ready at the command of the chief through his subordinates to commit any crime, from arson and murder down to robberies and thefts. We can cite cases of families severed, homes broken up, ladies of high position humiliated and injured by these terrible means; of forgeries committed, money extorted—but enough has been said to impress all with the urgent necessity of an immediate investigation and exposure of this terrible force. Scientists and electricians should be called upon to ascertain if some way cannot be devised to trace the electric poisoner who has absorbed the human being's life current by the means which we have described. The government of every country should at once also pass stringent laws preventing the practice of magnetism, or the so-called hypnotism, even upon animals. In conclusion, let us study the laws of life, which should be the laws of health; in other words, let us study nature, and try and understand the great forces around us. If men and women would only think and reason for themselves, how much misery might be spared the world. The Creator designed that man should not die until he reached an old age, like the corn that is ripe or the fruit that is ready to fall; all else is contrary to the laws of creation, and we do err when we lay the breaking of these laws to divine interposition or Providence. We see no reason or natural cause why man may not live more than a century, when no mechanical cause is at work to sap his vitality. Let us remember the long lives of the patriarchs, when crime was comparatively unknown, and may our teachers, scholars, leaders and divines teach the doctrine of longevity rather than that of mortality; of living useful and honored lives, and teach us how to perpetuate the same by being among the first to discover, to denounce and to expose all forms of vice and crime, all forms of mechanical agency by which means life may be taken or shortened and the causes or motive force discovered.

DENISON'S PORTABLE LUNG COMPRESSOR OR EMPHYSEMA JACKET.

BY CHARLES DENISON, A.M., M.D.,

OF DENVER, COLORADO, PRESIDENT.

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This apparatus is especially constructed to aid the clearing out of secretions and stagnant air contained in the lungs under certain conditions of disease, such as emphysema, and bronchiectasis, or either of them alone whether associated or not with the profuse bronchial catarrh usual to these distressing troubles.

Abundant expectoration is brought about, the tendency to pulmonary oedema is lessened, and a freer and more natural circulation both of the air and the blood currents within the thorax is produced by the proper use of this device.

The following is Dr. Denison's description of this lung compressor extracted from his address as President of the American Climatological Association, Sept. 1890, on "Abnormal Intra-Thoracic Air Pressures:"

Before leaving this subject, I wish to describe a device I have had constructed for the self-treatment of emphysema. We will call it the Portable Lung Compressor. It was suggested to me by the "Ross-

bach Chair," which, in its mechanism and result, it much resembles. Its purpose is *the rhythmical and forcible compressions of the chest in consonance with expiration*. The idea of assisting the expiratory movements of the emphysematous patient is not a new one, as before Rossbach invented his chair physicians (Gerhardt first) used to train nurses to press the sides of the patient's chest during expiration;

and belts and other devices have been used to compress the chest. The results have been stated as generally favorable.

This lung compressor, or emphysema jacket, is supported and controlled by a simple nearly square frame, which can be hung against the wall, so that the patient can get into the jacket alone. This frame has for its sides pivoted, half round, elliptical beams, arranged so they can be pivoted at from one to three inches from their centres, thus giving greater compression as desired. To these, bands are fastened by buckles, which bands are sewed to the opposite sides of the jacket, and therefore cross each other at the patient's back. By their traction they squeeze the chest when the jacket is used. The compression can be made to suit any shaped chest, or any particular part of a given chest, by dividing the front lacing of the corset in three different fastenings, and by the adjustment which the posterior straps and buckles and the retaining shoulder straps permits. The power is ample, which is given by the side levers (attached to the middle of the side rollers), as they are moved forward by the patient's hands during expiration, and backward during inspiration.

In Rossbach's apparatus, the chest was compressed backward against the back of the chair, while in this there is a more even compression of the thorax in all its parts, and this jacket can be used, not only in the sitting posture, but either lying down, standing, or even during exercise by walking. Of course, the great aim is to aid expiration. However, the movement backward of the arms during inspiration undoubtedly aids the act of breathing, not only by freeing the chest from the previous compression but by the more natural position assumed for inspiration. The kinds of breathing it would seem best to practice with this device are slow measured inspirations with as complete emptying of the chest as can be comfortably borne, say twelve or fifteen breaths per minute, for as many minutes at a time, three times a day. I believe that a return of the normal resiliency of the emphysematous lung, and the clearing out of the muco-purulent contents of bronchial dilatations, can be favored by the systematic use of this apparatus. The opportunities I have had of trying it decidedly warrant this statement, and I trust any of you who try the Portable Lung Compressor will have the same experience.

