

THOMAS COGAN, M.D.

Living Founder of the Royal Humane Society. Ha O

ANNUAL REPORT

OF THE

ROYAL HUMANE SOCIETY,

FOR THE RECOVERY OF

PERSONS APPARENTLY DEAD.

1814. 139 Dr Lettfans

DEATH MAY USURP ON NATURE MANY HOURS,
AND YET THE FIRE OF LIFE KINDLE AGAIN
THE OVERPRESSED SPIRITS. I HAVE HEARD
OF AN EGYPTIAN HAD NINE HOURS LIEN DEAD,
BY GOOD APPLIANCE WAS RECOVERED.

SHAKSPEARE, PERICLES, ACT III. Sc. II.



LONDON:

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1814.

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MEMBERS OMITTED.

		Bowden, Esq. Copthall Buildings .L Edwards, Harp Alley
		Sergrove, Esq. Charles-square, Hoxton
		ERRATA.
P.	89.	Before John Davison, Esq. place ‡
P.	92.	Mr. T. Gibson, ‡
P.	98.	T. Nelson, Esq ‡
P.	102.	John Smith, Esq †
P.	97.	For Micci read Mieci.

INTRODUCTION.

RISE AND PROGRESS OF THE ROYAL HUMANE SOCIETY. WITH A TRIBUTE TO ITS CO-FOUNDERS.

ABOUT the middle of the last century, Dr. John Fothergill saw the dubiousness and fallacy of the received criteria of dissolution; and, in a paper addressed to the Royal Society, maintained "the possibility of saving many lives, without risking any thing." Though coming from such high authority, the subject attracted no attention; and notwithstanding the great interest with which, à priori, it was natural to suppose it would fill every thinking mind, we hear no more of it, at that time, among our own countrymen.

Though several instances had occurred, in various parts of the Continent, which pointed out the possibility of recovering, in many cases, those who were drowned; yet the attention they excited was limited and transient.

M. Reaumur communicated, in 1767, to the Academy of Sciences at Paris, some instances of resuscitation which had occurred in Switzerland.

Holland, being intersected by numerous canals and inland seas, its inhabitants were, consequently, much exposed to accidents by water; and many persons were

b

drowned

drowned from the want of proper assistance. Hence, in the year 1767, a Society was formed at Amsterdam, which offered premiums to those who saved the life of a citizen in danger of perishing by water: it proposed to publish the methods of treatment, and to give an account of the cases of recovery. Instigated by this example, the Magistrates of Health at Milan and Venice issued orders, in 1768, for the treatment of drowned persons. The City of Hamburgh appointed a similar ordinance to be read in all the churches, extending their succour, not merely to the drowned, but to the strangled, to those suffocated by noxious vapours, and to the frozen. The first part of the Dutch Memoirs was translated into the Russian language, by command of the Empress. In 1769 an edict was published in Germany, extending its directions and encouragements to every case of apparent death, which afforded a possibility of relief. In 1771, the Magistrates of the city of Paris founded an institution in favour of the drowned, &c. and the repeated instances of success in each country abundantly confirmed the truth of the facts related in the Amsterdam Memoirs. These Memoirs were, in 1773, translated into English by Dr. Cogan, in order to convince the British Publick of the practicability, in many instances, of recovering persons who were apparently dead, from drowning. No sooner were they translated, than they engaged the humane and benevolent mind of Dr. HAWES. His very soul was absorbed with the animating hope of saving the lives of his fellowcreatures: but, in making the attempt, he had to encounter both with ridicule and opposition. The practicability of resuscitation was denied. He ascertained its practicability,

ticability, by advertising to reward persons, who, between Westminster and London bridges, should, within a certain time after the accident, rescue drowned persons from the water, and bring them ashore to places appointed for their reception, where means might be used for their recovery, and give immediate notice to him. Many lives were thus saved by himself and other medical men, which would otherwise have been lost. For twelve months he paid the rewards in these cases; which amounted to a considerable sum. Dr. Cogan remonstrated with him on the injury which his private fortune would sustain from a perseverance in these expences; he therefore consented to share them with the publick. They accordingly agreed to unite their strength, and each of them to bring fifteen friends* to a meeting at

* The names of these Thirty-one Gentlemen, who, with Dr. Hawes and Dr. Cogan, laid the foundation of the Society, deserve to be recorded. The following is a list of them:

Mr. Armiger

Rev. Mr. Bouillier

Fredk Bull, Esq. and Alderm.

Dr. William Cooper

Mr. Delver

Mr. Denham

Mr. William Fox

Dr. Goldsmith

Rev. Richard Harrison

Mr. Benjamin Hawes

Dr. Heberden

Thomas Tower, Esq.

Rev. Dr. Towers

William Towgood, Esq.

Mr. William Townsend

Dr. Kooystra

Robert Palmer, Esq.

Mr. Patten

Mr. Michael Pearson

Mr. Phipps

Samuel Prime, Esq.

Mr. John Bewley Rich

Rev. Mr. Sowden

James Horsfall, Esq. F. R. S.

Mr. John Jacob

Mr. Joseph Jacob

Rev. Dr. Jeffries

J. C. Lettsom, M. D.

Rev. Mr. Van Effen

Mr. Warrand

Dr. Watkinson

Mr. Wright.

the Chapter Coffee-house, with the express intention of establishing a Humane Society in London: this was happily accomplished in the summer of 1774. The object of this Society was then, like that at Amsterdam, confined to the recovery of persons who were apparently dead from Drowning.

Those who remember the first establishment of this Society, recollect what extreme caution was then requisite in receiving the accounts of persons said to have been drowned and subsequently recovered. Both Dr. HAWES and Dr. COGAN saw the absolute necessity of guarding against the attempts which might be made, and were made, to impose on them in these respects.

For the first six years Dr. COGAN prepared the Reports of the Society from year to year, nor was Dr. HAWES less attentive in aiding the designs and promoting the views of this Institution.

In the year 1778, a more active part in the management of the affairs of this Society devolved on Dr. Hawes, by his being chosen its Registrar. This was still increased in the year 1780, when Dr. Cogan returned to Holland. On this event Dr. Hawes greatly regretted the loss of so able a colleague, and lamented that the task of arranging and preparing the Annual Reports of the Society should have "fallen into hands of such inferior ability; but hoped that his zeal would compensate for the want of ability, that the important cause then entrusted to his sole care, might not be permitted to languish."

The tide of prejudice, for many years, ran very strong against a set of men, who presumed, or pretended, to bring the dead to life. "Our first object and chief difficulty,"

ficulty," Dr. Hawes remarks, "were to remove that destructive incredulity which prevailed. Our attempts were treated, not only by the vulgar, but by some of the learned, even by men of eminence as physicians and philosophers, as idle and visionary, and placed upon a level with professing to raise the dead. The well-authenticated narratives from abroad were considered as fabulous, or at least as greatly exaggerated. Such prejudices were first to be removed; and they could only be removed by incontestible facts of our own. Happily, the animated exertions and early subscriptions of a few individuals enabled us to produce them before our little fund was exhausted."

The ROYAL HUMANE SOCIETY will be a standing monument of what may be accomplished by individual persevering exertions in the cause of humanity; and will transmit the names of HAWES and COGAN to posterity as benefactors to the human race. The former is gone to inherit the reward of a life most disinterestedly and assiduously devoted to the preservation of the lives of his fellow-creatures—while the latter still survives, an honour to his country, and highly entitled to our warmest respect, not only as the joint Founder of the Royal Humane Society, but for his brilliant mental acquirements; and it gives us great pleasure to have been enabled to embellish this Annual Report with his Portrait.

Dr. COGAN was born at Rowell, in Northamptonshire, in 1736. After passing some time in Holland, he settled as a Physician in London; where he was highly esteemed, particularly as a most successful Accoucheur. In 1780, however, he gave up his practice, and returned to Holland.

Dr. COGAN, has since resided some years near Bath, where in 1805, he founded a Bath Humane Society; but at present he is resident in the Metropolis.

His chief publications are,

- 1. "Memoirs of the Society instituted at Amsterdam, in favour of Drowned Persons, for the years 1767, 1768, 1769, 1770, and 1771; translated from the original, 1773," 8vo. Robinson.
- 2. "The Rhine; or, a Journey from Utrecht to Francfort, &c. 1794." In Two Volumes, 8vo.; with Plates.
- 3. "The Works of Professor Camper, on the Connexion between Anatomy, and the Arts of Drawing, Painting, &c. Translated from the Dutch, 1794." In one volume 4to. with Plates.
- 4. "A Philosophical Treatise on the Passions: Second Edition, corrected, 1862." 8vo.
- 5. "An Ethical Treatise on the Passions, founded on the Principles investigated in a Philosophical Treatise. 1807—10." 2 vols. 8vo.
- 6. "Theological Disquisitions; or, An Enquiry into those Principles of Religion, which are most influential in directing and regulating the Passions and Affections of the Mind. I. Disquisition. On Natural Religion. II. Disquisition. On the Jewish Dispensation, respecting Religion and Morals, 1812." 8vo.

7. "A Theological Disquisition, on the characteristic Excellencies of Christianity; or, an Enquiry into the superior Assistance it affords, and Motives it contains, for the Practice of Virtue, Cultivation of the best Affections of the Heart, and preparing the Moral Offspring of God for permanent Felicity, 1813," 8vo.

The last five articles form one complete work, under the following title:

- 8. "A Treatise on the Passions and Affections of the Mind, Philosophical, Ethical, and Theological. In a Series of Disquisitions, in which are traced, the moral History of Man, in his Pursuits, Powers, and Motives of Action, and the Means of obtaining Permanent Wellbeing and Happiness, 1813." 5 vols. 8vo.
- 9. "Letters to William Wilberforce, Esq. M. P. on the Doctrine of Hereditary Depravity. By a Layman," 8vo.

These volumes have acquired distinguished public approbation; but here it is not requisite, at this time, to offer additional eulogy. Reflecting, however, upon the advanced period of life in which some of these have been composed, contemplation is gratified by the splendid display of mental vigour in maturity of age; in the acumen of the Philosopher, so happily combined with the solidity of the Sage; affording at the same time a pleasing instance of the influence of benevolence, maintaining mental activity; of philanthropy, which, by communicating placidity of mind, prolongs its energies. "Quietè et purè atque eleganter actæ ætatis placida ac lenis recordatio*." Hence results that suavity of manners, so in-

^{*} Placid and southing is the remembrance of a life passed with quiet innocence and elegance. CICERO.

teresting in society; those varied and infinite resources of lively conversation, which diffuse rational pleasure, and convey useful instruction. True it is, that familiarity may be exercised without degradation, and elevation of sentiment without cold reserve, or the repulsiveness of ostentation; as the expression of superiority of knowledge may be chastened by suavity of manner; and this is the happy medium, so characteristic of the surviving Founder of the Royal Humane Society.

SECTION I.

RULES AND ORDERS

OF THE ROYAL HUMANE SOCIETY.

- Instituted, in 1774, to collect and circulate the most approved and effectual Methods for Recovering the apparently Drowned or Dead; to suggest and provide proper Apparatus for, and to bestow Rewards on all who assist in, the Preservation or Restoration of Life.
- I. THAT this SOCIETY do consist of a Patron, President, Vice-Presidents, Treasurer, Sub-Treasurer, Directors, Governors, Chaplains, and Medical Assistants, Registrar, and Secretary.
 - II. That One Guinea yearly constitutes a GOVERNOR;

Two Guineas yearly, a DIRECTOR;

Ten Guineas, a LIFE GOVERNOR;

Twenty Guineas, a LIFE DIRECTOR.

- The Executor of any Person paying a Legacy of Fifty Pounds, to be a LIFE GOVERNOR; and of a Legacy of One Hundred Pounds, to be a LIFE DIRECTOR.
- Governors have the Privilege of attending all General Courts; and Directors have the additional Privilege of attending all Committees.

