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Fires, fire engines, and fire brigades

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Chapter XX. The royal society for the protection of life from fire.

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teer principle, because, from the greater facilities possessed by them in enrolling a numerous and powerful staff, such an organisation could hardly fail to be easily carried out.

CHAPTER XX.

THE ROYAL SOCIETY FOR THE PROTECTION OF LIFE FROM FIRE.

The proposal to establish a society and staff of men trained to devote their best exertions to preserving life when endangered by fire, seems to have been originated by Mr. John Hudson of Cheapside, London, who, in 1827 and 1828, projected what he termed the Fire Escape Society. Prior to this period there were fire ladders kept by the different parishes to be used for this purpose, but being almost always in the hands of inexperienced persons, not trained in any way to their use, and being moreover, under the excitement which attended the occasions their services were required, unable to know how to act for the best, the advantages to be derived from these ladders were sadly circumscribed. In addition to this, it so frequently happened that when wanted these ladders were found locked fast to the walls, and the key lost or not to be got at, that the inutility and absurdity of such a want of system was so strikingly shown thereby, and most convincing and satisfactory proof was afforded of the benefits to be secured by establishing and maintaining such a society as was proposed. A full description of the plan of operation proposed by Mr. Hudson was given by him in the volume for 1828 of the 'Mechanic's Magazine,' in which year the society was established.

The present Royal Society for the Protection of Life from Fire was established in 1836; but its objects were not fully developed, nor its operations carried to any extent until the year 1843, when the necessity for such an institution became so evident, that at a public meeting convened for this purpose the society was reorganised; and from that time its course has been progressive and most successful, giving constant evidence of usefulness by the decrease of *fatal* fires in those districts where its stations have been established.

The society provides and maintains a well organised system and means for securing the escape of endangered persons from houses or other buildings on fire in the metropolis. The energies of the men are directed solely to the getting those persons who may be in an ignited building out of their peril as quickly as possible, and right well have they discharged these duties on all occasions.

At the present time the staff consists of 100 men, and the number of stations maintained by this society in the metropolis amounts to eighty five, which are distributed over all parts of London, with but few intervening localities, at distances of half a mile from each other. At each station is a fire escape, attended throughout the night by a conductor well instructed in its use, and provided with all necessary implements. It is his duty to attend every fire in his neighbourhood upon the first alarm being communicated to him; and in the winter he is on duty from eight in the evening to seven o'clock in the morning, and in the summer from nine in the evening to six in the morning. The conductors have to undergo the test of night trials by sudden calls, and have systematic competition for quarterly rewards to the most prompt in each division. The number of fires attended by the escape men during the year 1864–5 has been over 600, exclusive of chimneys on fire and false alarms; and the number of lives saved amounts to 68. The fire escape is often found to be very useful at a fire in raising the hose of the fire engines, so as to enable the fire to be attacked in the most efficient manner.

At the test drills of the society, which take place when the men are on duty at any or all hours of the night, and at times totally unexpected, it is found that the men put on their helmets, shut up their boxes, unfasten the machines, and start off on the average in half a minute from receiving the call; and this, too, totally irrespective of the weather, wet or dry making but an almost inappreciable difference. This the author has verified by an inspection of the drill books, in which the time of each man is entered after the drill is over.

The society awards a silver medal to those only who have personally rescued life from fire; a pecuniary reward, or testimonials on vellum, to those who have rescued life from the danger of fire, or distinguished themselves by their endeavours to do so. An engraving of the medal (fig. 59) is given, showing the design or badge of the society, with its motto, and on the reverse is a space on which the name and service of the person to whom it is awarded are engraved.

Fig. 59. Medal of R.S.P.L.F.

The society started in 1843 with six fire escapes and an income of less than 800*l.* per annum, but so thoroughly have their beneficial operations been appreciated by the public, that they have now been able to establish 85 stations, each attended all night by a well trained conductor and fire escape, and have attained to an income of nearly 10,000*l.* per annum, which is applied to the support of the stations, &c., and for a reward fund available in all cases of saving life from fire in any part of the world. The number of the force is 100, viz. 5 inspectors, 89 conductors, and 6 supernumeraries.

