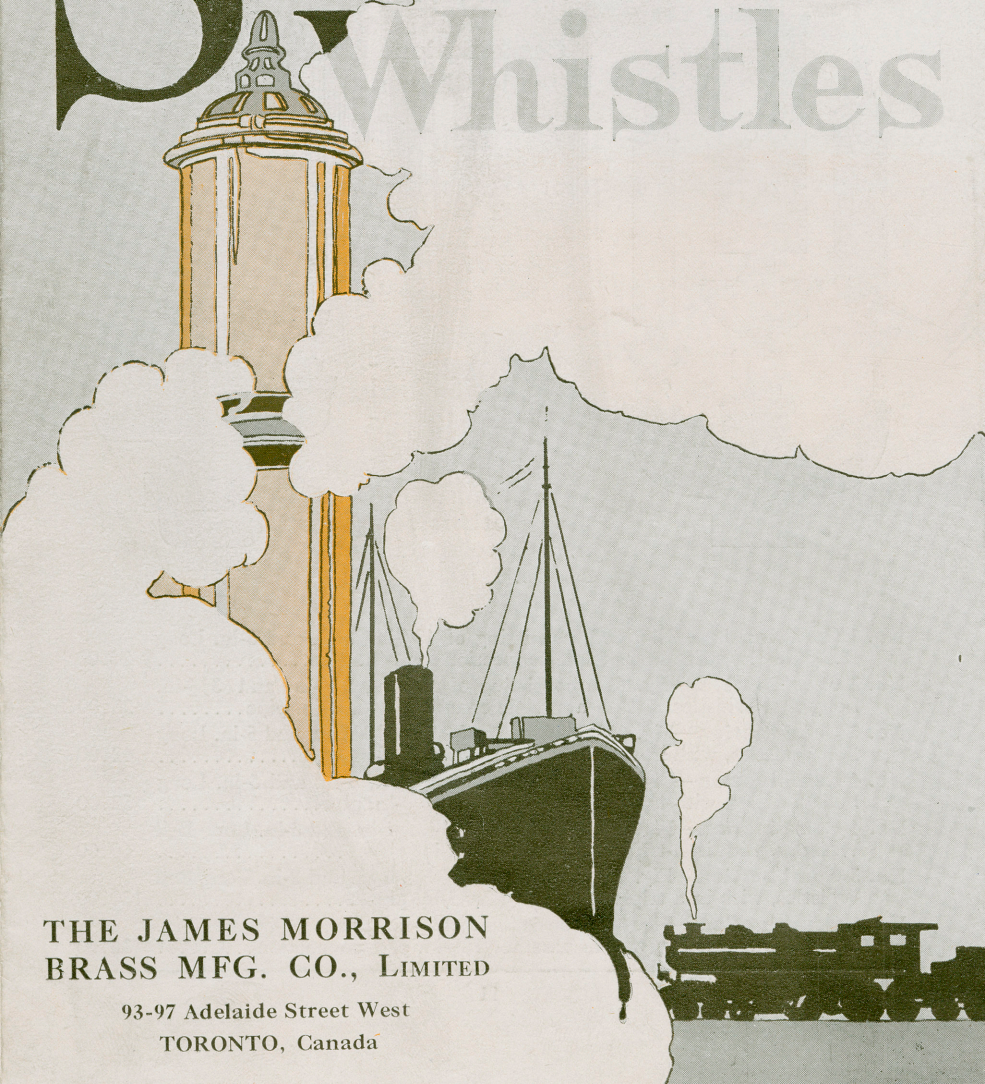


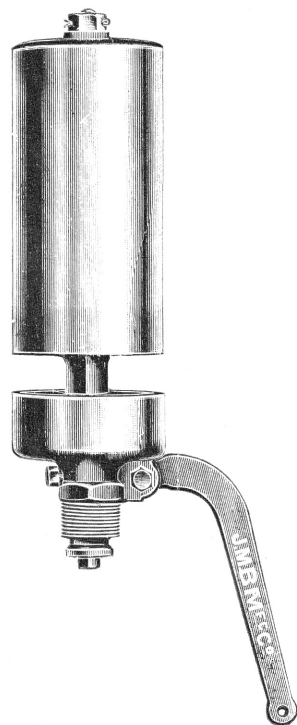
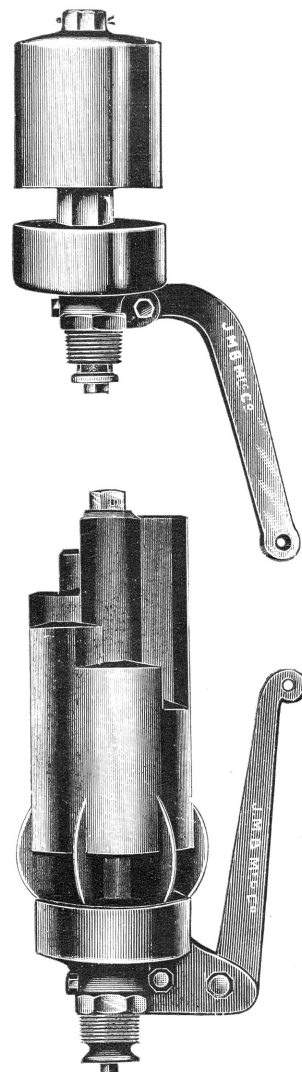
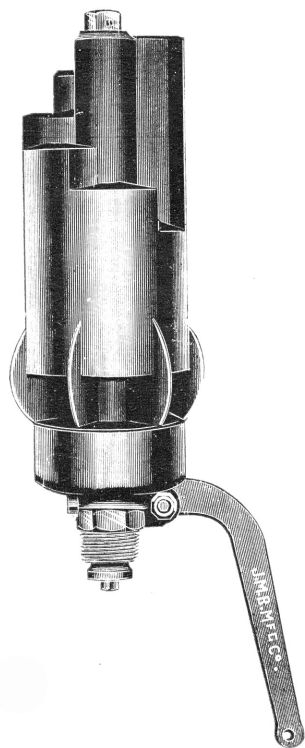
4500

Steam Whistles



THE JAMES MORRISON
BRASS MFG. CO., LIMITED

93-97 Adelaide Street West
TORONTO, Canada



We make a range of whistles specially for locomotive service, of which we illustrate a few types herewith.

Directions *for* Connecting Steam Whistles

BEST results are obtained by placing whistle directly over boiler, and above surrounding buildings, so that the sound will have free travel in all directions.

If conditions necessitate a number of bends in steam pipe, or a long pipe line is used, the whistle valve should be directly under whistle, and a stop valve should be connected at bottom of pipe, above which a small valve or drip cock should be attached to drain pipe of condensation.

Where a stop valve is used in bottom of pipe, it should be opened for a few moments before operating whistle valve, in order to heat the pipe, and get dry steam to whistle.