- III. That Four GENERAL COURTS be held annually; on the third Wednesdays in February, May, August, and November; and Seven Governors to be a Quorum. That an Extraordinary General Court may be called either by the Treasurer, or Sub-Treasurer; or by a Requisition in Writing of Thirteen Directors or Governors, addressed to the Secretary.
- IV. That the *President*, *Vice-Presidents*, Treasurer, Sub-Treasurer, Chaplains, Registrar, Secretary, Collector, and Messenger, shall be elected at the Annual Court in February.
- V. That a COMMITTEE shall be chosen at the same Court, which shall consist of the President, Vice-Presidents, Treasurer, Sub-Treasurer, Directors, and Forty-five Members, Three of whom may act as a Quorum.—That the Committee meet on the Third Tuesday in each month; or oftener, if occasion should require.
- VI. That the Committee have power to make Bye-Laws, subject to confirmation at the next General Court; and to define the Duties of the respective Officers.
- VII. That the Committee have Power to suspend any Officer or Servant, till the next General Court, and to appoint others in the mean time.
- VIII. That five Auditors be elected at the General Court in February, who shall meet and audit the Accounts previous to each General Court; and that the Accounts be signed by three, at least, of the Auditors, and submitted to each General Court.

- IX. Gentlemen desirous of becoming Medical Assistants are to be proposed to, and elected by, the Committee.
- X. That the Committee recommend those Persons whom they deem worthy of becoming Honorary Members, and of having *Honorary Medallions*, to the General Court; and that the Medallions be conferred at the subsequent Anniversary Festival.
- XI. That the usual Rewards (having reference to the number of Persons actually engaged in the Preservation of Life) be paid only in cases which occur within thirty miles of the Metropolis; with liberty to the Committee to give Rewards in any peculiar cases that may occur beyond those Limits.
- XII. That Remuneration be given to any Publican, or other Person, who shall admit the Body of any Object into his house without delay, and furnish the necessary Accommodations; and that they be secured from the Charge of Burial in unsuccessful cases.
- XIII. That two Members of the Committee be elected at the Annual Court in February, to be joined with the *Treasurer* and *Sub-Treasurer* as Trustees for Stock and Funded Property.
- XIV. That the Anniversary Sermon be preached, and the Festival held, as soon as conveniently may be after the Annual Court in February.
- XV. That Proceedings on business of importance, transacted at the different Meetings, together with Cases, Subscriptions, or whatever may be for the information.

of the Publick or the advantage of the Society, be from time to time published, at the discretion of the Committee.

XVI. That, if a Debate arise at a General Court, such Question shall be determined by the holding-up of hands, unless a Ballot be demanded by nine Members; in case of an Equality of Votes, the Chairman shall have the casting Vote.

XVII. That all Persons within five miles of London, who claim the Premiums offered by this Society, shall produce their Testimonial to the REGISTRAR or SE-CRETARY within fourteen days, signed by the Minister of the Parish, or by one of the Medical Assistants, or by three respectable Housekeepers acquainted with the Accident; but, if the distance be considerable from the Metropolis, one month will be allowed, though as early an application as possible is in all cases expected.

SECTION II.

INSTITUTIONS OF OTHER HUMANE SOCIETIES.

WE have great satisfaction in recording the Establishment of similar Humane Societies in various parts of the World; and that the success attending these has exceeded the sanguine expectations of their Founders and Supporters; viz.

1. BRITISH UNITED EMPIRE.

BIRMINGHAM — BRISTOL — EXETER — GLOUCESTER — KINGSTON UPON HULL — LANCASTER — NORTHAMPTON — MELTON MOWBRAY — NEWCASTLE UPON TYNE — NORWICH--SHROPSHIRE — WHITEHAVEN--WISBEACH — BATH — LEICESTER — EASTERN COAST--YORK--RIVERS WREAK AND EYE — FALMOUTH — SUFFOLK — BEDFORD — OAKHAM — SHEFFIELD.

ABERDEEN—GLASGOW—LEITH—MONTROSE--FORTH AND CLYDE NAVIGATION.

SOUTH WALES-SWANSEA-CARDIFF.

DUBLIN-CORK.

2. BRITISH FOREIGN SETTLEMENTS.

MADRAS---CALCUTTA---HALIFAX---NOVA SCOTIA--JAMAICA.

3. FOREIGN.

BERLIN — GORLITZ---PRAGUE---COPENHAGEN---ST.
PETERSBURG -- ALGIERS — PENNSYLVANIA — BOSTON --NEW YORK -- BALTIMORE.

SECTION III.

DIRECTIONS FOR THE RECOVERY OF DROWNED PERSONS,
AND PREVENTION OF PREMATURE DEATH.

THESE objects had engaged the attention of the Society from its commencement, as essentially requisite to effect the purpose for which it was instituted. From this Society many others have emanated, and in general adopted the directions of the Parent Institution; and where they have amplified, they have not weakened the principles, which were founded upon science and confirmed by experience. At the same time we have availed ourselves of some excellent observations from some of these Humane Societies, and particularly of those instituted in America, where the extremes of heat and cold greatly exceed those of the British Empire.

1. Treatment of Drowned Persons.

In removing the body to a convenient place, care must be taken that it be not bruised, nor shaken violently, nor roughly handled, nor carried over any man's shoulders with the head hanging downward, nor rolled upon the ground, nor over a barrel, nor lifted up by the heels; for experience proves that all these methods may be injurious, and destroy the small remains of life. (See SecTION IV. a. b.) The unfortunate object should be cautiously conveyed by two or more persons; or in a carriage upon straw, lying as on a bed, with the head a little raised, and kept in as natural and easy a position as possible.

The body, being well dried with a cloth or flannel, should be placed in a moderate degree of heat, but not too near a large fire. The window or door of the room should be left open, and no more persons admitted into it than those who are absolutely necessary, as the lives of the patients greatly depend upon their having the benefit of pure air. The warmth most promising of success is that of a bed or blanket well heated. Bottles of hot water should be laid at the bottoms of the feet, to the joints of the knees, and under the arm-pits; and a warming-pan, moderately heated, or hot bricks wrapped in cloths, should be passed over the body. The natural and kindly warmth of a healthy person lying by the side of the body has been found, in some cases, particularly of children, very efficacious.

Should the accident happen in the neighbourhood of a warm bath, brewhouse, bakehouse, glasshouse, or any fabrick where warm lees, ashes, embers, grains, sand, water, &c. are easily procured, it would be of great importance to place the body in any of these, moderated to a degree of heat little exceeding that of a healthy person; or in Summer, the exposure to sunshine has been proved obviously beneficial. Friction with the hand, or with warm flannel or coarse cloth, so as not to injure the skin, should also be tried, with perseverance, for a considerable period of time.

The subject being placed in one or other of these advantageous circumstances as speedily as possible, a bellows should be applied to one nostril, whilst the other nostril and the mouth are kept closed, and the lower end of the prominent part of the wind-pipe is pressed back-"The bellows is to be worked in this situation: and when the breast is swelled by it, the bellows should stop, and an assistant should press the belly upward, to force the air out. The bellows should then be applied as before, and the belly again pressed; this process should be repeated from twenty to thirty times in a minute, so as to imitate natural breathing as nearly as possible. As the trachea is always open through the glottis, air conveyed through the mouth, the nostrils being closed, would necessarily pass into the lungs. cartilages of the larynx (throat) be pressed against the vertebræ (bones of the neck), so as to close the æsophagus (gullet,) and prevent the passage of the air into the stomach, and at the same time the mouth and left nostril be closed, and the pipe of the bellows inserted into the right nostril, the air will pass into the lungs through the wind-pipe, because that is the only opening through which it can pass; its passage into the æsophagus, or its egress through the mouth or left nostril, being prevented in the manner above described." The use of the bellows and upper parts of the apparatus of the Society are fully explained in the annexed Plate.

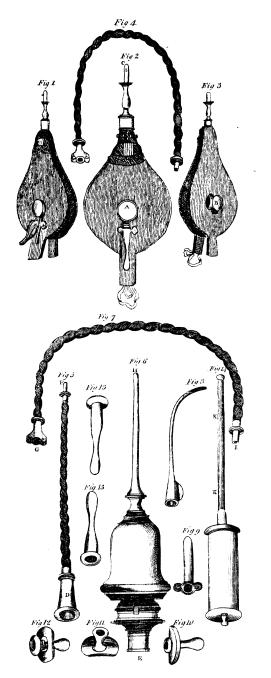
As early inflation of the lungs, is a remedy of the first and most prominent importance, a cursory view of the phænomena of inspiration and expiration, may be properly introduced here:

"The chest, or thorax, is so constructed, that merely from the elasticity of its sides, and the pressure of the surrounding parts upon them, it has a tendency to assume a certain prominent capacity or dilation. cordingly after death, when there no longer exists any counteracting cause, this is the capacity which it assumes and retains; and may be called the natural state of the In the living body, however, by the action of the surrounding muscles, a farther enlargement of the chest, beyond the natural state, may be produced. soon as this dilation commences, a sort of vacuum must be formed, between the sides of the thorax and lungs. A current of air, therefore, immediately flows through the wind-pipe into the air-cells of the lungs, and gradually distends these organs, in proportion as the cavity containing them is increased. This constitutes inspira-After previous enlargement, the cavity of the thorax may be diminished by the pressure of the abdominal viscera, the elasticity of the parts with which the ribs are connected, and the muscles which pull these bones downwards, exactly to its natural capacity, or even considerably below it. When the diminution commences, the lungs are compressed; and the air, being thus forced out of their cells, escapes by the trachea and mouth. This constitutes expiration. The quantity of air which on an average is expelled by an extreme expiration, after a previous extreme inspiration, is about 260 cubic inches. We cannot, however, by any muscular effort whatever, reduce the dimensions of the chest so far as to empty the lungs entirely of their contents. After an extreme expiration, they still retain, on an average, about 40 cubic inches.

"These two processes, of inspiration and expiration, generally alternate with each other, while the body is at rest, about twenty times in a minute. If, therefore, forty cubic inches be adopted, as the average bulk of air inhaled, and exhaled, it will result, that a full-grown person respires 48,000 cubic inches in an hour, 1,152,000 cubic inches in the course of a day; a quantity equal to about 79 hogsheads."

From this view of the phænomena of inspiration and expiration, it may be inferred, that in cases of emergency of suspended animation, and where a bellows, or any apparatus cannot be had, there is the most cogent motive to excite the natural inspiration and expiration, by pressure on the thorax, ribs, and abdominal muscles, merely by the hands, so as to press out as large a portion as possible; for the whole cannot be squeezed out of the 40 cubic inches of air contained in the air-cells of the lungs, even in a state of apparent death; and then removing and applying the pressure alternately, in order to imitate the natural breathing, and promote the introduction of atmospheric air, in proportion to the quantity pressed out from the air-cells of the lungs.

If there be any signs of returning life, such as sighing, gasping, twitching, or any convulsive motions, beating of the heart, the return of the natural colour and warmth,—opening a vein in the arm, or external jugular of the neck, may prove beneficial; but the quantity of blood taken away should not be large. The throat should be tickled with a feather, in order to excite a propensity to vomit, and the nostrils also with a feather, snuff, or any other stimulant, so as to provoke sneezing. A tea-spoonful of warm water may be administered



nistered now and then, in order to learn whether the power of swallowing be returned: and if it be, a table, spoonful of warm wine, or brandy and water, may be given with advantage; and not before, as the liquor might pass into the trachea before the power of swallowing returns. The other methods should be continued with ardour and perseverance for two hours or upwards, although there should not be the least symptom of life.

In the application of stimulants, electricity has been recommended; and when it can be early procured, its exciting effects might be tried in aid of the means already recommended; but the electrical strokes should be given in a low degree, and gradually as well as cautiously increased.

EXPLANATION OF THE SOCIETY'S APPARATUS.

Plate II.

Fig. 1, 2, 3, are different views of a pair of bellows, for the double purpose of inflating the lungs and injecting warm or stimulating vapour, as of rosemary, lavender, valerian, asafætida, &c.

The mark A, fig. 2, is a lever for filling the bellows with fresh air in inflating; B, in fig. 3, is a moveable circular piece of wood over the clack-hole, which must be turned over it in inflating, and removed aside when the bellows are used as common bellows for injecting stimulating vapours.

