No. 897,290. PATENTED SEPT. 1, 1908.

A. E. JACOBS.

PNEUMATIC EYE PROTECTOR.

APPLICATION FILED MAR. 26, 1907.

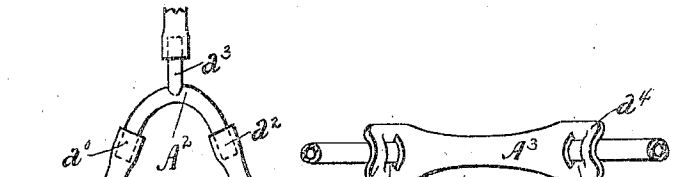


Fig. 3.

Fig. 4.

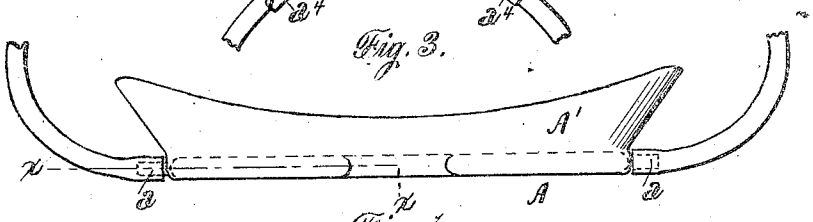


Fig. 1.

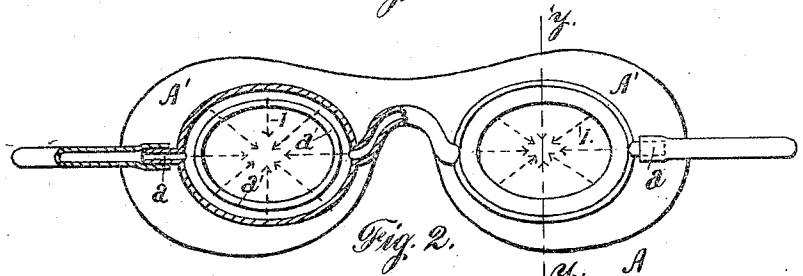


Fig. 2.

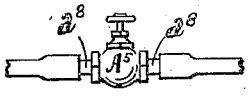


Fig. 7.

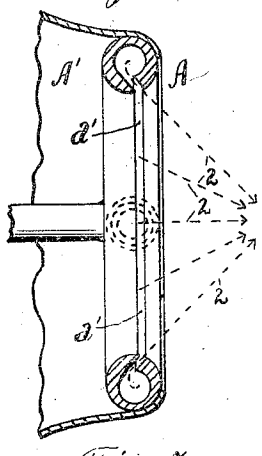


Fig. 5.

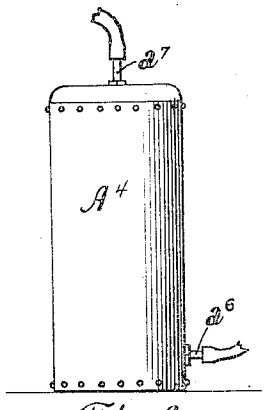


Fig. 6.

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PNEUMATIC EYE-PROTECTOR.

No. 897,290. Specification of Letters Patent. Patented Sept. 1, 1908.

Application filed March 26, 1907. Serial No. 364,745.

To all whom it may concern:

Be it known that I, ALBERT EXTON JACOBS, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented new and useful Improvements in Pneumatic Eye-Protectors, of which the following is a specification.

This invention relates to improvements in a pneumatic device or eye protector of that class in which two eye-pieces, made of vulcanized rubber tubing or other suitable material, are joined together as by a tubular nose bridge, forming a pair of goggles to be worn by the chauffeur of an automobile, the motorman of an electric car, the engineer of a locomotive, or the driver of any other high speed vehicle. Each of the eye-pieces, in the periphery thereof, is formed with a fine slot or series of holes, through which a current of air in motion is passed from an air-receiving tank, being part of the air-brake equipment of steam or electric cars and affixed thereto in the usual way, said current of air being carried from said tank by means of metal pipes and flexible tubing to the proper place in close proximity to the operator, whether behind his head or to the sides thereof.

The object of the invention is to provide said device or goggles with a curtain of air in motion in front of each eye-piece, converging from all directions at a point immediately in front of the center of each eye-piece, thus dispensing with the use of the glass lenses usually placed there for the purpose of protecting the eyes from the entrance of dust or other foreign matter.

The elements of the invention will severally and at large appear in the following description, and they will be separately or combinedly set forth or pointed out in the appended claim or claims.