Before connecting whistle *always blow steam through pipe* to relieve it of any pipe cement, pipe chips, scale, or other solid substance, which might find its way to whistle and lodge at the slotted steam area, thus preventing proper results from being obtained. This is an oversight that frequently occurs.

Morrison Steam Whistles

With Compound Automatic
Valve
Short Bell

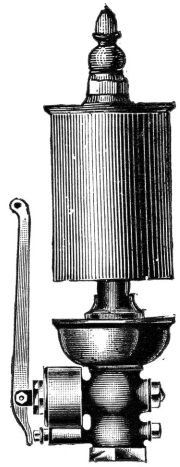


Fig. 668
Screwed Connection

The operation of the standard whistle valve is found difficult when used under high pressure steam. To overcome this difficulty, we recommend the use of our Compound Automatic Whistle Valve, the construction of which permits it being opened with ease under high pressure. For full description of this valve see page 12.

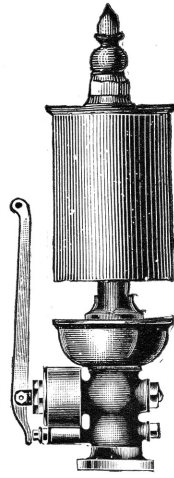


Fig. 669
Flanged Connection

Morrison Steam Whistles

With Compound Automatic
Valve
Long Bell

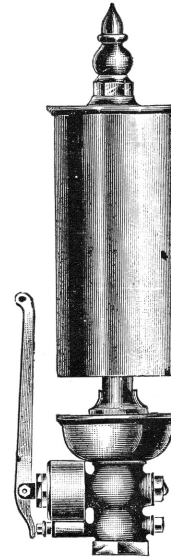


Fig. 674
Screwed Connection

These whistles are similar in construction to those illustrated on page 3 with the exception of having long bell. They give a deeper and more sonorous tone than the short bell whistle, and the sound travels over a little larger area.