The existence of this staff of selected and well trained men, who are specially engaged in the service of rescuing endangered persons from fire, together with the 85 fire escape stations, *depends entirely upon voluntary contributions; and it is highly important, both to the well being of the society and the safety of the public, that no misapprehension whatever should arise or exist on this point as regards the means by which alone at present the same can be maintained in their existing state of high efficiency*; and it may be safely said, there is not a single person who has not some interest, whether acknowledged or not, in the support of public fire escapes, and the operations and influence of the Royal Society for the Protection of Life from Fire.

The fire escapes used by the society, fig. 60, and which have been found better adapted for the purpose than any of the others which they have tried, consist of a main ladder 32 to 35 feet in length, mounted on a spring carriage with large travelling wheels. To the under side of the carriage is affixed a canvas trough or bagging of stout sail cloth, protected externally by a copper wire netting, leaving sufficient space between for the yielding of the canvas in a person's descent. The addition of the wire netting has always been found useful, as, although not affording an entire protection against the canvas burning, it in most cases avails, and prevents the possibility of anyone falling through. The soaking of this canvas in alum and other solutions has never been omitted, but this, while preventing its flaming, cannot preclude the risk of accident from the fire charring the canvas. A folding ladder about 20 feet long, shown broken off in the engraving, is jointed to the main ladder about 10 feet from the top, and is raised when required for use by ropes attached to projecting iron levers. By a very simple arrangement, this folding ladder can be instantly detached from the main ladder and jointed to a 16 feet ladder (for first floors) for use in courts and places where the machine itself cannot be taken. The first floor ladder is carried suspended beneath the canvas trough. A short length of ladder is provided to fit on to the end of the folding ladder when a greater height has to be reached; or the first floor ladder can be so applied, which gives

an elevation of nearly 60 feet. In order to strengthen the main ladder, an adjustable wire rope truss has lately been introduced, and found highly advantageous for its purpose. The main ladder usually commands all second floor windows, the folding ladder at the same time communicating with the third floor, or the roof. When the folding ladder is raised, a wicket gate at its lower end opens to give access to the second floor and to the canvas trough. By sliding down the canvas trough, any person can easily and safely reach the ground, all that is required being to spread out the limbs so as to regulate the descent, and guard against its being too rapid, or the ladders themselves may be used as means of descending. In travelling, the machine is balanced and guided by means of the carriage lever, and on reaching a fire is placed against the building at such an inclination as will best suit the height of the windows to be 'worked.' The weight of one of these escapes is 9 cwts. A larger size, capable of reaching or 'throwing' to a height of 80 feet, to be used in those districts where a higher class of buildings exists, is also made.

Directions for Using and Working the Fire Escape.

The machine, if lying down with the ladders in a horizontal position, must be raised in the following manner:—Both wheels being scotched fore and aft, three men climb up on the carriage lever as high as possible, holding on by the iron hand rail, and standing on the lower rails. A fourth man now takes hold of the head iron of the main ladder and throws it upwards, the men on the lever at the same time throwing their whole weight as far back as possible. As soon as the head of the ladder attains an elevated position, the men on the lever take their feet off so that they may come fairly on the ground. The machine now erect, and the scotches being hung upon the hooks provided for that purpose, is in travelling order. Three men at the lever and one behind each wheel push the machine before them, keeping it as near as possible on an even balance.