The purposes of the invention are attained by the mechanism, devices and means illustrated in the accompanying drawing, with similar reference characters to designate like parts throughout the several views in which:—

Figure 1 is a front elevation of the pair of goggles referred to in the opening paragraph hereto; Fig. 2 is a sectional elevation of the same, showing a section through one of the eye-pieces, the section being taken on the line $x\ x$ in Fig. 1, showing the hollow portion of the air passage therethrough, with portions of the flexible tubing connecting the ends of said eye-pieces with the air-receiving tank, before mentioned; Fig. 3 is a plan of the rear end portions of said flexible tubing, with an adjustable plate attached thereto to hold said flexible tubing in position when said goggles are applied to the head of the operator; Fig. 4 is an elevation of Fig. 3 as it appears when viewed from below; Fig. 5 is an enlarged vertical section of the right end eye-piece, taken on the line $y\ y$ in Fig. 2, as it appears when viewed from the right; Fig. 6 is an elevation of a suitable air-receiving tank, before mentioned, with the end portions of the flexible tubing in place; Fig. 7 is an elevation of the outlet nozzle of said air-receiving tank, showing a valve to regulate the flow of air therefrom.

In the drawing A designates the pneumatic device or eye protector, before mentioned, with the end portions of the flexible tubing from the receiving tank secured to nipples a of the eye-pieces of the goggle frame A, the fine slot a^1 formed in the rim of each of said eye-pieces being so placed in front of each of said eye-pieces as to direct the air, passing therethrough, at an angle of, say forty-five degrees, converging from all directions, toward the center, but in front of said eye-pieces, as indicated by arrows 1 and 2, respectively, shown in Figs. 2 and 5.

A^1 designates a hood or bonnet secured to the frame of each eye-piece in any approved manner, for the purpose of preventing particles of dust or cinders from entering the eyes. A three-branched tubular device or fork A^2, preferably of metal, has the forward ends $a^0\ a^2$ of two of its branches secured into the adjacent ends of said flexible tubing, while the rear ends of said branches are curved and joined by the forward end a^3 of the third branch, thus completing the fork, which has its rear end secured into the adjacent end of the flexible tubing leading from the air-receiving tank. A metal plate A^3, curved as shown in Fig. 3, has its ends a^4 formed with clamp rings a^5, which embrace the flexible tubing at the required distance from the rear ends thereof. Said plate serves to hold the rearward portions of the flexible tubing in position when said tubing is applied to the head of the operator.

A^4 designates one of the air-receiving tanks, before referred to, which is provided with an

intake nipple a^6, to which is attached the adjacent end of a tube or metal pipe conveying compressed air from the air pump, which is part of the usual air-brake mechanism, while an outlet pipe a^7 receives the adjacent end of the flexible tubing communicating with the eye-pieces of the goggle frame and conveys the air from said tank to said goggle frame, only portions of which tubing or pipe are shown in the drawing.

In Fig. 7 is shown a piece of metal tubing a^8 supplied with a globe valve A^5 to regulate the flow of air from the tank to the eye-pieces, said metal tubing having its ends secured in the adjacent ends of the flexible tubing, before mentioned. The flexible tubing, shown in Fig. 7, as connecting the nipples of the metal pipe a^8 with the air tank, may be omitted and the metal pipe may be continued direct from the air tank to the desired point, so as to bring the globe valve A^5 to a point within easy reach of the operator, but any other suitable valve may be used in place of the globe valve, here mentioned.

An air accumulator, which is preferably in the form of a funnel, may be applied to the front part of the vehicle, having its open end forwardly and its converging sides rearwardly disposed, forming the apex of a horizontal cone, which apex is secured to the forward end a^3 of the third branch, so as to have interior connection therethrough with the fork A^3, conducting the air accumulated by said funnel into the flexible tubing of the eye-pieces. The construction of this funnel and its tubular connection being so well known that the separate illustration thereof is deemed superfluous.

It will here be remarked that I do not limit myself to the precise construction hereinbefore described, for minor alterations may be made without departing from the spirit of the invention.

The invention having thus been ascertained and described, and the manner in which its functions are performed fully shown and set forth what is considered new and desired to be secured by Letters Patent is:—

1. In a device of the class described, consisting of an eye protector, a frame formed of two adjacent tubular circular eye frames formed with openings in their periphery, a tubular nose-bridge connecting said eye frames, means for connecting said eye frames to flexible piping, and means for supporting said flexible tubes and securing the device to the head of the wearer, for the purpose set forth.

2. In a device of the class described, consisting of an eye protecting frame formed of tubular circular eye frames; openings formed in the periphery of said eye frame, a tubular nose-bridge the ends of which are secured to the adjacent sides of said eye frames, nipples secured to said eye frames, flexible tubes having their forward ends secured to said nipples and their rear ends secured to a Y-shaped connecting pipe, means for circulating air through said tubes and nipples, and means for liberating said air from the openings in the periphery of said eye frames.

3. In a device of the class described, an eye protecting frame, formed of two tubular eye frames, openings through the walls of their periphery, a tubular nose-bridge connecting said eye frames at adjacent points upon their periphery, nipples secured to said eye frames at their extreme opposite outer edges, flexible tubes having their forward ends secured to said nipples, a Y-shaped tubular connection connecting the rear ends of said flexible tubes with each other and to a source of air supply, a curved slide plate formed with clampings embracing said flexible tubes and slidably adjustable thereon.

In testimony whereof I affix my signature, in presence of two subscribing witnesses.

ALBERT EXTON JACOBS.

Witnesses:
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CHAS. F. BOWMAN.