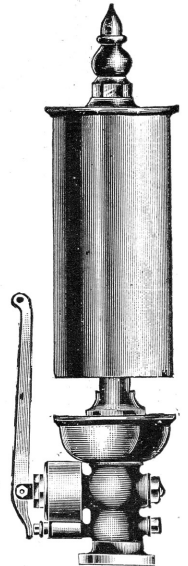


Fig. 675
Flanged Connection

Price List of Morrison Steam Whistles With Compound Automatic Valves, Short Bell, Screwed and Flanged

Diameter of Bell, inches.....	4	5	6	8	10	12
Length of Short Bell, inches.....	8	10	12	16	20	24
Size of Iron Pipe Connection, inches.....	1	1½	1½	2	2½	3
Fig. 668, Short Bell, Screwed, price each.....	\$ 18.00	\$ 27.00	\$ 39.00	\$ 90.00	\$ 160.00	\$ 275.00
" 669, Short Bell, Flanged ".....	18.00	27.00	39.00	90.00	160.00	275.00
Diameter of Flanges, inches.....	4	4½	5	6	7	7½

Price List of Morrison Steam Whistles With Compound Automatic Valves, Long Bell, Screwed and Flanged

Diameter of Bell, inches.....	4	5	6	8	10	12
Length of Long Bell, inches.....	12	15	18	24	30	36
Size of Iron Pipe Connection, inches.....	1	1½	1½	2	2½	3
Fig. 670, Long Bell, Screwed, price each.....	\$20.00	\$28.00	\$42.00	\$100.00	\$180.00	\$300.00
" 671, Long Bell, Flanged ".....	20.00	28.00	42.00	100.00	180.00	300.00
Diameter of Flangers, inches.....	4	4½	5	6	7	7½

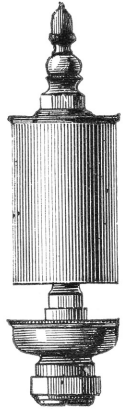


Fig. 664
Short Bell

Morrison Steam Whistles Without Valve

Short-Bell Whistles give a sharp shrill sound; whereas the Long-Bell Whistle gives a deep and more sonorous tone, and on this account is more generally preferred, and is audible over a little larger area.

Where whistle is used at pressure exceeding 100 lbs. we recommend our Compound Automatic Whistle Valve.

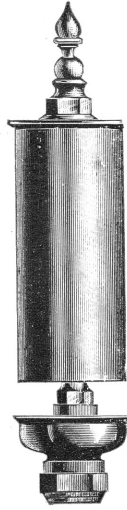


Fig. 665
Long Bell

Price List and Dimensions of Morrison Steam Whistles Without Valves

Diameter of Bell, inches.....	1	1½	2	2½	3	3½	4	5	6	8	10	12
Length of Short Bell, inches.....	2	3	4	5	6	7	8	10	12	16	20	24
Length of Long Bell, ".....	3	4½	6	7½	9	10½	12	15	18	24	30	36
Size of Pipe Connection.....	½ or ¾	½	½	¾	1	1	1½	1½	2	2½	3	3
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Fig. 664, Short Bell, price each....	2.20	3.00	4.35	5.25	7.25	9.50	12.00	19.00	24.00	70.00	150.00	270.00
" 665, Long Bell, " ".....	2.75	3.60	5.00	6.00	8.35	10.80	13.50	22.25	28.50	80.00	175.00	450.00

Morrison Steam Whistles With Valve

These whistles are similar in construction to those described on page 1, with the addition of having a self-closing spring-operated valve.

Where whistle is used at pressure exceeding 100 lbs. we recommend our Compound Automatic Whistle Valve.