On arriving at a fire, the head iron of the machine is to be placed upon or under the sill of the second floor window (to windward if possible) and the wheels scotched; the sliding bolts at the side of the carriage lever are also to be pushed. The fireman then ascends to the window, enters the building, and searches every part of the premises accessible from that point. If there are any inmates, they are to be brought to the window and placed in the canvas trough with instructions to spread out their arms and legs to prevent going down too fast, or the fireman descends with them. If a higher window or the roof has to be reached, the folding ladder is raised; for this purpose two

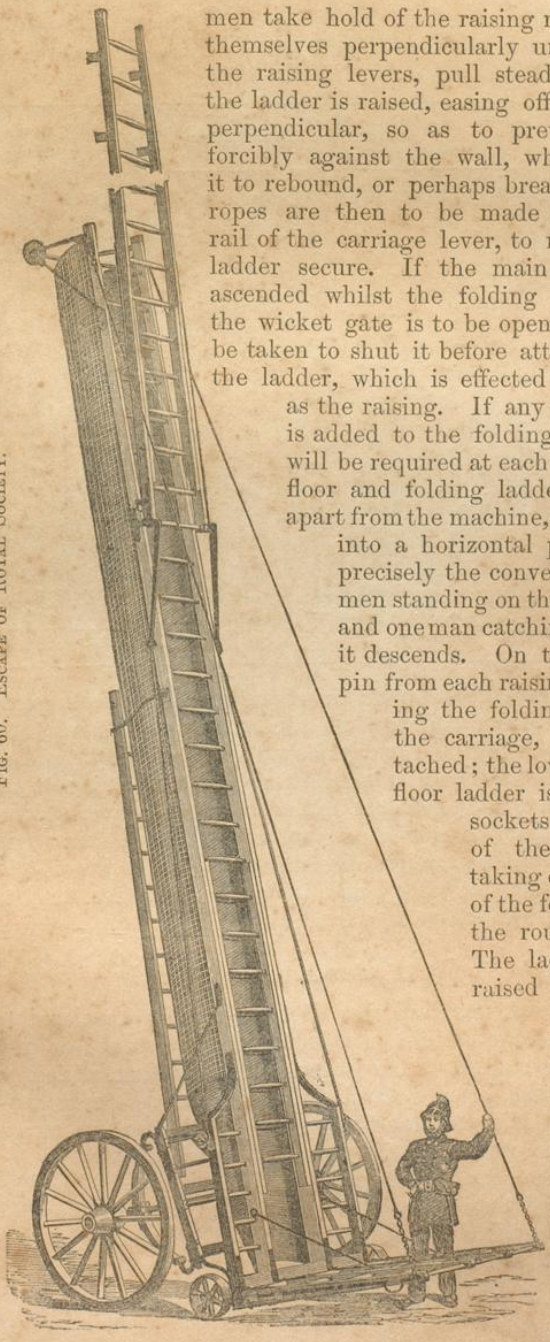

Fig. 60. Escape of Royal Society.

men take hold of the raising ropes, and placing themselves perpendicularly under the ends of the raising levers, pull steadily together until the ladder is raised, easing off as it passes the perpendicular, so as to prevent its striking forcibly against the wall, which would cause it to rebound, or perhaps break it; the raising ropes are then to be made fast to the hand rail of the carriage lever, to make the folding ladder secure. If the main ladder is to be ascended whilst the folding ladder is raised, the wicket gate is to be opened, but care must be taken to shut it before attempting to lower the ladder, which is effected in the same way as the raising. If any additional length is added to the folding ladder, two men will be required at each rope. If the first floor and folding ladders are to be used apart from the machine, it must be lowered into a horizontal position, which is precisely the converse of raising, the men standing on the rails of the lever and one man catching the head iron as it descends. On taking out a screw pin from each raising lever, and pulling the folding ladder towards the carriage, it is at once detached; the lower end of the first floor ladder is then fitted into sockets in the upper end of the folding ladder, taking care that the hooks of the former engage with the rounds of the latter. The ladder may then be raised by footing, &c., like an ordinary builder's ladder. Before replacing the folding ladder, all dirt and grit should be carefully cleared away from the joint, and all the joints should be kept well oiled.

Summary of Fires attended and Lives saved by means of the Society's Fire Escapes and Conductors since its reestablishment in 1843.

