

## **Specification of Arnold Hirst Watkins : respirators.**

### **Contributors**

Watkins, Arnold Hirst.

### **Publication/Creation**

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A.D. 1870, 22nd NOVEMBER. N<sup>o</sup> 3056.

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S P E C I F I C A T I O N

OF

ARNOLD HIRST WATKINS.

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RESPIRATORS.

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LONDON:

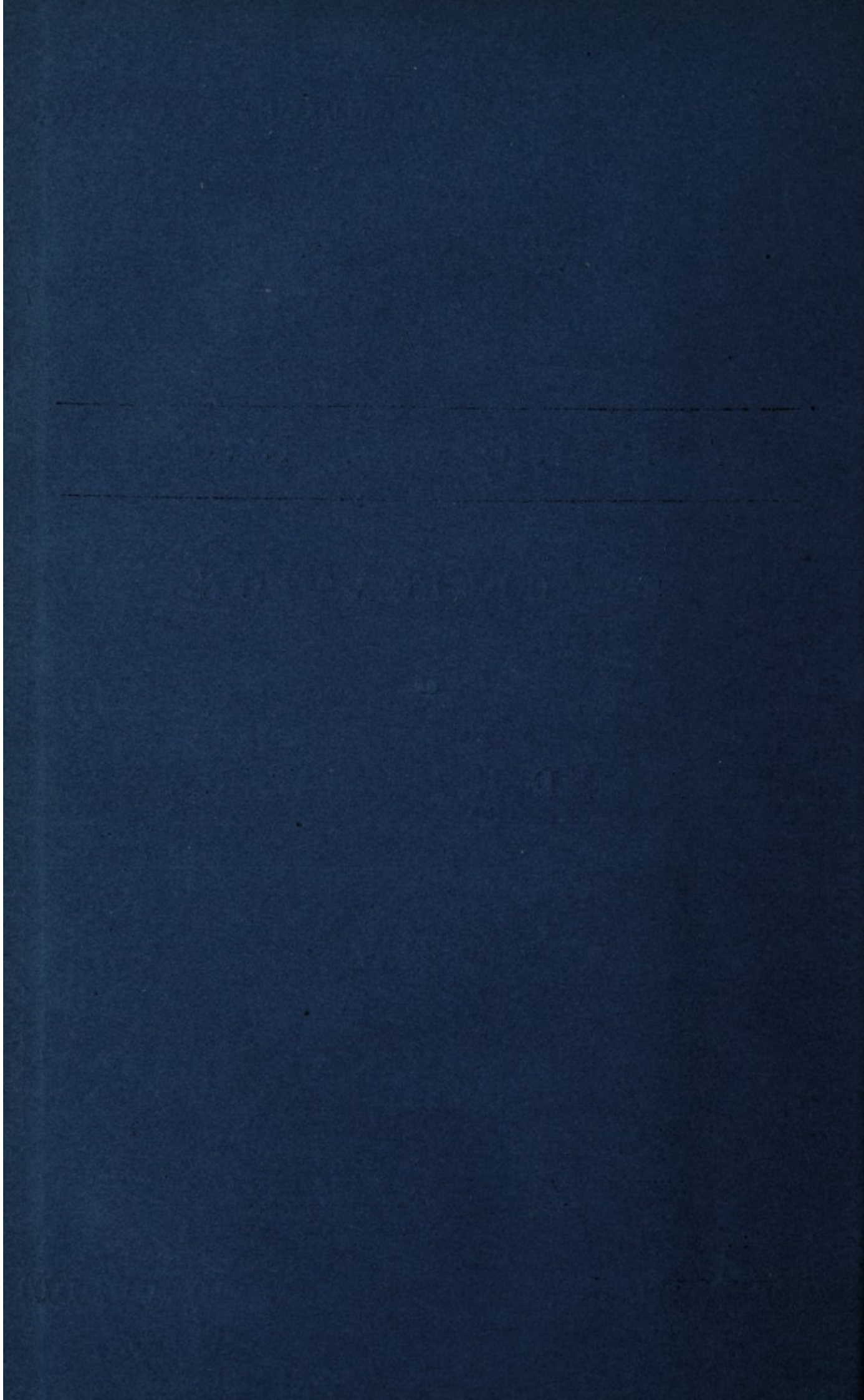
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### Respirators.

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*(This Invention received Provisional Protection only.)*

PROVISIONAL SPECIFICATION left by Arnold Hirst Watkins at the Office of the Commissioners of Patents, with his Petition, on the 22nd November 1870.

I, ARNOLD HIRST WATKINS, of Nailsworth, in the County of Gloucester, Brewer, do hereby declare the nature of the said Invention for "AN IMPROVED RESPIRATOR TO BE USED IN CONFINED POSITIONS RENDERED UNHEALTHY FROM THE PRESENCE OF NOXIOUS GASES OR EFFLUVIA," to be as follows :—

My Invention has for its object the facilitating of operations conducted in unhealthy positions (as stated in the title) by continually supplying fresh or pure air immediately to the mouth or nostrils or both of the workmen or others employed in such positions, and consists in applying and fixing to or in front of the mouth or nostrils of each of the said workmen or others by any suitable means a bag, mask, or covering made of india-rubber, leather, or other suitable material and provided with a valve or valves so constructed and arranged as to open inwards or towards the mouth or nostrils by inspiration and to close by expiration ; and also with a valve or valves so constructed and arranged as to open outwards from the mouth or nostrils by expiration and to



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*Watkins' Improvements in Respirators.*

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close by inspiration. The first-mentioned valve or valves being for the inlet or inspiration of air are placed directly in communication with one end of a tube or other conductor of suitable shape and material, the other end of which terminates in the fresh or pure air surrounding or without the confined position in which the operations are being carried 5 on. The air for inspiration is thus drawn entirely from the pure atmosphere, and no apparatus or chemicals of any description are required for its filtration or purification. The second mentioned valve or valves being for the purpose of expiration only require no pipe or other conductor, the expired air or breath passing into the impure or 10 noxious atmosphere in the said confined position. The said bag, mask, or covering may be constructed to cover and protect the eyes for situations where the nature of the impurity in the contained atmosphere renders it necessary by carrying the material of which the said bag, mask, or covering is composed to a sufficient height and of suitable 15 conformation, and fixing therein glasses in the required position.

By the aid of such an apparatus as above described gyles and other like vessels at breweries and elsewhere may be entered while full of carbonic acid or other gas for cleaning and other purposes, a considerable saving of time thus often being effected and a large amount of danger 20 and inconvenience being averted and prevented from those whose business it is to cleanse or otherwise labour in such vessels.

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