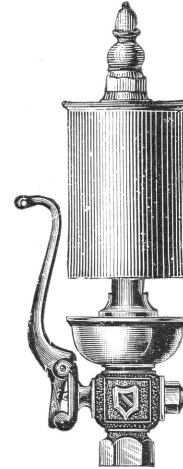


Fig. 666
Short Bell

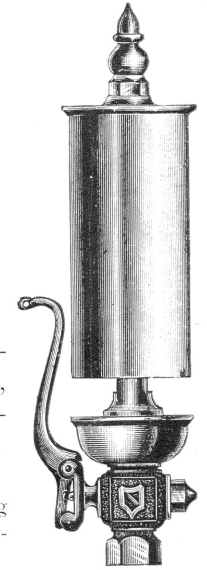


Fig. 677
Long Bell

Price List and Dimensions of Morrison Steam Whistles With Valves

Diameter of Bell, inches.....	1	1½	2	2½	3	3½	4	5	6	8	10
Length of Short Bell, inches.....	2	3	4	5	6	7	8	10	12	16	20
Length of Long Bell, ".....	3	4½	6	7½	9	10½	12	15	18	24	30
Size of Pipe Connection.....	½ or ¾	½	½	¾	1	1½	1½	2	2½	3	
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Fig. 666, Short Bell, price each.....	3.10	4.00	5.50	6.50	8.50	11.50	15.00	22.50	33.00	95.00	210.00
" 667, Long Bell, " ".....	3.75	4.60	6.15	7.25	9.60	12.80	16.50	25.75	37.50	107.00	235.00

State boiler pressure when ordering.

Morrison Steam Whistles

Mocking Bird or Piston Type

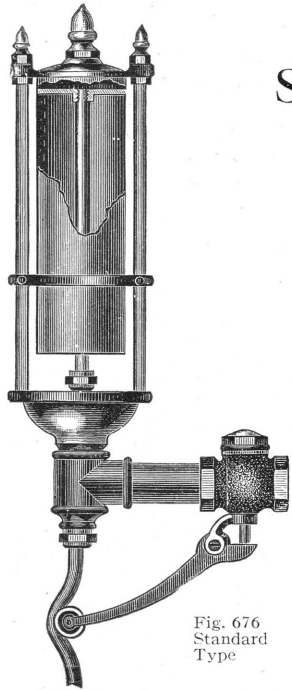


Fig. 676
Standard
Type

The Mocking Bird Whistle is constructed to give a variable sound. This effect is accomplished by means of a piston which slides up and down inside the bell. The result is virtually a continuously changing length of bell and therefore a varying sound. When the piston is allowed to remain stationary the whistle produces a single note, but when it is moved up or down, a howling, penetrating,

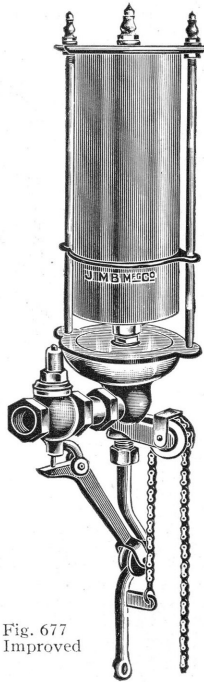


Fig. 677
Improved

peculiarly characteristic sound is emitted which ranges from one end of the musical scale to the other, and back.

This type of whistle is generally used for the purpose of fire alarms in small towns, or for industrial plants, also for marine use.

Conditions occasionally arise where it is not convenient to operate whistle in the usual manner by using an extension rod. To overcome this we have devised a chain-operating construction worked on a pulley attachment, as illustrated, Fig. 677.

Price List of Morrison Mocking Bird or Piston Steam Whistles

Diameter of Bell, inches.....	3½	5	6
Length of Bell, inches.....	10½	15	18
Size of Iron Pipe Connection, inches.....	¾ or 1	1¼	1½
Fig. 676, Standard with Valve, price each.....	\$46.00	\$70.00	\$95.00
Fig. 677, Improved, with Auxiliary Chain, price each.....	53.00	77.00	102.00

Morrison Steam Whistles

Marine XX Heavy Whistles

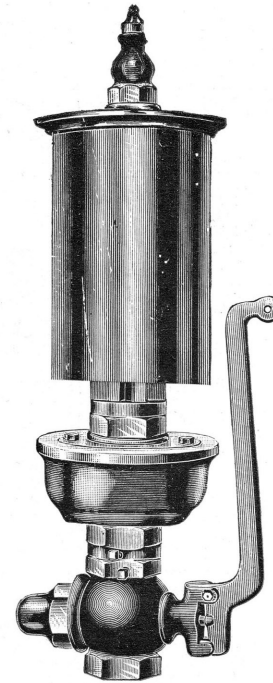


Fig. 678
1/8
Screwed

Morrison Marine XX Heavy Whistles are specially adapted for marine work on boats where extra high steam pressure is carried. They are made of carefully selected steam metal, to an unusually substantial design.

