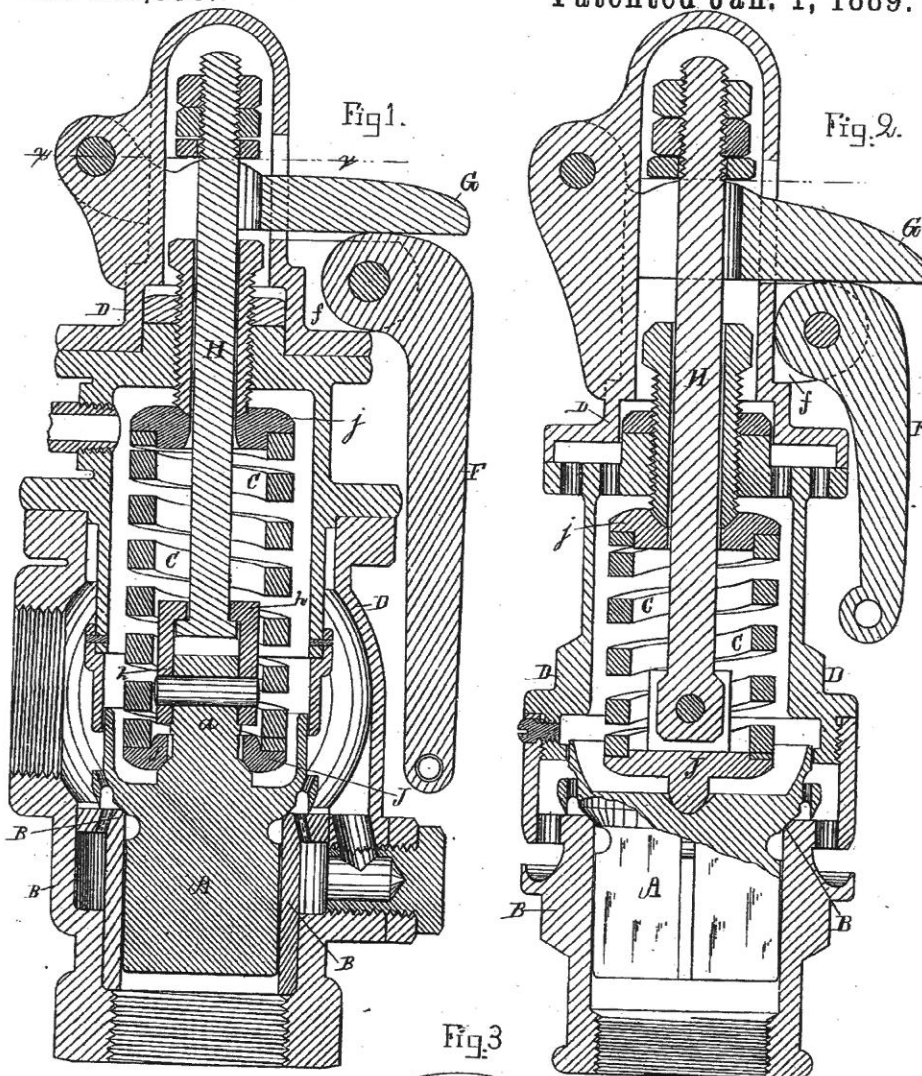
THE ASHTON VALVE COMPANY, BOSTON, MASS.

(No Model.)

H. G. ASHTON.
SAFETY VALVE.

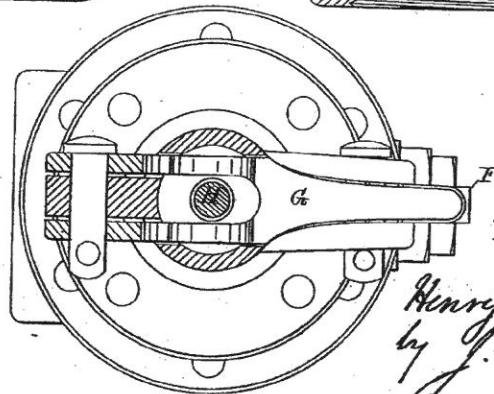
No. 395,536.

Patented Jan. 1, 1889.



Witnesses.

Laird W. Moller
John A. Snow



Inventor.

Henry G. Ashton
by J. E. Maynard
his Atty.

(No Model.)

H. G. ASHTON.

SAFETY VALVE.

No. 303,252.

Patented Aug. 12, 1884.

