

S. R. SHELDON.
 SPRAY HEAD FOR AIR WASHERS.
 APPLICATION FILED JULY 30, 1912.

1,057,780.

Patented Apr. 1, 1913.

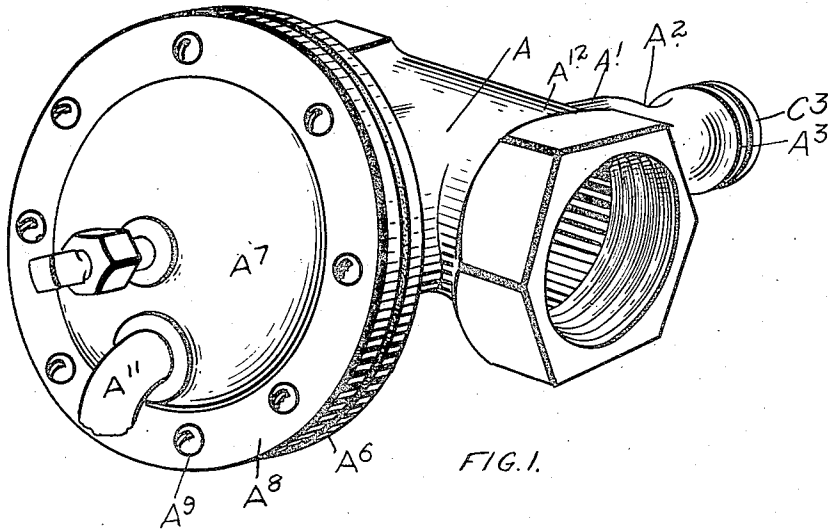


FIG. 1.

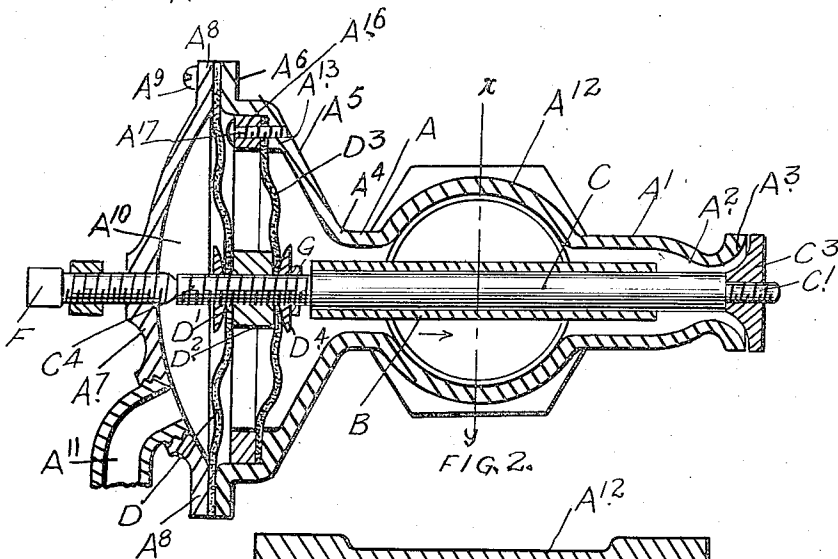


FIG. 2.

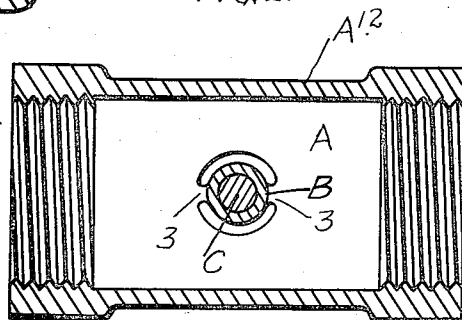


FIG. 3.

WITNESSES

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SPRAY-HEAD FOR AIR-WASHERS.

1,057,780.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SIDNEY RANDOLPH SHELDON, of the town of Galt, in the county of Waterloo, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Spray-Heads for Air-Washers, of which the following is the specification.

My invention relates to improvements in spray heads for air washers and the object of the invention is to devise a spray head operated by water pressure for flushing out the spray orifice of the head at predetermined intervals to remove any foreign matter from the spray orifice and it consists essentially of a main casing comprising a tubular portion having an annular enlargement at one end and a flared orifice at the opposite end and suitable feed orifices, a spindle held longitudinally in suitable bearings within the tubular portion, a spray nut secured to one end of the spindle, a major and minor diaphragm secured centrally to the opposite end of the spindle and at their periphery to the enlargement of the spray head, a supply pipe leading into the enlargement at the opposite side of the major diaphragm from that on which the minor diaphragm is located, and means for regulating the longitudinal movement of the operating spindle as hereinafter more particularly explained by the following specification.

Figure 1, is a general perspective view of a spray head. Fig. 2, is a longitudinal section through the spray head. Fig. 3, is a cross section on line *x-y* Fig. 2.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the main casting of the spray head comprising a tubular portion A' terminating at one end in the contracted portion A² merging into an outwardly flared portion A³. The opposite end of the portion A' is flared outwardly at A⁴ to form a casing A⁵ provided with an annular flange A⁶.