C, fig. 2, is a brass nozzle, which fits into fig. 5 at D, for inflating, and into fig. 6 at E, for injecting stimulating vapours.

Fig. 4 is a long flexible tube, of the same description as fig. 7.

Fig. 5 is a short flexible tube, fitted to the nozzle of the bellows, C, for inflating; its tube, F, fits into figs. 8. 9, 10, 11, 12.

Fig. 6 is a brass box, inclosed in wood, to contain the stimulating substance, and is to be connected at E with the nozzle of the bellows, fig. 1, and at H with the long pipe, fig. 7.

Fig. 7, a long flexible tube, which being fitted at G, upon fig. 6 at H, is used for injecting vapour or smoke.

Fig. 8, a curved silver pipe, to fit on fig. 5, for inflating the lungs, by passing it down the throat, beyond the glottis.

Fig. 9, a canula, for bronchotomy; it fits on fig. 5, at C.

Figs. 10, 11, 12, are nostril-pipes of various sizes; they fit on fig. 5, F.

Fig. 13 are clyster-pipes of different sizes; they fit on fig. 7. at I.

Fig. 14 is a syringe with a flexible tube KK, for injecting cordials into the stomach.

Observations.

These instruments, and four glass bottles with ground stoppers, to contain remedies, comprehend the instruments recommended by the Royal Humane Society for the recovery of persons apparently dead. They are contained in a mahogany chest, lined with baise, which has a lift-out, for sponge and flannels, and apertures for flint, steel, tinder-box, and matches.

When intended to inflate, turn the circular piece of wood, B, fig. 3, over the clack-hole; then fix the short flexible tube, fig. 5, Plate II. to the brass nozzle of the bellows, fig. 2, at C.

The ivory pipes, figs. 10, 11, 12, for the nostril; the curved silver pipe, fig. 8, for the throat; and the silver canula, fig. 9, for bronchotomy: each of which, as before described, is adapted to the plug of the short flexible tube. When you wish to inflate, press the brass lever A, fig. 2; open the bellows; then let go the lever, and, by shutting the bellows, force the air into the lungs.

To extract the air, open the bellows without touching the lever; and to expel the foul air, press the lever (to open it), and shut the bellows, by which means the extracted foul air will be thrown away; then still keeping the lever open, dilate the bellows, by which means it will be again filled with fresh air; let the brass lever down, and proceed to imitate inspiration and expiration. It may be, perhaps, necessary, at first, to fill two or three times before you expel once; and for this purpose you must remember to keep the lever open whenever the bellows are emptied, in order to take in more fresh air, by the dilation, &c. &c. When the brass lever is shut, and the circular wood is removed from off the clack hole, it is a common pair of bellows.

3. Suspension by the Cord, or Hanging.

In hanging, the external veins of the neck are compressed by the cord, and the return of the blood from the head thereby impeded, from the moment that sus-

pension

pension takes place; but as the heart continues to act for a few seconds after the wind-pipe is closed, the blood which is sent to the head during the interval is necessarily accumulated there. Hence it is, that in hanged persons (strangulation) the face is greatly swollen, and of a dark red or purple colour; the eyes are commonly suffused with blood, enlarged, and prominent.

From the great accumulation of blood in the vessels of the head, many have been of opinion that hanging kills chiefly by inducing apoplexy; but it has, however, been clearly proved, that in hanging, as well as in drowning, the exclusion of air from the lungs is the immediate cause of death. From which it appears that the same measures recommended for drowned persons are also necessary here; with this addition, that opening the jugular vein, or applying cupping-glasses to the neck, will tend considerably to facilitate the restoration of life, by lessening the quantity of blood contained in the vessels of the head, and thereby taking off the pressure from the brain.—Except in persons who are very full of blood, the quantity taken away need seldom exceed an ordinary tea-cupful, which will, in general, be sufficient to unload the vessels of the head, without weakening the powers of life.

4. Prevention of the Effects of Lightning.

When persons happen to be overtaken by a thunderstorm, although they may not be terrified by the lightning, yet they naturally wish for shelter from the rain which usually attends it; and, therefore, if no house be

at hand, generally take refuge under the nearest tree they can find. But in doing this, they unknowingly expose themselves to a double danger: first, because their clothes being thus kept dry, their bodies are rendered more liable to injury, the lightning often passing harmless over a body whose surface is wet; and, secondly, because a tree, or any elevated object, instead of warding off, serves to attract and conduct the lightning, which in its passage to the ground, frequently rends the trunks or branches, and kills any person or animal who happens to be close to it at the time. Instead of seeking protection, then, by retiring under the shelter of a tree, hay-rick, pillar, wall, or hedge, the person should either pursue his way to the nearest house, or get to a part of the road or field which has no high object that can draw the lightning towards it, and remain there until the storm has subsided.

It is particularly dangerous to stand near leaden spouts, iron gates, or palisadoes, at such times; metals of all kinds having so strong an attraction for lightning as frequently to draw it out of the course which it would otherwise have taken.

When in the house, avoid sitting or standing near the window, door, or walls, during a thunder gust. The nearer you are placed to the middle of a room, the better.

The greatest danger to be apprehended from lightning is explosion of powder-magazines, which might, in a great degree, be secured from danger by insulation, or by lining the bulk, heads, and floorings, with materials of a non-conducting nature, the expence of which would not be great.

When a person is struck by lightning, strip the body, and throw buckets-full of cold water over it for ten or fifteen minutes; let continued frictions and inflations of the lungs be also practised; let gentle shocks of electricity be made to pass through the chest, when a skilful person can be procured to apply it; and apply blisters to the breast.

5. Preservation of the Lives of Seamen.

The moment an alarm is given that a man is overboard, the ship's helm should be put down, and she should be hove in stays; an object that can float should also be thrown overboard as near the man as possible, with a rope tied to it, and carefully kept sight of, as it will prove a beacon, towards which the boat should pull as soon as lowered down. A grand primary object is, having a boat ready to lower down at a moment's notice, which should be hoisted up at the stern most convenient; the lashings, tackle, &c. to be ever kept clear, and a rudder tiller, and spare oar, ever to be kept in her; and when dark, she should not be without a lanthorn and a compass.

There should also be kept in her a rope with a running bowline, ready to fix in or throw to the person in danger; coils of small rope, with running bowlines, should also be kept in the chains, quarters, and abaft, ready to throw over, as it most generally occurs that men pass close to the ship's side, and have been often miraculously saved by clinging to ropes.

Sailers have no conception that mephitic air will be productive of immediate apparent death. It is granted

by most seamen, that smoking or fumigating ships with charcoal is the most effectual means of killing all kinds of vermin, and is therefore always resorted to.

It is recommended, for the certain preservation of our brave defenders, that no sailor nor boy be allowed to go under the decks until the hatches and all the other openings have been for *three* hours uncovered; in that time, all noxious vapours will most likely be effectually detached.

6. Prevention of the fatal Effects of drinking Cold Water or Cold Liquors of any kind, in warm Weather, or when heated by Exercise or otherwise.

Avoid drinking whilst warm, or drink only a small quantity at once, and let it remain a short time in the mouth before swallowing it; or wash the hands and face, and rince the mouth with cold water before drinking. If these precautions have been neglected, and the disorder incident to drinking cold water has been produced, the first, and in most instances the only, remedy to be administered is sixty drops of liquid laudanum in spirit and water, or warm drink of any kind.

If this should fail of giving relief, the same quantity may be given twenty minutes afterwards.

When laudanum cannot be obtained, rum and water, or warm water, should be given. Vomits and bleeding should not be used without consulting a physician.

7. Prevention of the fatal Effects of Excessive Cold.

Persons are in danger of being destroyed by it when they become very drowsy, or are affected with general numbness or insensibility of the body. As the cold which proves fatal generally affects the feet first, great care should be taken to keep them as warm as possible, by protecting them when exposed to cold with wool, or woollen socks within the shoes or boots, or with large woollen stockings drawn over them, or, when riding, with hay or straw wrapped round them; by keeping up a brisk circulation in the blood vessels of the feet, which will be best preserved by avoiding tight boots or shoes, by moving the feet constantly; or, when this is impracticable, from a confined situation, and two or more persons are exposed together, by placing their feet, without shoes, against each other's breasts.

Where the cold has produced apparent death, the body should be placed in a room without fire, and rubbed steadily with snow, or clothes wet with cold water. at the same time that the bellows is directed to be applied to the nose, and used as in the case of drowning. This treatment should be continued a long time, although no signs of life appear; for some persons have recovered who appeared lifeless for several hours.

When the limbs only are affected by the cold, they should be rubbed gently with snow, or bathed in cold water, with ice in it, until the feeling and power of motion return; after which, the bathing, or the rubbing with snow, is to be repeated once every hour, and continued a longer or shorter time, as the pains are more or less violent.

8. Prevention of Danger from Exposure to the Excessive Heat of the Sun.

Affections from this cause, or strokes of the Sun, so called, may be suspected when a person exposed to its rays is seized with a violent head-ach, attended with throbbing or giddiness, followed with faintness and great insensibility, heat, and dryness of the skin, redness and dryness of the eyes, difficulty of breathing, and, according as the disease is more or less violent, with a difficulty or entire inability of speaking or moving.

To guard against these dangerous effects of heat, it will be proper to avoid labour, or violent exercise, or exposure to the rays of the sun, immediately after a hearty meal. To avoid drinking spirits of any kind. Small beer, vinegar, and water sweetened with sugar, or any thin cooling beverage, are alone proper for persons exposed to the excessive heat of the sun.

Should the symptoms increase, it will be proper to remove the affected persons into a cool place, to open the garments, particularly about the neck and breast, and, if the pulse beat forcibly, to bleed immediately, the quantity proportioned to the strength of the pulse; but should the pulse be weak, bleeding must not be performed.

The feet and legs, and even the lower portion of the body, may be placed in cold water. Should, however, this process prove ineffectual, linen cloths wet with cold water, or water and vinegar, may be applied to the temples, and over the whole head; and draughts of vinegar, and water sweetened, may be freely drank.

9. Prevention of the dangerous Effects of Noxious Vapours, from Wells, Cellars, Fermenting Liquors, &c.

Procure a free circulation of air, either by ventilators, or opening the doors or windows where it is confined, or by changing the air, by keeping fires in the infected place, or by throwing in stone-lime recently powdered.

Before any person descends in any well or vault, whether it has been closed any time or not, it is right to try whether the air be such that a person can breathe in it. This is to be done by letting a lighted candle slowly down, as, where a candle will burn, there a man can breathe; and if the candle goes out, no one must venture down till the well be cleared; and the place at which the candle goes out will shew the height to which the foul air reaches. This air is what is called by chemists carbonic acid air, being the same as that which proceeds from burning charcoal, and from a brewing vat, and is what is called in the coal mines choke-damp: some soils make this more than others, especially a blue gault. This air, being heavier than the common air, sinks to the bottom, and must be drawn out. The best way of doing this would be-

a. By a pair of bellows, with a long tube or pipe fixed to the hole underneath; and which should extend almost to the surface of the water, or to the bottom of the well, if there be no water. By working these the foul air will be drawn up, and fresh air will descend into the well. The blacksmith's bellows, being the largest, would be the best, which might be slung to the frame-

work over the well; and, in many places, a leathern engine-pipe is to be had, which might be fastened to the hole underneath.

- b. If these cannot be obtained, the air might be baled out by the bucket, letting it down just to the top of the water, but not dropping it in; and then drawing it up, and emptying it on one side. The air in this bucket can be tried from time to time by putting a candle into it; but, when the candle burns in that, it will not be safe for a person to go down without again letting down a candle into the well itself; this process would be tedious: But a large bucket might be constructed of coarse cloth, made in the shape of a bag, the lower end being fixed to a piece of wood (the bottom of a tub or barrel) of nearly the diameter of the well, and the cloth might be made of any length, with a hoop at the top and a string or line on each side of it. This being let down into the well, the bottom would rest on the water, and the whole of the bag would fall upon it, and as it was drawn up it would be filled with the foul air, and would bale it out.
- c. A third mode might be, what is called on board a ship a wind sail, used for ventilating the cabin and hold. This is a sort of wide tube or funnel, made of canvas, with a rope running down the middle of it, and is kept open by hoops situated in different parts of its height. It is about two feet in diameter at the top, and tapers to about ten inches at the bottom. The top is hooded, and the upper part is open on one side for perhaps six feet, which is above the deck (or ground), and is placed to windward, so as to receive the full current of the wind, which, entering the opening, fills the tube, and, rushing down, drives up the foul air. In low places, shel-

E

tered

tered from the wind, this might be blown into by the blacksmith's bellows, or by a winnowing fan. And where a well is not deep, and a pipe or windsail are not at hand, blowing into the well with either the bellows or the winnowing fan might be sufficient. To persons whose business it is to go much into wells, &c. it would answer to keep a leathern tube to fit on to the bellows, or one of these windsails for the purpose.