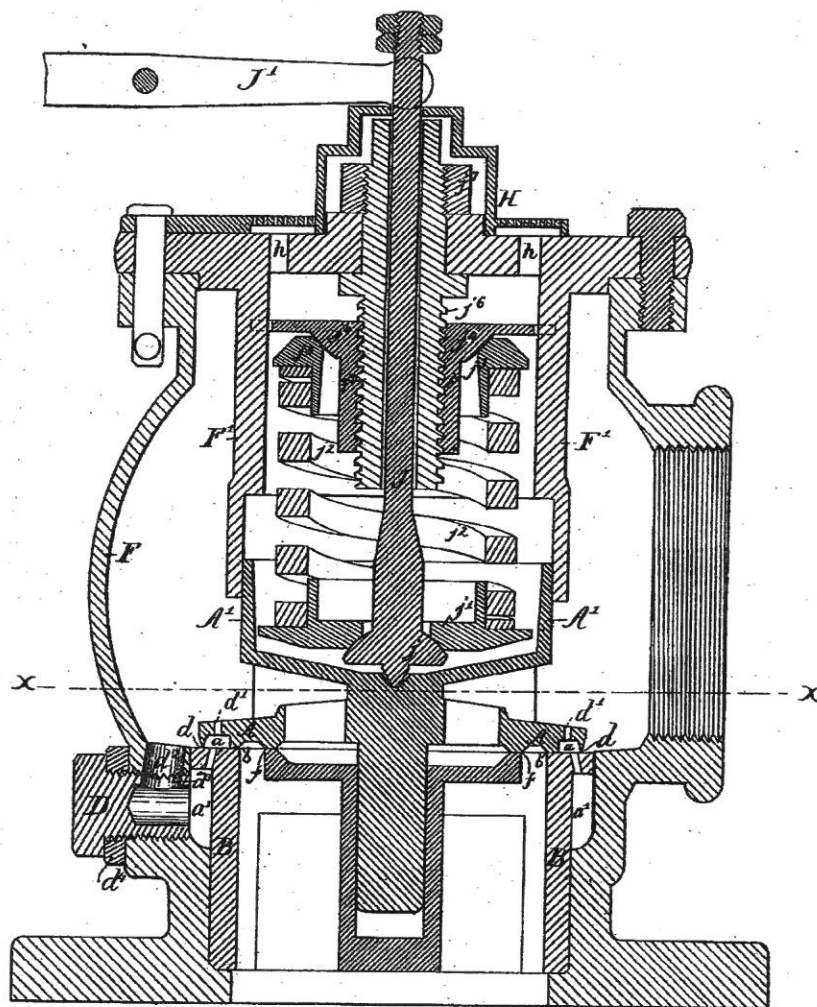


Fig. 1.



Fig-3.

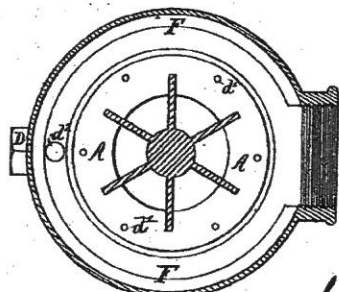


Fig. 2.

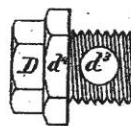


Fig-4-

Witnesses
Wm. Pittel.
J. M. Snow.

Inventor:
Henry G. Ashton.
J. E. Magnadier
his atty.

H. G. ASHTON.
Safety-Valve Attachment to Utilize the Escape Steam.

No. 197,073.

Patented Nov. 13, 1877.