To prevent the bell of marine whistles becoming loose, due to continued vibration, the mounting to which the bell of whistle is attached is reinforced with heavy brass bolts, in addition to being connected to the base in the usual way,

thus adding materially to the strength and durability of the whistle.

Suitable for steam pressures of 100 lbs. and over. Flanged connection is recommended specially on the large sizes where vibration is excessive.

These whistles give a particularly loud and penetrating blast, producing a range of audibility and effectiveness in fog signalling.

Price List and Dimensions of Morrison Marine Steam Whistles, XX Heavy

Diameter of Bell, inches.....	4	5	6	8	10	12
Length of Bell, inches.....	12	15	18	24	30	36
Size of Iron Pipe Connection, inches.....	1 or 1¼	1¼ or 1½	1½ or 2	2½	2½	3
Fig. 678, with Valve, Screwed, price each	\$23.25	\$37.50	\$51.00	\$135.00	\$292.50
Fig. 678, with Valve, Flanged, "	29.25	45.75	60.75	159.00	330.50
Fig. 678½, without Valve, Screwed " "	18.75	31.50	42.00	112.50	217.50
Fig. 678½, without Valve, Flanged " "	21.75	35.75	46.75	124.50	236.50

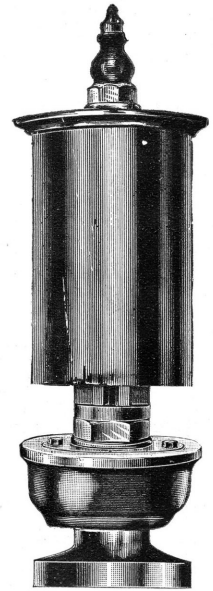


Fig. 678½
Flanged
Without Valve

Morrison Steam Whistles

Combination Whistle Chimes

A combination of whistles of correct proportions makes a very desirable outfit where the service of a whistle is required.

We are prepared to supply any combination of the kind that may be selected, and submit herewith a few of proper arrangement; others furnished to specification.

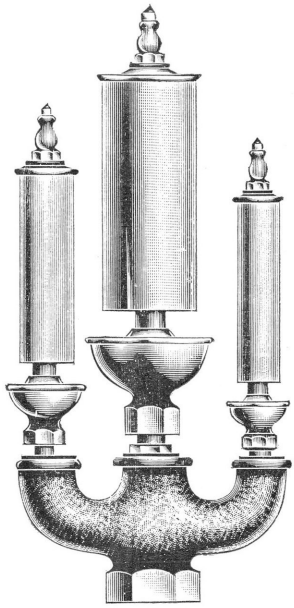


Fig. 683

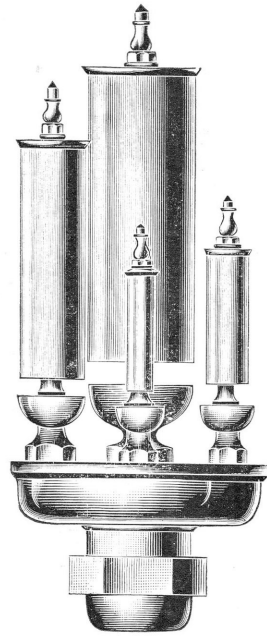


Fig. 684

	Price
No. 1 Combination —Fig. 683, consisting of 1½-in., 2-in. and 3-in. Long Bell Whistles, with brass triple connection for 1-in. pipe.....	\$ 22.00
No. 2 Combination —Fig. 683, consisting of 1½-in., 2½-in. and 3½-in. Long Bell Whistles, with brass triple connection for 1-in. pipe.....	25.00
No. 3 Combination —Fig. 683, consisting of 2½-in., 3½-in. and 5-in. Long Bell Whistles, with iron triple connection for 1½-in. pipe.....	42.00
No. 4 Combination —Fig. 683, consisting of 3½-in., 4-in. and 5-in. Long Bell Whistles, with iron triple connection for 2-in. pipe.....	52.00
No. 4 Combination —Fig. 683, consisting of 3-in., 4-in. and 6-in. Long Bell Whistles, with iron triple connection for 2-in. pipe.....	60.00
No. 5 Combination —Fig. 683, consisting of 4-in., 6-in. and 8-in. Long Bell Whistles, with iron triple connection for 3-in. pipe.....	130.00
No. 6 Combination —Fig. 684, consisting of 1½-in., 2-in., 2½-in. and 3-in. Long Bell Whistles, fitted to base, for 1½-in. pipe connection.....	36.00