- d. A fourth mode might be, in wells where there is a pump, to pump water down into it for some time; when the water, carrying a stream of fresh air along with it, and the pumping being kept up while the person was down, (and this stream might be directed, by a trough or pipe, to that part where he did not want to work,) there would be a supply of fresh air for his breathing.
- e. Another method might be to let down a bushel of quick-lime, and dipping it into the water from time to time to slack it, if there be water in the well; or, if not, by pouring water down upon it.

These judicious hints were suggested by the Rev. JAMES PLUMPTRE.

When a person is apparently dead from the effects of noxious vapours, the first thing to be done is to remove the body to a cool place in a wholesome air; then let the body be stripped, and let cold water be thrown from buckets over it for some time. This is particularly useful in cases of apparent death from drunkenness. Let the treatment now be the same as that for Drowned Persons.

10. Prevention of the dangerous Effects of Female Dress when on fire.

A bystander, or the first person who is present, should instantly pass the hand under the cloaths, and raise them together, and close them over the head, by which the flame will indubitably be extinguished; and this may be effected in a few seconds; that is, in the time that a person can stoop to the floor and rise again; and no other method can be so ready, expeditious, and effectual.

The sufferer will facilitate the business, and also prevent serious injury, by covering her face and bosom with her hands and arms. Should it happen that no person is nigh to assist her, she may, in most cases, if she has presence of mind, relieve herself by throwing her cloaths over her head, and rolling or laying upon them.

The females and children in every family should be told and shewn Flame always tends upward—and that, consequently, while they remain in an upright posture, with their cloaths on fire (it usually breaking out in the lower part of the dress), the flames, meeting additional fuel as they rise, become more powerful and vehement in proportion—whereby the bosom, face and head, being more exposed than other parts to this intense heat, or vortex of the flames, must necessarily be most injured; therefore, in such situation, when the sufferer is alone, and incapable, from age, infirmity, or other cause, of extinguishing the flames, by throwing the cloaths over her head, as before directed, she may still avoid much

much torture, and save life, by throwing herself at full length on the floor, and rolling herself thereon.—By this method, the flames may possibly be extinguished; their progress will infallibly be retarded; the bosom, face, and head, preserved from injury; and an opportunity be afforded for assistance.

SECTION IV.

INJURIOUS OR HAZARDOUS METHODS OF TREATMENT
IN SUSPENDED ANIMATION.

a. HANGING by the legs.

It has been repeatedly introduced into the annual Reports for a series of years, that in suspended animation from drowning, or from any other cause, hanging the subject by the heels, with the head down, is a most dangerous practice, calculated to extinguish the spark of life, if any remained, and consequently to exclude every prospect of recovery. This pernicious practice has been adopted from a mistaken principle, that drowning is induced by the water taken into the stomach, or lungs, or both; but it has been ascertained by long experience, that death is occasioned by spasm on the glottis, trachea, or wind-pipe, causing suffocation, which stops the introduction of air into, and hence circulation of blood through the lungs, and subsequently of the heart. Every person must have felt the sudden effect of almost stopping the breath, from the least drop of fluid or particle of matter, getting by swallowing, or accident, into the wind-pipe. Hence it must be obvious that no quantity of water is admitted into the lungs in the act of drowning, and were it possible, suspension by the feet would not discharge the water, whilst it would increase the danger from spasm and suffocation; as well as injure the functions of the brain, on which

which recovery materially depends. Nor is water taken into the stomach in drowning; the æsophagus, gullet, or passage into the stomach, is a flaccid soft muscular tube, and its parietes or sides are always in contact, so that the passage is closed, and never expanded, unless by the action of deglutition or swallowing as a function of life and health; and experiments prove that no water is taken into the stomach in drowning to occasion the suspension of life.

b. For the same reasons, rolling the body on the ground, a board, or cask, cannot produce any salutary effect, unless what may be supposed to result from the motion of the body, which at the best is very doubtful, whilst time is lost by neglecting the means known to be really beneficial; for not a moment should be wasted in useless operations, under circumstances so critically alarming and dangerous.

c. Tobacco fume or vapour.

It has long been the opinion of distinguished practitioners, that the fume or vapour of Tobacco, is narcotic and sedative, and hence that its use is injurious in the torpid state of suspended animation; and many recent experiments have been adduced in confirmation. (Phil. Trans. for 1811, p. 1.) The action of Tobacco in different preparation is singular enough. The empyreumatic oil, whether applied to the tongue or the intestines, induces convulsions, difficulty of breathing, and death. The heart is found still acting; the brain is not effected externally; and the blood circulated is of a dark colour. The infusion of tobacco, however, acts in a manner wholly different; it produces, in the course of a few minutes, not insensibility, but retching, and faint-

ing, succeeded, at the end of some minutes more, by death; and on opening the thorax, the heart is found perfectly motionless, and much distended. In one experiment, the cavities of one side of the heart contained dark-coloured blood, and those of the other, scarlet blood; a proof that the action of the heart had ceased, even before the animal had ceased to expire. The infusion seems to act on the heart through the medium of the nervous system; and in every point of view, is not admissible as a stimulant in cases reduced to the debilitated state of apparent death.

d. Breathing into the mouth.

It frequently happens, that when persons have been called to subjects under suspended animation, and where an apparatus is not at hand, they have endeavoured to promote the action of the lungs by forcibly breathing through the mouth, at the same time stopping the nostrils, that the air may pass into the lungs of each subject; but as the air expired by the most healthy is not pure air, but chiefly carbonic, similar to what arises from burning charcoal, it is more likely to destroy than to promote the action of the lungs, and hence should be avoided. Mere pressure upon the thorax, the intercostal and abdominal muscles, is infinitely preferable, till an apparatus can be procured, or even a common bellows, to convey atmospheric air into the lungs. (Sect. III.)

SECTION V.

SUGGESTIONS RESPECTING THE MODE OF NARRATING CASES.

HOWEVER nearly the resuscitative process recommended by the Society may approach towards perfection, it cannot but be admitted that much may yet be effected by close attention to the symptoms which occur during the progress of recovery, and the changes which may result from the means employed. Many interesting restorations from apparent death have been communicated with no other narrative than "that the means recommended by the Society were employed." But, in order to ascertain the real efficacy of the methods adopted, a minute history would be acceptable: and the following data are suggested to the attention of the Faculty:

1 .- The Circumstances and Time of the Submersion.

2.—The Appearances of the Body.

3 .- The precise Parts of the

Resuscitative Process employed.

4.—The Time from the Commencement of the Restorative Plan to the Return of Animation.

5—The first Signs of Returning Life;

and the State of the System till Health is restored.

And, in unsuccessful cases, the state of the body, particularly of the head, lungs, and stomach, by dissections, when admissible. The following have been some of the Appearances on Dissection of the Drowned.

The Brain.

In the first place: —The vessels of the brain are of a remarkably dark colour, but not turgid, nor is there usually any extravasated blood.

The Bronchia.

2.—There is found in the upper bronchial cavities a certain frothy fluid, of a palish red.

Lungs.

3.—The lungs are more livid than in their healthy state; and both the veins and arteries are considerably distended, by a large quantity of black blood. (See Sect. II.)

Heart.

4.—The right auricle and ventricle of the heart are filled with blood of a dark colour: in the left auricle and ventricle there is found a considerable quantity of blood of a similar appearance.

Arteries,

5.—In the last place—in examining minutely the trunks and branches of the arteries to their utmost perceptible extent, we find them universally suffused with blood of a very dark colour.

SECTION VI.

CASES OF RECOVERIES FROM APPARENT DEATH, OH IMMINENT DANGER.

ALTHOUGH numerous instances of restoration to health from apparent death or imminent danger, have been attested since the last Anniversary of the Society, amounting to EIGHTY; and the whole, since the commencement of the Institution, to THREE THOUSAND EIGHT HUNDRED AND FIFTY ONE; it is deemed unnecessary to swell the Annual Report by enlarging on facts now universally established; and hence a few cases only have been selected for insertion: the others, however, have been communicated under the sanction of an oath, or affirmed by the Minister or Medical Practitioner, or otherwise faithfully authenticated.

Whilst it may be observed with concern, that many unhappy objects of intended Suicide, particularly of the female sex, have come under the notice of the Society, it must afford some alleviation of pain to the feeling mind to be informed, that no instance of a second attempt has occurred; which probably has resulted from the care exercised by the Society in conveying to these objects, not only religious counsel, but also presenting them with Bibles and other appropriate books.

In perusing the histories of the numerous recoveries from extreme danger, of late years, contrasted with the diminution of fatal cases, it may be inferred, that the Rewards Rewards proposed, and punctually paid, have contributed, with the impulses of humanity, in exciting more immediate and prompt exertions to save life. Many instances have been afforded, even of youths having braved every danger, at the hazard of their own lives, to save those of their fellow-creatures. Undoubtedly the improvement in the means of resuscitation has contributed some share in this happy revolution.

Since the commencement of the Society, 7773 Cases have come under its notice; of which number 3851 were successful, or nearly one half, as before mentioned.

CASE 7698.

To J. Beaumont, Esq.

SIR, 51, Parliament-Street, Westminster.

April 2, 1813.

On Monday last I was called to the Horse-shoe and Magpie Public-house in Bridge-street, Westminster, to a woman who had been taken out of the River Thames near Westminster Bridge, and found her lying on the floor, the countenance pale and ghastly, the body and extremities perfectly cold, and without the smallest appearance of animation remaining. Warm blankets and a bed were supplied, as promptly as the nature of circumstances would allow, by the humanity and attention of Mr. Painter, the landlord of the house. Her wet cloaths being then removed, the usual means of resuscitation, viz. inflation of the lungs, friction of the body and extremities which was powerfully administered by

my humane coadjutors, Hugh Williams, William Morris, James Stuart, James Brookson, and ----- Slater. was also freely rubbed on the chest, and carefully applied with the finger to the lips, palate, and nostrils. At length, in about half an hour from my entering the house, some symptoms of animation manifested themselves by slight convulsive spasms; and shortly after by ineffectual efforts at respiration, followed by a violent convulsion. Respiration gradually succeeded; we got down a little warm water, and afterwards a little warm spirit and water. The pulse soon after became manifest: she opened her eyes, and in about a quarter of an hour after the first symptoms of animation, she was able to tell her name in a tone of voice almost inaudible. I ordered a little warm broth, or water-gruel, and desired, as soon as she could with safety be removed, that she should be taken to the workhouse; where I understand she is doing perfectly well.

I cannot conclude without bearing testimony in the strongest terms to the zeal, humanity, activity, and perseverance of the above-named Hugh Williams and his associates, and acknowledging the able assistance received from Mr. Kannen, Surgeon, late of Wellclosesquare, who was present on the occasion.

From the account of Hugh Williams, who with Slater took her up, she was ten minutes under water, and was at least twenty or thirty minutes at the Public-house before I arrived, lying on the floor in her wet cloaths.

> I am, Sir, with much respect, your humble servant, ARTHUR MA'CANN.

> > CASE

CASE 7726.

Addressed to Dr. Lettsom, by Samuel Bromley, Surgeon.

MY DEAR FRIEND,

Butt-lane, Deptford, June 26, 1813.