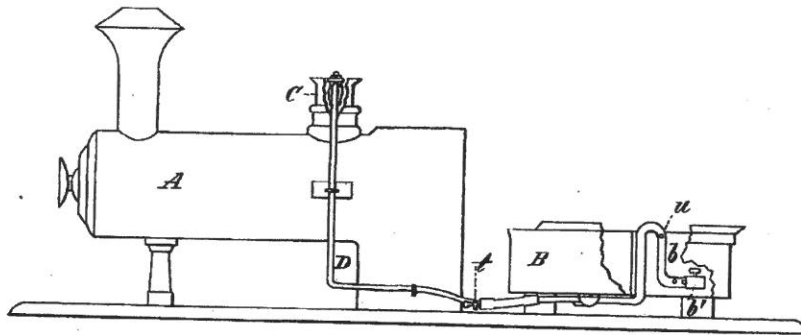


Fig. 1

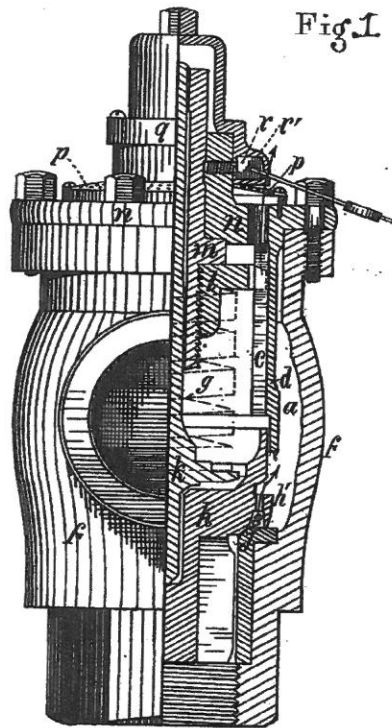


Fig. 2.

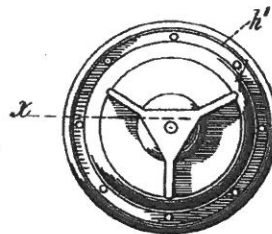


Fig. 3.

George O. G. Coase
L. H. Glade.

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

H. G. ASHTON.

Improvement in Lock Safety Valves for Steam Boilers.

No 123,546.

Patented Feb. 13, 1872.

Fig. 1.

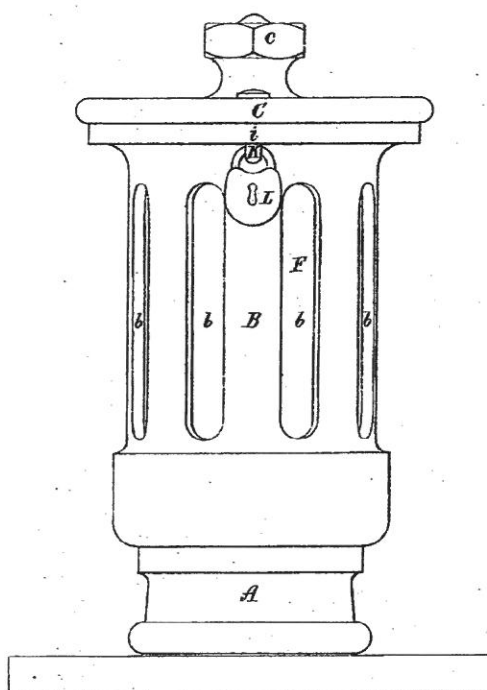
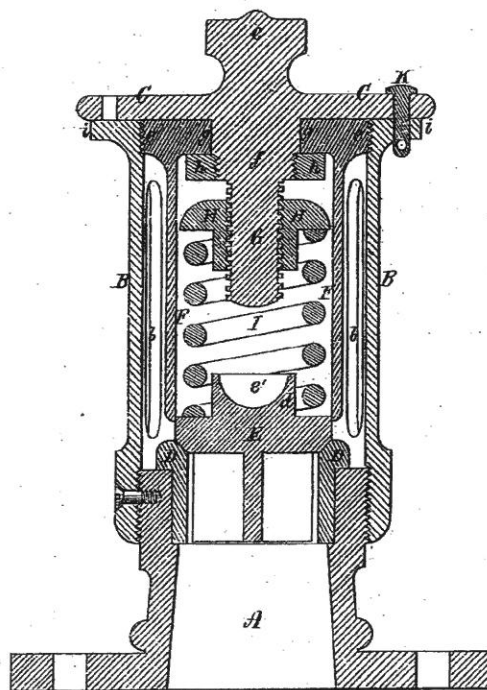


Fig. 2.



Witnesses.