A⁷ is the cap for the casing also provided with a flange A⁸ secured to the flange A⁶ by suitable screws A⁹. The cap A⁷ is arched so as to form a space A¹⁰ into which the feed pipe A¹¹ leads.

B is a longitudinal bearing forming part of the main portion A' of the spray head to which it is connected by webs 3. The portion A' of the spray head is preferably provided with a central enlargement A¹² forming a cross T into which the usual feed pipe

for conveying the water into the spray head extends.

C is a longitudinally movable spindle held in the bearings B and provided at one end with a reduced threaded portion C' on to which the spray nut C³ is threaded.

D is a major diaphragm secured to the reduced threaded portion C' of the longitudinally movable spindle C by the nut D' and spacing sleeve D². The outer edge of the major diaphragm D extends between the flanges A⁶ and A⁸ between which it is secured by the screws A⁹.

D³ is a minor diaphragm secured centrally against the spacing sleeve D² by the nut D⁴.

A¹³ is an annular shoulder formed in the enlargement A⁵ and A¹⁶ is a ring secured to such shoulder by screws A¹⁷. The outer edge of the minor diaphragm D³ extends between the shoulder A¹³ and ring A¹⁶ and is secured therebetween by the screws A¹⁷.

It will be understood that the major and minor diaphragms D and D³ respectively are formed of rubber or any other suitable flexible material.

F is a set screw extending through the cap A⁷ against the end of the operating spindle C. By adjusting the set screw F the annular spray opening between the flared end of the tubular portion of the spray head and the spray nut may be regulated. In order to regulate the longitudinal movement of the operating spindle C I provide an adjusting nut G.

Having described the principal parts involved in my invention I will briefly describe the operation of the same. It will be understood that the water forming the spray is fed into the spray head through the portion A¹². The water is forced therefrom through the annular spray orifice at one end of the spray head and against the minor diaphragm D³ at the opposite end of the spray head keeping the spray opening normally very narrow. In this narrow opening lint and other foreign matter is liable to stick and clog the opening. When it is desired to flush the spray orifice pressure is supplied through the pipe A¹¹ into the space A¹⁰ and against the major diaphragm D thus forcing the spindle C longitudinally against the pressure of the water against the minor diaphragm D³ thereby carrying the spray nut C² away from the flared opening A³ to widen the spray opening and allow the water to carry any foreign matter out from

the opening. The pressure against the major diaphragm is then cut off and the spindle C carried back in the opposite direction of arrow to bring the nut C² into its normal position. By regulating the nut G the movement of the spindle C is regulated so as to limit the extent to which the opening is opened for the purpose of flushing.

From this description it will be seen that I have devised a very simple means for flushing the spray head and utilizing the water pressure to operate the flushing mechanism of the spray head so that any foreign matter clogging the spray opening may be automatically removed by enlarging the spray opening.

What I claim as my invention is.

1. A spray head comprising a main casting having a tubular portion having a spray opening at one end, a water inlet intermediate of its length, and an annular enlargement at its opposite end, a covering for such annular enlargement having a water inlet, a longitudinal bearing formed within the tubular portion, a longitudinally movable spindle held within the bearing, a spray nut secured to the outer end of the spindle, a major and a minor diaphragm secured centrally to the opposite end of the spindle, and peripherally to the inner periphery of the enlargement of the main casting, and a nut threaded on to the spindle between the minor diaphragm and the longitudinal bearing, as and for the purpose specified.

2. A spray head comprising a main casting having a tubular portion having a spray opening at one end, a water inlet intermediate of its length, an annular enlargement at its opposite end, a covering for such annular enlargement having a water inlet, a longitudinal bearing formed within the tubular portion, a longitudinally movable spindle held within the bearing, a spray nut secured to the outer end of the spindle, a major and a minor diaphragm secured centrally to the

opposite end of the spindle, and peripherally to the inner periphery of the enlargement of the main casting, and a nut threaded on to the spindle between the minor diaphragm and the longitudinal bearing, and means for adjusting the normal size of the spray opening, as and for the purpose specified.

3. A spray head comprising a main casting having a tubular portion having a spray opening at one end, a water inlet intermediate of its length, an annular enlargement at its opposite end, a covering for such annular enlargement having a water inlet, a longitudinal bearing formed within the tubular portion, a longitudinally movable spindle held within the bearing, a spray nut secured to the outer end of the spindle, a major and a minor diaphragm secured centrally to the opposite end of the spindle, and peripherally to the inner periphery of the enlargement of the main casting, and a nut threaded on to the spindle between the minor diaphragm and the longitudinal bearing, as and for the purpose specified.

4. A spray head comprising a tubular portion having a spray opening at one end, and an annular enlargement at the opposite end, a cover for such enlargement having a water inlet opening, a bearing forming part of the main casting and extending longitudinally through the tubular portion thereof, a longitudinally movable spindle held therein, a spray nut secured to one end of the spindle, a major and a minor diaphragm secured centrally to the opposite end of the spindle and peripherally to the inner periphery of the enlargement, and a set screw extending through the covering of the enlargement against the end of the spindle, as and for the purpose specified.

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Witnesses:

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