Whistle Valves

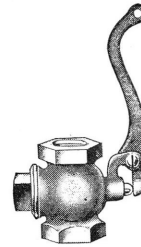


Fig. 540
Standard

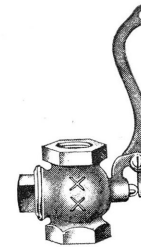


Fig. 540
Extra Heavy

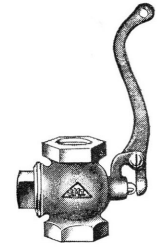


Fig. 541
J. M. T. Renewable Disc

J.M.T. Compound Automatic Whistle Valve

With the more general use of high pressure, the standard type of whistle valve has been found, by experience, very difficult to operate, and frequently large whistles under comparatively low pressure cannot be operated without considerable trouble.

High pressure steam on any whistle valve, or low pressure steam on any but the smaller sizes of whistle valves, creates a load on the valve disc, which it is difficult to overcome in the operation of the standard type of whistle valve. In the compound automatic whistle valve, the movement of the lever opens a small auxiliary valve which admits steam into an area behind a piston connected to the main disc of whistle valve. This exerts the required pressure to operate the main valve. An easy pull of lever is all that is necessary to open this valve, regardless of the amount of steam pressure to be overcome.

By the use of this type of valve the largest whistle under the highest steam pressure is operated with ease.

On steamships it frequently occurs that the whistle has to be sounded intermittently under high steam pressure, in this case these whistle valves prove invaluable and are practically a necessity.

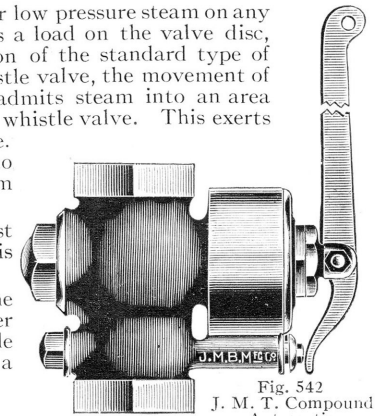


Fig. 542
J. M. T. Compound
Automatic

Size, Inches	¼		⅜		½		¾		1		1¼		1½		2		2½		3	
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Fig. 540, Standard	2.00	2.00	2.50	3.00	3.50	5.00	6.00	9.00	18.00	27.00										
" 540, Extra Heavy					6.50	9.25	11.00	16.50	33.00	49.50										
" 541, J. M. T.			8.20	8.80	10.40	14.00	18.00	24.00	39.00	43.00										
" 542, Compound Automatic, Screwed ..					14.00	16.00	20.00	25.00	35.00	45.00										
" 542, Compound Automatic, Flanged ..					16.50	19.00	24.00	31.00	43.50	55.75										

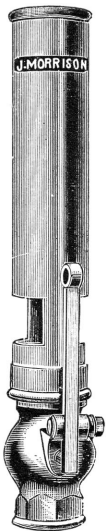


Fig. 672
Two-Chamber
Organ Whistle

Morrison Steam Whistles

Two-Chamber Organ Whistle and Single Bell Chime

The Three-Chamber Whistle is constructed to produce three distinct notes, consisting of the first, third and fifth notes of the scale, giving a harmonious and penetrating sound. This is particularly the case in the Long Bell pattern.

Our Two-Chamber Chime or Organ Whistle is one in which two distinct tones are harmoniously blended, producing a soft and agreeable sound.

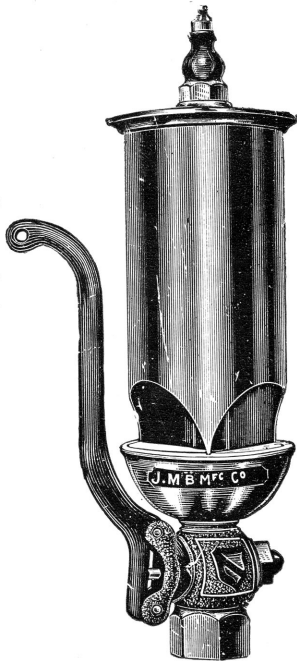


Fig. 673. Single Bell Chime

The musical character of both these types of whistles makes them desirable in urban districts, where a characteristic, far-reaching, and yet agreeable sound is required.