BURNS OF THE EYES.

Read to the Kentucky State Medical Society, at Louisville, May 5, 1892.

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Burns of the eyes are entitled to especial consideration when they affect the conjunctiva or cornea. They should be classified according to cause, and extent. The ophthalmic surgeon seldom sees the patient whose eyes have been burned by caustic alkalis or acids in time to employ chemical antidotes, yet these are too often neglected by those who have the opportunity of seeing such cases at the moment of occurrence.

In order to draw practical conclusions, it will be necessary to enter somewhat into the details of this part of the subject, and, if I inadvertently indulge in some adverse criticism of my peers, who have written authoritatively upon this subject, I beg that my clinical observations be taken as sufficient warrant for the personal conclusions to which I may invite your attention. Professor Noyes (p. 266) directs attention to the especially destructive agency of the fulminate of mercury, used in percussion caps, cartridges, torpedoes, etc., and which boys are prone to use somewhat recklessly. The great extent to which burns from this source usually penetrate the tissues, may be accounted for, both by the intense explosive force with which the heated particles are driven into the eyes, and the very fine amorphous division of these particles. A deep slough almost invariably follows burns of this kind, and the treatment of the eyes so injured must be conducted with reference to this fact; because, a slough, of any extent, leaves a raw surface, which, by contact with the opposed mucous membrane, will, in time, become adherent. The particles of the fulminate may be accompanied by insoluble matter, and thus produce permanent stains in the cornea.

Quicklime frequently flies into the eyes of plasterers and others engaged in handling it. Its destructive effect is very rapid, and may be partially coun-

teracted by the instantaneous use of vinegar, which converts a portion of the lime into the comparatively harmless acetate; the remaining portion should be removed by instrumental means.

Ammonium, in the form of the caustic liquor, or the carbonate, produces very painful caustic effects when spattered into the eyes, and may be quickly neutralized by a few drops of vinegar, or any mild acid, such as lemon juice.

Nitrate of silver is a dangerous caustic, yet it is almost in constant use by thoughtless surgeons, who imagine the destruction of the surface of the inflamed mucous membrane, in some mysterious way, arrests the inflammation. Knowing full well the destructive action of this potent agent, the surgeon who employs it usually provides himself with a saturated solution of chloride of sodium, and, on applying the silver, he washes off the excess from the surface of the membrane. The coagulum, characterized by the appearance of a white film, is quickly brushed over by a little of the solution of the chloride of sodium, which precipitates the insoluble chloride of silver, leaving a thin eschar to separate by the ordinary process of sloughing. This is no less a burn than that following any other agent producing destruction to the same degree and extent. This process being repeated, involves, of course, the development of a constantly increasing amount of cicatricial tissue, proportioned to the depth and extent of the cauterization.

Sulphate of copper, for nearly half a century in almost constant use, has, like the nitrate of silver, done incalculable damage to the human family, as a caustic. The depth and extent of its action is much less than that of the silver; but it does unmistakably provoke parenchymatous inflammation, when frequently applied to the conjunctiva. It produces likewise such destruction of the corneal epithelium as to create an opaque film which permanently impairs the acuity of vision.

Dr. O'Halloran, in the first chapter of his "Remarks on Acute and Chronic Ophthalmia, and on Remittent Fever," published in London, 1824, speaks of bluestone being used with great efficacy and safety in the treatment of inflammation of the conjunctiva, and states that he had treated hundreds of cases of chronic corneal and conjunctival diseases by the direct application of bluestone to the inflamed membrane. Although it had been used before, yet these remarks, from an eminent army surgeon, led the profession to an indiscriminate use of it as a caustic, which I regret to say has not even yet been abandoned.

Caustic potassium, in the form of concentrated lye, is frequently introduced into the eyes. It is instantaneously destructive, and should be treated at the instant of occurrence by free ablutions of vinegar, followed by a weak lotion of chloride of sodium, to be more particularly explained presently.

Mr. James Dixon, of London (p. 68), in the third edition of "A Treatise on Diseases of the Eye," 1866, and in the Section on Ophthalmic Surgery in Holmes' System of Surgery, 1881, strongly recommends the use of liquor potassium for the destruction of hypertrophied papillæ. He says: "The fluid is dabbed upon the everted lids, so as to be fully brought into contact with the whole surface, and it appears to act by saponifying and dissolving away the hypertrophied tissue." He says it should be used every few days for a period of about six weeks. This explana-