I have the honour to acquaint you, the bearer Richard Pretty, after nearly a quarter of an hour's exertion, swept up a youth 17 years of age, named James Goodhew, from the bottom of the river Thames, and who was instantly conveyed to the house of Mr. John Pretty, who humanely took him in; and being sent for and attending immediately, I was readily supplied with blankets, brandy, &c. &c. Not the most remote signs of returning life were perceptible for nearly an hour, but ever keeping in mind, a little spark may lie concealed, I persisted; when, to my unspeakable joy, I found my feeble endeavours were likely to be crowned with success! I had the pleasure of receiving the Honorary Medallion in 1802 for restoring life, which I feel proud in wearing!

Finding the resuscitative process had succeeded, judge my astonishment, in half an hour after returning life, to find I was in danger of losing him from extreme high action, pulse 100, bold, full, and hard, four people could scarcely restrain him, and with much difficulty kept him in bed; the temporal and carotid arteries pulsating violently; the pericardium not appearing sufficiently capacious to contain the heart; every muscle, from the occipito-frontalis to the toes, called in as an auxiliary; in short, such a dreadful scene of convulsive action I never but once before witnessed, which was in a boy 7 years old I recovered from drowning, and who expired in one hour

after in my presence. Recollecting the above case, in which I hesitated to bleed, I was resolved to institute that operation, and took 40 ounces of blood before the high action was subdued. The sequel is, that the lad recovered, and I shall feel happy in personally presenting him to you.

I am,

Dear Sir, your sincere friend,
SAMUEL BROMLEY,
Member of the Royal College of Surgeons.

CASE 7737.

J. Stanton, Surgeon and Apothecary, to J. Beaumont, Esq.

SIR,

On the 22d of July last I was called to attend at the Spotted Dog, a public-house in Strand-lane, whither the body of John Regan was conveyed in a lifeless state after having been taken out of the water, wherein it had lain from fifteen to twenty minutes, and some said longer. I am happy to inform you that I have succeeded in restoring animation, and that the boy is as well as can be expected. I continued the means recommended by the Royal Humane Society, and the plan so strongly recommended by Dr. Lettsom, particularly that of applying the hand to the abdomen for a long time, and exciting a frequent action in the lungs, so as to inhale the air and to propel it out again. My efforts had been continued on the occasion for upwards of four hours.

CASE

CASE 7740.

To J. Beaumont, Esq.

SIR, Camberwell, August 13, 1813.

ABOUT 4 o'clock in the afternoon on Sunday the 25th July last, Mrs. Baker of Cottage Green, Camberwell (formerly called Dowlas common) came almost breathless, begging me to go directly to her child which was drowned. She was so hurried that I could draw no particulars from her till I came to the spot, where I found the room crowded with people to excess. My first attention was to require them to withdraw, with the exception of those I could make useful, when I learnt the following particulars: That while the mother was attending to some domestic concerns, she at once missed her child, (he is sixteen months old, but of remarkably fine growth, and was weaned of the breast but three days before): asking of her neighbours for him, no one had seen him; she then thought surely he had strayed in the adjoining fields or common-she went to look for him, but to no purpose: she then returned to her house, before which is a small garden, and an open well of about four feet deep, from which they drew water. There she found her child, heels uppermost, cold, and dead to appearance; she gave him to I believe she knows not whom, and came for me: unfortunately in the intermediate time the child had been suspended by the heels, and I found them rubbing with salt almost to excoriation; I looked to the eye, the pupil was very much dilated; the determination of blood to the head, would no doubt be increased by the erroneous treatment in the first instance; the body was so cold that

I was desirous of the warm bath, but could not obtain water without great loss of time. I therefore first put the body into a dry blanket, in a favourable position, and continued friction with warm flannel, till two kettles of water could be procured. I then in the most unremitting manner, had the body and extremities fomented, and in about a quarter of an hour, the first promising sensation of returning animation was a quivering of the lower lip. I now attempted and did succeed in getting down a tea-spoonful of warm brandy and water; frequent attempts to inflate the lungs, the continued fomentation and friction, and now more frequently getting down the spirits and water, brought on arterial action, (at first irregular,) which gradually increased, though the child appeared to suffer great pain upon the return of the circulation. It was now in about forty-five minutes restored beyond all fear, and as the mother had used no repelling applications to her breasts, and abounding with milk, I desired her to offer the breast, which the child readily accepted, and henceforth soon got better. When I considered the untoward case of this child, having been, I should suppose, at least 10 or 15 minutes in the water, and the forbidding means first used for its recovery, I took my leave with great satisfaction, and sent a stimulating opening medicine, which had the desired effect; and the following morning the mother, with great gratitude and thanks, brought the child for me to see, quite well.

TOBIAS BROWNE, Camberwell.

CASE 7749.

To the Managers of the Royal Humane Society.

GENTLEMEN, 122, Tooley-street, Borough.

On the 24th of August 1813, I was fetched on board the Endeavour of Harwich, then lying in the River Thames, to a young man who had fallen overboard, and had been above five minutes under some barges; when got out of the water and placed on board, I had him wiped very dry, and laid him on his right side. Having examined him, and not perceiving any signs of life, I endeavoured to inflate his lungs by the means of common bellows, not having the proper apparatus with me, at the same time placing bottles of hot water to his feet, hams, and under his arm-pits; warm flannels were also applied to other parts of the body. By the above means, and with great exertion, I perceived in less than an hour that I had succeeded in inflating his lungs, and in better than an hour my success was visible to those present. I also administered an emetic for the purpose of relieving the stomach from a quantity of water which seemed to distress him much. Having thus far recovered the young man, and placed him in a warm bed, I gave him such cordial medicines as I thought suitable to the case; and I have the pleasure to inform you he is now in good health.

Should I be so fortunate as to gain your approbation in the above case, I need not mention the additional pleasure it would be to that I already enjoy in having been the means of saving the life of a fellow-creature.

I am, Gentlemen, your devoted Servant,

WALTER AINSLIE.

To T. J. Pettigrew, Esq. Secretary of the Royal Humane Society.

SIR.

Hastings, Feb. 1, 1814.

THE following Case has occurred within my knowledge, care, and inspection, and am of opinion the men in the boat are entitled to some little pecuniary remuneration: there were six or seven in number.

I am, Sir, your obedient servant,

JAMES DUTTON.

On Saturday morning, Jan. 29th, about half-past eight o'clock, as three sailors by the name of Page*, Gun, and Pain †, natives of Hastings, Brighton, and Dover, were returning from their employment of fishing, and endeavouring to gain access to Hastings, their destination; when at the distance of a mile and a half opposite the town, in sight of numerous spectators, all zealous to render every assistance, the boat which contained them unluckily upset in a violent gale of wind at S. S. East (veering occasionally to the South West), in a tremendous and agitated sea; when, melancholy to relate! two out of the number, Gun and Pain, were unfortunately drowned; and Page had to combat and struggle with the inclemency of the weather, and violence of the waves, nearly a mile and a half, for the space of an

^{*} Page is a native of Hastings, and a strong man about 25 years of age.

⁺ Pain and Gun were found 12 hours from the accident at Lydd in Kent.

hour, attached to the main-mast; and when contiguous to the shore within the shelter of the rocks, and where the sea was less turbulent, (the tide at half ebb,) he was with difficulty taken off the mast, (in consequence of the contraction and rigidity of his hands) by a boat's crew who put off for that purpose, and instantly conveyed in an inanimate and exhausted state to the first convenient The methods recommended by the Humane Society for the restoration of suspended animation, were strictly pursued for two hours, I am happy to communicate, with a good and proper effect; and he is now in a fair way of recovery. What is very remarkable, Page (in my presence) on April the 1st, 1813, almost miraculously and providentially escaped from nearly a similar perilous situation; when one of his brothers and four of his fellow townsmen were drowned, and their bodies were not found for three or four weeks after.

Plan pursued, with the Appearance of the Body.

As early as possible the body was extricated from the wet clothes, wiped dry, and placed between warm blankets; the lungs inflated, and the cartilaginous part of the sternum pressed to occasion re-action; and artificial heat applied through the medium of warm flannels, and friction to the parts generally, with hot bricks to the feet, embrocations to the spine, scrobiculus cordis, abdomen, and to the legs and arms. About twenty minutes after these methods were zealously pursued, the patient discovered symptoms of re-animation, by a convulsive motion of the larynx, muscles of the mouth and throat, partial action of the lungs, with frequent impeded and interrupted respiration; as soon as deglutition was rendered in the least perfect, the mucus previously washed from

the mouth, a small quantity of weak brandy and water was given as a gentle stimulus, which he immediately expectorated; impressed, I conjecture, with an idea it was salt water, and that he was still floating, calling out at the same time, the Lord save! the Lord save! In consequence of the rigidity of the superior and inferior extremities, with the universal coldness of the system from the length of period he had remained in the water, and extremely frigid from the late frost, I considered it necessary to continue the plan of resuscitation for two hours, when he became sensible, and recollected one of his friends, and articulated his name. He had no remembrance when they took him off the mast, but thinks he saw the boat preparing to come out. When animation, the action of the heart, and circulation, were sufficiently restored to remove the difficulty of breathing, pain, cough, and oppression above the præcordia, to obviate inflammation occasioned from the long pressure of the sternum against the mast, (and he had not entirely got the better of his former sufferings,) I had recourse to blood-letting, &c. &c.

JAMES DUTTON, Assistant to the Humane Society, Hastings.

A Case of Resuscitation by W. REID CLANNY, M. D. Hon. Member Royal Irish Academy, Hon. Member Royal Ph. Soc. Edinburgh, and Physician to the Sunderland Dispensary.

To J. C. Lettsom, M. D. F. R. S. &c. &c. one of the Vice Presidents of the Royal Humane Society.

Bishop-Wearmouth, August 1st, 1813. Upon Wednesday the 14th of July ult. as Ralph Counden, a keelman upon the river Wear, was reclining upon a boat, near the fish-market, Sunderland, he was questioned in a very cool manner by a master of a Smack, "whether he knew how long that body had laid at the bottom of the river"? alluding to the body of a boy which he pointed out to R. Counden; to this question R. C. had no other reply to make than to shew the inquirer that no time was to be lost in getting up the body, which he did by means of a grapnel, which his companion F. Downs brought him from the nearest station, where one of these most useful instruments was placed, in the manner recommended by the Royal Humane Society, agreeably to the rules of the Sunderland Humane Society. The body was speedily carried to Mr. Douglas's. the Ship Hero Public house, upon the Low Quay; it was quite cold; the heart had ceased to beat, and the whole body was black, except the hands. It appeared to the people assembled that the vital spark must have been extinguished for some hours, and for a time no person seemed interested in the fate of the unfortunate person, for all the

the by-standers were very strongly impressed with the impossibility of his being restored to life. Fortunately Andrew Roy, of the Berwickshire Militia, happened to be upon the spot, who told the people that he would do his endeavour for the recovery of the boy, if they would give him their assistance, which for a time was refused from the above-mentioned reasons; and no person knew the parents of the boy. A. Roy commenced by himself to get the water out of the body, which to use his own phrase, "was distended like a drum;" and having placed the body upon warm pillows, he used gentle and diligent frictions with warm flannels and warm gin, at the same time bottles of warm water were applied to the feet, and warm applications were made to the region of the stomach, respiration was imitated by inflating the lungs, and by gentle pressure upon the chest and abdomen. These and every other requisite exertion were persisted in by A. Roy for about twenty minutes, when symptoms of resuscitation took place, such as imperfect respiration, and muscular motion; soon after this a faint cry was uttered, and vomiting a white frothy substance, which A. Roy observing, gave him a cup of warm water, when he vomited up more of the same kind of substance. From this time he gradually strengthened in his breathing, though in other particulars he was in a state of the greatest exhaustion; and Mr. Barnes, and soon afterwards Mr. Gregson, resident surgeons in Sunderland, visited the boy, whose name is George Cowper, aged eight years; and the employer of the boy's father requested my professional attendance in conjunction with the above medical gentlemen. The frictions were continued, with the addition of stimulating embrocations to the pit of the

the stomach, and such other parts of the body as required stimulation. Anti-spasmodics and gentle aperients were administered. Brisk cathartics were afterwards requisite; and suffice it to say that such other medicines were had recourse to, from time to time, as the case required, which, to the very learned and enlightened Vice President of the Royal Humane Society, need not now be specified. The boy's recovery was complete in six days, and I have the pleasure to say that at this moment he is in perfect health.

