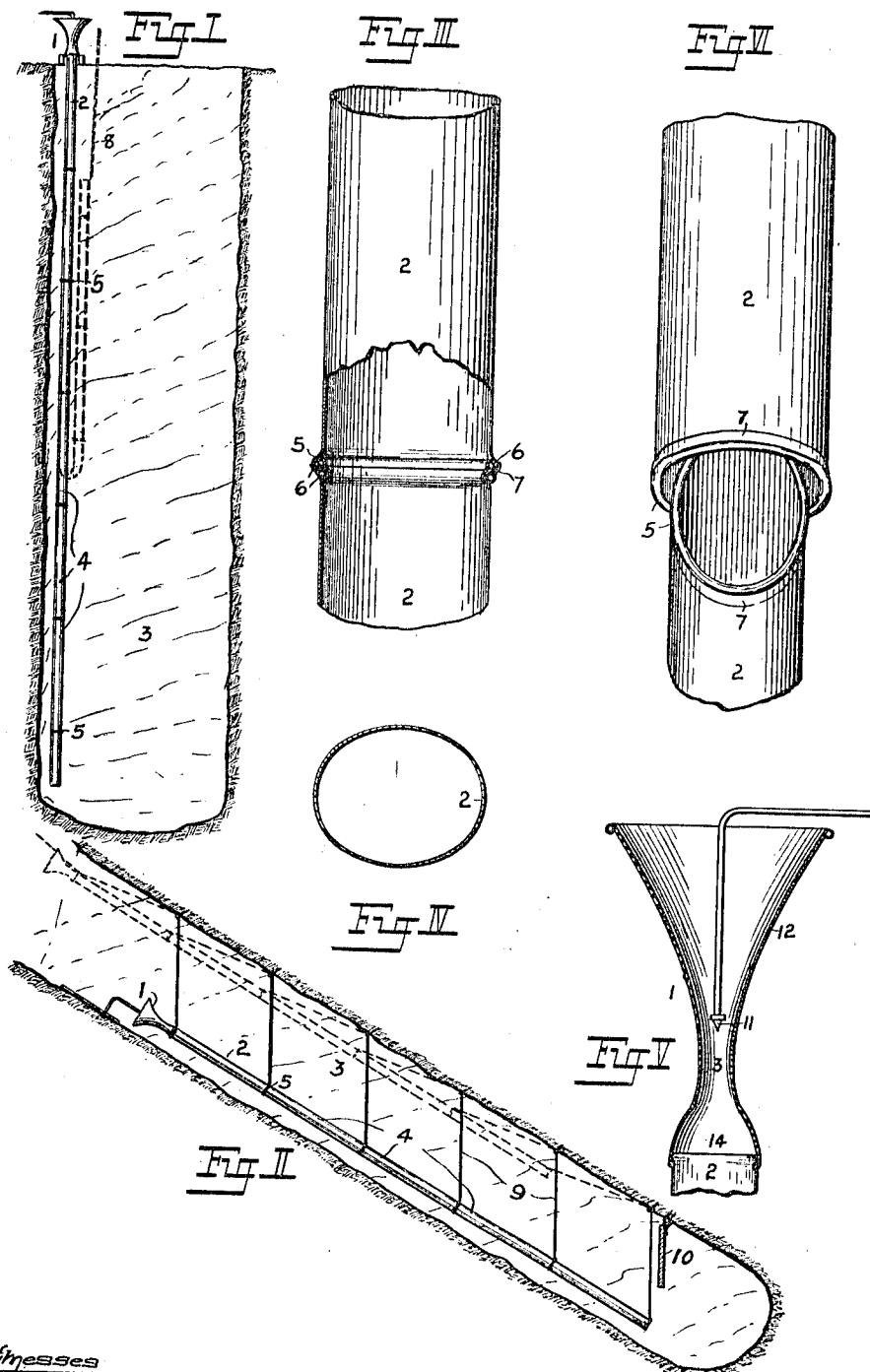


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 MEANS FOR VENTILATING MINE WORKINGS AND THE LIKE.
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1,274,438.