S. N. Piper

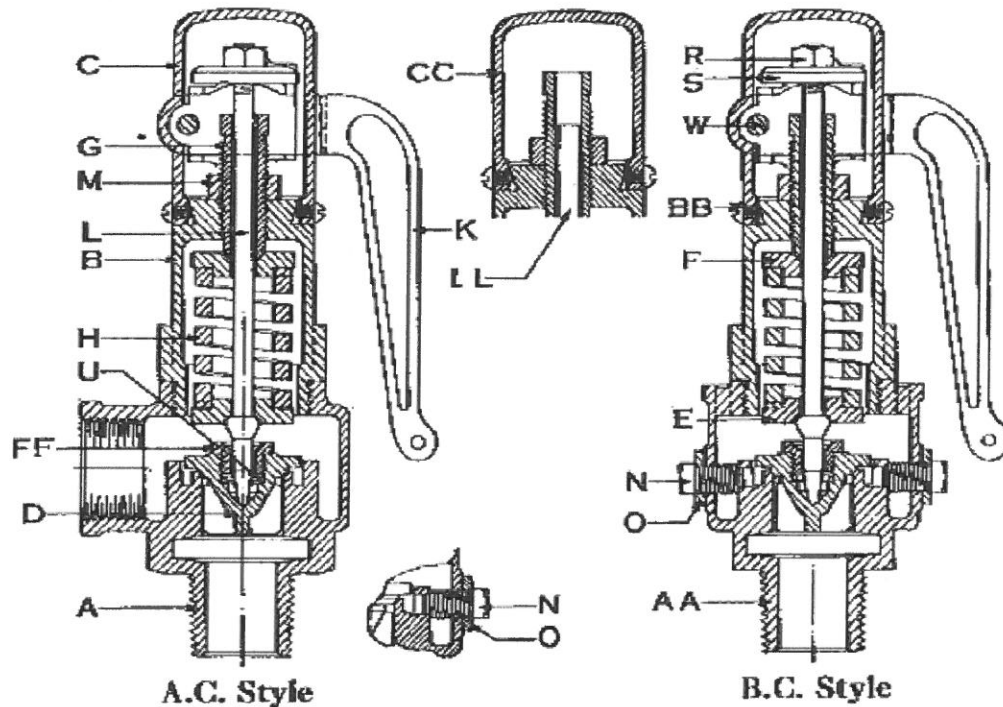
L. N. Möller.

Henry Ashton

by his attorney

R. M. Edgley

Ashton Pop Safety Valves



PRICE LIST OF PARTS

Ashton No. A.C., B.C., B.C.-10, B.C.-11 Style Valves

Name of Part	Letter	Style No.	Size, inches					
			3/4	1	1 1/4	1 1/2	2	2 1/2
Base	A	A.C.	4.55	5.25	6.30	6.60	9.80	13.65
Base	AA	B.C. B.C.-10 B.C.-11	3.30	4.55	5.35	5.90	9.10	12.30
Head	B	A.C. B.C. B.C.-10 B.C.-11	1.80	2.50	3.30	4.10	5.70	9.10
Cap Screw	BB	A.C. B.C.; B.C.-10	.05	.05	.05	.05	.05	.05
Cap	CC	B.C.-10	.45	.70	.75	.95	.95	.95
Cap	C	A.C. B.C.	.90	1.15	1.15	1.35	1.35	1.70
Wing Valve	D	A.C. B.C. B.C.-10 B.C.-11	1.25	1.60	2.15	2.35	3.65	6.55
Bottom Disc	E	A.C. B.C. B.C.-10 B.C.-11	.35	.50	.70	.95	1.25	1.95
Top Disc	F	A.C. B.C. B.C.-10 B.C.-11	.35	.50	.70	.95	1.25	1.95
Wing Valve Lock Nut	FF	A.C. B.C.	.60	.60	.65	.95	.95	.95
Pressure Screw	G	A.C. B.C. B.C.-10 B.C.-11	.90	1.15	1.35	1.50	1.80	2.15
Spring	H	A.C. B.C. B.C.-10 B.C.-11	1.15	1.45	1.90	2.20	2.70	4.55
Lever	K	A.C. B.C.	.55	.45	.50	.70	.80	1.05
Spindle	LL	B.C.-10 B.C.-11	1.60	1.25	1.50	1.70	1.95	2.40
Spindle	L	A.C. B.C.	1.15	1.35	1.60	1.80	2.05	2.50
Pressure Screw	M	A.C. B.C. B.C.-10 B.C.-11	.35	.25	.35	.30	.30	.70
Check Nut	N	A.C. B.C. B.C.-10 B.C.-11	.35	.40	.50	.60	.70	1.00
Pop Regulator	O	A.C. B.C. B.C.-10 B.C.-11	.25	.25	.25	.25	.30	.30
Regulator Check Nut	R	A.C. B.C.	.25	.25	.30	.30	.30	.30
Spindle Nut	S	A.C. B.C.	.25	.30	.35	.45	.45	.45
Spindle Cap	U	A.C. B.C.	.05	.05	.05	.05	.05	.05
Spindle Pin	W	A.C. B.C.	.25	.25	.25	.25	.25	.25

In ordering new parts, it is necessary to specify style number of valve, size, name of part and letter, also serial number of valve, and if new springs are ordered, the working pressure.