No person can form any conjecture of the time which this boy had been in the water, and upon this point the boy himself has not the most faint recollection; but when we reflect that he was discovered lying at the bottom of the river, to all appearance dead, and the body of a livid hue, it is only reasonable to infer that he must have been a considerable time under water, and this, amongst the many, is a strong and convincing proof of what may be done by proper exertions, even under the most unfavourable circumstances; and of this I have had much reason in my own mind to be satisfied since I more particularly directed my attention to this very interesting subject about ten years ago, when I composed my inaugural dissertation "De Asphyxia," in the university of Edinburgh.

Humanity demands that the particulars of this case be made as public as possible, and justice to all concerned impelled me to give as clear a statement of the case as lay within my power.

I am, Sir, your most obedient very humble servant,

W. REID CLANNY.

SECTION VII.

VARIETIES OF APPARATUS, AND MEANS FOR RESCUING.

DROWNED PERSONS.

LETTER I.

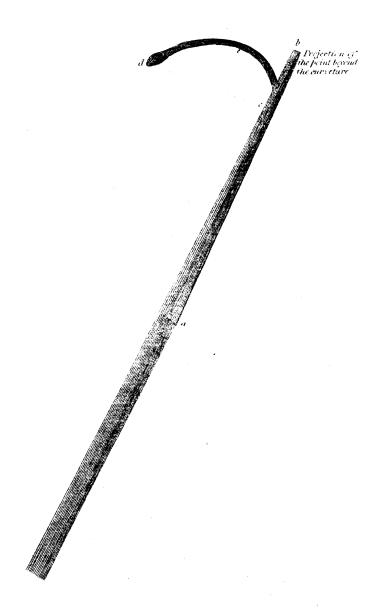
To Dr. LETTSOM, from Dr. COGAN.

With an Engraving.

Plate III.

Sir,

IN conformity with the intention I expressed upon a former occasion, I have constructed a kind of boat-hook which may be used with expedition and safety in searching for the bodies of the drowned or drowning. It consists of a limb of the drag of which I have given an ample description in your Annual Report for the year 1811. I have the pleasure to learn that the drag attached to a cord is of great service in dragging for bodies sunk to the bottom of the water, although it is nnwieldy, fixed to a pole. Nor can it be projected in the manner I have proposed, as experience, our best teacher, or that best corrector of theories, evinces that so long a pole, if it do not keep the whole afloat, prevents the drag from sinking with due alacrity. hook which I now present to the Society, seems to be free from every objection. I have presented one to the Humane



Humane Society at Bath, and it is much approved of. The boatman can move it with great ease under water by turning the point D to the line of draft, or in the direction in which he desires to move it. It has a degree of consistence which gives it a secure hold of any part of the body, without the possibility of injury. It is, like the other, furnished with a bearded hook at the extremity D, which projects or recedes at pleasure. This may perhaps be an unnecessary refinement. desirable that this form, or something approaching to it, should be adopted by all watermen in place of those hooks now in use, the sharp angles of which render them dangerous, as soon as the body is raised to the surface of the water, and returns to its own specific gravity; the body must then press upon the hook to the danger of lacerations, &c. It is very possible that those presented to the Society may not be sufficiently strong for the common purposes of the watermen. I suspect that the projected curve, in its present form, will not resist the force with which heavy boats are drawn to each other, or towards the shore; but this might be remedied by making the shoulder thicker and See figs. C, E.

The form of the hook is so obvious that it will not require minute description. It will be sufficient to observe, that the length of the iron from the socket A to the extremity B, is eighteen inches. The projection of the curvature begins at one foot from the base of the socket C, and describes an irregular segment of nearly nine inches from the place of the projection. The bearded end D, is made sloping, that it may lay hold of the body with more facility than a sharper curvature

would permit. The end B, is about an inch and a half beyond the most prominent part of the curve. Were it much less, the grand pressure would be upon the curved part, in pushing off from shore; were it much longer, it might, by resting against the ground, prevent the point D. from getting under the body. The length of the pole is twelve feet; the diameter is one and a half inch. The price of the instrument is very moderate. The iron hook is 3s. 6d.; and the pole nearly the same price.

Yours, &c.

THOMAS COGAN.

Clapton, February 27, 1813.

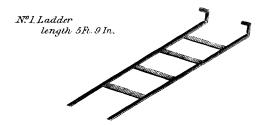
LETTER II.

With an Engraving. Plate IV.

To John Beaumont, Esq. from H. Brooke, Esq.

SIR, St. James's Park, 1st March, 1813.

In compliance with Dr. Lettsom's request, which you were so good as to communicate to me personally on Thursday last, I beg leave to inclose you a sketch (for that gentleman's information) of the simple apparatus, which has providentially and successfully been employed by me on very many occasions within the last six years, in rescuing our fellow-creatures from a watery grave. I was induced to turn my serious attention to this subject, from having previously witnessed the loss of many valuable lives in the Canal of St. James's Park, for want of efficient assistance; and I may venture to assert, that



N°2.Stick length 3Ft.9Im.



N.º3.Pole length 10Ft.

N.4.Reel length 3 Ft.



in no single instance, since that period, has a life been lost, when my apparatus has been timely afforded, or sought for. It is to be observed, that this apparatus, in its simple construction, has no merit beyond the limits to which its utility has been applied, namely a canal, or narrow piece of water. The width of the Canal is, by admeasurement 50 yards. The first object I had to attend to, was a facility of access to the side of the wa-For this purpose I had a light ladder made, five feet nine inches in length (vide sketch, No. I.) The strong iron hooks at the top are attended with two-fold advantage; the one that they secure the ladder from slipping, in the hurry of ascending the railing; the second, that in some instances the ladder being fastened to the end of the rope, and sent forward on the ice towards the person in the water, its passage to him is facilitated by the hooks, being of iron, passing readily on. the person in danger of drowning gets possession of this short ladder, the hooks are of material advantage in breaking the ice before him as he is drawn forward by the rope. This is effected partly by the weight of his own body, extended along the ladder; and partly by the exertion of his arms; and thus he is in a great measure secured from being bruised by the edges of the ice. The stick, No. 2, is two feet nine inches in length, and is made of a heavy piece of oak; the end of the rope passes through the centre; one extremity of the stick being much thicker than the other, it may be thrown along the ice to a very considerable distance*, and when

^{*} The end held in the hand is three inches in circumference; the other extremity, five inches.

caught hold of by the person in the water, he may easily secure the rope round his body, without the risque of its slipping, The pole No. 3, is 10 feet in length; it is fixed to one end of the rope, and is useful when the person falls in so near the water's edge, as to enable the holder to reach it to him, either from the shore, or by venturing a short distance on the ice, or in the water. It is to be observed, that in this Canal there is much mud, and many holes. The reel, No. 4, is three feet long; and I have found in its construction these advantages --that the rope is uncoiled with rapidity, and without the risk of being entangled. The rope itself is about the substance of a man's little finger, closely twisted; not of a wiry texture, but flexible. It at first suggested itself to me, that every advantage might be derived from a simple rope held by persons at each end, on opposite sides of the Canal, it being first passed over the railing and then conveyed towards the person in the water; but upon trial, insurmountable difficulties arose. There was difficulty in clearing the railing, from the necessary length of the rope; and even if the passage to the drowning person should happen (which it seldon ever does) to be free from skaiters, its progress was found to be impeded by excrescences of ice on the surface, from which it was either impossible to disengage it, or which broke it asunder. From the weight of the rope too, owing to its length, it was impossible for the holders to extend it sufficiently to enable them to pass it over the obstacles it met with.

I have the honour to be, Sir,
Your most obedient humble servant,
H. W. BROOKE.
SECTION

SECTION VIII.

MEANS OF PRESERVATION FROM IMMINENT DANGER.

1. MANY years ago, a method was suggested by General Henniker, to throw a rope from a ship in distress to the shore; and Lieutenant Bell, about the year 1791, of throwing a rope or line on shore, by means of a shell, from on board a vessel at sea; an experiment to exemplify which, was made at Woolwich, in August in that year.

A method, the reverse of this, was contrived by Captain Manby, about five years ago; and has since been adopted by him, on various occasions. It consists in throwing a rope from the shore to the vessel in distress, by means of which the crew may be drawn to the shore, even when the broken water prevents a boat from pulling up to the ship's aid, though within ten or twenty yards. Captain Manby has paid great attention to the manner of firing the shot from the mortar, as well as to the shape, and fixing of the balls themselves; and has made many useful improvements in both these respects. The object in firing, is to throw the shot beyond the vessel, so that the rope may lie across it, and give the mariners that assistance they so much need. The Captain has contrived a barbed shot, for the purpose of eatching the rigging, and securing the rope, of which the mariners may happily avail themselves .- (See Bosworth's Accidents of Human Life.)

II. The Rev. James Bremner's Method of making any Ship's-Boat, a Life Boat, to preserve the Lives of the Cuew, in imminent Danger.

This plan was communicated to the Royal Humane Society in 1800, and on reference to the Elder Brethren of the Trinity House, having met with their approbation, the Society gave a premium of five guineas; and in 1809, the Society instituted for the Encouragement of Arts, Manufactures, and Commerce, voted also the Silver Medal of the Society, and twenty guineas.

As empty casks float almost wholly above the water, they will necessarily support a weight of any kind in proportion to their size. In order to accomplish the end proposed, there is one thing more wanted, and that is by means of sufficient seizings or holdings, to secure the casks in their places.

Two additional ring-bolts are to be placed in the keel of the ship's-boat withinside of the boat. One to be placed one third of the boat's length from the stern; the other one third from the bow.

Two augur holes are to be put through the keel withinside, and close to the starboard stroke.

One of these bores to be put about half way betwixt the ring in the stern, and that next to it in the keel.

The other stem half way betwixt the ring in the stern, and that next to it in the keel.

Plugs may in ordinary be put into these bores, to be struck out when occasion requires.

Those ring bolts which are in ordinary in every ship's boat,

boat, the two additional ring-bolts in the keel, and the two augur-bores, are all intended as secure points of fixture, to which seizing-ropes are afterwards to be attached.

Two tight empty casks are to be provided, of such dimensions that their length may fit to the width of the boat, when laid athwart ship, and their diameters to be about three feet, and if larger, so much the better. Each cask must be furnished with a sling on each end, and each sling to have two eyes on it, about six inches asunder, and the slings so put on the casks, as that the eyes may be on the upper side when laid into the boat, that the seizing-rope may pass through those eyes, in their way from ring-bolt to ring-bolt. One of those casks, so prepared, is to be laid in forwards, and the other aft; and each cask so near its respective ring in the keel, as only to leave sufficient room for passing the seizing-rope through the ring in the keel. By this means, the vacant space to be then filled up with cork, will be left betwixt the cask and the bow forward, and betwixt the other cask and the stern aft. The quantity of cork may be from one to two hundred weight for each end of the boat. The cork is to be made up in canvas, done over with soft pitch for preservation, and each bundle marked and numbered according to its place. The cask and cork being laid into the boat, seizingropes are then to be applied for securing them in their places.

The single turn of rope which is to go through the augur-hole in the keel, and round all, should be the first made fast, that the other seizing-rope (which may be supposed to have been made fast to the ring in the stern)

may, in passing through the eyes on the sling, take in the surrounding rope betwixt the two eyes, which will thereby prevent the surrounding rope from slipping to either side of the cask. The seizing-rope having passed through the eyes on the sling, is then to be passed on through the ring in the keel, and then back again in the same manner, through the eyes on the sling on the other end of the cask, to the ring in the bow; and lastly, the seizing-rope is to be brought directly from the ring in the stern to the ring in the keel, by which it will cross the cask at the bung or middle part of it.—The other cask and cork aft, are to be secured in the same manner.

The preparation will be completed by attaching a bar of lead or pig-iron, of about two hundred weight, to the keel withinside, by means of the ring-bolts in the keel or otherwise.