Price List of Morrison Two-Chamber Organ Whistle

Diameter of Bell, inches.....	1½	2	2½	3	4
Length of Bell, inches.....	6	8	10	12	16
Size of Iron Pipe Connection, inches.....	½	¾	¾	¾	1
Without Valve, price each.....	\$5.00	\$6.00	\$ 8.00	\$11.00	\$18.00
With Valve, ".....	6.50	7.50	10.00	13.00	21.00

Price List and Dimensions of Morrison Three-Chamber Single Bell Chime Steam Whistle

Diameter of Bell, inches.....	2	2½	3	4	5	6	8	10	12
Length of Short Bell, inches.....	4	5	6	8	10	12	16	20	24
Length of Long Bell, inches.....	6	7½	9	12	15	18	24	30	36
Size of Iron Pipe Connection, inches.....	½	½	¾	1	1½	1½	2	2½	3
Short Bell, without Valve, price each....	\$5.00	\$6.25	\$8.00	\$14.00	\$22.00	\$38.00	\$85.00	\$160.00	\$275.00
Short Bell, with Valve, ".....	7.00	8.25	11.00	18.00	28.00	42.00	100.00	180.00	300.00
Long Bell, without Valve, ".....	6.00	8.00	10.00	17.00	27.00	44.00	100.00	180.00	300.00
Long Bell, with Valve, ".....	8.25	10.00	13.00	21.00	33.00	48.00	115.00	200.00	350.00

Morrison Steam Whistles

Three-Chamber Single Bell Chime Locomotive and Marine Type

The Three-Chamber Marine and Locomotive Whistle is similar in construction to our standard three-chamber pattern Fig. 673, but is fitted with a compound automatic valve to permit easy operation under high pressure.

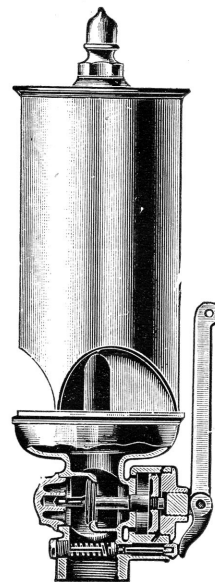


Fig. 674
Screwed Connection

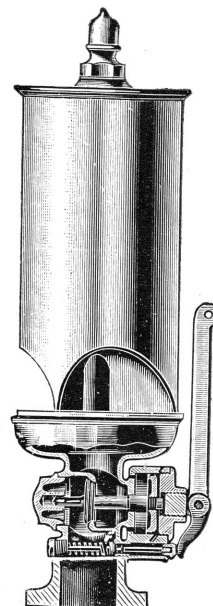


Fig. 675
Flanged Connection

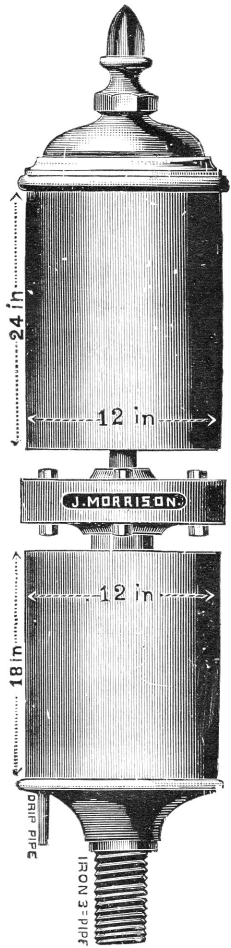
For steam pressure of 150 lbs. and over, whistles having flanged connections are recommended, particularly for the larger sizes where the vibration is excessive.