	Year	No. of Stations	Fires attended	Lives saved
In the 15 months ending March 31st,	1845	6 increased to 11	116	13
„ 12 „ „	1846	11 „ 15	96	7
„ „ „ „	1847	15 „ 21	139	11
„ „ „ „	1848	21 „ 25	197	17
„ „ „ „	1849	25 „ 26	223	31
„ „ „ „	1850	26 „ 28	198	10
„ „ „ „	1851	28 „ 30	226	36
„ „ „ „	1852	30 „ 34	253	25
„ „ „ „	1853	34 „ 40	265	46
„ „ „ „	1854	40 „ 40	328	28
„ „ „ „	1855	40 „ 43	354	41
„ „ „ „	1856	43 „ 45	368	59
„ „ „ „	1857	45 „ 50	390	70
„ „ „ „	1858	50 „ 62	545	61
„ „ „ „	1859	62 „ 70	482	60
„ „ „ „	1860	70 „ 72	524	94
„ „ „ „	1861	72 „ 73	507	61
„ „ „ „	1862	73 „ 75	658	95
„ „ „ „	1863	75 „ 81	613	67
„ „ „ „	1864	81 „ 85	629	72
„ „ „ „	1865	— „ 85	712	68
			7,823	972

The following remarks and plain directions for aiding endangered persons to escape from buildings on fire, avoiding accidents, and for the treatment of injuries, are published by the society.

The want of coolness and presence of mind at the time of an alarm of fire is by far the greatest hindrance to an escape, and for this no regulation can be laid down; but a few simple directions to be observed by the bystanders and inmates, well considered and reflected upon in time of safety, will, in a great measure, tend to discreet and successful efforts in the hour of danger.

For Bystanders.

1. Immediately on the fire being discovered, give an alarm to the nearest fire escape station, not delaying an instant: do not wait *to see if it is wanted.* Life is more precious than property, and events have too often proved how fatal even a moment's hesitation is in sending for the fire escape. It is the fire escape conductor's duty to proceed to the place of alarm immediately.

2. In the absence of a fire escape, or pending its arrival, ladders and ropes should be sought for. Two constables, or other qualified persons, should ascend to the roof through the adjoining houses: the most efficient assistance can sometimes be rendered by an

entrance to the upper part of the house on fire, either by the attic windows, the loft door, or by removing the tiles.

3. In a narrow street or court assistance may be given from the windows of the opposite house, particularly by a ladder placed across the street from window to window.

4. When no other means present themselves, the bystanders had better collect bedding at hand in case the inmates throw themselves from the windows: a blanket or carpet held stretched out by several persons will serve the purpose. The society's fire escape conductors carry jumping sheets with them for use upon emergency.

5. Do not give vent to the fire by breaking into the house unnecessarily from without, or, if an inmate, by opening doors or windows: make a point of shutting every door after you as you go through the house.

For Inmates.

1. Every householder should make each person in his house acquainted with the best means of escape, whether the fire breaks out at the top or at the bottom. Provide fire guards for use in every room where there is a fire, and let it be a rule of the household not to rake out a fire before retiring for the night, but to leave the guard on. In securing the street door and lower windows for the night, avoid complicated fastenings or impediments to an immediate outlet in case of fire.

2. Inmates at the first alarm should endeavour calmly to reflect what means of escape there are in the house; if in bed at the time, wrap themselves in a blanket or bedside carpet; open neither windows nor doors more than necessary; shut every door after them. *This is most important to observe.*

3. In the midst of smoke it is comparatively clear towards the ground, consequently progress through smoke can be made on the hands and knees. A silk handkerchief, worsted stocking, or other flannel substance wetted and drawn over the face, permits free breathing, and excludes, to a great extent, the smoke from the lungs. A wet sponge is alike efficacious.

4. In the event of being unable to escape either by the street door or roof, the persons in danger should immediately make their way to a front room window, taking care to close the door after them, and those who have the charge of the household should ascertain that every individual is there assembled.