III. Mr. THOMAS CLEGHORN'S Method of saving Shipwrecked Mariners.

This ingenious writer, inventor of the Ice life-boat, has published in his "Navigator's Life-buoy," various plans of forming Navigation life-boats; in a great measure by means of empty hogsheads or casks closely bunged to confine the air. He has kindly given unlimited permission to introduce here, his useful observations and directions, which somewhat differ from the preceding plan of the Rev. Mr. Bremner; and as being prepared with great facility, afford particular advantage.

In shipwreck, where only a single empty hogshead of cask is at hand, without a boat or plank lashed to it, it would be liable to turn or roll in the water. But if two casks could be had, the best way would be to lash them together, side to side, which would completely prevent them from turning, and so secured, might support 20 or 30 men in sea-water.

It may be remarked, that casks lashed together, two by two, for detached parties of men, will generally be preferable to any other number of casks so lashed; because they do not turn in water like one cask, and they have a greater proportion of horizontal circumference than three, four, or any other larger number; and when casks are lashed together in pairs, men may cling to both ends, and to one side of each; but if three or more casks are lashed close together, side to side, men can only cling to the ends, and to one side of the first and last, there being no room between the sides of the intermediate casks.

Very useful rafts might frequently be made, by lashing empty casks to planks, broken masts, yards, oars, boards, or almost any other pieces of timber at hand. Thus a broken mast, yard, or plank, may have an empty cask lashed across each of its ends, and being so much heavier than the casks in water, would always be undermost, and serve as a keel. Two ropes might be fixed to the uppermost parts of the ends of the casks, and drawn tight, parallel to the keel, and to one another, for the men to lay hold by.

To a boat, capable of carrying only six men in moderate weather, were two hogsheads, or even only one placed inside, and strongly lashed near the middle (if

\$ two

two casks, one near each end) of the boat, as high as can be done conveniently, it is presumed that at least 50 men might be supported.

Were the use of empty, or air casks, to be adopted for the purpose in view, it would be proper to have rings or hoops permanently affixed to the casks, by which men might hold, and to which ropes or cords might quickly be tied when wanted.

Mr. Cleghorn further suggests, first, that a ship at sea, on fire, having no other means of avoiding total destruction, might be partly saved, with all her men, by making holes in her sides and bottom, to let in water, which might prevent her from blowing up; and preserve at least part of the hull, which might be kept afloat by her empty casks, and would be the more easily effected, were the accident to happen in moderate weather. Men of war have a contrivance to let in water to their powder magazine, when the vessel is on fire; but merchant ships possess nothing of this kind.

2d. That land-troops, when on board of transports and other vessels, are more in danger of perishing, because they are less accustomed to the sea than seamen, or marines, yet every one of these land troops might easily be rendered buoyant in sea water, by only placing his Canteen upon his breast, and fixing it there by the strap which usually confined it at his side, and hanging upon it in the water, with his face turned upwards, as lying on his back; since it appears by experiment, that one pint of confined air, or even less, supports a man in the sea, and the canteens contain each about three pints.

M^R CLEGEORN'S ICE LIFE BOAT.



IV. Mr. CLEGHORN'S Ice Life-Boat, convenient on Canals, &c. and Rivers.

An Ice Life-Boat may be made like a common boat, but lighter. Any light boat may be readily fitted up as an Ice Life-Boat, by placing it upon two additional parallel keels, about an inch and a half thick, faced with plates of smooth iron, projecting from the bottom of the boat, a little more than the common central keel; so that the boat may rest on these two additional keels, upon which it will slide with great velocity when pushed by only one man pressing upon the rail-handle, fixed for this purpose to the sides of the boat, about three or four feet from the stern. (See Pl. V. Fig. 1.) Such a boat as this has this peculiar advantage, that it may be safely pushed by one man, even when the ice is not strong enough to bear the man without the boat, because a considerable part of the man's weight will bear upon the boat, through the medium of the rail, and the boat and man will press upon a surface of ice, more than sufficiently extensive to support both. The boatman ought to be light and active, and have on his feet list, or any other substance that will prevent him from slipping. He must be provided with a long pole, having at its end an iron spike, to strike into the ice occasionally, and an iron hook, to lay hold of the person in the water, (Pl. V. Fig. 2.) When the boat is near the broken ice, the boatman steps into the boat, and pushes or pulls it with the pole, near, or if necessary, into the water, where

he may expeditiously and safely extricate the person in danger. Should the ice unexpectedly break under the boatman, he may easily raise himself into the boat; and should the ice give way under the boat itself, the boatman may still break a passage through the ice to the person in danger. The boat would be rendered less capable of sinking, were a water-tight empty cask, fixed near each end of the boat, (Pl. V. Fig. 1. aa.)

V. The Cork Jacket.

This apparatus, of easy construction, consists in sewing thin flat pieces or shavings of cork, in a waistcoat or jacket to fit close to the body; and being secured by buttons or strings, will remain in a state of sufficient stability.

VI. Mr. Mallison's Method of applying Cork to prevent drowning.

This ingenious method consists in adjusting two pieces of cork, so secured by tape or cords, as to be made to fit the breast and back, and to retain the positions in which they are placed; at the same time admitting a free use of the arms. The whole apparatus may be procured at a very trivial expence.

VII. Mr. SPENCER'S Invention of a Marine Spencer.

This is made in the form of a girdle, of a diameter to fit the body, six inches broad, composed of about 500 old tavern corks strung upon a strong twine well lashed together with lay-cord, covered with canvas, and painted in oil, so as to make it water-proof.

Two tapes or cords, about two feet long, are fastened to the back of the girdle, with loops at the ends. There is another tape or cord, about two feet long, in the middle of which a few corks are strung, covered with canvas and painted as above. There is a pin of hard wood three inches long, and half an inch diameter, fastened to the front of the girdle by a tape or cord about three inches long.

When the Mariner's Spencer is to be used, slide from the feet close up under the arms, bring the tapes or cords one over each shoulder, and fasten them by the loops to the pin, and bring the tape or cord between the legs, and fasten it to the other pin.

A person thus equipped, though unacquainted with swimming, may safely trust himself to the waves; for he will float head and shoulders above water in any storm, and, by paddling with his hands he may easily gain the shore.

Such a Spencer may also be made of cork shavings at a very trivial expence.

VIII. CHINESE Method of preventing Children from drowning.

In this Empire, in which perhaps millions of persons live almost wholly on board vessels on its numerous canals, it is customary for parents to preserve their children from drowning in consequence of falling into the water, to tie upon the back of each child an empty goard, or calabash, well corked, with which they run about the decks of the vessels; and, if the accident of falling over-board should happen, they are preserved from sinking or drowning by the buoyancy of the calabash.

IX. Arabian Invention of a Life Preserver.

One of the most antient methods of preventing drowning, perhaps coëval with navigation and piracy, is by the skin of a goat; though its advantages were too often applied to facilitate injustice and rapine. The banks of both the Euphrates and Tigris are infested with robbers, who are accustomed to swim aboard of the boats in the water, and to carry off whatever they can seize. Travellers have often been surprised at the length of the distances which the Arabs will pass floating on the water. They accomplish these voyages by means of a goat's skin, of which they sew very completely the different openings, with the exception of the skin of

one of the legs, which they use as a pipe to blow up the rest of the skin, and afterwards twist and hold it very tight. After this preparation, they strip themselves naked, form a package of their clothes, and tying it on their shoulders, lay themselves flat on the goat-skin, on which they float very much at their ease, paddling with their hands and feet, and smoaking their pipes all the time. Not only men, but women and girls, adopt this method of crossing the river, and make the air re-echo with their songs while they are passing.

X. SOUTH AMERICAN INDIAN Invention of a Life Preserver.

In Sir Francis Drake's voyage, anno 1579, whilst in the South Pacific Ocean, as he coasted near Turapaca, he observed some Indian towns, from which the inhabitants repaired to the ship, on floats made of sealskins, blown full of wind, two of which they fasten together, and sitting between them row with great swiftness, and carry considerable burthens.

XI. Mr. Daniel's Invention of a Life Preserver.

The body of the machine, which is double throughout, is made of pliable water-proof leather, large enough to admit its encircling the body of the wearer, whose head is to pass between two fixed straps, which rest upon the shoulder;

shoulder; the arms of the wearer pass through the spaces on the outside of the straps; one on each side, admitting the machine under them to encircle the body like a large hollow belt; the strap on the lower part of the machine is attached to the back of it, and by passing betwixt the thighs of the wearer, and buckling, holds the machine sufficiently firm to the body, without too much pressure under the arms. The machine being thus fixed, is inflated with air by the wearer blowing from his lungs, through a cock affixed to the machine, a sufficient quantity of air to fill the machine, which air is retained by turning the stop-cock. The machine, when filled with air, will displace a sufficient quantity of water to prevent four persons from sinking under water.

AN ESSAY

On saving persons from drowning at the breaking of the Ice; delivered by Captain George William Manby, Esq. Honorary Member of the Royal Humane Society, before their Committee, assembled at the London Coffee-House, on the 19th of January 1814.

THE loss of human life is always a subject of distress and lamentation; but, when this calamity suddenly happens in the midst of health, and in the pursuit of active recreation, how deeply is our sorrow aggravated! Such is the unavailing affliction of the survivors of those unfortunate individuals who have perished by the breaking of the ice when they were enjoying the robust and healthy exercise of skaiting. These fatal events take place every winter; most of which might have been prevented had there been prompt arrangements previously made, and ready means at hand, for affording instant relief in cases of such extreme peril.

Among the many awful instances of this nature which occurred last winter, there was one in Scotland that demanded my most serious consideration. Seventeen persons were at one and the same moment precipitated into Eternity!

The history of this truly melancholy event was related to me while I was in that country, employed in carrying into effect the humane intentions of Parliament for averting or lessening the perils of the storm.

K The

The impression made on my mind by this shocking event, led me to think and reason on the most simple and prompt mode of affording assistance to persons in danger of being drowned by the Ice breaking beneath them.

If the plan which I have lately devised, and now most respectfully submit to the consideration of the Koyal Humane Society, and the Public, be adopted, I feel encouraged to believe it is not going too far to assert that drowning by the breaking of the ice will scarcely, if ever, hereafter occur.

I am therefore induced to recommend that it should be made known at those places to which skaiters resort, that implements are now constructed for giving immediate assistance in every case of danger or difficulty to which persons on the ice can be exposed. This appears to me to be the more necessary when it is considered that the means heretofore in use, though they have sometimes been crowned with success, have too often proved abortive.

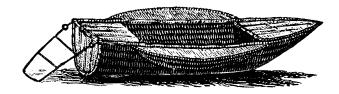
I now beg leave to enter into a detail of the new method here proposed, and will elucidate my suggestions by representing models before the Committee, who will at first sight perceive the simplicity which prevails through every part of this new apparatus; and I do most ardently hope that this system will not only be promulgated by your benevolent Society, but trust that it will be carried into effect throughout the kingdom, and indeed in other countries.

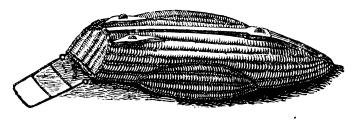
A DESCRIPTION OF THE NEW MODE OF SAVING PERSONS FROM DROWNING.

THE implements necessary for this purpose consist of the following articles, the application of which shall be presently explained.



Ist. A rope having a floating noose, distended by whalebone, with an egg-shaped piece of wood or cork, at a convenient distance to be easily grasped by the hand. The evident purpose of this rope, is to have it thrown to the aid of a person hanging by the edges of the ice, or liable to be drowned by its breaking.

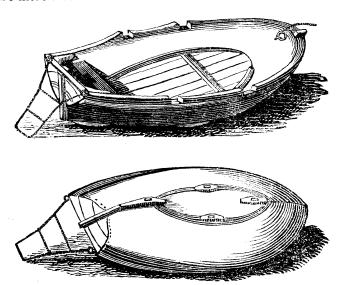




2nd. A Portable gig boat made of wicker for the advantage of extreme lightness.

L This

This boat is rendered unimmergible by air, and is made to stand upright on the ice running upon rollers *. It is to be used when at the breaking of the ice the distance is too great for throwing the rope, or when the means at present in use are insufficient to afford relief. The weight of a boat of this nature, will not, I conceive, be more than 16lbs.