Patented Aug. 6, 1918.



Witnesses

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UNITED STATES PATENT OFFICE.

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MEANS FOR VENTILATING MINE-WORKINGS AND THE LIKE.

1,274,438.

Specification of Letters Patent.

Patented Aug. 6, 1918.

Application filed November 17, 1914. Serial No. 872,594.

To all whom it may concern:

Be it known that STANLEY NETTLETON, subject of the King of Great Britain, and residing at National Mutual Buildings, Johannesburg, Province of the Transvaal, Union of South Africa, has invented certain new and useful Improvements in Means for Ventilating Mine-Workings and the like, of which the following is a specification.

10 This invention relates to means for ventilating mine workings and the like whereby pure air under low pressure is forced into the workings to displace the foul air or gases.

For ventilating in this manner light sheet metal conduits have been proposed for the conveyance of the air. Such conduits are expensive to install and are easily damaged by passing traffic and by blasting operations. Wooden conduits have also been tried but owing to warping and decay they are of little service and are expensive to keep in proper order.

The object of this invention is to provide a conduit which is cheap, easy to install, and free from the drawbacks of the conduits above mentioned.

The invention is illustrated in the accompanying drawings in which—

30 Figure I shows the improved means in a vertical shaft or working.

Fig. II shows the arrangement modified for an inclined working.

Fig. III is an enlarged partly sectional view of a portion of the conduit.

35 Fig. IV is a plan thereof.

Fig. V is an enlarged sectional elevation of a preferred air forcing device.

Fig. VI is a perspective view showing means for making joints in the conduit.

40 1, in Figs. I, II, and V indicates any suitable device for forcing a volume of air under low pressure. The delivery thereof consists of a conduit 2 extending into the mine working 3 which is required to be ventilated.

45 Said conduit 2 is constructed of brattice cloth or other suitable fabric, woven or otherwise made into tubular form. Generally the conduit is made in sections 4 adapted to be readily connected to and disconnected from one another.

For this purpose they are as shown in Fig.

III provided at their ends 5 with rings 6 which may be sewn into hems 7. Said rings 6 are of equal and similar dimensions; they are adapted to be passed through one another angularly and then brought together face to face and thereby interlock.

In order to permit the rings 6 to pass through one another they may be made resiliently deformable; but it is preferable, especially in the larger sizes, to make them rigid and of elliptical shape. In this case they are presented angularly to one another with the short axis of one coinciding with the long axis of the other as shown in Fig. VI; the one passed through the other and then turned so that they coincide whereupon they are pulled together and caused to interlock as shown in Fig. III.

70 Fig. I shows a length of conduit 1 drawn to a small scale and hanging in a vertical mine shaft. During blasting operations the end of the conduit may be raised to a position indicated in the dotted lines by means of a rope 8 connected to the bottom of the conduit.

In Fig. II the conduit 1 is shown hanging in an inclined shaft suspended from the roof by ropes or chains 9. When necessary the conduit may be pulled up to a position shown in the dotted lines and protected by a batter board 10.

The preferred air forcing device is shown in section to an enlarged scale in Fig. V.

85 High pressure air from a suitable source is caused to issue as a jet from nozzle 11.

12 is a cone terminating in a restriction 13 which opens into a second cone 14 connected to the conduit 1. The jet of high pressure air forces the atmospheric air through restriction 13 and induces a supply through the mouth of the cone 12. It has been found that with this arrangement eddy currents in the air supply are reduced to a minimum and high efficiency is obtained from the apparatus.

I claim:

1. In a ventilating conduit, the combination of a plurality of sections of fabric tube and rings of regular non-circular form at the ends thereof adapted to pass through one another when angularly displaced and thereafter rotated to interlock.

2. A ventilating conduit comprising sections of fabric tube provided at their ends with elliptical interlocking rings.

3. In a ventilating conduit, the combination of a plurality of sections of brattice cloth tubes and elliptical rings at the ends thereof for coupling said sections together.

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

STANLEY NETTLETON.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."