5. Persons thus circumstanced are entreated not to precipitate themselves from the windows while there remains the least probability of assistance; and even in the last extremity a plain rope is invaluable, or recourse may be had to joining sheets or blankets together, fastening one end round the bedpost or other furniture. This will enable one person to lower all the others separately, and

the last may let himself down with comparatively little risk. Select a window over the doorway rather than over the area.

6. Do not give vent to the fire by breaking into the house unnecessarily from without, or, if an inmate, by opening doors or windows. Make a point of shutting every door after you as you go through the house. For this purpose, doors enclosing the staircase are very useful. (See No. 5.)

Accidents to the Person.

1. Upon discovering yourself on fire, reflect that your greatest danger arises from draught to the flames, and from their rising upwards; throw yourself on the ground, and roll on the flames, if possible on the rug or loose drugget, which drag round you; the table cover, a man's coat, or anything of the kind at hand, will serve your purpose; scream for assistance, ring the bell, but do not run out of the room or remain in an upright position.

2. Persons especially exposed to a risk of their dresses taking fire, should adopt the precaution of having all light fabrics washed in a weak solution of chloride of lime.

Treatment of Injuries.

1. Send for medical aid; let the sufferer be put to bed as quickly as possible; remove all remains of clothing about the injured parts, cutting with extreme caution, as it is of the utmost importance to avoid tearing the skin or breaking a blister. If this is not attended to, the future danger will be greatly aggravated. If possible to avoid it, the water should not be let out of the blister.

2. As the readiest thing at hand, cover all the injured parts tenderly with clean cotton wool, or what is commonly known as wadding, the cleaner and purer the better (the best for the purpose is kept by the druggists): it relieves by excluding the air. Linen rag soaked in a mixture of equal parts of lime water and linseed oil also forms a good dressing. Wet whiting, as a simple remedy always at hand, can be recommended as allaying inflammation and pain; it may be smeared over a burn, allowed to dry, and then damped with a sponge. Lime water is a soothing and healing wash.

3. It is better to avoid cold applications; they certainly allay pain, but unless the cold be maintained the momentary relief is followed by a considerable aggravation of the suffering. In extensive burns, moreover, cold water freely applied is not unattended by danger.

4. From thirty six to fifty hours after the injury the blisters will present a milky appearance and show surrounding inflammation. When this is the case, they may be opened with the point of a

large needle; dressing for burns may then be simple wax and oil spread on lint. But so much depends on circumstances and the state of health of the sufferer, that it is desirable as soon as possible to secure medical attendance.

5. To recover a person in a state of insensibility from the effect of smoke, dash cold water in the face, or cold and hot water alternately. Should this fail, turn him on his face with the arms folded under his forehead. Apply pressure along the back and ribs, and turn the body gradually on the side, then again slowly on the face, repeating the pressure on the back. Persevere with these alternate rolling movements about sixteen times in a minute until respiration is restored. A warm bath will then complete the recovery.

It may be remarked that this plan of operation (No. 5) has been condemned by a committee specially appointed by the Royal Medico-Chirurgical Society to enquire into, experiment and report upon, the mode of restoring suspended animation.

An interesting account of the various experiments made for this purpose by the committee, will be found in the Annual Report of the Royal Humane Society.

It is much to be regretted that the late one sided piece of legislation for the benefit of the insurance companies, in compelling the public to take from the shoulders of the associated offices their expensive fire establishment because it did not prove so paying a concern as was desired, and to maintain it for their benefit with increased protection and diminished cost, should have been the means of decreasing to a considerable extent the interest felt in the well being of this truly valuable and noble society.

The reason of this is sufficiently obvious, for the public were led to believe that the bill which required them to maintain the fire engine establishment would include the fire escapes also, and in consequence they naturally concluded that voluntary support would not be needed; but during the late legislative performance the 'shall' in the one case became curiously metamorphosed into 'may' in the other, proving in a sufficiently satisfactory manner how greatly the safety of the public, both by means of fire engines and fire escapes, had occupied the attention of the disinterested promoters and framers of this celebrated fire bill.