Price List and Dimensions of Morrison Three-Chamber Single Bell Chime (With Automatic Valve)

Diameter of Bell, inches.....	4	5	6	8	10	12
Length of Short Bell, inches.....	8	10	12	16	20	24
Length of Long Bell, inches.....	12	15	18	24	30	36
Size of Iron Pipe Connection, inches.....	1	1½	1½	2	2½	3
Fig. 674, Short Bell, Screwed, price each	\$20.00	\$28.00	\$42.00	\$100.00	\$180.00	\$300.00
Fig. 674, Long Bell, Screwed, ".....	23.00	33.00	48.00	115.00	200.00	350.00
Fig. 675, Short Bell, Flanged, ".....	20.00	28.00	42.00	100.00	180.00	300.00
Fig. 675, Long Bell, Flanged, ".....	23.00	33.00	48.00	115.00	200.00	350.00

Morrison "Harmonium" Steam Whistle

Large Double-Bell Type



Our Harmonium Double-Bell Whistle is specially adapted for large mills and industrial plants where the boiler pressure and capacity is sufficiently large to operate same. The volume of sound is greater in this pattern whistle and travels farther than in any other type. It is of a deep mellow tone and can be heard for many miles under favorable weather and topographical conditions.

When installing these large whistles care should be taken to prevent bells from getting out of alignment with steam chamber. The steam must "cut" edges of bells true to give proper sound effect.

Fig. 679. Harmonium Double Bell

Price List and Dimensions of Morrison Double-Bell Steam Whistle

Diameter of Bell, inches.....	6	8	10	12	14
Length of Bottom Bell, inches.....	10	12	15	18	21
Length of Top Bell, inches.....	14	16	20	24	28
Size of Iron Pipe Connection, inches.....	1½	2	2½	3	3½
Without Valve, price each.....	\$80.00	\$100.00	\$140.00	\$210.00	\$425.00

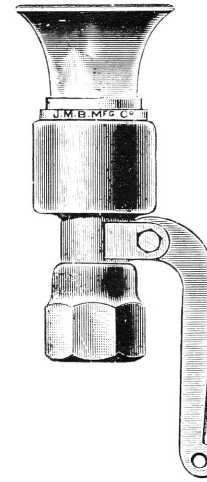


Fig. 681
Bell Mouth

Morrison Steam Whistles Sirens

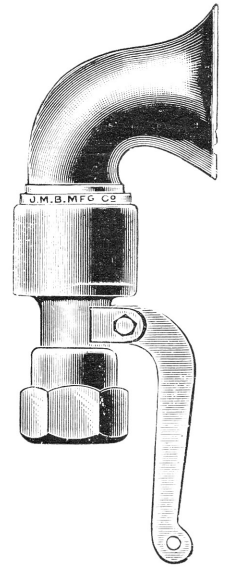
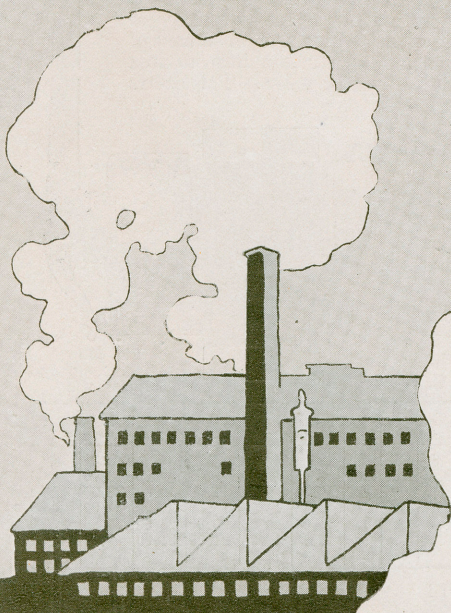


Fig. 682
Fixed Cowl

These whistles are adapted where a particularly shrill and characteristic sound is desired, and can be operated with either steam or air. By the introduction of a perforated disc of a peculiar design which is caused to rotate by the steam or air force, a constantly changing note is produced as the disc revolves. The tone becomes constant as the disc reaches its maximum speed. With these whistles a peculiar whooping is made that is entirely distinct from the sounds produced by any other type of whistle, and is audible over a great area. These whistles are largely used for marine and fire-alarm service.

Price List of Morrison Steam and Air Sirens

Number.....	1	2	3	4	5	6
Size of Pipe Connection, inches.....	¾	1	1¼	1½	2	2½
Fig. 681, Bell Mouth, price each.....	\$15.00	\$22.00	\$30.00	\$40.00	\$65.00	\$110.00
" 682, Fixed Cowl, ".....	20.00	27.00	35.00	45.00	75.00	125.00



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