3rd. A small light Jolly boat +, intended for the same purpose, but which from its being formed of stronger materials, may, in some particular instances of danger, be preferable.

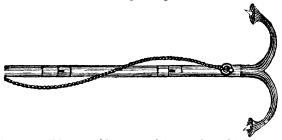
* The roller in the fore part of the boat might easily be made to regulate the direction of the boat, but the sprit answers this end, and all unnecessary complexity is avoided.

† The rullocks or vacancies on the gunwale of this boat are not for the purpose of admitting oars; they are made to receive the frame of the ladder to prevent it slipping.

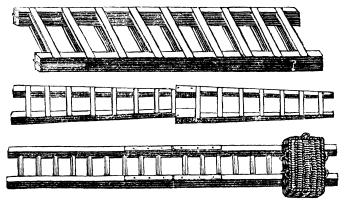
4th.



4th. Sprits armed with iron points, which, by sticking in the ice, are used for impelling the boats forward.



5th. An *Elongatable* grappling rod, which in cases where the body has sunk beneath the ice can be instantly adapted to any common depth of water, for the purpose of grappling for and bringing the sufferer to the surface.



6th. Portable ladders for communicating with the boat from the ice, in cases where the current may have carried the body from the place at which it first sunk. These ladders

ladders may be lengthened by unfolding or fitting in, and made buoyant as may suit the occasion for which they are intended.

The implements now exhibited are to be applied in the following manner.

Suppose a case, in which the ice has broken beneath a person; he naturally attempts to support himself by the broken edges. This he is generally able to do for some time if the ice be strong, as little is required to sustain a substance in the water. If the ice be firm, the sufferer may be saved with ease by the ordinary method of assistance; but, if relief be prevented from approaching the broken place in consequence of fractures, or the evident weakness of the ice, the rope thrown by hand, if the distance be not too great, will save the person in danger. On the rope reaching the person, he will immediately lay hold of the egg-shaped piece of wood, and support himself by it, with one hand, while placing the distended noose over his head and under his arm, with the other. He will then draw down the slide or button, with which the rope is supplied to prevent the noose from slipping. Extrication from peril may be thus effected by a person standing on a safe part of the ice, and drawing the sufferer out.

This rope or floating noose, was originally designed by me, for saving persons from drowning at the breaking of the ice; but its application in affording prompt relief to persons falling or being washed over-board at sea, having met with such general and warm approbation from several distinguished experienced and scientific officers of the Royal Navy; I cannot deny myself this occasion

of recommending it to the attention of this Society and of every philanthropist and seaman's friend*.

In those cases which so often occur, where the fractured ice is so extensive as to be beyond the reach of ordinary assistance, or of throwing the rope, one of the boats just mentioned is to be used. They are expressly constructed to be as light, buoyant, and portable as possible, as promptness in danger is the best and often the only assurance of success, for a moment's delay frequently proves fatal! Either of the boats can be impelled over the ice by one active man, with very great velocity, by his fixing the iron-pointed sprit in the ice, and forcing the boat forward by a powerful purchase of his arms.

For lightness, a boat wicker-made, is the best of any contrivance with which I am acquainted. It may be rendered powerfully unimmergible by tin boxes inveloping air.

Where there is much sharp broken ice to pass through, the jolly boat would answer the purpose better, being stronger, and calculated to meet resistance.

Supposing the person in danger to be holding by the edge of the ice when the boat is coming to his relief, the stern should be placed towards him, and by a ladder which hangs over that part, the boat is easily attainable.

If the unfortunate person has been exhausted or benumbed by the cold, and has sunk before the boat could reach him, the *elongatable* grappling rod (always

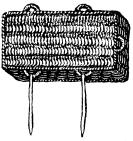
* The Committee of the Society, during the late extreme frost, stationed men on the Thames and Serpentine rivers, who were supplied with the rope described by Captain Manby; and they cannot too warmly recommend it, from the great good derived by its use in preventing the drowning of a great number of individuals.

carried in the boat) is to be instantly applied to bring the body up before the vital spark is utterly extinguished.

There is no mode at present, as far as I know, for effecting this desirable object when the body has unfortunately descended to a considerable depth. To obviate this great difficulty, the grappling rod is formed of several joints of any convenient length, say from 6 to 9 feet long. The joints or sockets are all exactly of the same size, and fitting into each other indiscriminately, are secured by a spring, so that they are only to be put together till they form the proper length for the occasion, in one strong firm rod.

With this simple instrument the body may be grappled for, if a slight current, which often occurs, should have carried it under the ice. This may be quickly done with success. To prevent the possibility of the body being lost after being attached to the grapple, by the joints giving way, a rope is fixed by a ring fastened to the iron hooks to which there are sharp guarded points for catching the cloths, or fastening to the body. The points being guarded, no material injury can be done to the flesh let the hooks catch where they may. Very little force will bring the body to the surface when it is once attached to the grapple, from the well-known principle in hydrostatics which accounts for the buoyancy of any substance lighter than the same bulk of the fluid by which it is sustained.

If the body be brought up at a distance from the strong part of the edge of the ice, the portable ladder will be found extremely useful. One end of it is to rest on the ice, and the other on the boat; or it can be made buoyant by a thin air-tight box cased with wicker, as seen attached to one of the ladders—



Thus answering the purpose of a platform, on which the body may be placed, and be drawn from where it is raised to a secure part of the ice. Should the distance between the boat and the edge of the ice be more than one ladder can reach, it may be lengthened by the addition of another ladder, made to fit (and fasten with a catch,) with its narrowest end to the broader end of the first ladder. The ladder might be also made buoyant by means of that excellent invention by Mr. Eschauzier, the life-preserving cork mattress *, a subject which has already engaged the attention of this benevolent Society.

I beg leave to avail myself of the present favourable occasion of submitting to the notice of the Committee, a new fire-escape ladder which I have just designed. It is simply a rope with nooses distended by flat rests for the feet fixed at convenient distances for stepping from one to the other, and in cases of danger might be instantly fastened by one end to a table or bed-post, while the other is thrown out of window, and thus furnishes a ready escape from fire when perhaps there is no other possible means near those who are in momentary dread of being burnt to death!

* I feel a desire to give publicity and commendation to the ingenuity of every person who employs his talents for the public good.

Having

Having made these incidental remarks, I have now briefly concluded my ideas on the facility of affording relief to persons exposed to perishing at the breaking of the ice, there remains one object more which I earnestly offer to your serious consideration. I am persuaded it is only through your benevolent Society, that the plan I have just explained can be carried into effect. Your wisdom and humanity will no doubt make such arrangements as appear best calculated to promote the intentions of the Institution, and to gratify the feelings of your own hearts in saving the lives of your fellow men.

In making this appeal I should wish to express myself in the most emphatic terms, because my declining health and strength from colds which I have endured while employed in saving Shipwrecked persons, preclude me from taking that active part for the benefit of humanity, which is one of the warmest and most powerful dictates of my heart.

London, Dec. 21st, 1813.

GEORGE WILLIAM MANBY.

To the Secretary of the Royal Humane Society.

SIR, 7, New North-street, Red Lion Square, 17th Jan. 1814.

As I feel much satisfaction even in the idea of being in the least degree instrumental in forwarding the efforts of your noble Institution, I beg leave to suggest a plan to your board, with regard to the boats used on the Serpentine river, which I conceive might be rendered of most essential service in case of accident during a frost, and more particularly so at the commencement, or breaking up, by their being flat bottomed, which will cause them to be more steady in the water, and not so liable to upset in assisting any person into them, and to be furnished with either two iron keels resembling those of skates, or four small wheels or rollers under them, upon the same principle as Merlin's castors; which latter mode may probably be the best, as by that means the persons in the boat engaged in the humane office, would be able to turn them in a moment in any direction upon the ice, by being prepared with short poles with spikes at the ends, and with which they could also push the boat along the ice rapidly, and so close I conceive to the place where the person may have broken in, as to be enabled to give their manual assistance from the boat, without the fear of suffering themselves by getting into the water for that purpose, which I believe is the mode at present resorted to when ladders or ropes are used, and which but too frequently, I fear, fail in having the desired effect. in consequence chiefly of these who are ready to give their aid, not daring to venture near enough to the sufferer, and which obstacle would, I trust, be in a great degree, if not entirely removed by the use of such boats. Should the above plan be approved of, and put in practice, a boat of this description should be in readiness at each end of the Canal in St. James Park.

I trust that you and the board will excuse my thus intruding upon your time; but I think it a duty I owe to the public to make my plan known to your Society, who I am confident will give it attention, provided it deserves any.

I have the honour to remain,

Sir,

Your obedient servant,

W. B. RADCLIFFE.

SECTION IX.

RECEIVING HOUSES APPOINTED BY THE SOCIETY.

- 1. HYDE PARK Receiving-house; erected 1794. The plot of ground was granted by his MAJESTY, the Patron of the Institution.
- 2. LONDON BRIDGE The Old Swan, Upper Thames Street.
 - 3. BILLINGSGATE The Queen's Head.
 - 4. QUEENHITHE The King's Arms.
 - 5. HUNGERFORD MARKET The Fox.
- 6. ISLINGTON The Half Moon and Blue Coat Boy, near the New River.
 - 7. FULHAM The Swan.
 - 8. WINDSOR BRIDGE.
 - 9. CAMBERWELL-The Albany Arms.

SECTION X.

1. OFFICERS, COMMITTEES, &c. OF THE SOCIETY.

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THE KING'S MOST EXCELLENT MAJESTY.

PRESIDENT,
The RIGHT HONOURABLE the EARL of STAMFORD and WARRINGTON.

VICE-PRESIDENTS, RIGHT HON. CHARLES EARL ROMNEY. R. H. LORD VISCOUNT DUDLEY AND WARD? R. H. LORD WILLOUGHBY DE BROKE. R. H. LORD RIVERS. R. H. LORD ERSKINE. R. H. LORD HENNIKER, M. P. HON. PHILIP PUSEY. SIR ABRAHAM HUME, BART. M. P. ADMIRAL SIR JOHN COLPOYS, K. B. SIR WILLIAM GARROW, M. P. HENRY THORNTON, Esa. M. P. MR. ALDERMAN ANSLEY. JOHN COAKLEY LETTSOM, M. D. F. R. S. ISAAC HAWKINS BROWNE, Esa. ROBERT BARCLAY, Esa. JOSEPH THOMPSON, Esa. JOSIAH BOYDELL, Esa. JOHN GURNEY, Esa. JOHN BLACKBURN, Esa.

. TREASURER, DR. LETTSOM.

SUB-TREASURER, BENJAMIN HAWES, ESQ.

REGISTRAR, MR. JOHN BEAUMONT.

SECRETARY, MR. T. J. PETTIGREW, F. L. S.

> COLLECTOR, GEORGE HUTCHINSON.

> > MESSENGER,
> > WILLIAM CASTON,

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HIS ROYAL HIGHNESS THE DUKE OF CUMBERLAND	1811
HIS IMPERIAL MAJESTY, the Emperor of Russia	1809
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RIGHT HON. EARL POULETT, President of the Bath	
Humane Society	1811
RIGHT REV. LORD BISHOP OF LANDAFF	1791
RIGHT REV. LORD BISHOP OF CHICHESTER	1800
RIGHT REV. LORD BISHOP OF CLOYNE	1811
RIGHT REV. LORD BISHOP OF GLOUCESTER	1803
HON. AND RIGHT REV. LORD BISHOP OF EXETER.	1805
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Dr. Edward Jenner	1803
DR. LETTSOM, V.P. F. R. S	1803
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r	recten
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GEORGE WILLIAM MANBY, Captain Barrack	
Master, Yarmouth	1811
ROBERT HUMPHREY MARTEN, Esq	1811
Rev. John Owen, A M	
BENJAMIN SAY, M. D. President of the Humane	
Society of Philadelphia	
EDWARD RICHARD ADAMS, Esq	1814

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ANNIVERSARY PREACHERS.

1	7	7	5	

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REV. DR. MILNE. 1779.

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STEWARDS 1814.

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Camberwell, Mr. Browne.

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